

OFFICIAL
GAZETTE
UNITED STATES
PATENT OFFICE
VOL. 858
JANUARY 1969

MICRO PHOTO DIVISION
BELL & HOWELL COMPANY

JN

PATENTS NOTICES

Board of Appeals Decisions Rendered in the Month of September 1968

Examiner affirmed	151
Examiner affirmed in part	30
Examiner reversed	50
Total	231

Certificates of Correction Issued January 7, 1969

Des. 209,043	3,345,613	3,354,472
Des. 211,711	3,346,598	3,354,477
3,255,346	3,348,108	3,354,797
3,274,794	3,349,244	3,354,936
3,289,997	3,350,168	3,355,268
3,302,076	3,350,170	3,355,313
3,311,919	3,350,772	3,355,367
3,317,979	3,351,028	3,355,548
3,319,129	3,351,706	3,355,676
3,324,116	3,352,045	3,355,764
3,330,805	3,352,080	3,355,882
3,335,113	3,352,177	3,355,904
3,336,145	3,352,316	3,355,946
3,336,395	3,352,351	3,355,953
3,336,557	3,352,520	3,356,182
3,337,351	3,352,750	3,356,205
3,338,836	3,353,116	3,356,605
3,340,504	3,353,451	3,356,727
3,343,681	3,353,620	3,356,786
3,343,985	3,354,139	3,356,981
3,345,193	3,354,152	3,357,894
3,345,286	3,354,401	3,358,845

Dedication

3,026,045 *Ralph R. Reading, Hawthorne, Calif. SPRAY DE VICE.* Patent dated Mar. 20, 1962. Dedication filed July 10, 1968, by the assignee, *John M. Lee*.

Hereby dedicates to the people of the United States the entire term of said patent.

Disclaimers

3,098,748 *Peter P. Noznick, and Charles W. Tatter, Chicago, Ill. WHIPPING AND POWDERED SHORTENING COMPOSITIONS.* Patent dated July 23, 1963. Disclaimer filed Aug. 2, 1968, by the assignee, *Beatrice Foods Co.*

Hereby enters this disclaimer to claims 13, 14 and 15 of said patent.

3,182,737 *Claude E. Monsees, Durham, N.C. GRAVITY SLIDE CHECKWEIGHER.* Patent dated May 11, 1965. Disclaimer filed Aug. 5, 1968, by the assignee, *Wright Machinery Company, Inc.*

Hereby enters this disclaimer to claims 1, 2 and 5 of said patent.

3,237,018 *Alton Leger, Jr., Roslyn, Pa. INTEGRATED SEMICONDUCTOR SWITCH.* Patent dated Feb. 22, 1966. Disclaimer filed Aug. 5, 1968, by the assignee, *Honeywell Inc.*

Hereby enters this disclaimer to claims 1 and 2 of said patent.

3,252,516 *Kurt Leutwyler, Whittier, Calif. HYDRAULICALLY OPERATED WELL PACKER APPARATUS.* Patent dated May 24, 1966. Disclaimer filed Aug. 6, 1968, by the assignee, *Baker Oil Tools, Inc.*

Hereby enters this disclaimer to claim 12 of said patent.

3,278,399 *Allan L. Budd, La Habra, Calif. METHOD OF MEASURING SILVER ION CONCENTRATION.* Patent dated Oct. 11, 1966. Disclaimer filed Aug. 20, 1968, by the assignee, *Beckman Instruments, Inc.*

Hereby enters this disclaimer to claims 1, 4 and 5 of said patent.

3,283,157 *David E. Blackmer, Waltham, Mass. PHOTO-MODULATOR FOR USE WITH HIGH GAIN D.C. AMPLIFIER.* Patent dated Nov. 1, 1966. Disclaimer filed Aug. 23, 1968, by the assignee, *Leeds & Northrup Company.*

Hereby enters this disclaimer to claims 3, 4, 14, 15, 16, 18, 19, 22 and 23 of said patent.

3,311,173 *Waldo W. Henslee, Jr., and Darryl W. Cockrell, Houston, Tex. WELL BORE TESTING APPARATUS.* Patent dated Mar. 25, 1967. Disclaimer filed Aug. 9, 1968, by the assignee, *Baker Oil Tools, Inc.*

Hereby enters this disclaimer to claims 22 and 23 of said patent.

Adjudicated Patents

(D.C.R.I.) *Kirk, Jr. Patent No. 3,035,614 (138-30), for EXPANSION TANK.* Held invalid. *American Tube and Controls, Inc. v. General Fittings Company*, 287 F. Supp. 673; 159 USPQ 232.

New Applications Received During October 1968

Patents	8383
Designs	463
Plant Patents	10
Reissues	38
Total	9061

Issue—January 7, 1969

Patents	1251—No. 3,419,907 to No. 3,421,157, incl.
Designs	82—No. 213,054 to No. 213,165, incl.
Total	1333

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF DECEMBER 16, 1968

PATENT EXAMINING OPERATIONS AND GROUPS

* Denotes date of oldest application for each operation

CHEMICAL EXAMINING OPERATION

GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STIERMAN, Director
Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices

GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director
Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides

HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING, GROUP 140—L. J. BERCOVITZ, Director
Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g. Coating, Molding, Ink, Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes

COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—J. R. LIBERMAN, Director
Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography

SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director
Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes

ELECTRICAL EXAMINING OPERATION

INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—W. S. COLE, Director
Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous

SECURITY, GROUP 220—S. BOYD, Director
Ordinance; Firearms and Ammunition; Radar; Underwater Signalling; Directional Radio; Torpedoes; Seismic Exploring; Radio-Active Batteries; Nuclear Reactors; Powder Metallurgy; Rocket Fuels; Radio-Active Material

INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—M. L. LEVY, Director
Communications; Multiplexing Techniques; Facsimile; Data Processing; Computation and Conversion; Storage Devices and Related Arts

ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director
Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring

PHYSICS, GROUP 260—R. L. EVANS, Director
Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments

DESIGNS, GROUP 280—S. BOYD, Director
Industrial Arts; Household; Personal and Fine Arts

MECHANICAL EXAMINING OPERATION

HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director
Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages

MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—N. BERGER, Director
Manufacturing Processes; Assembling; Combined Machines; Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding; Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Wood-working; Tools; Cutlery; Jacks

AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director
Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing; etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Type-writers; Stationery; Information Dissemination

HEAT AND POWER ENGINEERING, GROUP 340—C. F. GAREAU, Director
Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission

FIXED CONSTRUCTIONS, SUPPORTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Director
Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures

TEXTILES, CLEANING AND FLUID HANDLING, GROUP 360—F. H. BRONAUGH, Director
Fluid Handling, including Valves; Conduits; Filling Receptacles; Lubrication; Joint Packing; Bathroom Fixtures; Centrifugal Separators; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes and their Manufacture; Sewing Machines; Winding and Reeling

Total number of pending applications (excluding Designs) 186,641
Total number of Design applications pending 2,743

Expiration of patents: The patents within the range of numbers indicated below expire during January 1970, except those which may have expired earlier due to shortened terms under the provisions of Public Law 660, 79th Congress, approved August 8, 1940, 60 Stat. 940; and Public Law 819, 83rd Congress, approved August 23, 1954, 68 Stat. 764, or which may have had their term curtailed by disclaimer under the provisions of 35 U.S.C. 253

Patents 2,150,379 to 2,544,101, inclusive
Plant Patents 1,059,1 to 1,070, inclusive

CONSOLIDATED LISTING OF RECENT OFFICIAL GAZETTE NOTICES RE PATENT OFFICE PRACTICES AND PROCEDURES

The following are a portion of the more important notices of the changes which have been published in the Official Gazette since July 1, 1967. These notices, and rules changes in effect, are published below as a part of the Better Service to the Public program.

INFORMATION AND CORRESPONDENCE

INFORMATION RE APPLICATION STATUS

In view of the relatively long pendency of patent applications at the present time, the final disposition of which may in some cases be of substantial importance to the public in general or at least to persons other than the applicant, it has been decided effective immediately to advise any person who desires written request for information as to the status of a United States application referred to by number in a foreign patent which patent is identified in the request whether the application is pending, abandoned or patented and if patented what the patent number is. The proper practice of giving similar information with respect to an application referred to by number in a United States patent Manual of Patent Examining Procedure, section 1920 will be continued.

EDWARD J. BRENNER
Commissioner of Patents

Dec. 11, 1964

TELEPHONE NUMBERS ON OFFICE ACTIONS

Effective immediately, the full surname of the Examiner who prepares the Office action will, in all cases, be typed below the action on the left side. The Examiner's telephone number will be typed below his name. This number shall be called if the case is to be discussed or an interview arranged. The Notice of December 16, 1964, 810 O.G. 308, and Change Notice 2-15 are rescinded.

RICHARD A. WAHL
Superintendent, Patent Examining Corps

Apr. 5, 1965

EXPIRED PAPERS RELATING TO APPEALS

In order to expedite the handling and processing of all papers relating to appeals, it is essential that all such documents include the Group Number to which the application is assigned as well as the Appeal Number and Serial Number.

EDWIN L. REYNOLDS
First Assistant Commissioner

May 8, 1965

STATUS INQUIRED

Telephone inquiries regarding the status of applications will be directed to the Group clerical personnel and not to the examiners. Inasmuch as the official records and applications are located in the clerical section of the Examining Groups, the clerical personnel can readily provide status information without contacting the examiners.

RICHARD A. WAHL
Assistant Commissioner

Sept. 22, 1965

TELEPHONE NUMBERS ON AMENDMENTS AND OTHER PAPERS

In view of the increased use of telephone interviews regarding matter which can be readily cleared up by a telephone call to applicant or his representative, it is again recommended that amendments and other papers, such as letters of transmittal, include the complete telephone number with area code and extension, preferably near the signature of the writer.

RICHARD A. WAHL
Assistant Commissioner

Mar. 11, 1966

ZIP CODE REMINDER

By FAX, Memorandum of June 18, 1965, President Eisenhower directed all Federal Agencies to take the lead in adopting the ZIP Code system and instructed the Post Office to issue regulations governing the use of ZIP codes by all agencies.

First of this directive, Section 1.17.20, has been added to the Postal Manual requiring compliance by Federal Agencies as follows:

- Effective January 1, 1966, all mailings containing typed or handwritten addresses must include the ZIP Code.
- Effective January 1, 1967, all Federal Agencies must include the ZIP Code in the addresses on all other mailings. They are required to pre-sort quantity mailings by ZIP Code.

TO THIS END ALL FUTURE LETTERS, COUPONS AND OTHER PAPERS BEARING THE SENDER'S ADDRESS WHICH ARE MAILED TO THE PATENT OFFICE MUST SHOW THE ZIP CODE DESIGNATION OF BOTH THE SENDER AND THE PATENT OFFICE.

The Patent Office ZIP Code is 20231. This designation should be used when writing to the Patent Office for any matter. In addition, the sender's own ZIP Code designation should be given. The benefits to be gained by the immediate use of ZIP Code are many: positive identification of areas; faster delivery of mail by reducing the number of mailings from point of origin to destination; and easier identification of post office address.

C. A. KALK

Director of Administration

Mar. 22, 1966

HAND DELIVERY OF DUPLICATE COPY OF PAPERS BY ATTORNEY

The Notice appearing in 829 O.G. 1 is hereby superseded. The practice set out in the above notice is extended as follows:

In further implementation of the Notice in 829 O.G. 1755 concerning discontinuation of the practice of hand delivery by attorneys or others of officially date stamped papers, it is directed that prompt consideration and appropriate action be taken on the hand delivered duplicate copy of such papers, which may include amendments, powers to inspect, requests for extension of time, etc.

The effect of such consideration and action should be communicated to applicant or his representative at the earliest practicable time to clarify the status of the case.

If requested, at the conclusion of an interview, it would be appropriate to indicate on the attorney's copy and the Office duplicate copy any agreement reached and to initial and date both copies.

Actual clerical entry of amendatory matter usually will require the presence in the file of the original paper; however, pending receipt of the original, examiner and clerical process and the application should proceed, based on the duplicate copy, as far as practicable in the circumstances of each case.

RICHARD A. WAHL
Assistant Commissioner

Dec. 21, 1966

OFFICIAL MAILING ADDRESS

The official mailing address for all communications sent to the Patent Office remains:

Commissioner of Patents
Washington, D.C. 20231

The physical location of the Office is 2021 Jefferson Davis Highway, Arlington, Va. This address should not be used on mail sent to the Patent Office.

C. A. KALK
Director of Administration

June 25, 1968

APPLICATION CORRESPONDENCE

The Office is experiencing increasing difficulty in matching incoming papers with the application file to which they pertain. This applies especially to amendments, powers of attorney, changes of address, status letters, and requests for extension of time.

Frequently, there are errors in the serial number or in the Group Art Unit number or the incoming paper uses the old Group Art Unit number where an application has been transferred and acted on by a different Examining Group.

It would be of great assistance to the Office if all incoming papers pertaining to a filed application carried the following items:

1. Serial number (checked for accuracy)
2. Group Art Unit number (copied from most recent Office Action)
3. Name of the Examiner who prepared the most recent Office Action
4. Title of Invention

It is further requested that at least 60 days be permitted to elapse before filing any additional papers relating to a newly filed application. If this is done, the original application papers may be completely processed and more easily located when the additional papers are received.

RICHARD A. WAHL,
Assistant Commissioner

Oct. 18, 1968

POST CARD RECEIPT REMINDER

Applicants and their attorneys or agents are reminded of the provision in Section 717.01(a) of the Manual of Patent Examining Procedure relating to the use of post cards as "receipts" of papers filed in the Patent Office.

If a receipt for any paper filed in the Patent Office is desired, it may be had by enclosing with the paper a self-addressed post card identifying the paper. The Patent Office will stamp the receipt date on the card and place it in the outgoing mail.

The identifying data on the card should be so complete as to match the paper with the application or other document to which it is to be associated. For example, the document should be identified by the applicant's name(s), Serial No., filing date, appeal number, interference number, etc., and the paper should be identified by specifying the type thereof, viz., affidavit, amendment, appeal, application papers, brief, drawings, fees, motions, supplemental oath or declaration, petition, etc.

When papers for more than one document are filed under a single cover a return post card should be attached to the paper for each document for which a receipt is desired.

RICHARD A. WAHL,
Assistant Commissioner

Nov. 21, 1968

RECORDS AND FILES

RECORDING OF INSTRUMENTS

Effective April 1, 1967, the Patent Office will accept and record legible certified copies of original assignments or other instruments.

The certified copy, if not in the English language, will not be recorded unless accompanied by a translation signed by the translator.

Certification shall be to the fact that the instrument submitted is a true copy of the original and shall be made by a notary public or, if in a foreign country, by a consular officer of the United States or an officer authorized to administer oaths and authenticated by a consular officer of the United States.

RICHARD A. WAHL,
Assistant Commissioner

Mar. 28, 1967

ACCESSIBILITY OF ASSIGNMENT RECORDS

In view of a number of inquiries as to the manner in which Rule 1.12 of the Patent Office Rules of Practice, as amended August 23, 1965 (819 O.G. 443) is to be applied, the procedure which it is planned to follow in certain types of cases is set forth below.

1. Assignments relating to applications for registration of trademarks will be open to public inspection as heretofore.

2. The Office will not open certain parts only of an assignment to extent to public inspection. If such a document contains two or more items, any one of which, if alone, would be open to such inspection, then the entire document will be open. Thus, if an assignment covers either a trademark or a patent in addition to one or more patent applications, it will be available to the public at large, and if it covers a number of patent applications, it will be so available as soon as any one of them is patented. Assignments relating only to one or more pending applications for patent will not be open to public inspection.

3. If the application on which a patent was granted is a division or continuation of an earlier case, the assignment records of that case will be open to public inspection. Similar situations involving continuation in part applications will be considered on their individual merits.

4. Assignment records relating to reissue applications will be open to public inspection.

EDWARD J. BRENNER,
Commissioner

Dec. 15, 1965

NOTIFICATION REQUIRED IN ASSIGNMENT IN CERTAIN APPLICATIONS

Effective September 12, 1966, Assignment Branch will discontinue mailing notification in cases where there is a conflict in assignment between an original application and its divisional, continuation, substitute, or continuation in part application.

Assignments from original applications are applied without charge ONLY to divisional, continuation, or substitute applications where the date of the assignment is prior to the filing date of the later filed application. Continuation in part applications require separate assignments if they are to be issued to the assignee.

Practitioners are reminded of the provisions of Rule 334. Unless an assignment is filed at or prior to the date of payment of the issue fee, the patent will normally be issued in the name of the inventor.

Section 306 of the Manual of Patent Examining Procedures will be amended appropriately.

W. R. ARMSTRONG,
Director, Office of Patent Services

(Signed) R. A. WAHL,
Assistant Commissioner

PUBLIC SEARCH ROOM

Due to budget and personnel limitations which took effect on July 1, 1968, it has become necessary to adopt measures that are consistent with these limitations and that will permit continuance of Patent Office activities and facilities without curtailing their use to the public. Among these measures is the service of returning to the files those patent bundles used by the attorneys and the general public in the Public Search Room.

Beginning August 19, 1968, in order that free access to the stacks may be maintained, persons drawing patent bundles from the search files will be expected to return them to the file slots from which they were withdrawn.

This will enable the personnel in the Public Search Room to concentrate their time and efforts on the necessary updating and storage maintenance for improvement of the integrity of the search files.

RICHARD A. WAHL,
Assistant Commissioner

Aug. 12, 1968

FEES AND PAYMENT OF MONEY

REVISION OF "DISCONTINUANCE OF DEPOSIT ACCOUNT SERVICE FOR SALE OF PATENT COPIES"

In view of the difficulties experienced by many of its customers, the Patent Office is revising the Notice appearing in the December 1, 1964, issue of the *Official Gazette of the U.S. Patent Office*. This Notice, Discontinuance of Deposit Account Service for Sale of Patent Copies, is revised to except certain types of patent copy orders.

The Patent Office will now accept lists of fifty (50) or more numbers arranged in numerical sequence to be charged to Deposit Accounts. Service charges, such as Special Handling

and Air Mail postage for these orders, may also be charged to Deposit Accounts.

C. A. KALK,

Director of Administration

July 15, 1965

FEES IN CONNECTION WITH AMENDMENTS TO PATENT APPLICATIONS

This notice supplements the Notice of September 10, 1965, 818 O.G. 1207, September 28, 1965, relating to the administration of the act of July 24, 1965, Public Law 89-83, increasing certain fees payable to the United States Patent Office.

That act provides for the payment of additional fees on presentation of certain claims during the prosecution of applications. This provision applies in the case of applications filed on or after October 25, 1965, the effective date of the act. In such cases, when any amendment is filed which presents additional claims over the total number covered by fees previously paid, it should be accompanied by any additional fees due.

As in the case of claims presented after an application is filed and before first action, described in the Notice of September 10, 1965, when independent claims are subsequently presented so that the number of unanceled independent claims in the application as amended exceeds the number of such claims paid for an additional fee of \$10 is due for each such additional claim. Similarly, an additional fee of \$2 is due for each claim added in excess of the number of unanceled claims, independent or dependent, already paid for.

Treatment of Amendments Unaccompanied by Fee Due

Amendments filed during and after the prosecution of an application and not accompanied by the entire fee due upon such filing will be treated as follows:

If such an amendment is filed in reply to an Office action it will be regarded as not being fully responsive thereto and the practice set forth in section 714.03 of the Manual of Patent Examining Procedure will be followed, care being taken to avoid any abuse of this practice by attorneys as, for example, by habitual submission of such amendments without fees or with insufficient fees.

If an amendment which is not filed in response to an Office action is of such a nature as to require a fee and is not accompanied by the full fee required, it will not be entered and the applicant will be so advised.

Amendment During Interference

An amendment filed in connection with a motion to add counts to an interference (Rule 233) must be accompanied by the claim or claims to be added and with the appropriate fees. If any, which would be due if the amendments were to be entered, it may be that the amendments will never be entered, only upon the granting of the motion is it necessary for the other party or parties to present the claims, but the fees must be paid whenever presented.

Claims which have been submitted in response to a suggestion by the Office for inclusion in an application must be accompanied by the fee due, if any.

Amendment After Requirement for Restriction

After a requirement for restriction or election of species, nonentered claims will be included in determining the fees due in connection with a subsequent amendment unless such claims are canceled.

Refunds

Money paid in excess or by mistake in connection with an amendment will be refunded in the usual manner.

Amendments affecting the claims cannot serve as the basis for granting any refund.

Money paid in connection with the filing of a proposed amendment will not be refunded by reason of the nonentry of the amendment.

EDWARD BRENNER,
Commissioner of Patents

Jan. 13, 1966

DEPENDENT CLAIMS

Although the notice published on October 5, 1965, in 819 O.G. 3, explained that for the purposes of the present fee bill, Public Law 89-83, approved July 24, 1965, the Patent Office will consider a proper dependent claim as being one which incorporates by reference a single preceding claim,

whether independent or dependent, and includes all the limitations of the claim so incorporated, there appears to be still some uncertainty on this matter and it is therefore thought to be desirable to elaborate it.

Since the final determination, for fee purposes, as to whether a claim is dependent must be made by persons other than examiners, it is necessary, at that time, to accept as dependent virtually every claim which refers to another claim, without determining whether there is actually a true dependent relationship. Such acceptance does not, however, preclude a subsequent holding by the examiner that a claim is not a proper dependent claim.

An essential characteristic of a proper dependent claim is that it shall include every limitation of the claim from which it depends (35 U.S.C. 112) or in other words that it shall not conceivably be infringed by anything which would not also infringe the basic claim. Thus, for example, if claim 1 recites the combination of elements *a*, *b*, *c* and *d*, a claim reciting the structure of claim 1 in which *d* was omitted or replaced by *e* would not be a proper dependent claim, even though it placed further limitations on the remaining elements or added still other elements.

The fact that a dependent claim which is otherwise proper might require a separate search or be separately classified from the claim on which it depends would not render it an improper dependent claim, although it might result in a requirement for restriction.

The fact that the independent and dependent claims are in different statutory classes does not, in itself, render the latter improper. Thus, if claim 1 recites a specific product, a claim for the method of making the product of claim 1 in a particular manner would be a proper dependent claim since it could not be infringed without infringing claim 1. Similarly, if claim 1 recites a method of making a product, a claim for a product made by the method of claim 1 could be a proper dependent claim. On the other hand, if claim 1 recites a method of making a specified product, a claim to the product set forth in claim 1 would not be a proper dependent claim if the product might be made in other ways.

Any claim which is in dependent form but which is so worded that it does not, in fact, include every limitation of the claim on which it depends, will be required to be cancelled as not being a proper dependent claim; and cancellation of any further claim depending on such a dependent claim will be similarly required. The applicant may thereupon amend the claims to place them in proper dependent form, or may re-draft them as independent claims, upon payment of any necessary additional fee.

The basis for the difference in fees between independent and dependent claims is the fact that the examination of a dependent claim is normally a comparatively simple matter after the claim on which it depends has been examined. This relationship, however, obtains only when the independent claim represents a bona fide attempt to define the invention and to distinguish it from the known prior art. Accordingly, the presentation of a claim which on its face is obviously unpatentable or indefinite, as basis on which other claims are dependent, is not considered to be proper practice. One example of such a practice involves the use of a claim drawn to "all the features of novelty herein disclosed," with other claims, which actually recite the features thought to be novel, being dependent on the first. A similarly objectionable arrangement would involve the use, as a basic independent claim, of a claim merely recited "a wheeled vehicle," "an amino acid" or "an internal combustion engine."

Such a practice as that just described involves not only an attempt to evade the free provisions of Public Law 89-83, but also the presentation of a claim known by the attorney or agent presenting it to be unpatentable. Any registered patent attorney or agent who makes a practice of presenting claims of this character may be called on to explain his actions.

(Signed) EDWARD J. BRENNER,
Commissioner

June 8, 1966

DEPOSIT ACCOUNTS

The practice instituted on May 1, 1966, pursuant to the notice of February 23, 1966 (824 O.G. 1200), whereby statutory fees may be charged against deposit accounts, and such accounts are closed if overdrawn, has resulted in certain difficulties for the Patent Office and deposit account holders. It has been decided therefore to modify that practice as indicated below.

As was pointed out in that notice, the charging of a fee against an overdrawn account cannot be considered as payment of the fee until a proper balance is restored or payment is made in some other way. Accordingly, deposit account holders who charge such fees must assume the risk of losing vital dates if they do not maintain a proper balance in their accounts at all times.

Apart from this, however, the overdrawing of an account places a burden on the Patent Office, particularly where a number of items are charged after the overdraft occurs, and it is appropriate that those who are responsible for causing such a condition should bear the cost of correcting it. In view of this fact, and of the hardship frequently caused if an account is permanently closed, the practice of closing deposit accounts merely because they are overdrawn will be discontinued, effective August 1, 1966. In lieu thereof an overdrawn account will be immediately suspended and no charges will be accepted against it until a proper balance is restored, together with a payment of ten dollars to cover the work done by the Patent Office incident to suspending and reinstating the account and dealing with charges which may have been made in the meantime. It is expected, however, that reasonable precautions will be taken in all cases to avoid overdrafts, and if an account is suspended repeatedly it will be necessary to close it.

Similarly, because of the burden placed on the Patent Office incident to the operation of deposit accounts, a charge of ten dollars will be made for opening such new account.

EDWARD J. BRENNER,
Commissioner.

June 23, 1966.

PRACTICE RE: FILING FEES

It is suggested that attorneys review the notices pertaining to filing fees under the new Fee Act of 1965 appearing at 818 O.G. 1207, September 28, 1965, 823 O.G. 814, February 15, 1966.

The filing fee includes the basic \$65 fee plus an additional fee corresponding to the number and type of claims presented. For filing fee purposes the Patent Office considers any claim that specifically refers back to another claim to be a dependent claim, regardless of statutory class.

It appears that some attorneys are submitting filing fees in excess of their computations, apparently to insure against loss of a filing date should their computations be in error. This is neither necessary nor desirable. The Application Branch has been authorized to accept all applications, otherwise acceptable, if the basic fee of \$65 is submitted, and if the deficiency is no more than \$25 of the required filing fee, and to require payment of the deficiency within a stated period upon notification of the deficiency. Practitioners are urged to discontinue submitting excessive fees, since processing such fees has proved costly to the Office, and since applicants are believed to be adequately protected against loss of filing date by the practice outlined above.

There appears to be an erroneous impression that a Rule 147 divisional case requires a filing fee based on the claims in the parent case. The 818 O.G. 1207 notice specifically states that an amendment filed with a Rule 147 case will be effective to reduce the number of claims upon which the fee is based.

RICHARD A. WAHL,
Assistant Commissioner.

June 30, 1966.

RULES OF PRACTICE IN PATENT CASES [37 CFR Part 1]

Increase of Miscellaneous Fees and Charges

Notice is hereby given that, pursuant to the authority contained in sections 6, 31, and 41 of the Act of July 19, 1952 (66 Stat. 793, 795, 796; 35 U.S.C. 6, 31, 41), the U.S. Patent Office proposes to revise paragraphs (h) and (i) of § 1.21 (37 CFR 1.21 (h) and (i)) to read as follows:

§ 1.21 Patent and miscellaneous fees and charges.

(h) For registration of an attorney, agent, or firm:	
For admission to examination for registration to practice, fee payable upon application	\$35.00
On registration to practice	25.00
On application for registration of a firm	25.00
(i) For certificate of good standing as an attorney or agent	5.00

The purpose of the proposed revision is to enable the Patent Office to recover a greater proportion of the expenses incurred in rendering the identified services.

All persons who desire to submit written data, views, arguments, or suggestions for consideration in connection with the proposed revision are invited to forward the same to the Commissioner of Patents, Washington, D.C. 20261, on or before September 15, 1968. An oral hearing will not be scheduled.

EDWARD J. BRENNER,
Commissioner of Patents

Approved: July 25, 1968.

JOHN F. KINCAID,
Assistant Secretary for Science and Technology.

[F.B. Doc. 68-9287, Filed Aug. 2, 1968; 8-45 a.m.]

[Pub. in 33 FR 11092, Aug. 3, 1968]

POWERS OF ATTORNEY

WITHDRAWAL OF ATTORNEY

To expedite the handling of requests for permission to withdraw as attorney, under Rule 36, the request should be submitted in triplicate (original and two copies) and indicate thereon the present mailing address of the attorney who is withdrawing.

JOSEPH SCHIMMEL,
Solicitor

Apr. 18, 1967

RULE 34 APPEARANCES BEFORE BOARD OF APPEALS

Applicants and their attorneys are reminded that Rule 34 provides that before any attorney or agent will be allowed to "take action of any kind in any application or proceeding, a written power of attorney or authorization . . . must be filed in the particular application or proceeding." [Italics added.]

Henceforth this rule will be strictly enforced. This applies to attorneys appearing at oral hearings before the Board of Appeals.

EDWIN L. REYNOLDS,
First Assistant Commissioner.

July 26, 1967.

APPLICATION CONTENT

REFERENCE TO PARENT APPLICATION

The fact that applicant is entitled under 35 U.S.C. 120 to an earlier U.S. effective filing date is sometimes overlooked. To minimize this possibility, the statement that, "This is a division [continuation, continuation-in-part] of application Ser. No. _____, filed _____," should normally appear as the first sentence of the specification. In the case of fee-exempt applications, however, it should appear immediately after the statement required by 35 U.S.C. 266 (MPEP 607.01).

Any such statements appearing elsewhere in the specification should be canceled (by Examiner's amendment, if necessary) and inserted at the proper location.

The new procedure resulted from an employee's suggestion.

H. B. WHITMORE,

Aug. 18, 1964. Superintendent of the Examining Corps.

DECLARATION IN LIEU OF OATH—RIBBONING OF PAPERS UNNECESSARY

Recent legislation, 35 U.S.C. 25, and Rule 68 based thereon permit applicants to make a written declaration in lieu of the customary oath or affirmation which accompanies a patent application.

Such a declaration, even if signed in a country foreign to the United States, need not be ribboned to the other papers.

The declaration, like the oath, is an integral part of the application and must be maintained together therewith. When a declaration is used, it is unnecessary to appear before any official in connection with the making of the declaration.

Further details are given in 29 F.R. 18502, Dec. 29, 1964, 811 O.G. 2.

RICHARD A. WAHL,
Mar. 2, 1965. Superintendent, Patent Examining Corps.

GUIDELINES FOR DRAFTING A MODEL PATENT APPLICATION UNDER THE REVISED RULES

The following guidelines illustrate the preferred layout and content for patent applications. They have been prepared to supplement the amendments to the rules which are effective January 1, 1967. These guidelines are suggested for the applicant's use.

Arrangement and Contents of the Specification

The following order of arrangement is preferable in framing the specification and, except for the title of the invention, each of the lettered items should be preceded by the headings indicated.

- (a) Title of the Invention
- (b) Abstract of the Disclosure
- (c) Cross-References to Related Applications (if any).
- (d) Background of the Invention.
 1. Field of the Invention.
 2. Description of the Prior Art.
- (e) Summary of the Invention.
- (f) Brief Description of the Drawing.
- (g) Description of the Preferred Embodiment(s).
- (h) Claim(s).

(a) *Title of the Invention*: (See Rule 72(a).) The title of the invention should be placed at the top of the first page of the specification. It should be brief but technically accurate and descriptive.

(b) *Abstract of the Disclosure*: (See Rule 72(b), MPEP 608.01(a), and 831 O.G. 1328, October 25, 1966.)

(c) *Cross-References to Related Applications*: (See Rule 78 and MPEP 201.11.)

(d) *Background of the Invention*. The specification should set forth the Background of the Invention in two parts:

- (1) *Field of the Invention*: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions. The statement should be directed to the subject matter of the claimed invention.
- (2) *Description of the Prior Art*: A paragraph(s) describing to the extent practical the state of the prior art known to the applicant, including references to specific prior art where appropriate. Where applicable, the problems involved in the prior art, which are solved by the applicant's invention, should be indicated.

(e) *Summary*: A brief summary or general statement of the invention as set forth in Rule 73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.

(f) *Brief Description of the Drawing*: A reference to and brief description of the drawing(s) as set forth in Rule 74.

(g) *Description of the Preferred Embodiment(s)*: A description of the preferred embodiment(s) of the invention as required in Rule 71. The description should be as short and specific as is necessary to adequately and accurately describe the invention.

Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field to which the invention pertains, form a part of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.

(h) *Claim(s)*: (See Rule 75.) A claim may be typed with the various elements subdivided in paragraph form. There may be plural indentations to further segregate subcombinations or related steps.

Reference characters corresponding to elements recited in the detailed description and the drawings may be used in conjunction with the recitation of the same element or group of elements in the claims. The reference characters, however, should be enclosed within parentheses so as to avoid confusion with other numbers or characters which may appear in the claims. The use of reference characters is to be considered as having no effect on the scope of the claims.

Claims should preferably be arranged in order of scope so that the first claim presented is the broadest. Where separate species are claimed, the claims of like species should be grouped together where possible and physically separated by drawing a line between claims or groups of claims. (Both of these provisions may not be practical or possible where several species claims depend from the same generic claim.) Similarly, product and process claims should be separately grouped. Such arrangements are for the purpose of facilitating classification and examination.

The form of claim required in Rule 75(e) is particularly adapted for the description of improvement type inventions. It is to be considered a combination claim and should be drafted with this thought in mind.

In drafting claims in accordance with Rule 75(e), the preamble is to be considered to positively and clearly include all the elements or steps recited therein as a part of the claimed combination.

Oath

(See Rule 65.) Where one or more previously filed foreign applications are cited or mentioned to the oath, complete identifying data, including the application or serial number as well as the country and date of filing, should be provided.

EDWARD J. BRENNER,
Commissioner of Patents.

Date: Oct. 12, 1966.

RULES OF PRACTICE IN PATENT CASES [37 CFR Part 1]

Proposed Changes Relating to Formal Requirements for Application Papers and Amendments

The Patent Office proposes to change some of its rules relating to formal requirements of application papers and amendments. The proposed changes are intended to accomplish a number of important purposes, namely, (1) to permit the utilization by applicants and the Patent Office of advanced technology relating to drawing processes and materials, (2) to permit the possibility of the Office printing patents in the future by improved printing techniques, and (3) to harmonize on an international basis the formalities relating to the physical requirements of patent specifications and drawings.

Therefore, under the authority contained in section 6 of the Act of July 19, 1952 (66 Stat. 792; 35 U.S.C. 6), notice is hereby given that the Patent Office proposes to amend Part 1 of Title 37 of the Code of Federal Regulations as follows:

1. By revising § 1.52 to read as follows:

§ 1.52 Language, paper, writing, margins.

(a) The petition, specification, claims, abstract, oath or declaration and drawing legends must be in the English language. The petition, specification, claims, and abstract should commence on separate pages. The oath or declaration may appear with the petition or on a separate page. All papers of an application, including the drawing, must be the same size and be 8 1/4-8 1/2 inches wide by 11 1/2-13 inches high. All papers, other than the drawings, which are to become a part of the permanent records of the Patent Office must be type-written or printed and should be on flexible, strong, white, smooth and nonshiny paper of a permanent nature. Only graphic symbols and characters, chemical or mathematical formulae, where necessary, may be handwritten or drawn. The typing or printing must be in characters having capital letters at least 1/8 inch high, legible, and in dark indelible color. The specification must be single spaced and there should be no more than six lines per inch. The claims must be double spaced. Each page should normally be used with the short sides on top and bottom. The specification, claims and abstract must not contain drawings. Chemical and mathematical formulae are not considered to be drawings. The specification and abstract may contain charts and tables. All elements of the application, that is, the petition, the specification, the claims, the drawings (if any) and the abstract, must be presented in such a way as to admit direct and satisfactory

reproduction by photography, xerography, photo offset, micro-filming, and similar methods of reproduction, in any number of copies. The pages should be connected together in such a way that they can be easily turned, when consulted, and easily separated and joined together again if they have to be separated for reproduction purposes.

(b) The specification and claims, and also papers subsequently filed, must be plainly written on but one side of the paper. All elements of the application must be free from alterations, overwritings and interlineations. Noncompliance with the previous sentence may be authorized, in exceptional cases, if the authenticity of the content is not in question and the requirements for good reproduction are not in jeopardy. The pages of each element of the application (petition, abstract, specification, claims, and oath) may be numbered separately in consecutive Arabic numerals or all the pages may be numbered in consecutive Arabic numerals. Every fifth line of the specification and claims should be numbered along the left side. The first page of the specification, of the claims, and of the abstract should have a heading consisting of the full name of the applicant and the title of the invention written just under the top margin. On all nondrawing pages the top margin must be located 10-11 inches from the bottom of the page, except on the first page of the abstract, specification, and claims where the top margin may be located 8-8½ inches from the bottom of the page. The margin on the left-hand side of each page must extend from the left-hand edge 1-1½ inches. The margin on the right-hand side of each page must extend 7-7½ inches from the left-hand edge. The bottom margin must extend ¾-1¼ inches from the bottom edge. All typing or printing, including page and line numbers, should appear within the space defined by the margins and substantially fill the space so that no space is wasted. All rules concerning the physical requirements and terminology of the original application also apply to any papers submitted subsequent to the filing of the application. The expression "End of Description" may be inserted after the specification and the expression "End of Claims" may be inserted after the claims.

(c) Units of weights and measures may be expressed in or converted to the metric system. Temperatures may be expressed in or converted to degrees centigrade. For mathematical formulae and electrical units, international practice may be observed, and, for chemical compositions, the symbols, atomic weights, and molecular formulae in general use should be employed. A technical element should always be expressed by the same technical term throughout an application.

2. By revising § 1.59 to read as follows:

§ 1.59 *Papers of complete application not to be returned.*

The papers in a complete application will not be returned for any purpose whatever, if applicants have not preserved copies of the papers, the Office will furnish copies at the usual cost.

3. By revising § 1.72 to read as follows:

§ 1.72 *Title and abstract.*

(a) The title of the invention should be as short, meaningful, and specific as possible.

(b) A brief abstract of the technical disclosure in the specification must be set forth preceding the disclosure under the heading "Abstract of the Disclosure." The purpose of the abstract is to enable the Patent Office and the public generally to determine quickly from a cursory inspection the nature and gist of the technical disclosure, and the abstract shall not be used for interpreting the scope of the claims. The abstract should normally be a single paragraph containing 50-200 words.

4. By revising § 1.82 to read as follows:

§ 1.82 *Signature to drawing.*

Signatures are not required on the drawing. The drawing may be signed by the applicant in person or have the name of the applicant placed thereon followed by the signature of the attorney or agent as such if desired.

5. By revising paragraph (b) of § 1.83 to read as follows:

§ 1.83 *Content of drawing.*

(b) When the invention consists of an improvement on an old machine the drawing should, when possible, exhibit, in one or more views, the improved portion itself, disconnected from the old structure, and also in another view, so much only

of the old structure as will suffice to show the connection of the invention therewith.

6. By revising the first (unlettered) paragraph and paragraphs (a), (b), (c), (e), (f), (g), (h), (j), and (l) of § 1.84 to read as follows:

§ 1.84 *Standards for drawings.*

The complete drawing is reproduced and attached to the patent and a selected portion of the drawing is published in the OFFICIAL GAZETTE when the patent issues. Therefore, the drawing should have a high standard of execution and excellence which readily allows satisfactory reproduction.

(a) *Material.* Drawings must be made on flexible, strong, white, smooth, and nonshiny paper or on a strong, smooth, nonshiny, flexible transparent material of a permanent nature. Only one side of the sheet may be used. The material on which drawings are made must be susceptible to correction.

(b) *Size of drawing margins.* The drawing sheet must contain a "sight" in which all illustrations appear, not in excess of 7¼ inches by 10¾ inches. No border lines may appear on the drawing sheet to indicate the "sight" space. The minimum margin must be ¼ inch at the left edge and ¼ inch at the bottom edge. The margin at the top must be located not more than 10¾ inches from the bottom edge. The right-hand margin must be located not more than 7½ inches from the left edge.

(c) *Characters of lines.* All drawings must be made by a process which will give satisfactory reproduction characteristics. Every line and letter (signatures included) must be durable, absolutely black or blue and sufficiently dense and dark to allow satisfactory reproduction. This direction applies to all lines however fine, to shading, and to lines representing cut surfaces in sectional views. All lines must be clean, sharp, and solid, and fine or crowded lines should be avoided. Solid black or blue should not be used for sectional or surface shading. Drafting instruments should be used in preparing original drawings and freehand work should be avoided wherever possible.

(e) *Scale.* The scale to which a drawing is made ought to be large enough to show the mechanism without crowding when the drawing is reduced in reproduction, and views of portions of the mechanism on a larger scale should be used when necessary to show details clearly; two or more sheets should be used if one does not give sufficient room to accomplish this end, but the number of sheets should not be more than is necessary. The scale of the drawings and the distinctness of their graphical execution must be such that a photographic reproduction with a linear reduction in size to two-thirds would enable all details to be distinguished without difficulty. When, in exceptional cases, the scale is given on a drawing, it must be represented graphically and not indicated in writing.

(f) *Reference characters.* The different views should be consecutively numbered figures with Arabic numerals. Reference numerals (and letters, but numerals are preferred) must be plain, legible, and carefully formed, and not be encircled. They must measure at least one-eighth of an inch in height so that they may bear reduction to one twenty-fourth of an inch; and they may be slightly larger when there is sufficient room. They must not be so placed in the close and complex parts of the drawing as to interfere with a thorough comprehension of the same, and therefore should rarely cross or mingle with the lines. When necessarily grouped around a certain part, they should be placed at a little distance, at the closest point where there is available space, and connected by lines with the parts to which they refer. They should not be placed upon hatched or shaded surfaces but when necessary, a blank space may be left in the hatching or shading where the character occurs so that it shall appear perfectly distinct and separate from the work. The same part of an invention appearing in more than one view of the drawing must always be designated by the same character, and the same character must never be used to designate different parts. Brackets, circles, or inverted commas together with numbers and letters, must not be used. However, a single large bracket may be used to group all parts of an exploded view. Reference characters not mentioned in the specification must not appear in the drawings.

(g) *Symbols, legends.* Graphical drawing symbols and other labeled representations may be used for convention elements when appropriate, subject to approval by the Office. The ele-

ments for which such symbols and labeled representations are used must be adequately identified in the specification. While descriptive matter on drawings is not permitted, suitable legends may be used, or may be required, in proper cases. Legends should be single words such as "water," "steam," "open," and "closed." In the case of electrical circuits and block schematics or flow sheet diagrams, a few short catch words indispensable for understanding may be used if they appear in the description and are widely used in the art. Arrows may be required, in proper cases, to show direction of movement. The lettering should be as large as, or larger than, the reference characters.

(h) *Location of signature, names and numerals.* The signature of the applicant or the name of the applicant and signature of the attorney or agent, may be placed in a lower corner of each sheet within the sight space. Each sheet of drawing must bear within the sight space the total number of sheets of drawings in Roman numerals, with the number of the sheet in Arabic numerals.

(j) *Arrangement of views.* All views on the same sheet must stand in the same direction and should, if possible, stand so that they can be read with the sheet held in an upright position. If views longer than the width of the sheet are necessary for the clearest illustration of the invention, the sheet may be turned on its side. The space for the signatures should then be located at the left, occupying the same space and position on the sheet as in the upright views and being horizontal when the sheet is held in an upright position. One figure must not be placed upon another or within the outline of another.

(l) *Extraneous matter.* An agent's or attorney's stamp, or address, or other extraneous matter, will not be permitted upon the face of a drawing, except that the title of the invention and identifying indicia, to distinguish from other drawings filed at the same time, may be placed below the lower margin in erasable pencil.

7. By revising § 1.87 to read as follows:

§ 1.87 *Nonreturn of drawings.*

(a) The drawing of an accepted application will not be returned to the applicant.

(b) A print is made of the drawing of an accepted application.

8. By amending § 1.21 to add a new paragraph (f) to read as follows:

§ 1.21 *Manner of making amendments.*

(f) Insertions to the specification must be limited to one per line and to not more than five per page. If extensive revision is required, a portion of the specification may be rewritten and substituted as an insertion. The number of words in each insertion is not limited.

9. By revising § 1.122 to read as follows:

§ 1.122 *Entry and consideration of amendments.*

Ordinarily all amendments presented in a paper file while the application is open to amendments are entered and considered, subsequent cancellation or correction being required of improper amendments. Untimely amendatory papers may be refused entry and consideration in whole or in part.

10. By revising paragraph (a) of § 1.123 to read as follows:

§ 1.123 *Amendments to the drawing.*

(a) No change in the drawing may be made except by permission of the Office. Permissible changes in the construction shown in any drawing may be made only by the Office. A sketch in dark indelible color showing proposed changes, to become part of the record, must be filed. The paper requesting amendments to the drawing should be separate from other papers.

11. By revising § 1.124 to read as follows:

§ 1.124 *Amendment of amendments.*

When an amendatory insertion is to be amended, it should be wholly rewritten and the original insertion canceled, so that no interlineation or deletions shall appear in the insertion as finally presented. Matter canceled by amendment can

be reinstated only by a subsequent amendment presenting the canceled matter as a new insertion.

All persons who desire to present their views, objections, recommendations, or suggestions in connection with the proposed changes are invited to do so on or before October 25, 1968, on which day a hearing will be held at 9 a.m., in Room 3 D 50 of Crystal Plaza Building 34, Arlington, Va. All persons wishing to be heard orally are requested to notify the Commissioner of Patents of their intended appearance.

EDWARD J. BRENNER,
Commissioner of Patents.

Approved: August 16, 1968.

EDWARD J. BRENNER,
Acting Assistant Secretary for Science and Technology.
[F.R. Doc. 68-10349; Filed, Aug. 27, 1968; 8:45 a.m.]
Published in 33 F.R. 12142-4, Aug. 28, 1968

PLANT PATENT APPLICATIONS—FILING DATE

Applicants and their attorneys are reminded that an application for a patent for a plant must include two copies of the specification, Rule 163(b), and two copies of the drawing when in color, Rule 165(b).

Effective immediately, applications for plant patents which fail to include two copies of the specification and two copies of the drawing when in color will be accepted for filing only. The Application Branch will notify the applicant immediately of this deficiency and require the same to be rectified within one month. Failure to do so will result in loss of filing date.

RICHARD A. WAHL,
Assistant Commissioner.

Nov. 21, 1968.

PRIORITY APPLICATIONS

REISSUE APPLICATIONS—FOREIGN PRIORITY

A "claim" for the benefit of an earlier filing date in a foreign country under 35 U.S.C. 119 must be made in a reissue application even though such a claim was made in the application on which the original patent was granted. However, no additional certified copy of the foreign application is necessary. The procedure is similar to that for "Continuing Applications" in the last paragraph of MPEP 201.14(b).

The heading on printed copies will not be carried forward to the reissue from the original patent. Therefore, it is important that the file wrapper be endorsed under "Claims Foreign Priority."

RICHARD A. WAHL,
Acting Superintendent Patent Examining Corps.

FILING OF PRIORITY PAPERS

In view of the shortened periods for prosecution leading to allowances, it is recommended that priority papers be filed as early as possible. Although Rule 35 permits the filing of priority papers up to and including the date for payment of the final fee, it is advisable that such papers be filed promptly after filing the application. Frequently priority papers are found to be deficient in material respects such as, for example, the failure to include the correct certified copy and there is not sufficient time to remedy the deficiency. Occasionally a new oath may be necessary where the original oath omits the reference to the foreign filing date for which the benefit is claimed. The early filing of priority papers would thus be advantageous to applicants in that it would afford time to explain any inconsistencies that exist or to supply any additional documents that may be necessary.

It is also suggested that a pencil notation of the serial number of the corresponding U.S. application be placed on the priority papers.

RICHARD A. WAHL,
Assistant Commissioner.

Dec. 1, 1965.

STREAMLINED CONTINUATION APPLICATIONS

Effective immediately, if the drawings and specification of a new application are to be identical with those of a pending application of the same applicant, and if the claims are to be

directed to the same invention as that prosecuted in the pending application, the application papers of the earlier case, excepting the claims but including the drawing, may be used in the new case. A request for the use of such papers must be made and such request will be considered a waiver of the right to further prosecution of the earlier application and will terminate proceedings therein as of the filing date accorded the new application. The filing fee will be that appropriate to all the claims to be included in the new case. The entire file wrapper contents of the earlier application will be included in the file of the new one but the Office actions in the former will not be regarded as actions in the latter and the prosecution of the new application will be conducted in the same manner as if new application papers had been filed. A new serial number and filing date will be accorded but the effective filing date will be that of the earlier application.

Feb. 11, 1966.
EDWARD J. BRENNER,
Commissioner of Patents.

STREAMLINED CONTINUATION APPLICATIONS—ORIGINAL APPLICATION ALLOWED

Since the streamlined continuation application procedure provided for by the Notice of February 11, 1966, published in the OFFICIAL GAZETTE of March 1, 1966, 824 O.G. 1, involved abandonment of the original application, and since the abandonment of an application after it has been allowed and the issue fee has been paid is not ordinarily permitted, the said streamlined prosecution will not be permitted when the original case, has been allowed and the issue fee has been paid prior to the filing of the continuation application.

May 13, 1966.
EDWARD J. BRENNER,
Commissioner.

FORMAT—REQUESTING STREAMLINED CONTINUATION APPLICATION

In response to many inquiries, the following format is suggested to transmit a new set of claims and request the use of the contents of an earlier filed application for a continuation application in compliance with 824 O.G. 1.

REQUEST FOR STREAMLINED CONTINUATION APPLICATION UNDER COMMISSIONER'S ORDER 824 O.G. 1

Earlier pending application:

Applicant(s) -----
Serial No. -----
Filed -----
Title -----

Enclosed are:

1. A new set of claims.
2. Filing fee of \$----- (or*), to cover—
Total Number of claims -----
Independent Claims -----

Please use the contents (specification and drawings) of the above application in the new application since it meets all the requirements of the above Commissioner's Order dated February 11, 1966. The specification (and drawings) of the new application are identical with the earlier application, and the new claims are directed to the same invention.

*Authorization letter (2 copies) for use of funds in my Deposit Account No. ----- for the filing fee of \$-----, to cover—

Total Number of Claims -----
Independent Claims -----

May 31, 1966.
EDWIN L. REYNOLDS,
First Assistant Commissioner.

EFFECTIVE DATE OF UNITED STATES PATENT

In section 706.02, delete penultimate paragraph, rewrite section 715.01 to read:

The effective date of a United States Patent for use as a prior art reference is not affected by the foreign filing date to which the patentee may be entitled under 35 U.S.C. 119. *In re Hilmer*, 833 O.G. 13, 149 USPQ 480 (CCPA (1966)); *Lilly et al. v. Brenner*, 153 USPQ 95 (C.A.D.C. 1967). The reference patent is effective as of

the date the application for it was filed in the United States (35 U.S.C. 102(e) and 103). *Hazeltine Research, Inc. et al. v. Brenner*, 824 O.G. 8 (U.S. Supreme Court 1965).

Apr. 5, 1967.
RICHARD A. WAHL,
Assistant Commissioner.

PATENT HEADINGS

As a service to the public, beginning with the issue of January 16, 1968, the heading of the printed patent will include all identifying parent data of continuation-in-part applications as is now the practice in continuation, divisional, substitute, and reissue applications. It should be noted, however, that inclusion of this information in the heading does not necessarily indicate that the claims are entitled to the benefit of the earlier filing date.

The above practice will not change the procedure with regard to assignments as set forth in the first sentence of paragraph 2 of Section 306 of the M.P.E.P.

Dec. 18, 1967.
RICHARD A. WAHL,
Assistant Commissioner.

CHAINS OF CONTINUING APPLICATIONS

In view of the decision of the Court of Customs and Patent Appeals in *In re Henriksen* (158 USPQ 224) the application of 35 U.S.C. will no longer be limited to a chain of three successively filed continuing cases.

Accordingly, Change Notice 12-8 is rescinded.

Aug. 9, 1968.
RICHARD A. WAHL,
Assistant Commissioner of Patents.

FOREIGN PRIORITY OF CONTINUING APPLICATIONS

If the Examiner is aware of the fact that the parent of a continuing application has fully complied with the requirements of 35 U.S.C. 119 and is therefore entitled to the benefit of the filing date of an earlier filed foreign application, he should direct it to the applicant's attention in an Office action, as in the following exemplary language:

"Applicant is reminded that in order to be entitled to priority based on papers filed in parent application Serial No. ----- under 35 U.S.C. 119, a claim for such priority must be made in this application. In making such claim, applicant may simply call attention to the fact that a certified copy of the foreign application is in the parent application (M.P.E.P. 201.14(b))."

Aug. 30, 1968.
RICHARD A. WAHL,
Assistant Commissioner.

DRAWINGS

PHOTOPRINTS AS DRAWINGS—FILING DATE ONLY

Effective September 1, 1964 the Application Branch is authorized and directed to accept all applications in which photoprints have been submitted in lieu of formal drawings, and to forward them to the Examiner, who will notify the applicant immediately that the application has been accepted for filing only, and that to be entitled to examination, the applicant must file formal drawings complying with Rule 84 within 60 days, and pay the cost of comparing the photoprints with the formal drawings.

A comparison charge of \$10.00 per hour, with a minimum charge of \$10.00 per application is hereby established. This charge may be applied against deposit accounts and authorization to charge such accounts should be included when the formal drawings are filed. For those who have no deposit account acceptance of the formal drawings will be contingent upon payment of the comparison charge within the period set.

This notice supersedes the notice of April 24, 1964, published May 26, 1964, in 802 O.G. 871.

July 16, 1964
EDWARD J. BRENNER,
Commissioner.

NEW DRAWINGS PREPARED BY PATENT OFFICE

In Section 608.02(x) the paragraphs headed "New Drawings Prepared by Patent Office" are cancelled and the following substituted therefor:

When new drawings have been required in pending applications and have been prepared by the Office draftsman, they are not sent to the applicant for his signature but a copy (print) is sent to him for his file. The name of the inventor(s) will be printed on the drawings by the Office draftsman.

In the event that the application is in condition for allowance, the application will be sent to issue immediately after the drawing is prepared.

Jan. 6, 1960.
RICHARD A. WAHL,
Assistant Commissioner.

TRANSFER OF DRAWINGS

In view of the recent amendment of Rule 138 to permit the express abandonment of patent applications by the attorney, there is no longer any sufficient reason for delaying the formal abandonment of an application after all the drawings thereof have been transferred to another case. Accordingly, effective February 1, 1967, no request to transfer all the drawings from a pending application will be granted unless and until a formal abandonment of the application has been filed. In order to insure copendency, such an abandonment may be so worded as to become effective only after the transfer of the drawings has taken place.

Dec. 15, 1960.
EDWARD J. BRENNER,
Commissioner.

EXAMINATION OF APPLICATIONS

INFORMAL APPLICATIONS OF FOREIGN APPLICANTS

This Notice is of special interest to attorneys and agents prosecuting applications on inventions originating abroad.

Many applications filed in this Office correspond in form and substance to the requirements (regulations) of countries foreign to the United States. Since they were not originally drafted to comply with our Rules of Practice, especially those based on 35 U.S.C. 112, the first examination cannot be the full and complete one contemplated under current examining procedures. This first examination is necessarily limited, under MPEP 702.01, to pointing out the informalities and citing the results of a search, the search being based upon the invention so far as it can be understood from the foreign type of claims, often coupled with a somewhat generalized disclosure. Since U.S. Patent Office policy is to accord equal treatment to all cases regardless of origin, current examining procedures as explained in the address reprinted in 803 O.G. 893, subject these applications to final determination on the second action.

It is obviously to applicant's advantage to file the application with an adequate disclosure and with claims which conform to the U.S. Patent Office usages and requirements. This should be done whenever possible. If, however, due to the pressure of a Convention deadline or other reasons, this is not possible, applicants are urged to submit promptly, preferably within three months after filing, a preliminary amendment which corrects the obvious informalities. The informalities should be corrected to the extent that the disclosure is readily understood and the claims to be initially examined are in proper form, particularly as to dependency, and otherwise clearly define the invention. "New matter" must be excluded from these amendments since preliminary amendments do not enjoy original disclosure status, section 608.04(b), MPEP.

Mar. 4, 1965.
EDWARD J. BRENNER,
Commissioner of Patents.

PRACTICE RE: TECHNICAL REJECTIONS

In the interest of reducing the number of technical rejections and expediting the prosecution of applications the following changes will be instituted effective June 1, 1965:

1. The inclusion of a negative limitation shall not, in itself, be considered a sufficient basis for objections to or rejection of a claim. However, if such a limitation renders the claim unduly broad, or indefinite or otherwise results in a failure

to point out the invention in the manner contemplated by 35 U.S.C. 112, an appropriate rejection should be made.

2. When materials recited in a claim are so related as to constitute a proper Markush group, they may be recited either in the conventional manner heretofore permitted, or alternatively. For example, if "... wherein R is a material selected from the group consisting of A, B, C and D" is a proper limitation then "... wherein R is A, B, C or D" shall also be considered proper.

3. The use of Markush claims of diminishing scope shall not in itself, be considered a sufficient basis for objection to or rejection of claims. However, if such a practice renders the claims indefinite or if it results in undue multiplicity, an appropriate rejection shall be made. This change does not in any way affect the substantive law governing the treatment of Markush claims. The foregoing practice with respect to Markush claims of diminishing scope will be effective on an experimental basis until December 1, 1965, and, if it proves satisfactory, will then be adopted permanently.

Apr. 30, 1965.
EDWARD J. BRENNER,
Commissioner.

"SPECIAL" EXAMINING PROCEDURE FOR CERTAIN NEW APPLICATIONS

The trial of "Special" Examining Procedure for Certain New Applications as announced in 812 O.G. 953 and later modified by 817 O.G. 423 indicates the desirability of making such procedure available on a standard operating basis. Accordingly, an additional category is being added to the list of situations in which an application may be advanced out of turn for examination, Rule 102 and M.P.E.P. 708.01 and 708.02. The M.P.E.P. will be rewritten to incorporate this practice.

Certain further modifications have been incorporated into the conditions and procedure; most importantly, the new case now may be a continuing or divisional application, the prohibition against an application having an earlier effective U.S. filing date has been removed. Original limits on filing date and on number in any Group have previously been deleted.

The full text of conditions and procedures now applicable appears below, and the notices in 812 O.G. 953 and 817 O.G. 423 are accordingly rendered obsolete.

REQUIREMENTS AND PROCEDURES TO EFFECT ACCELERATED EXAMINATION OF NEW APPLICATIONS

Requirements Precedent to Grant of Special Status for Accelerated Examination

A new application (one which has not received any examination by the examiner) may be granted special status provided that applicant (and this term includes applicant's attorney or agent) concurrently:

- (a) Submits a written petition to make special.
- (b) Agrees that the application will not include more than ten claims at any time. Should the pending application contain more than ten claims when the request for special status is filed, an amendment must be proposed at that time to reduce the number, to not more than ten, which amendment will be entered only if the special status is granted. All of the claims presented for this special prosecution must obviously be directed to a single invention.
- (c) Submits a statement that a pre-examination search was made, and specifying whether by the inventor, attorney, professional searcher, etc., and listing the field of search by class and subclass, publication, chemical abstracts, foreign patents, etc.
- (d) Submits one copy each of the references deemed most closely related to the subject matter encompassed by the claims.
- (e) Submits a detailed discussion of the references, which discussion points out, with the particularity required by Rule 111(b) and (c), how the claimed subject matter is distinguishable over the references. Where applicant indicates an intention of overcoming one of the references by affidavit under Rule 131, the affidavit must be submitted before the application is taken up for action, but

in no event later than one month after request for special status.

In those instances where the request for this special status does not meet all the prerequisites set forth above, applicant will be notified and the defects in the request will be stated. The application will remain in the status of a new application awaiting action in its regular turn. In those instances where a request is defective in one or more respects, applicant will be given one opportunity to perfect the request. If perfected, the request will then be granted.

Once a request has been granted, prosecution will proceed according to the procedure set forth below; there is no provision for "withdrawal" from this special status.

Special Examining Procedure

1. The new application, having been granted special status as a result of compliance with the requirements set out in the section titled "Requirements Precedent to Grant a Special Status for Accelerated Examination," supra, will be taken up by the Examiner before all other categories of applications except those clearly in condition for allowance and those with set time limits, such as Examiner's Answers, Decisions on Motions, etc., and will be given a complete first action which will include all essential matters of merit as to all claims. The Examiner's search will be restricted to the subject matter encompassed by the claims. This first action will terminate with the setting of a three-month shortened period for response.

2. During the three-month period for response, applicant is encouraged to arrange for an interview with the Examiner in order to resolve, with finality, as many issues as possible. In order to afford the Examiner time for reflective consideration before the interview, applicant or his representative should cause to be replaced in the hands of the Examiner at least one working day prior to the interview, a copy (clearly denoted as such) of the amendment that he proposes to file in response to the Examiner's action. Such a paper will not become a part of the file, but will form a basis for discussion at the interview.

3. Subsequent to the interview, or responsive to the Examiner's first action if no interview was had, applicant will file his "record" response. The response at this stage, to be proper, must be restricted to the rejections, objections, and requirements made. Any amendment which would require broadening the search field will be treated as not a proper response.

4. The Examiner will within one month from the date of receipt of applicant's formal response, take up the application for final disposition. This disposition will constitute either a final action which terminates with the setting of a three-month period for response, or a notice of allowance. No further response will be made by the Examiner after a final action with the exceptions that (a) an Examiner's Answer may be prepared in response to an appeal brief, or (b) the application may be passed to issue.

5. A personal interview after final Office action will not be permitted unless requested by the Examiner. However, telephonic interviews will be permitted where appropriate for the purpose of correcting any minor matters which remain outstanding.

RICHARD A. WAHL,
Assistant Commissioner.

Dec. 14, 1965.

DUTY OF INQUIRY AS TO STATUS OF PENDING APPLICATIONS

Some uncertainty appears to have arisen as to the duty of applicants to check the status of an application in which an Office action may appear to be overdue and hence possibly to have gone astray. The question as to applicant's diligence in checking the status of an application must be considered in connection with petitions to revive applications which become abandoned through failure to respond to an Office action which is mailed but not received. In passing upon such petitions, no lack of diligence will be attributed to the applicant or attorney, where an Office action on a new application is involved, if inquiry is made within a reasonable time after the OFFICIAL GAZETTE indicates that the filing date of the oldest new case awaiting action in the group to which the application in question is assigned, is more recent than that of the application. Where an amended application is involved, lack of diligence will not be attributed if inquiry is made within six months after the filing of an amendment or

other response to which no reply from the Patent Office has been received.

EDWIN L. REYNOLDS,
First Assistant Commissioner.

Apr. 13, 1966.

EXAMINER'S AMENDMENT PRACTICE

The present practice in making Examiner's Amendments when passing an application to issue is modified to permit the amendment or cancellation of claims where these have been authorized by applicant (or his representative) in a telephone or personal interview. The Examiner's Amendment should include a statement indicating that the changes were authorized, the date and type (personal or telephone) of interview, and with whom it was had.

The current policy prohibiting changes in the drawing and/or description of an application is maintained with the exceptions noted in MPEP Section 1302.04.

The new procedure resulted from an employee's suggestion.

RICHARD A. WAHL,
Assistant Commissioner.

May 11, 1966.

DOUBLE PATENTING

In view of the uncertain situation which has arisen as a result of recent decisions dealing with "double patenting" it is thought to be advisable to restate the practice which should be followed in this area, particularly as regards the effect of terminal disclaimers. The term "double patenting" is properly applicable only to cases involving two or more applications and/or patents of the same inventive entity and should not be applied to situations involving commonly owned cases of different inventive entities. Sole and joint inventors cannot constitute a single entity, nor do two or more sets of joint inventors constitute a single entity if any individual is included in either set who is not also included in the other.

If two or more cases are filed by a single inventive entity, and if the expiration dates of the patents, granted or to be granted, are the same, either because of a common issue date or by reason of the filing of one or more terminal disclaimers, two or more patents may properly be granted, if the claims do not overlap, even though the subject matter to which the claims of one case are directed may be obvious in view of the subject matter claimed in the other case. *In re Robison*, 1964 C.D. 561, 141 USPQ 485; *In re Kaye*, 1964 C.D. 630, 141 USPQ 8229. Claims overlap within the meaning of this statement if it is possible for them to be infringed by the same process, machine, manufacture, or composition of matter. Cross reading is not necessary to constitute such an overlap.

Overlapping claims should not be allowed in cases filed by the same inventive entity if they are directed to identical inventive concepts, or if the concept to which one set of claims is directed would be obvious in view of that to which the other set is directed. This is true regardless of the relative filing dates of the cases or the relative scope of the claims.

In situations involving cases filed by different inventive entities, regardless of ownership, Sections 102 and 103 of 35 U.S.C. preclude the granting of two or more patents when directed to identical inventive concepts or when one of the concepts would be obvious in view of the other. A terminal disclaimer can have no effect in this situation since the basis for refusing more than one patent is not connected with any extension of monopoly.

In view of 35 U.S.C. 135, it is necessary to determine priority of invention whenever two different inventive entities are claiming a single inventive concept, and this determination should ordinarily be made before any patent is issued. This is true regardless of ownership, and the provision of Rule 201(c) that interferences will not be declared or continued between commonly owned cases unless good cause is shown therefor does not mean that two patents are to be allowed in such cases, but that the common assignee should be called on to state which of the entities involved is prior to the other in date of invention.

Accordingly, the assignee of two or more cases of different inventive entities, containing conflicting claims, should be called on to maintain a line of demarcation between them. If such a line is not maintained, then, when one of the cases is in condition for allowance, claims covering the conflicting subject matter should be suggested as provided in Rule 203, care being taken to insure that such claims cover all the

conflicting matter and the assignee should be called on to state which entity is the prior inventor of that subject matter and to limit the claims of the other application accordingly. If the assignee does not comply with this requirement and presents the interfering claims in both cases, an interference should be declared, attention being directed to Rule 208 if there is a common attorney. If suggested claims are not presented within the time allowed, rejection should be made on the ground of disclaimer as indicated in Rule 203(b).

In the event that a common assignee, after taking out a patent on one of two or more applications, for the first time presents claims in a pending application which are not patentably distinct from claims of the patent, the claims of the application should be rejected on the ground that the assignee, by taking out the patent at a time when the application was not claiming the patented invention, is estopped to contend that the patentee is not the prior inventor.

If a patent is inadvertently issued on one of two commonly owned applications by different inventive entities which at the time when the patent issued were claiming inventions which are not patentably distinct, the assignee should be called on to make a determination of priority as in the case of pending applications and, if no election is made, an interference should be declared. An election of the applicant as the first inventor should not be accepted without a complete (not terminal) disclaimer of the conflicting claims in the patent.

EDWARD J. BRENNER,
Commissioner.

Jan. 9, 1967.

NON-FINAL ACTION REJECTION PRACTICE

Experience since September 1, 1966, indicates that the non-final second action rejection practice announced on a trial basis at 829 O.G. 1755 (M.P.E.P. Change Notice 10-1) has worked out satisfactorily for both the Office and the applicants. Effective immediately, that practice as restated below will be followed on a regular basis.

Second actions on the merits will not be made final where the examiner introduces a new ground of rejection not necessitated by amendment of the application by the applicant. Further, in carrying out this policy, a second action on the merits in any application will not be made final if it includes a rejection of any claim not amended by applicant where that rejection relies on newly cited art. Also, amendments complying with objections or requirements as to form are to be permitted after final action in accordance with Rule 116(a).

RICHARD A. WAHL,
Assistant Commissioner.

Jan. 30, 1967.

SPECIAL EXAMINING PROCEDURE FOR CERTAIN NEW APPLICATIONS

The practice of granting special status to certain new applications as set forth in the Notice of December 14, 1965, 822 O.G. 2, is modified to the extent indicated below in the case where the Office determines that all of the claims presented are not obviously directed to a single invention.

Where the claims in a case are directed to more than one invention, an election without traverse will be a prerequisite to the grant of special status.

The election may be made by applicant at the time of filing the petition for special status. Should applicant fail to include an election with the original papers or petition and the Office determines that a requirement should be made, the established telephone restriction practice will be followed. If otherwise proper, examination on the merits will proceed on claims drawn to the elected invention.

If applicant refuses to make an election without traverse, the application will not be further examined at that time. The petition will be denied on the ground that the claims are not directed to a single invention, and the application will await action in its regular turn.

Divisional applications directed to the non-elected inventions will not automatically be given special status based on papers filed with the petition in the parent case. Each such application must meet on its own all requirements for the new special status.

RICHARD A. WAHL,
Assistant Commissioner.

Mar. 21, 1967.

POLICY RE: VOLUNTARY CITATION OF PRIOR ART BY APPLICANTS

Effective immediately, the following policy is being adopted in the hope of encouraging more frequent and meaningful citation of prior art by applicants and their attorneys on a voluntary basis.

Prior art cited by applicants or their attorneys within thirty days of the filing of a patent application, or prior to the first Office action, whichever is later, will be fully considered by the Examiner, will be part of the official record, and will be included in the list of references cited in the patented file and in the printed patent provided the applicant:

(a) Limits the number of references cited to not more than five separate items, unless a satisfactory explanation is given as to why more than five citations are necessary, and submits one copy of each of the references; and

(b) Submits a detailed discussion of the references, which discussion points out, with the particularity required by Rule 111(b) and (c), how the claimed subject matter is distinguishable over the references.

References cited by applicants or attorneys under the "special" examining procedure announced on March 2, 1965, and published in 812 O.G. 953 will also be included in the list of references cited in the patented file and printed patent.

Prior art cited by applicants and attorneys under the practice set forth in the notices published in 797 O.G. 733; 802 O.G. 601; 804 O.G. 1 and 805 O.G. 294 will no longer be listed in the printed patent.

EDWARD J. BRENNER,
Commissioner of Patents.

Apr. 13, 1967.

ATTACHMENTS TO OFFICE ACTIONS

To expedite the preparation and mailing of certain Office actions, the following changes in practice are effective July 1, 1967:

Where references are furnished, applicant's copies of the Office action will be camera reproductions of the ribbon copy instead of the usual carbon copies. The last of reference citations, heretofore typed directly on the action, will be on a separate form, Notice of References Cited, PO-892, attached to applicant's copies of the action.

The manner of furnishing copies of the references remains unchanged.

About Aug. 1, 1967, the use of attachments to the Office action will be extended to include notification of informalities in the application and drawings. Where applicable, Notice of Informal Patent Drawings, PO-948, and Notice of Informal Patent Applications, PO-152 (rev.) will be attached to the first action.

The attachments will bear the same paper number and are to be considered as part of the action.

Replies to Office actions should include the 3-digit Art Unit number to expedite handling within the Office.

RICHARD A. WAHL,
Assistant Commissioner.

June 29, 1967.

PROSECUTION OF PATENT APPLICATIONS AFTER FINAL ACTION

Experience over the past several months indicates the need to re-emphasize certain areas of examining procedure outlined in Assistant Commissioner Wahl's address to the Patent Examining Corps on September 24, 1965 (819 O.G. 893). Certain paragraphs or parts thereof are quoted below, with emphasis added.

"It is planned, accordingly, that prosecution before the examiner should be essentially concluded after applicant's first response and the examiner's reply thereto. No amendments to claims, nor new claims, should be entered after final rejection, except in rare instances, unless it is readily apparent that these place the case in condition for allowance or materially reduce or simplify the issues for appeal. Also, no amendments should be entered which raise new issues or require further search. However, if a response to a final rejection is received and it would clearly place the case in condition for allowance except for minor matters which could be cleared up over the telephone, the examiner should telephone

applicant or his attorney or agent to try to promptly clear up such matters."

"In general, a very complete and thoroughly considered first response by applicant will be in order because it will determine the form and content of the claims, not only for the final consideration by the examiner, but also by the Board of Appeals if appeal be taken. In this connection, attention is directed to suggestions set forth in notices in the OFFICIAL GAZETTE in recent years that applicant should include in his application at the time of filing, or after the first complete action, the most detailed claim that he would be willing to accept as well as the broadest claim to which he considers himself entitled."

"A third change in procedure is that in all cases wherein the examiner decides that a requirement for restriction to one invention or for election of species must be made, a telephone call will be made to applicant or his representative advising him of the situation and requesting a prompt election by return telephone call if the decision cannot be made immediately. When the election is made by telephone, the examiner in his action will make of record the complete requirement and will state the date of the call, the name of the applicant or his representative who made the election, and the result of the election. Such restriction or election requirements will, of course, be subject to written requests for reconsideration (traverse) in accordance with Rule 143. If no reply is received to the examiner's telephoned requirement within a reasonable period, about three working days, he will proceed to make the requirement in a written action as heretofore."

In further implementation of these procedures, the following paragraphs add further details to take effect on the date of this notice and to apply to all Office actions taken or written, and to all communications received from applicant, on or after the effective date.

FINAL ACTION AND PRE-APPEAL

The prosecution of an application before the examiner should ordinarily be concluded with the final action. However, one personal interview and one written response by applicant may be entertained after such final action if circumstances warrant. Thus, only one request by applicant for a personal interview after final should be granted, but in exceptional circumstances, a second personal interview may be initiated by the examiner if in his judgment this would materially assist in placing the application in condition for allowance. Any amendment submitted under Rule 116(a) and Rule 116(b) for purposes of appeal should be presented in the first response after final action and will be considered as heretofore; if any amendments are submitted after the examiner's reply to such first response, they should be refused entry as not warranted at this stage of prosecution, even though such amendments allegedly present rejected claims in better condition for appeal. Similarly, no affidavit should be considered if presented later than with the first response after final action unless a showing is made under Rule 110(b).

The practice will be continued of advising applicant by means of the recently introduced form letter (POL-303) as to the disposition of proposed amendments to the claims and as to the effect of any argument or affidavit submitted in the first response after final action.

If a response subsequent to the first response after final action is received before appeal and which on its face clearly places the application in condition for allowance, it should be entered and a notice of allowability (POL-255) promptly sent to applicant; if such subsequent response does not on its face place the application in condition for allowance, it should not be considered further (unless, in the examiner's judgment, there are only minor matters which could be readily cleared up in a telephone interview leading to a notice of allowance) and should be refused entry. A form letter (POL-309) will be used for notification that such subsequent responses do not place the application in condition for allowance.

Requests for extension of the shortened statutory period for reply after final action, under Rule 136(b), will be considered

by the Primary Examiner and if granted will be for not more than one month; petitions for further extensions will be decided by the Commissioner or his designees in this matter. It should be noted that, under Rule 181(f), the filing of a Rule 181 petition will not stay the period for reply to an Examiner's action which may be running against an application.

APPEAL AND POST-APPEAL

The record on appeal should be essentially the record before the examiner at the time appeal is taken. Thus, no amendments, except under Rule 193(b), presented after appeal has been taken should be entered for purposes of appeal, and no exception should be made to this, see Rule 116(c). Amendments, arguments, or affidavits filed concurrently with or of even date with appeal notice will be construed as filed after appeal for the purpose of this procedure, even though they may be the first response to the final action. In accordance with Rule 195, affidavits or exhibits submitted after the case applicant makes the necessary showing why they were not has been appealed should be considered for entry only if earlier presented; Rule 195 should be strictly construed in this regard. If after appeal has been taken, a paper is presented which on its face clearly places the application in condition for allowance, such paper should be entered and a notice of allowability (POL-255) promptly sent to applicant. If such paper does not on its face place the application in condition for allowance, it should not be considered further (unless in the examiner's judgment there are only minor matters which could be readily cleared up in a telephone interview leading to a notice of allowance) and proposed amendments therein should not be entered. Notification that such papers do not place the application in condition for allowance will be made by use of a form letter (POL-309).

In accordance with the above, the Brief should be directed to the claims and to the record of the case as they appeared upon filing the appeal, but it may, of course, withdraw from consideration on appeal any claims or issues as desired by applicant.

Upon timely filing of a Brief, it will be referred to the examiner for his consideration of its propriety as to the appeal issues and for preparation of an Examiner's Answer. If the Brief is proper and the application is not allowable. The Examiner's Answer will normally be of the shortened type referring to and relying on the final action; it may withdraw rejection of claims or any objection or requirement as desired by the examiner. No new ground of rejection or objection should be incorporated in the Examiner's Answer without express approval in each case by the Group Manager.

RESTRICTION AND ELECTION

A basic policy of the streamlined examining program is that the second action on the merits should be made final. In those applications wherein a requirement for restriction or election is accompanied by the rejection of linking or generic claims, such action will be considered to be an action on the merits and the next action by the examiner should be made final. It may thus be to applicant's advantage to make a telephone election in such cases prior to the first action.

Requirements for restriction or election will continue to be governed by existing criteria. However, in stating a requirement for restriction hereafter there should be no citation of patents to show separate status or classification or utility. The separate inventions should as heretofore be identified by a grouping of the claims with a short description of the total extent of the invention claimed in each group, specifying the type or relationship of each group as by stating the group is drawn to process, or to subcombination, or to product, etc., and should indicate the classification or separate status of each group, as for example, by class and subclass.

The period for response to a requirement for restriction or election, where there is no rejection of claims, will hereafter be set at 30 days.

MANUAL OF PATENT EXAMINING PROCEDURE

Procedures currently set forth in the Manual of Patent Examining Procedure which may be in conflict with the above are superseded by those announced above. Change Notices and replacement pages will be issued in due course.

MANUAL OF CLERICAL PROCEDURE

This information will also be incorporated in the Manual of Clerical Procedure.

RICHARD A. WAHL,
Assistant Commissioner.

INQUIRIES RE STATUS OF PENDING APPLICATIONS

The Office has lately received a large number of status inquiries relative to the expected action date on pending applications. These require substantial time on the part of the clerical and examiner forces to answer. In many instances it seems that these inquiries are unnecessary since the OFFICIAL GAZETTE notes by Group the filing date of the oldest new and amended case awaiting action.

It appears that many attorneys are routinely sending in status letters because of a misunderstanding of the 826 O.G. 372 notice "Duty of Inquiry as to Status of Pending Applications." Under that notice the question as to applicant's diligence in checking the status of an application arises in connection with the petitions to revive applications which become abandoned through failure to respond to an Office action which had been mailed but not received.

That notice seeks to cut down the number of status letters for both new and amended applications. For new applications, no lack of diligence will be attributed if inquiry is made within a reasonable time after the OFFICIAL GAZETTE indicates that the date for the Group in which the application is assigned for examination is more recent than applicant's filing date. For amended applications, lack of diligence will not be attributed if inquiry is made within six months after filing the response; obviously an inquiry after only about two months would be premature.

Thus, no status letter or inquiry is needed for new applications until after the application date becomes older than the reported Group date in the OFFICIAL GAZETTE, and none is needed in an amended case until at least three months after date of filing the amendment or response.

If an inquiry as to the expected time an application will receive an action is found necessary, such inquiry should be accompanied by a stamped return addressed envelope.

RICHARD A. WAHL,
Assistant Commissioner.

Oct. 17, 1967.

NEW FIRST ACTION PROCEDURE

Effective January 2, 1968, a new practice involving the use of a revised form for the first page of the first Office Action will be instituted. The use of this new form will introduce some new practices and procedures and will terminate the "Interview Practice Preliminary to Notice Under 35 U.S.C. 132" announced August 1, 1967, at 841 O.G. 1.

The heading of the revised form containing the address and application identification will have a completely revised format to facilitate future pre-action addressing by automatic typewriter.

Under the new procedure, the Examiner will signify on the revised form certain information including the period set for response, any attachments, and in a "summary of action," the position taken on all claims.

The new procedure will also allow the Examiner, in the exercise of his professional judgment, to indicate that a discussion with applicant's representative may result in agreements whereby the application may be placed in condition for allowance and that the Examiner will telephone the representative within about two weeks. Under this practice the applicant's representative can be adequately prepared to conduct such a discussion. Any resulting amendment may be made either by the applicant's attorney or agent or by the Examiner in an Examiner's Amendment. It should be recognized that when extensive amendments are necessary it would be preferable if they were filed by the attorney or agent of record, thereby reducing the professional and clerical workload in the Patent Office and also providing the file wrapper with a better record, including applicant's arguments for allowability as required by Rule 111.

RICHARD A. WAHL,
Assistant Commissioner.

Dec. 11, 1967.

CHANGE OF INVENTORS

Where a person is added or removed as an inventor during the prosecution of an application before the Patent Office, problems may occur upon claiming U.S. priority in a foreign filed case. One such problem results from the apparent conflict between the inventor(s) named in the foreign application and the inventor(s) shown on the priority papers obtained from the U.S. Patent Office. Another problem may occur where there is no conflict between the inventors in the foreign application as filed and the priority papers but a change of inventors has been made in the U.S. application and a similar change is to be made in the foreign application.

In order to overcome the possibility of these problems arising in the future, Examiners should acknowledge any addition of inventors made in accordance with the practice under Rule 45 including the following statement in the next communication to the applicant or his attorney:

"In view of the papers filed _____, it has been found that this application, as filed through error and without any deceptive intention, failed to include _____ as an actual joint inventor and accordingly, this application has been corrected to include him in accordance with Rule 45."

A similar statement, appropriately modified, should be made in the case where an inventor is removed from those included in the application as filed.

RICHARD A. WAHL,
Assistant Commissioner.

June 10, 1968.

MODIFICATION OF NOTICE OF JANUARY 31, 1967

The practice set forth in the notice of January 31, 1967, entitled "Double Patenting" (834 O.G. 1615), is modified to the extent that when a single inventive entity is involved a terminal disclaimer will be accepted to avoid a double patenting rejection even if the claims overlap, if the claims which would otherwise be subject to such rejection could not have been allowed in the other application or patent, and if the terminal disclaimer further provides that the patent shall expire immediately if it ceases to be commonly owned with the other application or patent.

EDWARD J. BRENNER,
Commissioner.

Feb. 14, 1968.

APPLICATIONS TO BE TAKEN UP SPECIAL

Hereafter the existence of the following facts will place the application concerned in the category of special cases, i.e., those to be advanced out of regular order for examination.

Once a case is taken up for action by an Examiner according to its effective filing date, it should be treated as special by any Examiner, Art Unit or Group to which it may subsequently be transferred. Exemplary situations include: (1) new cases transferred as the result of a telephone election, and (2) cases transferred as the result of a timely response to any official action.

RICHARD A. WAHL,
Assistant Commissioner.

Feb. 20, 1968.

CONTINUATIONS—RES JUDICATA REJECTIONS

Some confusion exists in the interpretation of the established Office policy regarding the use of res judicata rejections. To clarify the Manual on this point the following changes are made—

The second paragraph of MPEP 201.07 is rewritten to read:

At any time before the patenting or abandonment of or termination of proceedings on his earlier application, an applicant may have recourse to filing a continuation in order to introduce into the case a new set of claims and to establish a right to further examination by the Primary Examiner.

The last two sentences of MPEP 201.11 are deleted. MPEP 706.93(w) is rewritten to read:

A prior adjudication against the inventor on the same or similar claims constitutes a proper ground of rejection as res judicata. See *Ex Parte Budde*, 150 USPQ 469; 828 O.G. 409. The rejection should be used only when the earlier decision was a decision of the Board of Ap-

peals or any of the reviewing courts, and when the time for further court review has expired and no such review has been sought, or, if filed, the review action is terminated. The timely filing of a second application pending with an earlier application does not preclude the use of *res judicata* as a ground of rejection for the second application claims.

When making a rejection on *res judicata*, action should ordinarily be made also on the basis of prior art.

RICHARD A. WAHL,
Assistant Commissioner.

Mar. 18, 1968.

GUIDELINES FOR CONSIDERING DISCLOSURES OF UTILITY IN DRUG CASES

On December 5, 1967 the text of certain guidelines which the Patent Office proposed to adopt in the examination of applications for drugs, was published in the OFFICIAL GAZETTE (843 O.G. 1). A hearing was had on January 10, 1968, and all persons, who desired to, were invited to attend and to submit their views, objections, recommendations or suggestions. The following guidelines are being published after consideration of all the material and opinions, both written and oral, which were submitted in response to that invitation.

EDWARD J. BRENNER,
Commissioner of Patents.

Mar. 10, 1968.

General

These guidelines are set down to provide uniform handling of applications disclosing drug or pharmaceutical utility. They are intended to guide patent examiners and patent applicants as to criteria for utility statements. They deal with fundamental questions and are subject to revision and amendment if future case law indicates this to be necessary.

The following two basic principles shall be followed in considering matters relating to the adequacy of disclosure of utility in drug cases:

- (1) The same basic principles of patent law which apply in the field of chemical arts shall be applicable to drugs, and
- (2) The Patent Office shall confine its examination of disclosure of utility to the application of patent law principles, recognizing that other agencies of the Government have been assigned the responsibility of assuring conformance to the standards established by statute for the advertisement, use, sale or distribution of drugs.¹

A drug is defined by 21 U.S.C. 321(g)

The term "drug" means (A) articles recognized in the official United States Pharmacopoeia, official Homeopathic Pharmacopoeia of the United States, or official National Formulary, or any supplement to any of them; and (B) articles intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease in man or other animals; and (C) articles (other than food) intended to affect the structure or any function of the body of man or other animals; and (D) articles intended for use as a component of any articles specified in clause (A), (B), or (C); but does not include devices or their components, parts, or accessories.

In addition, compositions adapted to be applied to or used by human beings, e.g., cosmetics, dentifrices, mouthwashes, etc., may be treated in the same manner as drugs subject to the conditions stated.

Any proof of a stated utility or safety required pursuant to these guidelines may be incorporated in the application as filed, or may be subsequently submitted by affidavit if and when required. The Patent Office, in reaching its own independent decisions on questions of utility and how to use under 35 U.S.C. 101 and 112, will continue to avail itself of assistance and information from the Secretary of Health, Education, and Welfare as authorized by 21 U.S.C. 372(b), when necessary.

In accordance with the basic principles set forth above, the following procedures shall be followed in examining patent applications in the drug field with regard to disclosures relating to utility.

¹ *In re Krimmel*, 48 CCPA 1116, 292 F.2d 948, 130 USPQ 215; *In re Hartop et al.*, 50 CCPA 780, 311 F.2d 249, 135 USPQ 419.

35 U.S.C. 101

Utility must be definite and in currently available form,² not merely for further investigation or research but commercial availability is not necessary. Mere assertions such as "therapeutic agents,"³ "for pharmaceutical purposes,"⁴ "biological activity,"⁵ "intermediates,"⁶ and for making further unspecified preparations are regarded as insufficient.

If the asserted utility of a compound is believable on its face to persons skilled in the art in view of the contemporary knowledge in the art, then the burden is upon the examiner to give adequate support for rejections for lack of utility under this section.⁷ On the other hand, incredible statements⁸ or statements deemed unlikely to be correct by one skilled in the art⁹ in view of the contemporary knowledge in the art will require adequate proof on the part of applicants for patents.

Proof of utility under this section may be established by clinical or *in vivo* or *in vitro* data, or combinations of these, which would be convincing to those skilled in the art.¹⁰ More particularly, if the utility relied on is directed solely to the treatment of humans, evidence of utility, if required, must generally be clinical evidence,¹¹ although animal tests may be adequate where the art would accept these as appropriately correlated with human utility.¹² If there is no assertion of human utility,¹³ or if there is an assertion of animal utility,¹⁴ operativeness for use on standard test animals is adequate for patent purposes.

Exceptions exist with respect to the general rule relating to the treatment of humans. For example, compositions whose properties are generally predictable from a knowledge of their components, such as laxatives, antacids and certain topical preparations, require little or no clinical proof.¹⁵

Although absolute safety is not necessary to meet the utility requirement under this section, a drug which is not sufficiently safe under the conditions of use for which it is said to be effective will not satisfy the utility requirement.¹⁶ Proof of safety shall be required only in those cases where adequate reasons can be advanced by the examiner for believing that the drug is unsafe, and shall be accepted if it establishes a reasonable probability of safety.

35 U.S.C. 112

A mere statement of utility for pharmacological or chemotherapeutic purposes may raise a question of compliance with Section 112, particularly "... as to enable any person skilled in the art to which it pertains ... to use the same."

² *Brenner v. Manson*, 383 U.S. 519, 148 USPQ 680.

³ *Cl. In re Lorenz et al.*, 49 CCPA 1227, 305 F.2d 875, 134 USPQ 312; *cf. Ex parte Brockmann et al.*, 127 USPQ 57.

⁴ *In re Diedrich*, 50 CCPA 1355, 318 F.2d 940, 138 USPQ 128.

⁵ *In re Kirk et al.*, 54 CCPA 1119, 153 USPQ 48; *Ex parte Lanham*, 135 USPQ 106.

⁶ *In re Joly et al.*, 54 CCPA 1159, 153 USPQ 45; *In re Kirk et al.*, 54 CCPA 1119, 153 USPQ 48.

⁷ *In re Ginzare*, 54 CCPA 1524, 154 USPQ 92.

⁸ *In re Citron*, 51 CCPA 852, 325 F.2d 248, 139 USPQ 516; *In re Oberueger*, 28 CCPA 749, 115 F.2d 826, 47 USPQ 455; *Ex parte Moore et al.*, 128 USPQ 8.

⁹ *In re Ruskin*, 53 CCPA 872, 354 F.2d 395, 148 USPQ 221; *In re Pottier*, 54 CCPA 1293, 153 USPQ 407; *In re Novak et al.*, 49 CCPA 1283 306 F.2d 924, 134 USPQ 335. See also, *In re Irons*, 52 CCPA 938, 340 F.2d 974, 144 USPQ 351.

¹⁰ *In re Irons*, 52 CCPA 938, 340 F.2d 974, 144 USPQ 351; *Ex parte Paschall*, 88 USPQ 131; *Ex parte Pennell et al.*, 99 USPQ 56; *Ex parte Ferguson*, 117 USPQ 229; *Ex parte Timmis*, 123 USPQ 581.

¹¹ *Ex parte Timmis*, 123 USPQ 581.

¹² *In re Hartop et al.*, 50 CCPA 780, 311 F.2d 249, 135 USPQ 419; *Ex parte Murphy*, 134 USPQ 134.

¹³ *Cl. Blüke v. Treves*, 44 CCPA 753, 241 F.2d 718, 112 USPQ 472; *In re Krimmel*, 48 CCPA 1116, 292 F.2d 948, 130 USPQ 215; *In re Dadaon*, 48 CCPA 1125, 292 F.2d 943, 130 USPQ 224; *In re Hitchings*, 52 CCPA 1141, 342 F.2d 80, 144 USPQ 637.

¹⁴ *In re Bergel et al.*, 48 CCPA 1102, 292 F.2d 955, 130 USPQ 206; *Ex parte Melvin*, 155 USPQ 47.

¹⁵ *Ex parte Harrison et al.*, 129 USPQ 172; *Ex parte Levin*, 140 USPQ 70.

¹⁶ *In re Hartop et al.*, 50 CCPA 780, 311 F.2d 249, 135 USPQ 419.

If the statement of utility contains within it a connotation of how to use, and/or the art recognizes that standard modes of administration are contemplated, Section 112 is satisfied.¹⁷ If the use disclosed is of such nature that the art is unaware of successful treatments with chemically analogous compounds, a more complete statement of how to use must be supplied than if such analogy were not present.¹⁸ It is not necessary to specify the dosage or method of use if it is obvious to one skilled in the art that such information could be obtained without undue experimentation.¹⁹

With respect to the adequacy of disclosure that a claimed genus possesses an asserted utility representative examples together with a statement applicable to the genus as a whole will ordinarily be sufficient if it would be deemed likely by one skilled in the art, in view of contemporary knowledge in the art, that the claimed genus would possess the asserted utility.²⁰ Proof of utility will be required for other members of the claimed genus only in those cases where adequate reasons can be advanced by the examiner for believing that the genus as a whole does not possess the asserted utility. Conversely, a sufficient number of representative examples, if disclosed in the prior art will constitute a disclosure of the genus to which they belong.

In the case of mixtures including a drug as an ingredient, or mixtures which are drugs, or methods of treating a specific condition with a drug, whether old or new, a specific example should ordinarily be set forth, which should include the organism treated. In appropriate cases, such an example may be inferred from the disclosure taken as a whole and/or the knowledge in the art (e.g., gargle).

Where the claimed compounds are capable of several different utilities and one use is adequately described in accordance with these guidelines, additional utilities will be investigated for compliance with Sections 101 and 112 only if not believable on their face to those of ordinary skill in the art in view of the contemporary knowledge of the art. Failure to meet these standards may result in a requirement to cancel such additional utilities.²¹

¹⁷ *Cl. In re Johnson*, 48 CCPA 733, 282 F.2d 370, 127 USPQ 216; *In re Hitchings et al.*, 52 CCPA 1141, 342 F.2d 80, 144 USPQ 637.

¹⁸ *In re Moura et al.*, 52 CCPA 1363, 345 F.2d 595, 145 USPQ 452; *In re Schmidt et al.*, 54 CCPA 1577, 153 USPQ 640.

¹⁹ *In re Oppenauer*, 31 CCPA 1248, 143 F.2d 974, 62 USPQ 297; *In re Cavallito et al.*, 48 CCPA 711, 282 F.2d 357, 127 USPQ 202; *In re Cavallito et al.*, 48 CCPA 720, 282 F.2d 363, 127 USPQ 206; *In re Schmidt*, 48 CCPA 1140, 293 F.2d 274, 130 USPQ 404; *In re Cavallito*, 49 CCPA 1335, 306 F.2d 503, 134 USPQ 370; *In re Surrey*, 54 CCPA 855, 370 F.2d 349, 151 USPQ 724; *In re Lund et al.*, 54 CCPA, 153 USPQ 625.

²⁰ *Ex parte Lanham*, 121 USPQ 223; *Ex parte Moore et al.*, 128 USPQ 8; *In re Citron*, 51 CCPA 852, 325 F.2d 248, 139 USPQ 516; *In re Gottlieb et al.*, 51 CCPA 1114, 328 F.2d 1016, 140 USPQ 665.

TRIAL MULTIPLE DEPENDENT CLAIM PRACTICE

For the trial period running from July 1, 1968, through December 31, 1968, all applications and amendments to applications filed in the Patent Office will be permitted to include multiple dependent claims which refer back to any of the preceding claims in the alternative whether independent or dependent. In this manner a claim may have a single number but would effectively be considered and treated as a plurality of claims. Entry into this program will require (1) the filing of a written request in which the applicant agrees to abide by the conditions of the program, and (2) the filing of appropriate fees and a showing of the fee calculation. Although the trial period terminates December 31, 1968, the prosecution of all applications placed in this program will continue under the program guidelines.

A claim dependent upon any of a plurality of preceding claims will be considered in acceptable form and entered provided it is otherwise acceptable and does not (1) cross statutory classes with any of its parent claims, or (2) depend from any other multiple dependent claim, or (3) refer back to preceding claims in the conjunctive rather than the disjunctive form (e.g., "The tool as defined in any one of claims 1, 2, and 4 . . ." is acceptable, but "The tool as defined in claims

1 and 2 . . ." is not acceptable. Likewise, "The tool as defined in claims 1, 2, or 4 . . ." is acceptable, whereas "The tool as defined in claims 1, 2 and/or 4 . . ." is not acceptable). Should any dependent claim include a claim association that violates any of the above prohibitions the claims will be rejected as indefinite for failure to comply with 35 U.S.C. 112 and will not be further treated with regard to any other claim association. Also, multiple dependent claims will not be considered for entry after final rejection. Further, during this trial period, for the applications involved in the program the total numbered claims may not exceed ten. Non-compliance with this condition will result in applicant being given one month to reduce the total numbered claims to ten. In newly filed cases, the failure to comply within the one month period will result in loss of filing date. In all other cases the entire amendment will not be entered in the absence of compliance with this requirement.

It is suggested that the claims be arranged in order of narrowing scope whereby the first claim presented is the broadest. Claims dependent upon the broad claim should come next, followed by claims which are dependent upon any of the plurality of preceding claims.

Practice and Rejections

When acting on a multiple dependent claim, the Examiner will consider the patentability of the various claim associations encompassed by said claim and apply any pertinent prior art in the usual manner. Each of these associations should be compared with the prior art, exactly as if it were presented as an independent claim. If a claim having multiple dependency should include both patentable and unpatentable claim associations, the Examiner will identify each of the patentable claim associations and identify and specifically reject each of the unpatentable claim associations. However, mere failure to reject a claim association does not give rise to a presumption of allowability.

For fee purposes every claim which refers to any of the preceding claims will be considered effectively as a dependent claim for each association of claims that it represents, thereby effectively increasing the number of claims in the case. Therefore, in these cases the additional fees required for claims in excess of ten will be two dollars (\$2.00) times the total effective number of claims in excess of ten. This fee is based on the fact that such a claim is, in substance and so far as the work of examination is concerned, equivalent to a number of dependent claims each based on a single preceding claim.

In applications not under this program but having multiple dependent claims, it will be assumed that applicant intends these claims as effectively only a single claim. Accordingly, such claims will be considered alternative and therefore indefinite under 35 U.S.C. 112.

Rule 75(c) is hereby suspended for the duration of the trial period in those cases presenting multiple dependent claims under this program insofar as conflict exists between the requisites of the rule and the proposed practice.

RICHARD A. WAHL,
Assistant Commissioner.

June 4, 1968.

SPECIAL EXAMINING PROCEDURE

The Special Examining Procedure whereby a new application may be granted special status and advanced for examination is hereby revised to remove the condition limiting the application to no more than ten claims. The petition for special status will be granted regardless of the number of claims pending in the application at any time provided all other remaining conditions of this program are met (see MPEP 708.02).

RICHARD A. WAHL,
Assistant Commissioner.

June 12, 1968.

REJECTIONS NOT BASED ON PRIOR ART

The primary object of the examination of an application is to determine whether or not the claims define a patentable advance over the prior art. This consideration should not be relegated to a secondary position while undue emphasis is given to non-prior art or "technical" rejections. Effort in examining should be concentrated on truly essential matters, minimizing or eliminating effort on matters which may have

played a part in the examination process in the past but which are not really critical. Where a major technical rejection is proper (e.g., lack of proper disclosure, undue breadth, utility, etc.) such rejection should be stated with a full development of the reasons rather than by a mere conclusion coupled with some stereotyped expression.

Generally speaking, the inclusion of (1) negative limitations and (2) alternative expressions, provided that the alternatively expressed elements are basically equivalents for the purpose of the invention, are permitted if no uncertainty or ambiguity with respect to the question of scope or breadth of the claim is presented.

The examiner has the responsibility to make sure the wording of the claims is sufficiently definite to reasonably determine the scope. It is applicant's responsibility to select proper wording of the claim, except to the extent that the selection of words makes the claims indefinite. Under no circumstances should a claim be rejected merely because the Examiner prefers a different choice of wording.

Rejections not based on prior art are explained in 706.03(a) to 706.03(y). IF THE ITALICIZED LANGUAGE IN THESE SECTIONS IS INCORPORATED IN THE REJECTION, THERE WILL BE LESS CHANCE OF A MISUNDERSTANDING AS TO THE GROUNDS OF REJECTION.

RICHARD A. WAHL,
Assistant Commissioner.

July 23, 1968.

GUIDELINES TO EXAMINATION OF APPLICATIONS FOR PATENTS ON COMPUTER PROGRAMS

Pursuant to the Notice of July 6, 1968, published in the OFFICIAL GAZETTE of August 16, 1968; 829 O.G.-965, and to the hearing held on October 4, 1968, and upon consideration of the statements made at the said hearing, as well as the written comments filed in response to the notice, the following guidelines to examination of computer programs are adopted, effective immediately.

EDWARD J. BRENNER,
Commissioner of Patents.

In considering these guidelines, it should be understood that they must be considered as a tentative analysis of applicable statutory law and judicial precedents and hence subject to modification on the basis of later decisions.

While there may be some question as to exactly what is meant by a computer program, it is believed that the essential meaning of that term is generally understood and that no specific definition is necessary here.

Process

Special problems of patentability arise in the computer and data processing fields revolving around logical processes and mathematical equations. Mental processes may not be patented although they may be of enormous importance; *In re Abrams*, 1951 C.D. 264, 38 C.C.P.A. 945, 89 U.S.P.Q. 266. A process or method is directed to patentable subject matter only if it is performed on physical materials and produces some appreciable change in their character or condition; *In re Shoo Wen Yuen*, 1951 C.D. 286, 38 C.C.P.A. 987, 89 U.S.P.Q. 324; *Cochrane v. Deener*, 94 U.S. 780, 1877 C.D. 242. Accordingly, a computer programming process which produces no more than a numerical, statistical or other informational result is not directed to patentable subject matter. Such a process may, however, form a part of a patentable invention if it is combined in an unobvious manner with physical steps of the character above referred to as, for example, in the knitting of a pattern or the shaping of metal.

Apparatus

In accordance with 35 U.S.C. 112, the claims of an application must point out the invention. If the actual invention resides in a series of steps which can be performed mentally, or which are otherwise not directed to subject matter which is patentable under the states, a patent cannot properly be obtained merely by reciting broadly a means for performing each of those steps. To permit this would be tantamount to granting a patent on the unpatentable process,

since the process could not be performed unless some means are provided for carrying out each of the steps.

Further, it is well settled that a patent cannot be granted merely on the broad basis of doing automatically what has previously been done by hand; *In re Hamilton*, 17 U.S.P.Q. 245, and cases there cited, and for similar reasons, it would not be proper to patent apparatus, broadly, for doing what it is not patentable to do mentally.

Moreover, if, given the process to which an application relates, it would be obvious to a skilled programmer what tape or other apparatus was necessary to carry out the process, then the invention, if any, resides in the process and not in the apparatus; *Nestle-Lemur Co. v. Eugene, Ltd.*, 12 U.S.P.Q. 335, 54 F.(2d) 854; *Whitman v. Andrus et al.*, 92 U.S.P.Q. 291. As was said in the former case:

"Where one discovers a new and useful process for accomplishing a given result, is the obvious mechanical or electrical device, obvious to anyone to whom the proposed method is disclosed patentable apart from the process? We are constrained to the opinion that it is not."

However, as in the case of a corresponding process, a programmed computer may be part of a patentable combination if unobviously combined with other elements to produce a physical result of the character referred to above.

The basic principle set forth in the foregoing guidelines is that computer programming per se, whether defined in the form of process or apparatus, shall not be patentable.

STUDY OF COMPUTER PROGRAM PROTECTION REQUEST FOR COMMENTS

The President's Commission on the Patent System, established by Executive Order No. 11215 on April 8, 1965, submitted its final report to the President on November 17, 1966. Included among the recommendations of the Commission is the following regarding computer programs:

A series of instructions which control or condition the operation of a data processing machine, generally referred to as a "program," shall not be considered patentable regardless of whether the program is claimed as: (a) an article, (b) a process described in terms of the operations performed by a machine pursuant to a program, or (c) one or more machine configurations established by a program.

The Patent Reform Act of 1967, S. 1042 and H.R. 5924, included the Commission's recommendation and excluded computer programs from patentable subject matter. After a review of the comments submitted, the Department of Commerce withdrew its support of this provision of the Patent Reform Act for further study and evaluation of the subject.

Because of the significance of the computer programming industry to the economy and the interest evidenced by the public and private sectors in commenting on the provision of the Patent Reform Act, the Patent Office has initiated a comprehensive study of the need for the protection of computer programs. The study is intended to encompass all aspects of the question, including that as to whether there is, or is not, a need for some kind of protection for programs. The study will investigate which of various types of protection would best satisfy any need for protection, including systems based either on originality or novelty. Problems relating to the question of the protection of computer programs will be considered; for example, the nature of the disclosure and other requirements relating to applications for protection, the merits of examination and registration systems, the duration of protection, and the administration and enforcement of the various plans of protection.

The views of interested persons are solicited on the various aspects of the Patent Office study, the recommendation of the President's Commission and any related matters. These views should be submitted in writing to the Commissioner of Patents, Washington, D.C., 20231 by December 15, 1968.

EDWARD J. BRENNER,
Commissioner of Patents.

Sept. 16, 1968.

Approved:
JOHN F. KINCAID,
Assistant Secretary for Science and Technology.

AMENDMENTS

AMENDMENTS—BASIS IN ORIGINAL DISCLOSURE, MANUAL OF PATENT EXAMINING PROCEDURE

When an amendment is filed in response to an objection or rejection based on incomplete disclosure, a study of the entire application is often necessary to determine whether or not "new matter" is involved. In the interest of expeditious prosecution, Examiners are directed, whenever such an objection or rejection is made, to call attention to Rule 111(c). Applicant should specifically point out the support for any amendments made to the disclosure.

RICHARD A. WAHL,
Assistant Commissioner.

Aug. 13, 1965.

BRACKETS AND RULE 121—AMENDMENT OF CLAIMS

In view of the number of inquiries requesting an interpretation of the word "brackets" appearing in amended Rule 121 concerned with the amendment of claims, it is thought that clarification is desirable.

The term brackets () as set forth in the amendment to Rule 121 and first announced in 843 O.G. 373 does not encompass and is to be distinguished from parentheses (). Therefore, any amendment using parentheses to indicate cancelled matter in a claim rewritten under rule 121(b) may be held non-responsive in accordance with Rule 121(c).

RICHARD A. WAHL,
Assistant Commissioner.

Jan. 15, 1968.

CLAIM INTERPRETATION

A number of applications have been found to include statements attempting to restrict the use of the abstract in interpreting the scope of the claims. Although Rule 72(b) expressly states this prohibition, statements of this type should not appear in the printed patent.

Restrictive statements or express limitations relating to the scope of the invention claimed should be omitted from the application. If the limitations are only intended as statements designed to have no effect in the interpretation of the claims the language is wholly unnecessary and should be cancelled as surplusage. On the other hand, if the statements are to be used in the interpretation of claims, said statements are clearly improper and should be deleted. Title 35 U.S.C. 112 requires that an applicant shall particularly point out and distinctly claim the subject matter, or combination which he claims as his invention or discovery.

Whenever any restricting statement concerning the claims appears in an application, cancellation will be required; in this regard the cancellation shall be effected by Examiner's amendment if the application is otherwise ready for allowance.

RICHARD A. WAHL,
Assistant Commissioner.

Jan. 15, 1968.

INTERVIEWS

INTERVIEW PRACTICE

To assist in early and equitable conclusion of examination of applications, the use of interviews in person or by telephone is encouraged, subject to the following guidelines.

Interviews with Examiners, whether in person or by telephone, shall be governed in general by the provisions of Rule 133. A request for an interview, whether made orally or in writing, before the first Office action is untimely and will not be acknowledged if written, or granted if oral; Rule 133(a).

If upon examination or re-examination, it is found that minor changes could be made to place the application in condition for allowance, the attorney or pro se inventor should be so notified by telephone. This practice should be followed whether or not there has been a specific request for interview or for such notification.

Where an interview is arranged, both the Examiner and the attorney should be familiar with the issues in the application before starting the conference. It is the responsibility of both parties to the interview to see that it is not extended

beyond a reasonable time, usually not longer than thirty minutes. The Primary Examiner personally responsible for the final disposition of the application should be notified of the results of the interview at its conclusion.

Interviews in person or by telephone are to be encouraged after the first Office action on the merits. In addition to interviews initiated by applicant, the Examiner may initiate interviews where he believes it would be productive. This practice may result in the filing of a first response that will so effectively advance the prosecution to permit disposing of the case in a bare minimum number of actions. The telephone procedure set forth in part 4 of Optimum Examining Procedure Memorandum # 3, 801 O.G. 267, requiring a call by the Examiner, if requested by applicant, before taking final action has been found not satisfactory and will no longer be followed.

An interview may be granted after final rejection; however, except in rare instances, only one such interview should be granted.

An interview should not be requested or approved, except in very unusual circumstances, after filing of a Brief on appeal or after an application has been passed to issue by the Primary Examiner.

Interviews are permissible any working day of the week except on overtime Saturdays.

RICHARD A. WAHL,
Acting Superintendent,
Patent Examining Corps.

Sept. 10, 1964.

TELEPHONE INTERVIEWS

Present Office policy places great emphasis on telephone interviews initiated by the Examiner. For this reason, it is no longer deemed necessary for an attorney to request a telephone interview as specified in the old Optimum Examining Procedure memos. Examiners are no longer required to note or acknowledge requests for telephone calls or state reasons why such proposed telephone interviews would not be considered effective to advance prosecution. However, it is still desirable for an attorney to call the Examiner if the attorney feels the call will be beneficial to advance prosecution of the case.

RICHARD A. WAHL,
Assistant Commissioner.

Oct. 11, 1967.

JOINDER OF INVENTIONS

PRACTICE UNDER RULE 147

In view of the frequent misunderstandings which have arisen as to the filing of applications under Rule 147, it is considered advisable to issue the following statement as to the practice under that rule.

The rule is clearly restricted by its terms to divisional applications directed to "nonelected inventions, those not elected after a requirement for restrictions." It is thus more limited than 35 U.S.C. 121, on which it is based, and applies only to divisional applications, which are necessitated by a requirement for restriction in the parent case.

It is further to be noted that a Rule 147 application comprises (1) a copy of the original application as filed, prepared and certified by the Patent office and (2) a proposed amendment canceling the irrelevant claims or other matter. The sole justification for the use of unexecuted copies in the divisional application is that their subject matter has already been executed in the parent case. Accordingly, an application under Rule 147 should not, either as filed or by a preliminary amendment prior to the time when it is accorded a filing date, contain anything whatever that was not present in the parent application as filed. The Patent Office cannot undertake, prior to giving a filing date, to decide whether differences between the parent and divisional case involve matters of substance or of form only. It follows that any proposed amendments to the divisional application should be withheld until it has received a filing date.

Since a Rule 147 application must be based on the parent case as filed and must be directed to nonelected inventions, the claims which it is sought to include in such an application must be original claims of the parent case and must have been present in that case in their original form when the re-

striction requirement was made; but if that condition is satisfied, it is not material that other claims were amended or new claims were added prior to the requirement so long as no such amendment or added claim is to be included in the Rule 147 application.

An amendment stating that the Rule 147 application is a division of the parent case may accompany the application, but no other amendments to the specification or drawing should be requested until the application has received its serial number and filing date.

Since Rule 147 is limited by its terms to cases in which the parent application is still pending when the divisional case is filed, it is necessary that all requirements of the rule be satisfied prior to abandonment or patenting of the parent application.

EDWIN L. REYNOLDS,
First Assistant Commissioner.

Mar. 11, 1965.

TELEPHONE PRACTICE IN RESTRICTION AND ELECTION OF SPECIES SITUATIONS

If an examiner determines that a requirement for restriction should be made in an application, he should formulate a draft of such restriction requirement including, if any, the grounds of rejection of linking or generic claims. Thereupon, he should telephone the attorney of record and ask if he will make an oral election, with or without traverse if desired, after the attorney has had time to consider the restriction requirement. The examiner should arrange for a second telephone call within a reasonable time, generally within three working days. If the attorney objects to making an oral election, or fails to respond, the usual restriction letter will be mailed, and this letter should NOT contain any reference to the unsuccessful telephone call.

When an oral election is made, the examiner will then proceed to incorporate into his letter a formal restriction requirement including the date of the election, the attorney's name, and a complete record of the telephone interview, followed by a complete action on the elected claims including linking or generic claims if present.

If on examination the examiner finds the elected claims to be allowable and no traverse was made, the letter should be written on P.O.L.-37 (Examiner's Amendment) and should include cancellation of the non-elected claims, a statement that the prosecution is closed and that a notice of allowance will be sent in due course. Correction of formal matters in the above-noted situation which cannot be handled by a telephone call and thus requires action by the applicant should be handled under the *Ex parte Quayle* practice, using P.O.L.-90; these would usually be drawing corrections or the like requiring payment of charges.

Should the elected claims be found allowable in the first action, and an oral traverse was noted, the examiner should include in this action a statement under section 821.01, M.P.E.P., making the restriction final and giving applicant thirty days (Rule 136) to either cancel the non-elected claims or take other appropriate action. Failure to take action will be treated as an authorization to cancel the non-elected claims by an Examiner's amendment and pass the case to issue. Prosecution of this application is otherwise closed.

In either situation (traverse or no traverse), caution should be exercised to determine if any of the allowed claims are linking or generic before canceling the non-elected claims.

Where the respective inventions are located in different groups the requirement for restriction should be made only after consultation with and approval by all groups involved. If an oral election would cause the application to be examined in another group, the initiating group should transfer the application with a signed memorandum of the restriction requirement and a record of the interview. The receiving group will incorporate the substance of this memorandum in its official letter as indicated above. Differences as to restriction should be settled by the existing chain of command, e.g., Supervisory Primary Examiner or Manager.

This practice is limited to use by examiners who have at least negotiation authority. Other examiners must have the prior approval of their Supervisory Primary Examiner.

RICHARD A. WAHL,
Assistant Commissioner.

Jan. 27, 1966.

RESTRICTION AND ELECTION PRACTICE

Effective April 1, the practice and procedure in cases involving a requirement for restriction or election is changed as indicated below.

Under the new practice, whenever a written or telephoned requirement is made in a case which includes claims considered by the Examiner to be generic or linking, it will not include any rejection of these claims. The Examiner should specify which claims are considered to be generic or linking.

Although no art will be cited where linking claims are present, a search should be made and art cited where generic claims are involved. In the latter situations the generic claims will not be rejected but merely indicated as not allowable in view of the cited art (Rule 146).

A 30-day shortened statutory period will be set for response to a written requirement. Such action will not be an "action on the merits" for the purpose of the second action final program. In either situation, with linking or generic claims, a response, to be complete, need only include a proper election.

The only exception to the above practice will be in the case where the Examiner gives a complete action on the merits of all the claims in addition to the requirement for restriction.

The use of the telephone to make an initial requirement will be continued and is encouraged.

RICHARD A. WAHL,
Assistant Commissioner.

Feb. 28, 1967.

ELECTION OF SPECIES

Effective June 1, 1967, the following practice will be instituted on a trial basis for 6 months.

In cases involving Markush claims or generic claims of the formula type including such a number and diversity of members as to require an unduly extensive and burdensome search for the embodiments encompassed, the Examiner may require election of species without a search on the merits (Rule 105).

The election requirement may be made in the same manner as that described in the Change Notice 12-6 of Feb. 28, 1967, with a 30-day shortened statutory period which will not be an "action on the merits" for the purpose of second action final program. If a telephone requirement, made by the Examiner, is complied with, the first written action will be a complete action on the merits and the usual 3 months shortened statutory period will be set.

As pointed out in Change Notice 12-6, the use of the telephone to make an initial requirement will be continued and is encouraged.

EDWARD J. BRENNER,
Commissioner.

May 4, 1967.

NON-ELECTED CLAIMS

In the interest of expediting the prosecution of pending applications, the following change in procedure is made. When preparing a final action in an application where there has been a traversal of a requirement for restriction or election of species, the Examiner should indicate in his action that a complete response must include cancellation of the non-elected claims or other appropriate action (Rule 144).

In the above situations where a response to the final action has otherwise placed the application in condition for allowance, the failure to take appropriate action with respect to the non-elected claims will be construed as authorization to cancel these claims by Examiner's Amendment and pass the case to issue after the expiration of the statutory period.

RICHARD A. WAHL,
Assistant Commissioner.

May 24, 1968.

RESTRICTION BETWEEN INVENTIONS

Combination claims (other than genus claims linking species claims), whether allowable, allowed, or not, will no longer automatically be permitted to serve as a basis for joining claimed inventions which otherwise would be properly the subject of a restriction requirement. In other words, applicant will be required to elect one of the claimed inventions which are the subject of a proper restriction requirement. Combination claims, formerly considered linking claims should be grouped as a separate invention. Rejoinder of the

divided inventions, should any combination claim be allowed, however, also will no longer automatically be permitted. The statutory criteria for distinctness will be satisfied if the sub-combinations and/or combinations involved are shown to be separately classified, or to have acquired a separate status in the art, or to involve different fields of search.

RICHARD A. WAHL,
Assistant Commissioner.

June 20, 1968.

ELECTION OF SPECIES

The practice set forth in the Notice of May 4, 1967 (838 O.G. 1223) is made permanent and modified to permit a requirement for election of species in cases involving multiple species whether or not generic claims are present or searched prior to the election. Also, if no claims to species are presented but the generic claim is of the burdensome type referred to in the Notice, a requirement for election of species prior to search of the generic claims should be made.

As in the original Notice, if an election is made pursuant to a telephone requirement, the action should include a full and complete action on the elected species as well as on any generic claims that might be present. If generic claims are found allowable, no change in the practice currently in effect is contemplated.

RICHARD A. WAHL,
Assistant Commissioner.

Aug. 19, 1968.

TIME FOR RESPONSE

EXTENSION OF TIME

It is ordinarily desirable that notice of the action taken by the Patent Office on requests for extension of time be communicated to the persons making the requests as soon as is reasonably possible. In order to improve Patent Office service to patent and trademark applicants in this regard, the following procedure is being instituted effective immediately. If a request for extension of time is filed in duplicate and accompanied by a stamped return-addressed envelope, the Office will indicate the action taken on the duplicate and return it promptly in the envelope. Utilization of this procedure is optional on the part of applicant.

EDWARD J. BRENNER,
Commissioner of Patents.

Aug. 3, 1966.

EXTENSIONS OF TIME

Effective immediately, a new liberal policy for interpretation and application of Rule 130(b) will apply with respect to first requests for a one-month extension of time for reply to Office actions where a shortened statutory period for response has been set. Any request under Rule 130(b) for extension of time must state a reason in support thereof; under the above policy the application of the rule will entail only a limited evaluation of the stated reason.

This liberality will not apply to (1) any requests for more than a one-month extension, and (2) second and subsequent requests for extension of time.

In order to provide prompt notification of the action taken on extension requests, the request may be filed in duplicate, accompanied by a stamped return-addressed envelope (including a ZIP code), as announced in the OFFICIAL GAZETTE of August 23, 1966 (829 O.G. 1307).

It is expected that requests for extension of time will continue to be made only when a need exists and will not become a standard operating procedure. Routine use of this practice may necessitate abandoning the new policy and a return to a less liberal interpretation of Rule 130(b).

RICHARD A. WAHL,
Assistant Commissioner.

Jan. 20, 1967.

FINAL REJECTION—TIME FOR RESPONSE

Effective Sept. 1, 1967, the filing of a timely response to a final rejection having a shortened statutory period for response will operate to extend the period for appeal or filing of a continuing case an additional month, but in no case to exceed six months from the date of the final action.

An object of this practice is to obviate the necessity for appeal or filing a continuing case merely to gain time to consider the Examiner's position in reply to an amendment timely filed after final rejection.

Present practice relating to the treatment of amendments after final rejection will continue to apply and failure to file a response during the three-month period will, as heretofore, result in abandonment of the application. In any case where this one-month extension applies and an amendment is officially received during this additional month, the amendment will not be entered or responded to unless it *prima facie* places the application in condition for allowance (e.g., cancels all rejected claims, fully complies with all Examiner suggestions, requirements, etc.).

Also, during this additional month no applicant or attorney-initiated interview will be permitted.

EDWARD J. BRENNER,
Commissioner.

Aug. 7, 1967.

FINAL REJECTION—TIME FOR RESPONSE

In clarification of the Notice of August 7, 1967, published in the OFFICIAL GAZETTE of August 29, 1967 (841 O.G. 1411), the filing of a timely response after a final rejection is construed as including a request for a one month extension of the shortened statutory period.

If the response is complete but fails to place the application in condition for allowance, the request will be granted. The entry of any further amendments filed during the additional month shall be restricted to those which *prima facie* place the application in condition for allowance.

RICHARD A. WAHL,
Assistant Commissioner.

Sept. 26, 1968.

APPEALS

APPEAL BRIEFS

It appears that many appeal briefs are being filed which omit reference to the drawing in describing the appellant's invention. As a reminder that the Board of Appeals is aided in its consideration if such a reference appears, attention is directed to the following language in the first sentence of Rule 192(a):

"... including a concise explanation of the invention which should refer to the drawing by reference characters..."

EDWIN L. REYNOLDS,
First Assistant Commissioner.

Aug. 3, 1965.

APPEAL BRIEFS

While Rule 192(a) requires two extra copies of appeal briefs only if an oral hearing is requested, such copies are of substantial assistance to the Board when appeals are submitted on brief and it is desirable that they be supplied in such cases also. All claims reproduced in appeal briefs should be double spaced.

EDWIN L. REYNOLDS,
First Assistant Commissioner.

Jan. 24, 1966.

APPEAL BRIEFS UNDER RULES 192 AND 103(b)

Applicants are reminded that their briefs in appealed cases must be responsive to each and every ground of rejection, new or old, advanced by the Examiner, including new grounds advanced in his answer.

Lack of response by way of brief to any ground of rejection will result in dismissal of the appeal as to the claims affected. Oral argument at a hearing will not remedy such deficiency in a brief.

EDWIN L. REYNOLDS,
First Assistant Commissioner.

May 4, 1966.

PRACTICE RE: WITHDRAWAL OF FINAL REJECTION BY THE EXAMINER AFTER NOTICE OF APPEAL TO THE BOARD OF APPEALS

Where Notice of Appeal to the Board of Appeals has been filed and the Examiner withdraws the final rejection for

allowance or further rejection, applicants are reminded that this results in automatic removal of the appeal from the records of the Board of Appeals in that application.

Accordingly, a proper response to a subsequent final rejection requires the filing of a new Notice of Appeal (without fee) and if this appeal is carried forward, the appropriate fee on filing a brief in support of the second appeal is required.

EDWIN L. REYNOLDS,
First Assistant Commissioner.
Mar. 29, 1967.

RULE 192—FILING OF APPEAL BRIEF

Attention is directed to the fact that the seasonable filing of an appeal brief is determined by Rule 192, irrespective of whether the applicant or his attorney has received the appeal acknowledgment with its reminder of the brief's due date.

The above should be reflected in any docketing system for filing appeal briefs.

EDWIN L. REYNOLDS,
First Assistant Commissioner.
Aug. 4, 1967.

NEW APPEAL PROCEDURE

In the interest of facilitating and expediting the handling of appeals to the Board of Appeals of the Patent Office it has been decided to institute a practice whereby the application file will ordinarily remain with the Examiner until the Examiner's answer to the appeal is filed. It is therefore necessary to modify the appeal procedure, effective immediately, as indicated below.

1. First Extension of Time To File Appeal Brief

To avoid delay in receiving notification of the granting of a first extension under Rule 192, appellant should file his request in duplicate. Where granted, the Board will stamp the action taken on both copies, promptly returning one copy to the addressee.

Further extensions must be sought from the Commissioner, as heretofore.

2. Notice of Appeal

To expedite the processing of new appeals and to ensure their prompt acknowledgment, additional information will be necessary on the Notice of Appeal. Accordingly, Form 41 suggested in the Rules of U.S. Patent Office Practice in Patent Cases, is revised as shown below.

Copies for duplication may be obtained from the receptionist in Crystal Plaza and from the Correspondence and Mail Branch in the Main Commerce Building. The use of this revised form is solicited.

All papers relating to appeals should include the post office address of the person to whom correspondence is to be directed.

EDWIN L. REYNOLDS,
First Assistant Commissioner.

REVISED FORM 41

Notice of Appeal From the Primary Examiner to the Board of Appeals

In re application of:
Serial No.:
For:
Filed:
Group Art Unit:
To Commissioner of Patents
Sir:

Applicant hereby appeals to the Board of Appeals from the decision dated _____ of the Primary Examiner finally rejecting claims _____.

The item(s) checked below are appropriate:

1. ☐ An extension of time to respond to the final rejection was granted on _____ for _____ month(s).
2. ☐ A timely response to the final rejection has been filed, as provided in 841 O.G. 1411.

3. ☐ Fee \$50.00:
☐ Enclosed
☐ Not required (Fee paid in prior appeal.)
☐ Charge to Deposit Account No. _____
(One additional copy of this Notice is enclosed herewith.)

Signature (Rule 191)(b).

Post Office Address (to which correspondence is to be sent).

APPEAL BRIEF EXTENSION

In view of the substantially current condition of the work of the Board of Appeals, it is important that appeal briefs be filed whenever possible within the sixty day period allowed by Rule 192, and that extensions of that time be requested only when clearly necessary for reasons which could not reasonably have been foreseen and guarded against. Accordingly, beginning immediately, a stricter standard will be employed in considering requests for extension of the time for filing appeal briefs than that previously applied. This will be particularly true in the case of any requested extension beyond the first thirty days and no such extension should be expected except upon a convincing showing of extraordinary circumstances.

EDWIN L. REYNOLDS,
First Assistant Commissioner.
Mar. 27, 1968.

ORAL HEARINGS UNDER RULE 194

Effective September 1, 1968, for a trial period of six months, new procedures will be initiated which will permit Primary Examiners to present an oral argument before the Board of Appeals in appeals where the applicant has been granted an oral hearing.

After the attorney or agent representing the appellant has made his presentation, the Examiner will be allowed fifteen minutes to reply as well as to present a statement which clearly sets forth his position with respect to the issues and rejections of record. Appellant may utilize any allotted time not used in the initial presentation for rebuttal.

RICHARD A. WAILL,
Assistant Commissioner.
July 26, 1968.

Concur:
EDWIN L. REYNOLDS,
First Assistant Commissioner.

ABANDONMENT OF APPLICATIONS BEFORE BOARD OF APPEALS

There have been recent instances of the Board of Appeals rendering a decision in an application which had already been refilled as a streamlined continuation.

To avoid recurrence of this situation, applicants should promptly inform the Clerk of the Board in writing as soon as they have positively decided to refile or to abandon an application containing an appeal awaiting a decision. Failure to exercise appropriate diligence in this matter may result in the Board's refusing an otherwise proper request to vacate their decision.

EDWIN L. REYNOLDS,
First Assistant Commissioner.

INTERFERENCES

INTERFERENCE—DECLARATION

Effective July 1, 1964, no interference will be declared between pending applications, if there is a difference of more than three (3) months in the effective filing dates of the applications in the case of inventions of a simple character, or a difference of more than six (6) months in other cases, except in exceptional situations, as determined and approved by the Commissioner.

EDWARD J. BRENNER,
Commissioner.
June 26, 1964.

INTERFERENCE PRACTICE—AFFIDAVITS UNDER RULE 204(c)

There has been difficulty in a number of cases due to uncertainty on the part of applicants concerning the requirements of affidavits to be filed under Rule 204(c) to secure interference contests with patentees whose filing dates antedate their own by more than three months, and it is hoped that the following explanation will be helpful.

In preparing affidavits under this rule applicants should have in mind the provisions of Rule 228, and especially the following facts:

1. That after these affidavits are forwarded by the Primary Examiner for the declaration of an interference they will be examined by a Board of Patent Interferences.

2. If the affidavits fail to establish with adequate corroboration acts and circumstances which would prima facie entitle applicant to an award of priority relative to the effective filing date of the patentee, an order will be issued concurrently with the notice of interference, requiring applicant to show cause why summary judgment should not be rendered against him.

3. Additional affidavits in response to such order will not be considered unless justified by a showing under the provisions of Rule 228, and if the applicant responds the patentee will receive from the applicant a copy of the response (Rule 247) and from the Patent Office a copy of the original showing (Rule 228), and will be entitled to present his views with respect thereto.

4. It is the position of the Board of Patent Interferences that all affidavits submitted must describe acts which the affiants performed or observed or circumstances observed, such as structure used and results of use or test, except on a proper showing as provided in Rule 204(c). Statements of conclusion, for example, that the invention of the counts was reduced to practice, are generally considered to be not acceptable. It should also be kept in mind that documentary exhibits are not self-proving and require explanation by an affiant having direct knowledge of the matters involved. However, it is not necessary that the exact date of conception or reduction to practice be revealed in the affidavits or exhibits if the affidavits aver observation of the necessary acts and facts, including documentation when available, before the patentee's effective filing date. On the other hand, where reliance is placed upon diligence, the affidavits and documentation should be precise as to dates from a date just prior to patentee's effective filing date.

The showing should relate to the essential factors in the determination of the question of priority of invention as set out in 35 USC 102(c).

5. The explanation required by Rule 204(c) should be in the nature of a brief or explanatory remarks accompanying an amendment, and should set forth the manner in which the requirements of the counts are satisfied and how the requirements for conception, reduction to practice or diligence are met.

GEORGE W. BOYS,
Apr. 21, 1966. Chairman, Board of Patent Interferences.

DESIGNATION OF INTERFERENCE RECORD RELIED UPON

During the taking of testimony in an interference it is frequently not clear just what testimony is necessary to a party's case, since the contentions to be made by the opposing party are not known, and in the case of a junior party it is frequently not known whether or not the senior party will take testimony. Therefore counsel taking testimony will normally cover all matters which might possibly have an effect on his case. Then, in preparing his briefs it may become apparent that certain portions of his record have no real significance as to issues involved. A review of these portions by the Board of Patent Interferences is thus unnecessary.

Accordingly, in order to reduce the time required by the Board of Patent Interferences to study the record, and to more effectively and efficiently decide the issues involved, counsel relying on an evidentiary record in interference cases are requested to file a statement as to the portions of their record upon which they rely. Such statement should be included in the briefs of the respective parties.

EDWIN L. REYNOLDS,
First Assistant Commissioner.

CORRECTIONS OF ERRORS

CERTIFICATES OF CORRECTION

Requests for certificates of correction increased considerably during 1965. A substantial number of these requests related to obviously inconsequential errors. Processing them is time consuming and burdensome.

The cooperation of applicants and their attorneys is needed to eliminate this time consuming operation, thereby expediting all proper requests for certificates of correction. The following suggestions, if observed will materially reduce the burden on the Patent Office. These are:

- (1) Request certificates only for errors of significance or consequence, utilizing the "make of record" letters for all other errors.
- (2) Return the patent with the request, thereby relieving the Office of the need to write a letter merely asking for the return of the patent.
- (3) Identify the error by page and line in the application file as well as by column and line in the printed patent.

RULES OF PRACTICE IN PATENT CASES

[37 CFR Part 1]

Proposed Changes Relating to the Issuance of Certificates of Correction

The Patent Office is currently giving consideration to the desirability of changing two of its rules dealing with the issuance of certificates of correction. The contemplated changes are intended to simplify and expedite the processing of requests for certificates of correction by permitting such certificates, when issued, to be physically attached to existing patents by the patentees or other parties in interest. Under present regulations this function is performed by the Patent Office.

Notice is hereby given, therefore, that under the authority contained in section 6 of the Act of July 19, 1952 (66 Stat. 792; 35 U.S.C. 6), the Patent Office proposed to amend Part I of Title 37 of the Code of Federal Regulations as follows:

- (1) By amending paragraph (a) of § 1.322 to delete from the first sentence the words "and endorsed on the patent itself." As thus amended, paragraph (a) would read as follows:

§ 1.322 Certificate of Correction of Office mistake.

(a) A certificate of correction under 35 U.S.C. 254 may be issued at the request of the patentee or his assignee. Such certificate will not be issued at the request or suggestion of anyone not owning an interest in the patent, nor on motion of the Office, without first notifying the patentee (including any assignee of record) and affording him an opportunity to be heard.

- (2) By amending § 1.323 to delete therefrom the words "which shall be endorsed on the patent itself." As thus amended, § 1.323 would read as follows:

§ 1.323 Certificate of correction of applicant's mistake.

Whenever a mistake of a clerical or typographical nature or of minor character which was not the fault of the Office, appears in a patent and a showing is made that such mistake occurred in good faith, the Commissioner may, upon payment of the required fee, issue a certificate of correction, if the correction does not involve such changes in the patent as would constitute new matter or would require re-examination.

All persons who desire to present their views, objections, recommendations or suggestions in connection with the proposed changes are invited to do so by forwarding the same to the Commissioner of Patents, Washington, D.C. 20231, on or before November 19, 1968, on which day a hearing will be held at 9:00 a.m. in Room 3D50 Crystal Plaza Building 3-4, Arlington, Virginia.

All persons wishing to be heard orally are requested to notify the Commissioner of their intended appearance in advance of the hearing date.

EDWARD J. BRENNER,
Commissioner of Patents.

Oct. 10, 1968.

Approved:
JOHN F. KINCAID,
Assistant Secretary for Science and Technology.

CERTIFICATES OF CORRECTION LISTING

Certificates of Correction are issued every Tuesday. Beginning on January 7, 1969, each issue of the OFFICIAL GAZETTE will numerically list all U.S. patents having Certificates of Correction issued that Tuesday. The list will appear under the heading "Certificates of Correction Issued (date)."

RICHARD A. WAHL,
Assistant Commissioner.
November 22, 1968.

DEFENSIVE PUBLICATIONS

TITLE 37—PATENTS, TRADEMARKS,
AND COPYRIGHTS

Chapter 1—Patent Office, Department of Commerce

PART 1—RULES OF PRACTICE IN PATENT CASES

PART 3—FORMS FOR PATENT CASES

Amendment of Rules re New Defensive Publication
Program; Additional Form

Sections 1.11, 1.14, 1.101, 1.103 and 1.108 of Title 37 CFR (Patent Rules 11, 14, 101, 103 and 108) are amended or revised and a new § 1.139 (Patent Rule 139) is added to take effect May 1, 1968, for the purpose of instituting a new defensive publication program. A new section 3.50 is added for the purpose of implementing the new program.

The general substance of the proposed revisions and additions was published in the Federal Register of February 20, 1968 (33 F.R. 3189). A hearing was held on March 27, 1968, and all persons, who desired to, were invited to attend and to submit their views, objections, recommendations or suggestions. Both oral and written comments were carefully considered. The sections are being revised substantially as published with a few additional changes.

This program is intended to provide better service to the public by making available the technical disclosure of certain applications in which the owner may prefer to publish an abstract in lieu of obtaining an examination by the Patent Office. The defensive publication would be in the form of an abstract of the technical disclosure, printed in the OFFICIAL GAZETTE and made a part of the Patent Office search files.

This program will be open to any applicant having an application awaiting action by the Patent Office and who files a written request no later than eight (8) months after the earliest U.S. effective filing date of the designated application and agrees to the conditions of the program, including waiving his patent rights based on the designated application, opening the complete application in inspection by the general public upon publication of the abstract, expressly abandoning his application, the abandonment to take effect five (5) years after the earliest U.S. effective filing date of the application unless within that period interference proceedings have been initiated, and waiving his rights to a patent on a continuing application filed after the expiration of thirty (30) months from the earliest U.S. effective filing date of the designated application. *Until November 1, 1968, this program will be open to any pending application awaiting first action by the Patent Office at that time of the request without regard to the filing date of that application.*

In accordance with existing rules and procedures interferences may be declared with applications and patents. During the period beginning with the suggestion of claims by the Patent Office or the filing of claims by the applicant copied from a patent and ending with the termination of proceedings if an interference is declared or the mailing of a decision refusing to declare the interference, abandonment by reason of the expiration of the five year period will be stayed. Since the applicant has waived his patent rights and agreed to a defensive publication, termination of interference proceedings in his favor would render the express abandonment ineffective but would not result in the issuance of an enforceable patent. Instead, a normal Notice of Allowance would be issued except that the applicant would be notified that when the issue fee is remitted a disclaimer of the entire term of the patent to be granted in accordance with the second paragraph of 35 U.S.C. 253 should be included.

No special fees will be required for entrance into this program. The applicant will be permitted to include with his request a replacement or expanded abstract of the technical disclosure of up to two hundred (200) words. Acceptance of

a request to enter this program will be contingent upon screening by the Patent Office to exclude such material that may be considered advertising, frivolous, scandalous, against public policy, subject to national security controls, etc. Acceptance of a designated application in this program is not intended to preclude the examination of any continuing application filed under 35 U.S.C. 120 within thirty (30) months after the earliest effective U.S. filing date of the designated application.

Upon receipt and approval of the request the application abstract will be published in the OFFICIAL GAZETTE. Publication of the abstract in the OFFICIAL GAZETTE would be in a separate section identifying the application as being open for inspection by the general public and indicating that it is subject to the New Defensive Publication Program.

Following publication the application would be filed in the Record Section of the Patent Reference Branch where it will be available for inspection upon written request. Copies of the application will be furnished by the Patent Office upon request and payment of fee. The application abstract and suitable drawing copies would then be made a part of the official search files.

After the defensive publication has appeared in the OFFICIAL GAZETTE the abstract and suitable drawing copies will be available as prior art from the date of publication under 35 U.S.C. 102(a) or 102(b) as a printed publication. Also, at this time the application will be available as prior art under 35 U.S.C. 102(a) as evidence of prior knowledge from the actual date of filing the application in the Patent Office.

The changes follow:

1. In § 1.11, delete "Patent" from the title. Identify the one paragraph now in the section as paragraph "(a)" and follow with a new paragraph "(b)," so that the section reads as follows:

§ 1.11 *Files open to the public.*

(a) After a patent has been issued, the specification, drawings, and all papers relating to the case in the file of the patent are open to inspection by the general public, and copies may be furnished upon paying the fee therefor. The file of any terminated interference involving a patent, or an application on which a patent has subsequently issued, is similarly open to public inspection and procurement of copies. See § 2.27 for trademark files.

(b) Applications in which the Office has accepted a request filed under § 1.139 are open to inspection by the general public, and copies may be furnished upon paying the fee therefor.

2. In § 1.14, insert "Except as provided in § 1.11(b)" at the beginning of the first sentence of both paragraphs (a) and (b), so that these paragraphs read:

§ 1.14 *Patent applications preserved in secrecy.*

(a) Except as provided in § 1.11(b) pending patent applications are preserved in secrecy. No information will be given by the Office respecting the filing by any particular person of an application for a patent, the pendency of any particular case before it, or the subject matter of any particular application, nor will access be given to or copies furnished of any pending application or papers relating thereto, without written authority of the applicant, or his assignee or attorney or agent, unless it shall be necessary to the proper conduct of business before the Office or as provided by this part.

(b) Except as provided in § 1.11(b) abandoned applications are likewise not open to public inspection, except that if an application referred to in a United States patent is abandoned and is available, it may be inspected or copies obtained by any person on written request, without notice to the applicant. Abandoned applications may be destroyed after twenty years from their filing date, except those to which particular attention has been called and which have been marked for preservation. Abandoned applications will not be returned.

3. In § 1.101, add "except for those applications in which the Office has accepted a request filed under § 1.139" at the end of the last sentence of paragraph (a), so that it reads:

§ 1.01 *Order of examination.*

(a) Applications filed in the Patent Office and accepted as complete applications (§§ 1.53 and 1.55) are assigned for examination to the respective examining divisions having the classes of inventions to which the applications relate. Applications shall be taken up for examination by the examiner to whom they have been assigned in the order in which they have been filed except for those applications in which the Office has accepted a request under § 1.139.

4. In § 1.103, add a new paragraph (d) to read as follows:

§ 1.103 *Suspension of action.*

(d) Action on applications in which the Office has accepted a request filed under § 1.139 will be suspended for the entire pendency of these applications except for purposes relating to proceedings under § 1.201(b).

5. In § 1.108, delete "and forfeited" in the title and the first sentence, and add "Except those which have become abandoned as a result of the filing and acceptance of a request under § 1.139" at the end of the first sentence, so that it reads as follows:

§ 1.108 *Abandoned applications not cited.*

Abandoned applications as such will not be cited as references except those which have become abandoned as a result of the filing and acceptance of a request under § 1.139.

6. A new § 1.139 is added, the full text of which reads as follows:

§ 1.139 *Waiver of patent rights.*

An applicant may waive his rights to an enforceable patent based on a pending patent application by filing in the Patent Office a written waiver of patent rights, a consent to the publication of an abstract, an authorization to open the complete application to inspection by the general public, and a declaration of abandonment signed by the applicant and the assignee of record or by the attorney or agent of record.

7. A new § 3.50 is added to read as follows:

§ 3.50 *Waiver of patent rights.*

To the Commissioner of Patents:

The undersigned having on _____ filed an application for patent, Serial No. _____ entitled _____, hereby waives his right to an enforceable patent based on said application or on any continuing application filed after the expiration of thirty (30) months from the earliest U.S. effective filing date of said application and subject to acceptance by the Commissioner, and requests that an abstract of the disclosure thereof be published in the OFFICIAL GAZETTE, that the complete application be opened to inspection by the general public upon publication of said abstract, and that the application be considered pending for the purpose of interference; and further the undersigned expressly abandons said application, the abandonment to take effect five (5) years after the earliest U.S. effective filing date of the application unless within that period interference proceedings have been initiated.

(Sec. 1, 68 Stat. 792; 35 U.S.C. 6)

EDWARD J. BRENNER,
Commissioner of Patents.

Approved: Apr. 9, 1968.

JOHN F. KINCAID,
Assistant Secretary for
Science and Technology.

Published in 33 F.R.—; Apr. 11, 1968

DEFENSIVE PUBLICATION PROGRAM

The open season of the New Defensive Publication Program, originally announced in the OFFICIAL GAZETTE of May 7, 1968 (33 F.R. 1) as terminating November 1, 1968, is hereby extended. Accordingly, until January 1, 1969, this program will be open for any pending application awaiting first action by the Patent Office at the time of the request without regard to the filing date of that application.

As originally announced this program will continue to be open until further notice to any applicant having an application awaiting action by the Patent Office and who files a written request no later than eight (8) months after the earliest U.S. effective filing date of the designated application.

RICHARD A. WAHL,
Assistant Commissioner.

Oct. 1, 1968.

ABSTRACTS

EXAMINATION REQUIREMENTS AND PROCEDURE IN RELATION
TO ABSTRACTS OF THE DISCLOSURE

The newly adopted amendment to Rule 72 which requires the submission of an Abstract of the Disclosure is being ap-

plied to patent applications which receive a first Office action of any kind from the Examiner on or after November 1, 1966; however, on cases filed before January 1, 1967, abstracts will not be required where the application is passed to issue on the first action.

The Examiner in the first office action on and after November 1, 1966, should require the submission of a brief abstract of the technical disclosure in the specification; the abstract to appear immediately after the title of the invention and preceding the disclosure in a separate paragraph under the heading "Abstract of the Disclosure." The following form paragraph may be used to make the requirement:

"An abstract is required, see new Rule 72(b)."

Responses to such actions should be treated under Rule 111(b) practice like any other formal matter.

Upon passing the case to issue, the Examiner should see that the abstract is an adequate and clear statement of the contents of the disclosure and generally in line with the guidelines in the following paragraphs; the abstract shall be changed by Examiner's Amendment in those instances where deemed necessary.

1. The purpose of the abstract is to provide a non-legal technical statement of the contents of the disclosure. The abstract should be an objective condensation (rather than a description) of the disclosure, in clear and concise language. Statements as to the relative merits or value, or speculative applications of the invention should be omitted.

2. The abstract should be especially designed to serve as a searching-scanning tool for the scientist, engineer or researcher in the particular art, and therefore should serve to indicate whether there is a need for consulting the full specification for details.

3. The abstract should be as brief as the subject permits. A single paragraph of 50-100 words should be sufficient.

4. Especially in the chemical field, the abstract should include a statement of the utility of the subject matter of the disclosure, particularly that which is related to the invention.

5. The abstract should be separate and independent of the "Summary of the Invention." One of the purposes of the abstract is to determine quickly the nature and gist of the technical disclosure.

RICHARD A. WAHL,
Assistant Commissioner.

Oct. 7, 1960.

CHANGE IN CONTENT OF THE PATENTS SECTION
OF THE OFFICIAL GAZETTE

In keeping with the Patent Office program to encourage the use of patents in the scientific, engineering and business communities, as well as the patent profession, a change in the content of the patents section of the OFFICIAL GAZETTE is being made.

Beginning with the first issue of the OFFICIAL GAZETTE in January 1968, a copy of the abstract of each patent where an abstract is available will appear, in lieu of the claim. This change in content is being made in order that patent information may be better utilized by the patent public.

In addition to the regular issue of the OFFICIAL GAZETTE an extract of the patents section, i.e., the descriptive matter relating to patents only, will be made available. The subscription rate for the patents section extract only for the first six months period beginning with the first issue in January 1968, will be twenty-seven dollars (\$27.00) and one dollar and twenty-five cents (\$1.25) for a single copy. The extract will be mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402, to whom all subscriptions should be made payable and all communications addressed. The title of the extract will be "Official Gazette—Patent Abstracts Section."

It is to be noted that the Government Printing Office has determined that the subscription rate for the regular issue of the OFFICIAL GAZETTE will be increased to sixty-seven dollars (\$67.00) for the subscription year beginning January 1968, and the price of individual copies will be increased to one and a half dollars (\$1.50). The increased rate is not related to the new program.

EDWARD J. BRENNER,
Commissioner of Patents.

Sept. 25, 1967.

PARAGRAPH REQUIREMENTS FOR ABSTRACTS

In view of some difficulties experienced in determining the extent of the abstracts, the Patent Office is supplementing the *Notice of October 7, 1966* (831 O.G. 1328).

An abstract should usually be limited to a single paragraph, under the heading, "Abstract of the Disclosure" as stated in Rule 72(b) and MPEP 608.01(b).

In unusual circumstances where application disclosure does not lend itself to a single paragraph abstract, a plural paragraph abstract may be acceptable. An example of these rare situations would be an application having claims to different statutory classes, it being recognized that an abstract of the disclosure should be written to include the advancement in the art.

To avoid errors in printing where a plural paragraph abstract is deemed necessary and appropriate, the complete abstract must be set off by suitable headings to indicate where the abstract begins and ends. Appropriate headings useable between the abstract and the subsequent description are to be found in the "Guidelines for Drafting a Model Patent Application Under the Revised Rules" (832 O.G. 5; MPEP 608.01(a)).

RICHARD A. WAHL,
Assistant Commissioner.

Feb. 16, 1968.

REFERENCES

CITATION OF PUBLICATIONS AND FOREIGN PATENTS

Foreign Patents

In accordance with Rule 107, for each foreign patent cited, there should be indicated the number of sheets of drawing and pages of specification and also the sheet number(s) and page number(s) specifically relied upon if less than the entire disclosure is used. Because it is essential to conserve space in the Examiner's file of applications and to minimize the cost to applicant under the automatic supply of references cited, whenever the total number of sheets and pages in any foreign patent exceeds ten, the Examiner should keep the total relied on as near to ten as possible. Applicants who desire a copy of the complete foreign patent or of the portion not "relied on" must order it, not through the automatic supply system, but in the usual manner.

Publications

Publications such as German allowed applications and Netherlands printed specifications should be similarly handled. With other publications such as books, periodicals and catalogues, the specific pages relied upon should be cited. If the copy relied upon is located only in the Group making the action (there is no call number), the additional information, "Copy in Group—" should be given.

RICHARD A. WAHL,
Acting Superintendent,
Patent Examining Corps.

Jan. 4, 1965.

AUTOMATIC FURNISHING FREE COPIES OF CITED REFERENCES

Commencing November 1, 1965, one complete set of references cited by Examiners in Office Actions will be automatically supplied without charge simultaneously with the mailing of the actions.

Additional copies of references desired must be properly identified and purchased from the regular Patent Office copy supply facilities.

This supersedes the notice, "Providing Copies of Cited References to Applicants" which was published in 809 O.G. 317 on December 8, 1964.

C. A. KALK,
Director of Administration.

Oct. 1, 1965.

CITATION OF REFERENCES AT TIME OF ALLOWANCE

Commencing March 15, 1966, references cited by examiners when passing an application to issue will no longer be supplied under the automatic plan. Copies of these references, if desired, must be purchased from the regular Patent Office copy supply facilities.

Except as above indicated references cited by examiners in Office actions will continue to be automatically supplied without charge simultaneously with the mailing of the actions.

This modifies the notice, "Automatic Furnishing Free Copies of Cited References," which was published in 820 O.G. 1 on November 2, 1965.

RICHARD A. WAHL,
Assistant Commissioner of Patents.

Feb. 24, 1966.

ORDERS FOR REFERENCES CITED IN SHORTENED STATUTORY PERIOD ACTIONS

Effective immediately, the Patent Office will no longer supply copies of references cited on a "special handling" basis without the usual additional charge. This service was announced in the *Official Gazette* on June 2, 1964.

The Patent Office has, since November 1, 1965, been furnishing one complete set of references cited by Examiners in Office Actions automatically, without charge, simultaneously with the mailing of the actions.

REFERENCE CITATIONS IN CONTINUATION APPLICATIONS

Effective December 1, 1967, the Office will discontinue the practice of furnishing, automatically and without charge, copies of references cited in continuation applications if they had been previously cited in the parent application.

In the rare instance where no art is cited in a continuation application, all the references cited during the prosecution of the parent application will be listed at allowance for printing in the patent.

Other continuing applications, including continuation-in-part and divisional applications, are not affected by this change.

RICHARD A. WAHL,
Assistant Commissioner.

Nov. 1, 1967.

PATENT CLASSIFICATION

As a service to the public, effective with the issue of December 10, 1968, all patents will contain at the end of the specification, after the "List of References," a list of all classes and subclasses in the U.S. Classification System into which the patent was cross-referenced at the time of issue. This listing will be headed "U.S. Cl.—X.R."

Beginning with the issue of January 7, 1969, all patents will also include International Patent Classifications in the heading and identified as "Int. Cl."

RICHARD A. WAHL,
Assistant Commissioner.

Nov. 29, 1968

TRADEMARKS

ADVANCEMENT OF TRADEMARK APPLICATIONS FOR EXAMINATION

Effective immediately, in the interest of expediting the prosecution of trademark applications in which the applicants are willing to cooperate in accelerated prosecution, any trademark application in which the applicant agrees to respond to each Office action within two months of its date will be advanced for action by the Patent Office ahead of applications in a similar stage of prosecution in which no such agreement has been made.

EDWARD J. BRENNER,
Commissioner of Patents.

Mar. 23, 1966.

ORAL HEARING UNDER TRADEMARK RULE 2.142(c)

Effective January 1, 1969 for a trial period of six months, new procedures will be initiated which will permit Trademark Examiners having full signatory authority to present an oral argument before the Trademark Trial and Appeal Board in ex parte appeals where the applicant has been granted an oral hearing.

After the attorney representing the appellant has made his presentation, the Examiner will be allowed fifteen minutes to reply as well as to present a statement clearly setting forth his position with respect to the issues involved. Appellant may utilize any allotted time not used in the initial presentation for rebuttal.

EDWIN L. REYNOLDS,
First Assistant Commissioner.

Nov. 14, 1968.

MISCELLANEOUS

TERMINAL DISCLAIMERS FILED IN APPLICATIONS

In view of the increasing number of terminal disclaimers being filed in pending applications under 35 U.S.C. 253, it is considered advisable to point out the practice to be followed in such cases.

Since the claims of pending applications are subject to cancellation, amendment or renumbering, a terminal disclaimer directed to a particular claim or claims will not be accepted; the disclaimer must be of a terminal portion of the term of the entire patent to be granted. The statute does not provide for conditional disclaimers and accordingly, a proposed disclaimer which is made contingent on the allowance of certain claims cannot be accepted. The disclaimer should identify the disclaimant and his interest in the application and should specify the date when the disclaimer is to become effective. An acceptable form for such a disclaimer is as follows:

To the Commissioner of Patents:

Your petitioner, John Doe, residing at _____ in the county of _____ and State of _____ represents that he is (here state exact interest of disclaimant and, if he is an assignee, set out the liber and page or reel and frame where the assignment is recorded) of Application No. _____, filed on the _____ day of _____ 19____ for _____. Your petitioner hereby disclaims all that portion of the term of any patent to be issued on the said application subsequent to _____ 19_____.

The disclaimer must be accompanied by the statutory fee.

EDWARD J. BRENNER,
Commissioner.

Apr. 26, 1965.

PATENT PRINTING PRIORITY

In view of the backlog of allowed cases waiting to be printed, the applications placed in the weekly formulation

of an issue set aside for printing will be selected according to the following priorities:

1. Allowed cases which were made special by the Commissioner (including those under the New Special Examining Procedure).
2. Allowed cases that are more than five years old.
3. Allowed resubmission applications.
4. Allowed applications having an effective filing date earlier than that required for declaring an interference with a copending application claiming the same subject matter.
5. Allowed application of a party involved in a terminated interference.
6. Allowed applications in which the applicant has filed a request in the nature of a petition setting forth his reasons for advancing the printing date.
7. Allowed applications ready for printing and not covered by any of the six preceding categories. The selection of cases in the involved category will be by chronological sequence based on the date the issue fee was paid.

To ensure that any application falling within the scope of the categories outlined above and identified by numbers 1 to 5 receives special treatment the Examiners should staple on the filed wrapper a tag entitled "Special in Issue and Gazette Branch." The special tag, PO-364, may be obtained from the Group Clerk. The Examiner shall print directly on the tag the recitation "In Issue and Gazette Branch" and the appropriate printing category outlined above. The application is then forwarded to Issue and Gazette Branch in accordance with existing procedures.

The personnel in Issue and Gazette Branch will then set the tagged cases aside and make a notation on all copies of the Notice of Allowance to be mailed that further processing of this application will be "special."

In cases falling in category No. 6, the request must be filed after the Notice of Allowance has been received and no later than the date the issue fee is paid. The request must be directed to the Head of the Issue and Gazette Branch.

RICHARD A. WAHL,
Assistant Commissioner.

Nov. 29, 1968.

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE WARREN FRANCIS CAREY

No. 7923. Decided April 25, 1968

[55 CCPA—; 392 F.2d 346; 157 USPQ 376]

1. PATENTABILITY—AFFIDAVIT—EXPERT OPINION ON OBVIOUSNESS.

"The opinion of an expert in the art on the question of obviousness of an invention is only one bit of evidence to be considered along with other evidence in the record, including the prior art. *In re Weber*, 52 CCPA 1015, 341 F.2d 143, 144 USPQ 495. The opinion of the Board makes it clear that the Board did not summarily dismiss the affidavit, but did consider it and found it lacking in persuasive effect. We find no error here."

2. SAME—COMPOUND—EVIDENCE—COMPARATIVE TESTS.

"It is only when the performance of the reference compound under similar conditions is established that it becomes possible to compare the performance of the claimed compound to show improved or unexpected results."

3. SAME—SAME—SAME—SAME—*In vitro* AND *In vivo* TESTS.

"The Regan affidavit does appear to establish that several organisms are sensitive to NF-246 but not NF-153 in tests conducted *in vitro*. However, since the claimed invention is a method of combating bacterial urinary tract infections in a host, this showing is an inadequate substitute for comparative *in vivo* tests."

4. SAME—SAME—OBVIOUSNESS—CLOSELY RELATED COMPOUNDS.

"We agree with the Examiner that one skilled in the art, knowing of the prior use of NF-246 as an orally administered antibacterial agent having a broad spectrum of antibacterial activity, including activity against *E. coli*, identified by Mintzer as one causative organism in urinary tract infections, knowing of the low toxicity and substantial urinary excretion of NF-246, and knowing of its striking structural similarity to the known urinary tract antibacterial agent NF-153, would expect NF-246 to have utility in combating urinary tract infections."

5. SAME—PARTICULAR SUBJECT MATTER—"UROLOGICAL COMPOSITIONS."

The refusal of a certain claim in an application entitled "Urological Compositions," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 259,403.

AFFIRMED.

Bernard J. Schulte (Thomas & Thomas, Edwin M. Thomas, Ralph L. Thomas, of counsel) for appellant.

Joseph Schimmel (Joseph F. Nakamura, of counsel) for the Commissioner of Patents.

Before WORLEY, Chief Judge, RICH, SMITH and ALMOND,
Associate Judges

ALMOND, J., delivered the opinion of the court.

This is an appeal from the decision of the Patent Office Board of Appeals affirming the rejection of the sole remaining claim of appellant's application entitled "Urological Compositions."¹

The invention is adequately described in the claim:

6. The method of combating bacterial urinary tract infection in a host subject thereto which comprises orally administering to said host in dosage unit form about 100 to about 400 mg. of 1-(5-nitrofurfurylideneamino)-2-imidazolidone.

The references relied upon are:

Gever et al., 2,746,960, May 22, 1956.

¹ Serial No. 259,403, filed February 18, 1963.

Mintzer et al., Antibiotics and Chemotherapy, vol. 3, No. 2, January 1953, pages 151-157.

Paul et al., Antibiotics and Chemotherapy, vol. 10, No. 5, May 1960, pages 287-302.

Claim 6 stands rejected as unpatentable over Gever considered with Paul and Mintzer under 35 U.S.C. 103 on the ground that in view of the close structural relationship of the nitrofurans recited in appellant's claim (designated herein as NF-246) and nitrofurantoin (NF-153),² a well known urinary tract antibacterial, it would be obvious that NF-246 would possess similar properties as NF-153, and its use in the treatment of urinary tract infections would be obvious. The Gever patent discloses and claims as a compound the nitrofurans NF-246 here involved. The patent further discloses that this compound is effective against infections caused by both gram positive and gram negative organisms and has a surprisingly low level of toxicity when orally administered.

Mintzer discusses the use of NF-153 in the treatment of urinary tract infections. According to Mintzer, NF-153 is practically completely absorbed by the body, as evidenced by low fecal concentration, is excreted in the urine to about 45% of the dosage given, and has bactericidal levels below urinary concentrations when tested *in vitro* against organisms commonly implicated in urinary tract infections. The article reports clinical studies showing effectiveness of this compound in treatment of patients having urinary tract infections caused by various organisms.

The Paul article is directed to a study of the distribution of certain nitrofurans in the body. The reason for and purpose of the study is stated by the authors:

The effective spectrum of these compounds against such a wide variety of invading microorganisms, and the apparent lack of toxicity at chemotherapeutic levels in an equally wide range of hosts, has led to inquiries in regard to the physiological disposition of these compounds.

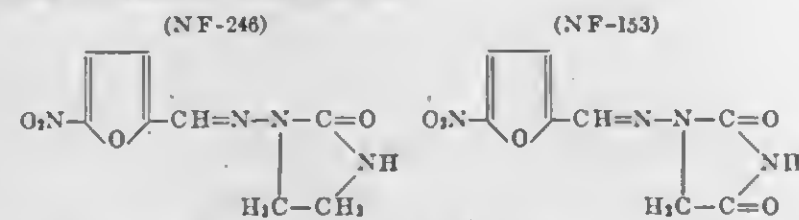
Paul compares NF-153 and NF-246, among other nitrofurans. This comparison shows that both compounds have low blood and fecal concentrations. It also shows that NF-153, when administered in a dosage level of 25 mg./kg. of body weight, is 52% excreted in the urine, while NF-246, administered in a dosage level of 276 mg./kg. is 10% excreted in the urine.

The Examiner expressed his rejection as follows:

In view of the facts that (1) NF-153 is useful combatting urinary tract infections, (2) NF-246 is structurally closely related to NF-153, and (3) NF-246 possesses the same qualities which are indicated as being responsible for the success of NF-153 as a urinary tract antiseptic, it is believed that one of ordinary skill in the art would consider that it was logical to anticipate with a high degree of probability that a trial of NF-246 as a urinary tract antiseptic would be successful. Thus, appellant's invention is presumed obvious.

Appellant attacks the rejection on several grounds. He first asserts that since the assignee of this application³ had conducted considerable

² The structures of these two compounds are:



³ The Norwich Pharmacal Company, which is also assignee of the Gever reference, employer of the authors of the Paul article, and sponsor of the authors of the Mintzer article.

research work on both NF-153 and NF-246 from 1952 to 1959 with no suggestion of its use as a urinary tract antibiotic until appellant's application was filed in February 1963, this should be taken as evidence of unobviousness. We can dispose of this argument by noting that the rejection is based upon obviousness in view of a combination of three references, one of which was not published until May 1960. We further note that this record does not show when appellant made his invention—for all we can discern from the record, it could have been made contemporaneously with the discovery of NF-246 by Gever.

Appellant argues also that no citation has been advanced to establish the equivalency of carbonyl and methylene groups. He feels such citation is necessary since a substitution of one group for the other is the sole difference between NF-153 and NF-246. We think this statement of the issue misses the point. The question before us is not the obviousness of substituting a methylene for a carbonyl; Gever had already done that. Our question is whether it would be obvious to substitute in this particular application a compound having one methylene and one carbonyl group for a compound having two carbonyl groups in view of the secondary reference teachings of certain physiological and antibacterial similarities between the two.

Appellant argues that the Examiner and the Board failed to give proper weight to an affidavit filed by Dr. Mary Paul, one of the authors of the Paul reference. This affidavit discussed the factual showings in the art of record, and then concluded:

From the data presented there I would not expect, with a high degree of probability, that a trial of NF-246 as a urinary tract agent would be successful. . . . On their face these values would not convince me that a trial of NF-246 as a urinary tract agent could have any better than hope of success.

[1] The opinion of an expert in the art on the question of obviousness of an invention is only one bit of evidence to be considered along with other evidence in the record, including the prior art. *In re Weber*, 52 CCPA 1015, 341 F.2d 143, 144 USPQ 495. The opinion of the Board makes it clear that the Board did not summarily dismiss the affidavit, but did consider it and found it lacking in persuasive effect. We find no error here.

Appellant has also argued that he has shown unexpected and surprising results in the use of NF-246, based upon the showing of the Regan affidavit. That affidavit reports clinical tests on the treatment of urinary tract infections in human patients. The Board was unimpressed by this affidavit, noting that it reports that of 30 patients treated with 39 courses of the drug, 21 were unsuccessful. The Board also noted that only 8 of 24 patients had good results at a daily dosage of 200 mgm., and that the investigators seem to have been mainly impressed with the lack of toxicity of NF-246, a characteristic already noted by Gever.

Appellant criticizes the Board for failing to recognize that the reported clinical studies were run, as is customary with most initial drug investigations, at dosages well below the recommended levels. Appellant argues that even at this dosage level, which is from 2/3 to 1/2 the recommended dosage of NF-153, good results were obtained in 60% of the cases. He argues this to be a surprisingly good result, particularly since NF-246 is excreted in the urine at far lower levels than NF-153.

The trouble with appellant's arguments on this point is that they require us to guess what effect NF-153 would have at 2/3 to 1/2 the

recommended level. [2] It is only when the performance of the reference compound under similar conditions is established that it becomes possible to compare the performance of the claimed compound to show improved or unexpected results. From all that is shown in the affidavit, NF-246 may have been grossly inferior to NF-153 in these particular clinical tests.

[3] The Regan affidavit does appear to establish that several organisms are sensitive to NF-246 but not NF-153 in tests conducted *in vitro*. However, since the claimed invention is a method of combating bacterial urinary tract infections in a host, this showing is an inadequate substitute for comparative *in vivo* tests.

[4] We agree with the Examiner that one skilled in the art, knowing of the prior use of NF-246 as an orally administered antibacterial agent having a broad spectrum of antibacterial activity, including activity against *E. coli*, identified by Mintzer as one causative organism in urinary tract infections, knowing of the low toxicity and substantial urinary excretion of NF-246, and knowing of its striking structural similarity to the known urinary tract antibacterial agent NF-153, would expect NF-246 to have utility in combating urinary tract infections. There is nothing in the affidavits which persuades us that the results achieved were unexpected in view of the prior art.

[5] The decision of the Board is therefore affirmed.
AFFIRMED.

SMITH, J., dissenting.

In dissenting from the conclusion of the majority, I do so because it is my belief that the *facts of record* require a reversal of the decision of the Board.

Appellant's position here is predicated upon his discovery that an admittedly known compound, designated NF-246, could be effectively used, when orally administered in dosage unit form to a host, to combat bacterial urinary tract infections. His position is thus based upon 35 U.S.C. 100(b) which provides that a process which involves the new use of a known composition of matter may be patented provided the other conditions for patentability are satisfied.

The position of the Patent Office is that, in view of the close relationship of the chemical structures involved, it would be obvious that appellant's compound, NF-246, would also possess the same properties as nitrofurantoin, NF-253, a well-known urinary tract antibacterial. Considering this position as *prima facie* establishing obviousness, it seems to me this *prima facie* case is rebutted by the record developed by the appellant. It is on this basis that I would reverse the decision of the Board.

Structural similarities in chemical compounds, like homology, provide the chemist with a ready tool for classification. This fact provides a continuing temptation to convert a chemical classification into a legal presumption, i.e., that since all chemicals of a given class have certain common properties there is a "legal presumption" that one would be legally obvious in view of the other. This fallacy has been before the court in different guises and frequently is predicated on a doctrinal extension of our decision in *In re Henze*, 37 CCPA 1009, 181 F.2d 196, 85 USPQ 261 (1950). However, as we pointed out in *In re Victor Mills*, 47 CCPA 1185, 281 F.2d 218, 126 USPQ 513 (1960), the *Henze* case is not authority which supports such a presumption. As

we pointed out in *Mills*, id. at 1190, 281 F.2d at 222, 126 USPQ at 516:

The term "presumption of unpatentability," as it is used in the *Henze* case, refers to an inference of fact. [Footnote omitted.]

In the *Henze* case, this court went to a considerable length to safeguard applicants against the observed tendency of the Patent Office to freeze into legal rules of general application what, at best, are statements applicable to particular fact situations. Thus, the "presumption of unpatentability" referred to in the *Henze* case, was limited to a claim directed to a composition of matter (a new compound), the *adjacent* homologue of which was old in the art.

After pointing out how this "presumption" placed a burden on the applicant, the court [in *Henze*] even suggested certain types of evidence which applicant could produce to overcome this evidentiary burden and further concerned itself with limiting the types of proof which could be called for by the Patent Office when it said:

This does not mean that in every case the Patent Office would be justified in exacting empirical data from an applicant respecting the properties of the prior art homologue tested under the same conditions and limitations as are set forth for the claimed compound where the reaction of the old compound under those conditions is a well established fact of general cognizance in the art. * * * [37 CCPA at 1015, 181 F.2d at 201, 85 USPQ at 265.]

The court [in *Henze*] further stated:

The appellant was not refused a patent *in limine* but was only placed under a reasonable requirement to overcome a presumption reasonably raised and which he could reasonably be expected to meet. * * * The Patent Office as the public's representative has the right to require such evidence of invention as is suitable to dissolve a presumption of unpatentability arising out of the nature of the subject matter where the criteria raising the presumption, as here, are of universal acceptance by those skilled in the art involved. * * * [37 CCPA at 1016, 181 F.2d at 201, 85 USPQ at 265.]

Thus considered, the structural similarities of the compounds NF-246 and NF-253 give rise to the same legal issues as did the existence of homologous compounds in the *Mills* case. As we there stated, 47 CCPA at 1191, 281 F.2d at 224, 126 USPQ at 517-18:

* * * Homology provides for the chemist a convenient system of structural classification. Inherent in that system are *differences* as well as similarities in the properties and reactions of the members of any given homologous series.

A chemist, and it is from the standpoint of a chemist skilled in this art that the question of obviousness must be resolved, would consider the differences as well as the similarities in the properties and reactions of the members of any given homologous series. * * * Homology *per se* should, therefore, be treated as a chemist would treat it, being nothing more than a fact which must be considered with all other relevant facts before arriving at the conclusion of "obviousness" specified in 35 U.S.C. 103.

Appellant argues that reference to the compound NF-246 in Gever et al., which admittedly teaches that NF-246 has a wide spectrum of anti-microbial activity and can be orally administered, does not suggest urinary tract activity for the compound. He relies for factual support of this position on the affidavit of Dr. Mary Paul as rebutting the Examiner's position, and asserts error in the treatment accorded the Paul affidavit in the Patent Office. The Paul affidavit contains a relevant showing of a *factual basis* from which we can draw a *legal conclusion*. See *In re Weber*, 52 CCPA 1015, 341 F.2d 143, 144 USPQ 495 (1965); *In re Chilowsky*, 50 CCPA 806, 306 F.2d 908, 134 USPQ 515 (1962).

It is noted that neither the Examiner nor the Board challenged Dr. Paul's qualifications in this art. She states that she was familiar with each of the references relied upon to support the rejection. In partic-

ular, she commented on her publication (a "prior art" reference against appellant's claims) as follows:

The Paul et al. publication, some years subsequent to the Gever et al. patent dealing with new chemical compounds including NF-246 and the Mintzer et al. publication dealing with an investigation of nitrofurantoin, presents data on the physiological disposition and distribution of a variety of nitrofurans when administered to laboratory animals. These data are tabulated in a series of Tables (I-VII). They represent a digest of then available determinations of blood level, urinary excretion, fecal excretion, plasma protein binding, excretion in milk, biliary excretion, presence in cerebrospinal fluid, and tissue degradation of certain nitrofurans, affording to those interested an appreciation of their physiological disposition and distribution.

In the commentary on the urinary excretion of the nitrofurans involved at pages 293 and 294 and referring to Table I it is noted that among the nitrofurans urinary excretion varied from little or none to 75% of the dose administered. The influence of species is also noted, nitrofurantoin maintaining its urinary excretion in rat, dog and man but another nitrofuran, nifedroxy-zone, dwindles from 25% in rats to 16% in dogs to 6% in man. Other remarks to particular nitrofurans include reference to secretion of one of them, NF-189, by renal tubules and the absence of any substantial amount of furazolidone in the urine. There is no further reference to any particular nitrofuran.

Table I lists a series of nitrofurans and the determination of plasmas levels, urinary excretion and fecal concentration thereof when administered orally to rats. From the data presented there I would not expect, with a high degree of probability, that a trial of NF-246 as a urinary tract agent would be successful. In comparison to nitrofurantoin, its water solubility is lower (88 vs. 190); its plasma level somewhat greater, (4.7 vs. 2.6); its urinary excretion considerably lower (10 vs. 52) and its fecal concentration considerably less (0.1 vs. 2.0). On their face these values would not convince me that a trial of NF-246 as a urinary tract agent could have any better than hope of success. [Emphasis added.]

While some of Dr. Paul's affidavit is a statement of her opinion, it is entitled to consideration as the opinion of an expert predicated on specific factual data as there indicated in those portions of the affidavit which have been underlined. The factual differences referred to by Dr. Paul indicate that the water solubility and urinary excretion properties of NF-246 are inconsistent with the comparable properties of NF-153. Those inconsistent properties provide a factual rebuttal to the conclusion reached by the Examiner and the Board from inferences predicated on similarities in chemical structures of the two compounds. Thus, I feel the Board and the Examiner erred in not giving proper weight to the Paul affidavit as rebutting the inferential prima facie case of obviousness upon which they relied.

Appellant properly points out that the significance of the structural similarities between compounds is not conclusive on the issue of obviousness. He states:

* * * That seemingly slight variations in chemical structures can result in marked differences in biological properties is illustrated in the present case by a comparison of the sensitivity of certain strains or organisms to NF-246 while lacking sensitivity to NF-153 (Table 4 of attachments filed with affidavit of Regan * * *) and the marked difference in urinary excretion rate, 52% for NF-153, while only 10% for NF-246 * * *.

The affidavit of Dr. John Ward Regan also was submitted by appellant to show the effectiveness of NF-246 in treating urinary tract infection. Appellant argues that this affidavit, together with the supportive studies, shows NF-246 to be effective against a greater range of bacterial organisms than NF-153 and to exhibit a lesser incidence of toxic manifestations.

The Examiner dismissed the affidavit for its failing to show such improvement over NF-153 as to overcome the presumption of ob-

viousness. He dismissed the showing of effectiveness against a greater range of bacterial organisms as based on an *in vitro* test rather than on an *in vivo* test and therefore found it not definitive. He failed to note that while the test was *in vitro*, it was nevertheless conducted against organisms found in the urine of those patients participating in the clinical study.

Further, the *in vitro* tests seem to me to have been a direct comparison of the effects of both NF-153 and NF-246 on organisms found in the urine of the clinical patients. Twenty of the organisms were sensitive to NF-246 and insensitive to NF-153 while only 3 were sensitive to NF-153 and insensitive to NF-246. This test, as noted by the author, is the standard and only way to determine which agent would be most likely to eradicate the offending organism.

The Examiner and the Board seem to have ignored the *in vitro* tests and factual conclusions which Dr. Regan draws from them. As pointed out in *In re Isaacs*, 52 CCPA 1791, 347 F.2d 887, 146 USPQ 193 (1965):

* * * One thing seems clear: both the Examiner and the Board felt that appellants should have submitted evidence of *in vivo* tests. No authority has been cited and we have been able to find none which requires that in order to secure a patent, utility of a pharmacologically active substance must be proved by *in vivo* testing. * * *

Appellant avers that the Board erred in failing to recognize that the clinical studies reported in the Regan affidavit were run, as are most initial investigations on new drugs, at dosages far below the recommended levels. Appellant urges that the results reported show good results, i.e., sterility of the urine in 18 out of the 30 patients (60%) receiving the drug. This is considered by appellant to be outstanding, especially if one notes that the 12 patients (40%) who failed to show improvement were receiving only 200 mg. per day (one received 300 mg.). This compares with the recommended dosage of the prior art compound NF-153 at 400 mg. per day for treatment of severe infections. Table 4 of the Regan affidavit shows that the 12 patients who failed to respond had an average age of about 75 and most had undergone prostatectomys.

Appellant strongly urges that the Regan affidavit does show properties for NF-246 which are both surprising and unexpected in view of the teachings in the prior art. One skilled in the art would not expect NF-246 to be useful as a urinary tract antibacterial in view of its low urinary excretion. However, even assuming that one would be led to experiment with NF-246 in this area,⁴ he would not expect to find a 60% cure where the majority of dosage levels ranged from about 2/5 to 1/2 that recommended for the leading urinary tract antibacterial NF-153. These results are even more surprising if one takes into consideration the decided disadvantage of a 10% urinary excretion as compared with a 50% urinary excretion for the urinary tract antibacterial NF-153.

Similarly, Mintzer et al. is cited by the Examiner as describing four characteristics of a good urinary tract antibacterial:

- (1) 4% or less of the amount administered orally is found in the feces; (2) high excretion of the compound in the urine (45% of administered dose); (3) low blood level; and (4) a broad antibacterial spectrum.

⁴ The court has often stated its basic disagreement with an "obvious to try analysis" under 35 U.S.C. 103. See *In re Lindell*, 55 CCPA—, 385 F.2d 453, 155 USPQ 521 (1967); *In re Tomlinson*, 53 CCPA 1421, 363 F.2d 928, 150 USPQ 623 (1966); *In re Huellmantel*, 51 CCPA 845, 324 F.2d 998, 139 USPQ 496 (1963).

Mintzer et al., in my view, did not disclose that these four properties were criteria of a good urinary tract antibacterial. Rather, these criteria were a mere statement of properties previously disclosed by Eaton Laboratories investigations of NF-153 in animals. The following paragraph of that reference, however, as appellant urges, seems to me to indicate more aptly the property of NF-153 which interested Mintzer et al. in investigating the use of this compound as a urinary tract antibacterial wherein he states:

Since a concentration of Furadantin in the urine can reach at least 40 mg. per 100 cc. during therapy, in spite of its apparent maximum solubility in urine of about 20 mg. per 100 cc. at pH 5 in vitro, these results seem paradoxical. This is due to the fact that when large amount of Furadantin are dissolved in urine in vitro at the blood and glomerular pH of 7.5, reduction of the pH to 5.5 does not produce precipitation. A state of stable supersaturation exists. This phenomenon, coupled with the extremely low blood levels of the drug, suggests that no crystalluria need be feared with the use of this preparation. This conclusion is supported by our clinical observations.

Thus, it seems Mintzer et al. were primarily interested in the high urinary concentrations of Furadantin (NF-153), i.e. concentrations which exceeded its solubility in urine but still existed in a state of stable supersaturation. Thus, appellant argues that it was this phenomenon which was of prime interest to these investigators and it is in exactly this property in which NF-246 differs so appreciably from NF-153, 52% vs. 10% as evidenced by Table I of the Paul et al. reference. It is appellant's contention that if one skilled in the art had envisioned possible urinary tract activity for NF-246, a reading of Mintzer et al. would discourage such an envisioned use of the compound. It is also appellant's position that the discovery of urinary tract activity for NF-246 is both unexpected and surprising in view of its relatively low urinary excretion.

The factual base which appellant developed below is in my opinion of such strength as to overcome the prima facie case of the Patent Office based on inferences drawn by the Examiner from the naked teachings of the art. In my opinion the reasons are sufficient to reverse the decision of the Board.

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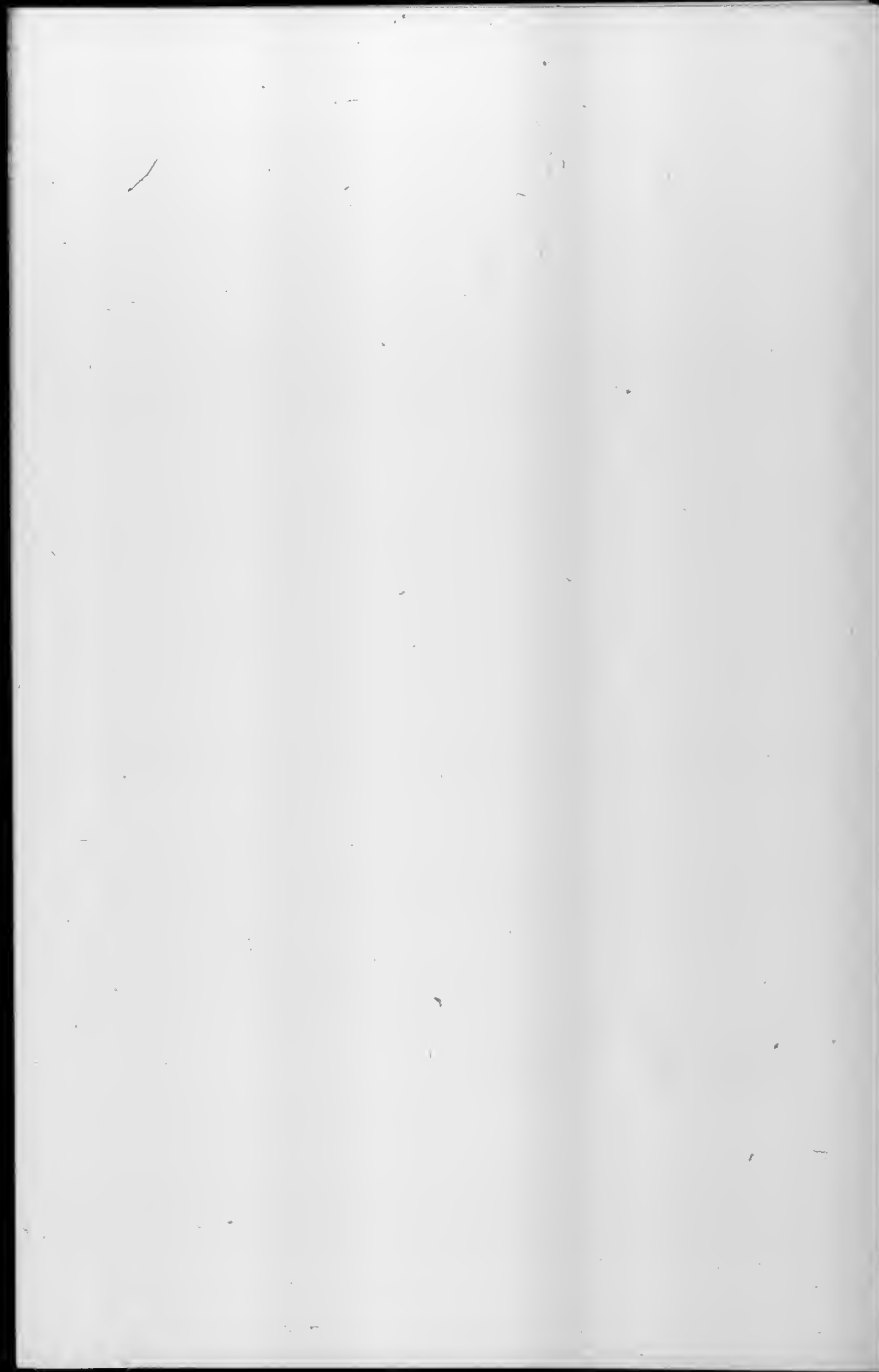
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DEFENSIVE PUBLICATIONS

PUBLISHED JANUARY 7, 1969

Published at the request of the applicant or owner in accordance with Notice of Apr. 11, 1968, 849 O.G. 1221. The abstracts are identified by serial number of the applications and arranged in chronological order. The heading of each abstract of application published herein indicates the number of pages of specification, including claims and sheets of drawing contained in the application as originally filed. The files of these applications are available to the public for inspection and reproduction may be purchased for 30 cents a sheet.

Applications published under the Defensive Publication Program have not been examined as to the merits of alleged invention. The Patent Office makes no assertion as to the novelty of the disclosed subject matter.

558,996

BONDED NON-WOVEN FABRIC

Ronald Philip Smyser, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed June 20, 1966. Published Jan. 7, 1969

Class 161—170

1 Sheet Drawing. 14 Pages Specification

A bonded nonwoven fabric particularly useful as nonwoven interlinings for durable press fabrics, comprising randomly arranged, synthetic organic fibers having at least 5 crimps per inch of unextended length, said fibers being bonded together by a combination of binders, one binder comprising from about 5 to 15% by weight of a thermoplastic fiber-forming polymer and the other binder comprising either from about 10 to 25% by weight of a cross-linked acrylic resin having a modulus of 20 to 500 kg./cm.² at 20° C. or from about 5 to 15% by weight of a cross-linked acrylic resin having a modulus of 500 to 6000 kg./cm.², the combined weight of the binders being between 10 and 40% and said bonded web exhibiting a free fiber length of from 1.05 to 1.25. The fibers may be staple or continuous and are preferably composed of poly(hexamethylene adipamide), polycapromide or poly(ethylene terephthalate).

576,216

PROCESS FOR REGENERATING WATER-IN OIL EMULSIONS

Howard E. Phillips, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Aug. 31, 1966. Published Jan. 7, 1969

Class 252—326

No Drawing. 13 Pages Specification

In a process using an emulsion which becomes enriched with water during use, for example, as a drying agent, said emulsion comprising, on a weight basis, about 0.25–25% water, about 0.1–30% isopropylammonium dodecylbenzenesulfonate, at least about 30% fluorochlorocarbon having a boiling point of 70–200° F., for example, 1,1,2-trichloro-1,2,2-trifluoroethane, and up to 5% ammonia, the improvement which comprises, before the water saturation level of the emulsion is exceeded, regenerating the emulsion by removing water which has accumulated during use by contacting the water enriched emulsion with a concentrated aqueous solution of an ionic chloride, sulfate, carbonate or phosphate salt, such as a lithium, sodium, calcium, aluminum or ammonium salt, for example, sodium chloride, allowing the aqueous phase to separate from the emulsion, and recovering regenerated emulsion.

858 O.G.—1

617,075

COLOR STABILIZATION OF CAPROLACTAM

Robert L. Allen, Robert F. Wenger, and David W. Williston, Beaumont, Tex., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Feb. 20, 1967. Published Jan. 7, 1969

Class 260—239.3

No Drawing. 7 Pages Specification

A process for the color stabilization of monomeric caprolactam by removing color-forming impurities from the caprolactam by contacting substantially anhydrous, e.g., less than 5 percent water, molten caprolactam with an oxidizing agent, preferably permanganate, e.g., an alkali metal permanganate such as potassium permanganate, and preferably at a temperature of about from 60 to 80° C., e.g., 75° C., the oxidizing agent comprising less than about 0.1 percent, e.g., 0.05 percent, by weight of the caprolactam. The process is carried out by first melting the caprolactam, preferably at about 75° C. Then the oxidizing agent, preferably an aqueous solution of about from 10 to 500 parts of water for every part of oxidizing agent, e.g., 40 parts of water for every part of oxidizing agent, is added to the molten caprolactam and mixed for about from 30 to 60 minutes, e.g., 45 minutes, at about from 60 to 80° C., e.g., 75° C. The reaction mixture should be at least about 90 percent caprolactam, e.g., 98 percent. The purified caprolactam is recovered after filtration and distillation of the reaction mixture to remove the by-products and solvent.

620,869

SUEDE FABRIC AND METHOD OF MAKING SAME

Richard L. Bradbury, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Mar. 6, 1967. Published Jan. 7, 1969

Class 161—64

1 Sheet Drawing. 8 Pages Specification



A napped suede-like fabric is prepared from woven elastic core-spun filling yarns having a continuous filament spandex core and a sheath of staple fibers. Shrinkage of the core yarn causes loops of sheath fibers to protrude from the fabric surface. The loops are napped to produce the suede fabric. The method of making the suede fabric includes the steps of (1) weaving a fabric

having in the gray state widely-spaced warp yarns and closely packed filling yarns, which filling yarns are composed of a core and a sheath disposed around said core, said core composed of at least one continuous elongated elastic fiber, (2) scouring the fabric to produce contraction of the filling yarn and concomitantly causing the said sheath to form loops disposed around the said core, (3) napping and tucking one side of the scoured fabric causing a breaking of a substantial portion of the fibers forming the said loops of sheath which are exposed to form a dense pile of entangled fibers and resulting in a non-stretch fabric.

627,662

THERMAL REFLOW ACRYLIC LACQUERS, METHODS OF USING THE SAME, AND METALS COATED THEREWITH

Donald A. Maxwell, P.O. Box 511, Kingsport, Tenn. 37662

Filed Apr. 3, 1967. Published Jan. 7, 1969

Class 260—17

No Drawing. 9 Pages Specification

The addition of a metal deactivator, e.g., a chelating compound, to acrylic lacquer formulations which do not contain oxidatively curable drying oils or the like prevents the formation of white surface film resulting from intense ultraviolet radiation.

631,449

PROCESS AND PRODUCT OF LAMINATING WITH A LATEX AND LATEX COAGULANT

William C. Dodson, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Apr. 17, 1967. Published Jan. 7, 1969

Class 161—82

1 Sheet Drawing. 34 Pages Specification

Novel coagulant-carrying fabrics are laminated by a process for bonding two or more materials including the steps of: (A) depositing a water-soluble latex coagulant solid selected from the group consisting of aluminum sulfate, potassium aluminum sulfate, sodium aluminum sulfate, ammonium aluminum sulfate, citric acid, oxalic acid, ammonium chloride and salts of barium, calcium, tin and zinc in a surface layer of a fabric that is at least about 0.004-inch thick in an amount of from about 2 to about 15% by weight of said layer, said fabric being a thin, porous fabric having a thickness of at least about 0.004-inch and being made of hydrophobic, synthetic organic fibers; (B) applying an adhesive formulation primarily comprising an aqueous rubber latex to the surface of one of said materials in an amount of from about 2 to about 20 grams of adhesive per square foot of interface between said materials; and (C) then immediately contacting said adhesive-coated material with the other material.

676,723

POLYESTERS OF ALKYL-SUBSTITUTED 1,3-CYCLOBUTANEDIMETHANOLS

Edward U. Elam and Sarah Joelle Rush, both of P.O. Box 511, Kingsport, Tenn. 37662

Filed Oct. 20, 1967. Published Jan. 7, 1969

Class 260—75

No Drawing. 11 Pages Specification

High melting, linear polyesters are prepared from a dicarboxylic acid and an alkyl-substituted 1,3-cyclobutanedimethanol. These polyesters are valuable for the production of fibers, films, and molded objects.

POLY[4-(4'-PHENOXY)-BENZAMIDE] AND SOLUTIONS, AND SHAPED ARTICLE MADE THEREFROM

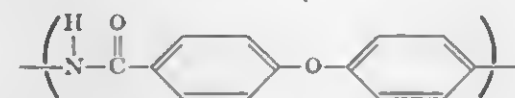
Rudolph Henry Michel, Tonawanda, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Dec. 13, 1967. Published Jan. 7, 1969

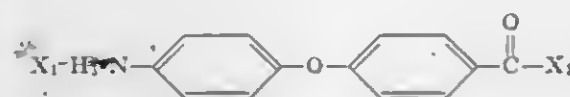
Class 260—30.2

No Drawing. 9 Pages Specification

Poly [4-(4'-phenoxy) benzamide] characterized by repeating units of the formula:



having an inherent viscosity of at least about 0.2. Solutions thereof, e.g., 5 to 20 weight percent, in amides, e.g., N,N-dimethylacetamide or ureas, e.g., N,N,N',N'-tetramethylurea, preferably with about 3 to 7 percent lithium chloride is disclosed as well as shaped articles, e.g., films and fibers. Polymerization techniques using salts of the formula:



wherein X₁ represents arylsulfonate, alkylsulfonate, acid sulfate, or a halogen radical and X₂ represent a halogen radical, are also described. Polymer solutions may also be prepared using solvent media such as N-methylpyrrolidone-2; N,N-dimethylpropionamide; N,N-dimethylbutyramide; N,N-dimethylisobutyramide and 1,3-dimethylimidazolidinone-2.

697,038

THERMOPLASTIC COMPOSITIONS STABILIZED AGAINST COPPER EFFECT

Clarence E. Tholstrup and James C. Ownby, both of P.O. Box 511, Kingsport, Tenn. 37662

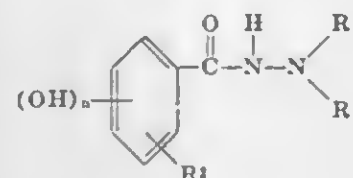
Continuation-in-part of application Ser. No. 344,564, Feb. 13, 1964. This application Jan. 11, 1968.

Published Jan. 7, 1969

Class 260—897

No Drawing. 20 Pages Specification

A thermoplastic polymer composition comprising a thermoplastic polymer selected from the group consisting of polypropylene, copolymers of ethylene and propylene, blends of polypropylene and polyisobutylene, blends of copolymers of ethylene and propylene and polyisobutylene, and tri-component blends of polypropylene, polyethylene, and ethylene-propylene terpolymers, a copper effect inhibitor, said inhibitor comprising at least one hydroxy-substituted benzol-hydrazide represented by the formula:



wherein n is an integer of 1-3 and R, R¹ and R² are independently selected from the group consisting of hydrogen, alkyl, cycloalkyl, alkoxy and aryl radicals and provided that when n is 1 at least one R, R¹, or R², is a radical other than hydrogen, which composition is useful in contact with metals such as copper, e.g. wire coating.

720,073

PROCESS CONTROL FOR POLYCARBONAMIDE MELT POLYMERIZATION

Donald David Bly, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Apr. 10, 1968. Published Jan. 7, 1969

Class 260—78

2 Sheets Drawing. 23 Pages Specification

The invention concerns improvements in the preparation of a high molecular weight polycarbonamide obtained by melt polymerization of a water-insoluble nylon salt, prepared by reacting at least one dicarboxylic acid and at least one diamine. In accordance with the invention the stoichiometry of the said salt is adjusted to the desired molecular proportions prior to polymerization by changing the relative concentrations of the said diamine and said dicarboxylic acid as indicated by stoichiometric analysis of a homogeneous solution of at least about 1.0% by weight of said salt in a solvent comprising a mixture of about 60 to about 90% by volume of the said solvent of ethylene glycol and about 40 to about 10% by volume of the said solvent of a chlorinated hydrocarbon having the formula H_{4-x}-C-Cl_x where x is 2 or 3.

728,926

COLLOIDAL SILICA-POTASSIUM SILICATE MIXTURES AND METHOD FOR PREPARING SAME

Robert J. Woltersdorf, 5597 Heritage Court Drive, Wilmington, Del. 19808

Continuation-in-part of abandoned application Ser. No. 362,933, Apr. 27, 1964. This application May 14, 1968. Published Jan. 7, 1969

Class 252—313

No Drawing. 11 Pages Specification

Stable fluid mixtures of aqueous colloidal silica and

potassium silicate containing 15 to 30 weight percent of silica solids and having a silica to potassium oxide weight ratio of between 7:1 and 15:1 are prepared by rapid intermixing of the two components as in a centrifugal pump or by slowly admixing the two solutions while rapidly agitating the mixture.

729,428

SUBSTRATES LAMINATED WITH POLYESTER MELT ADHESIVES DERIVED IN PART FROM A 2,2,4,4-TETRAALKYL-1,3-CYCLOBUTANEDIOL

John R. Caldwell and Russell Gilkey, both of P.O. Box 511, Kingsport, Tenn. 37662

Filed May 15, 1968. Published Jan. 7, 1969

Class 161—214

No Drawing. 29 Pages Specification

A laminated structure comprising at least two substrates bonded together by a melt adhesive comprising a linear condensation polyester derived from (A) at least one difunctional carboxylic acid and (B) at least one difunctional dihydroxy component selected from the group consisting of (1), a 2,2,4,4-tetraalkyl-1,3-cyclobutanediol and (2) a mixture composed of a 2,2,4,4-tetraalkyl-1,3-cyclobutanediol and up to 95 mol percent of said mixture of a different difunctional dihydroxy compound, wherein said 2,2,4,4-tetraalkyl-1,3-cyclobutanediol is selected from the group consisting of its cis and trans isomers and mixtures thereof with said alkyl group containing from one to four carbon atoms. The term polyester includes both polyesters and polycarbonates such as the bisethyl carbonate ester of 50% cis 2,2,4,4-tetra-methyl-1,3-cyclobutanediol. The melt adhesive is advantageous for use in laminated structures which must withstand extreme temperature differentials.

PATENTS

GRANTED JANUARY 7, 1969

GENERAL AND MECHANICAL

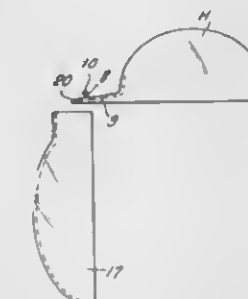
3,419,907

PIVOTABLE STRUCTURE

Christian Zahn, Braunschweig, Germany, assignor to
Schuberth-Werk K.G., Braunschweig, Germany
Filed Nov. 2, 1966, Ser. No. 591,620

U.S. Cl. 2-10
Int. Cl. A61f 9/04

10 Claims



A safety helmet comprises a helmet member and a face shield. A hinge includes two pivotally connected hinge portions. One of the hinge portions is permanently connected to the face shield. The other of the hinge portions is provided with a cutout and the helmet member is provided with a projection having a narrow neck and a wider head, the latter being receivable in the cutout. A spring member provided on the other hinge portion engages the head of the projection and prevents the unintentional withdrawal of the head from the cutout so that the hinge, and thereby the face shield, are connected to the helmet member.

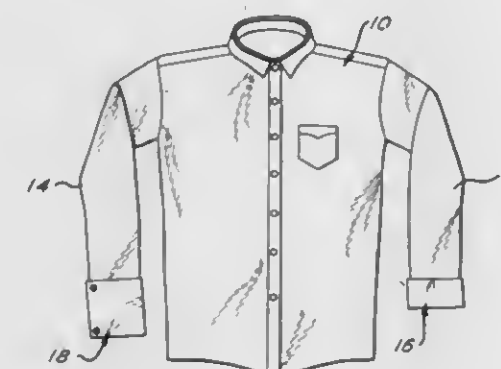
3,419,908

LINKLESS FRENCH CUFF

Dino Germani, 17 Chaucer St., Providence, R.I. 02908
Filed Oct. 31, 1966, Ser. No. 590,693

U.S. Cl. 2-123
Int. Cl. A41b 7/00

6 Claims



A French cuff for a shirt which comprises an impervious inner and outer surface. The cuff has an inner fold and an outer fold. The inner fold and the outer fold are adapted to be secured together by permanently affixed fasteners which are secured to the inner surface of the cuff and the cuff is adapted to be secured at its ends by permanently affixed fasteners which are invisible during the wearing of the shirt.

3,419,909

EYESHIELD FOR USE IN HAIR-TINTING AND THE LIKE

Ethel P. Spain, 2000 2nd St., Delanco, N.J. 08075
Filed Aug. 16, 1966, Ser. No. 572,838

U.S. Cl. 2-174
Int. Cl. A41d 31/00

4 Claims



An eyeshield for use in hair-tinting, dressing and the like, wherein a stiff resilient brow member extends along a user's brow, being adapted to rest on the user's nose. Sidepieces extend rearwardly from opposite ends of the brow member terminating short of the user's hairline and having sufficient resilient deflectability for bearing engagement with the user's temples. A compressible material extends along the brow member for conforming engagement with the user's brow, being retained thereagainst by the bearing action of the sidepieces with the user's person.

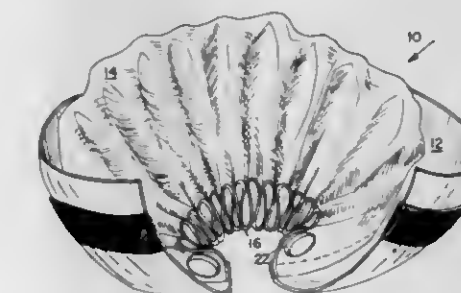
3,419,910

PLASTIC CAP

Foris V. Welch, deceased, late of Nashua, N.H., by Helen O. Welch, administratrix, Nashua, N.H.
Filed Oct. 21, 1965, Ser. No. 500,377

U.S. Cl. 2-198
Int. Cl. A42b 1/04; A42b 1/22

1 Claim



A nurse cap of vinyl resin material having headboard and crown portions permanently formed into a head-conforming ready-to-wear shape.

3,419,911

WALL CABINET AND WATER CLOSET COMBINATION

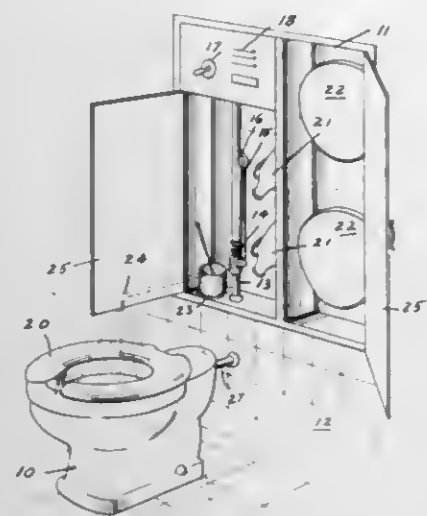
William L. Wood, Erie, Pa., assignor to American Sterilizer Company, a corporation of Pennsylvania
Filed Mar. 1, 1966, Ser. No. 530,848

U.S. Cl. 4-10
Int. Cl. E03d 5/00

3 Claims

The present invention involves a combination of a water closet rigidly supported on the floor and a cabinet formed in a wall. The cabinet encloses a diverter valve

and nozzle and when the cabinet door is opened, the diverter valve will divert water from the flushing arrange-

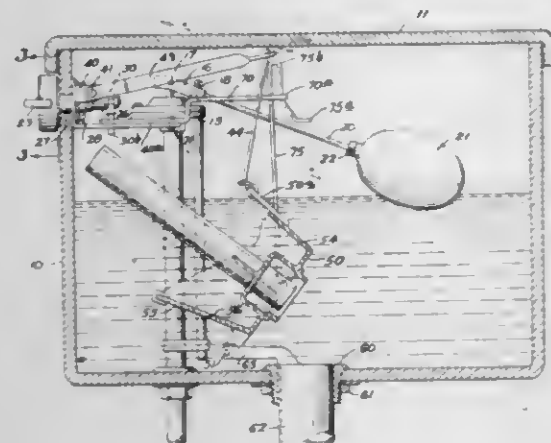


ment of the water closet to the water closet by way of the nozzle.

3,419,912

TOILET TANK FLUSH VALVE

Frank W. Kertell, Santa Cruz, Calif., assignor of one-half to Brooks Walker, San Francisco, Calif.
Filed Feb. 14, 1966, Ser. No. 527,313
U.S. Cl. 4-58 3 Claims
Int. Cl. E03d 1/14



A toilet tank flush valve which can be operated to provide a complete or partial discharge of the fluid contents of the tank. An operating handle is provided which is rotated in one direction to provide complete discharge and is rotated in the opposite direction to provide for partial discharge. A trip rod is carried by the valve and is operated by the handle to swing into the plane of oscillation of the conventional float arm to transfer the weight of the float to the valve for closing the valve after the partial discharge.

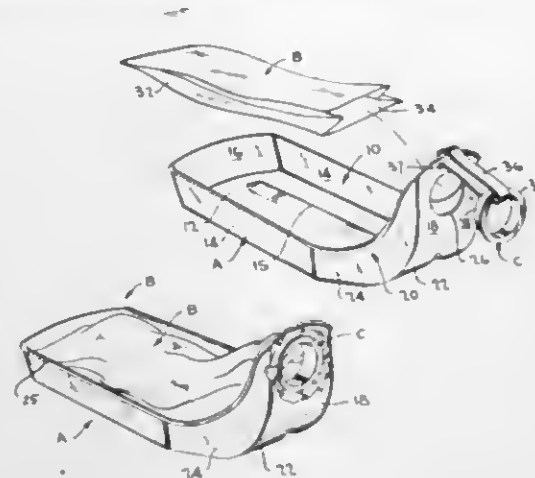
3,419,913

URINAL DEVICE WITH DISPOSABLE CONTAINER

William Holmes Crosby, P.O. Box 313,
Oil City, Pa. 16301
Filed Aug. 26, 1966, Ser. No. 575,342
U.S. Cl. 4-110 10 Claims
Int. Cl. A61g 9/00; A47k 11/12

1. A urinal device comprising:
an elongated open ended flexible disposable container;
a support unit for said container;
said support unit including an elongated base portion upon which said container rests and an upstanding end wall portion having aperture means therewithin; said open end of said container projecting through said aperture means and extending at least partially beyond said support unit; and

coupling means movably mounted upon said end wall portion;
said coupling means including a member insertable within said open end of said container and within said aperture means to thereby releasably lock said container against that portion of said end wall portion circumscribing said aperture means;

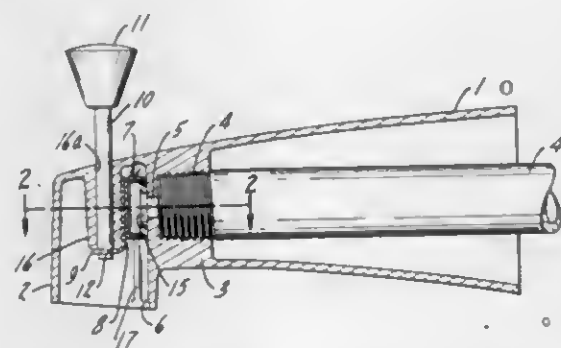


said member having an opening therein to permit access to the interior of said container to permit urine to be introduced therein;
said coupling means being manually releasable to unlock said container from said support means to enable a filled container to be removed therefrom.

3,419,914

TUB DIVERTER SPOUT

Alfred M. Moen, 25 Lakeview Drive,
Grafton, Ohio 44044
Filed Feb. 6, 1967, Ser. No. 614,197
U.S. Cl. 4-148 8 Claims
Int. Cl. E03c 1/01; F16k 51/00



This invention relates to a diverter for use in a combination shower and tub plumbing fixture in which the diverter automatically returns to the tub position when the water is turned off, and in which water pressure, acting on a portion of the diverter, is effective to hold the diverter in the shower position, once it has been moved to this position.

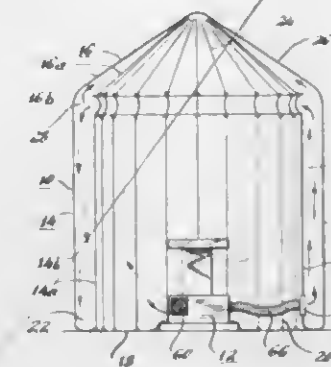
3,419,915

HEAT BATH APPLIANCE

Joseph H. Clark, Jr., Trumbull, Conn., assignor to General Electric Company, a corporation of New York
Filed Aug. 9, 1966, Ser. No. 571,323
U.S. Cl. 4-160 23 Claims
Int. Cl. A61h 33/06

1. An appliance for providing heat baths for humans comprising: a collapsible enclosure large enough to permit a person to be seated therein formed by side walls and a top wall; said side walls including flexible inner and outer layers, means connecting said layers at spaced intervals so that interconnected air passages are formed between the layers, air inlet means formed in said side walls for

permitting air to be introduced to said passages; a motor and a fan unit adjacent said enclosure having its air output ducted to said air inlet means for inflating said air

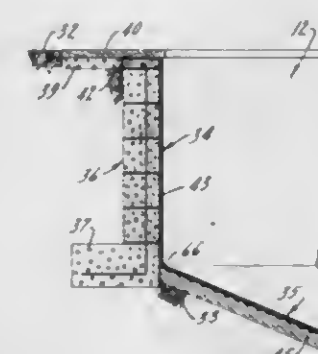
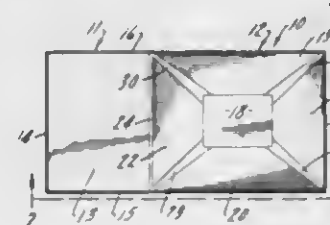


passages causing said side walls to become and remain erect; and heating means for maintaining the temperature of the air within the enclosure substantially above human body temperature.

3,419,916

LINER TYPE POOL CONSTRUCTION

Martin M. Schankler, 1 Rowan Court,
East Brunswick, N.J. 08816
Filed Oct. 3, 1966, Ser. No. 583,629
U.S. Cl. 4-172 10 Claims
Int. Cl. E04h 3/16

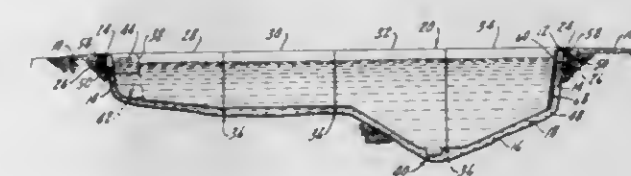
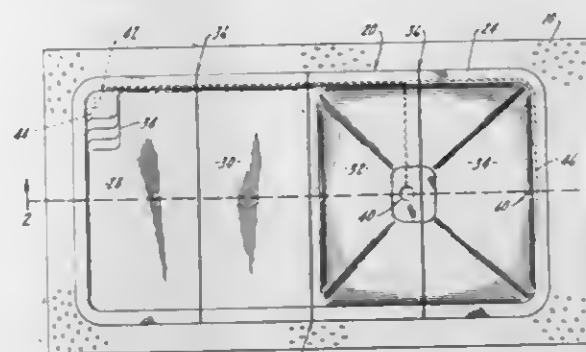


1. In a liner type pool,
generally vertically upwardly extending side wall means, and
bottom means,
said bottom means including a plurality of bottom sections,
each bottom section including a rigid, generally sheet-like member,
first flexible hinge means between adjacent bottom sections,
said first flexible hinge means including a layer of moisture resistant, flexible sheet-like material which forms a barrier to water passage between adjacent bottom sections,
second flexible hinge means between each bottom section and its associated adjoining side wall means,
said second flexible hinge means including a layer of moisture resistant, flexible sheet-like material which forms a barrier to water passage between the side wall means and the bottom means.

3,419,917
PREFABRICATED SWIMMING-POOL CONSTRUCTION

Martin M. Schankler, 1 Rowan Court,
East Brunswick, N.J. 08816

Filed Oct. 10, 1966, Ser. No. 591,365
U.S. Cl. 4-172 6 Claims
Int. Cl. E04h 7/00



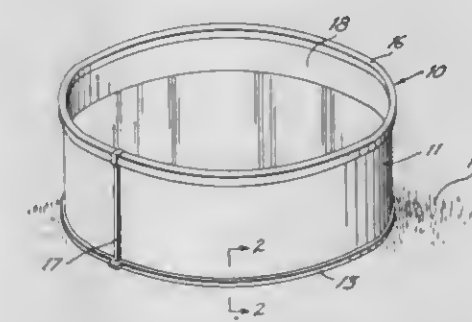
1. A swimming pool consisting of:
an excavation, a walk around the periphery of said excavation, a watertight flexible outer liner extending downward into said excavation, a rigid inner shell extending downward into said lined excavation, with such rigid inner shell having outside proportions smaller than the excavation so that a cavity exists between said lined excavation and said rigid inner shell, said cavity and said rigid inner shell containing liquid, and means for attaching said inner rigid shell and said flexible outer liner to said walk.

3,419,918

ABOVE-GROUND SWIMMING-POOL CONSTRUCTION

Albert V. Petrik, 1552 Lindbergh Ave.,
Roslyn, Pa. 19001

Filed Dec. 12, 1966, Ser. No. 600,856
U.S. Cl. 4-172 7 Claims
Int. Cl. E04h 3/18



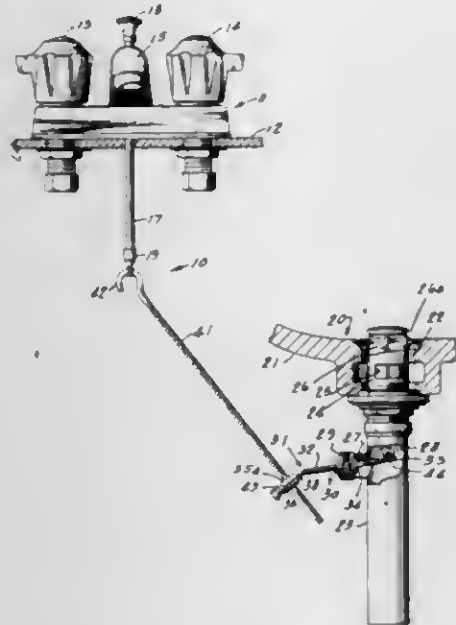
1. In a swimming pool adapted to rest on a ground surface, the combination comprising: a stiff upstanding side wall, a bottom rail extending along the lower edge of said side wall for supporting the latter on a ground surface, a flexible liner extending downwardly against the inner surface of said side wall and along the ground surface, and a strip of flexible sheet-material extending along the inner side of said bottom rail between the latter and said liner, said strip including an upper longitudinal margin extending above said bottom rail between said side wall and liner, and a lower longitudinal margin extending inwardly from said bottom rail between said

liner and a ground surface, whereby said liner is effectively reinforced at its lower corner without an earth coving.

3,419,919
HINGED BALL ROD AND A VALVE ASSEMBLY
THEREOF INCLUDING THE SAME
Vance A. Stayner, Wauconda, Ill., assignor to Federal Huber Company, Chicago, Ill., a corporation of Illinois

Filed Aug. 4, 1966, Ser. No. 570,295
U.S. Cl. 4-203
Int. Cl. E03c 1/22

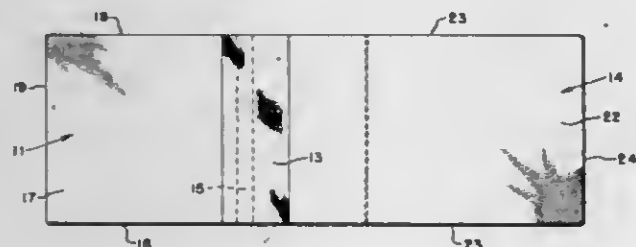
6 Claims



1. A hinged ball rod comprising a unitary, synthetic plastic member of an elongated rod-like form having a segmental spherical ball thereon toward one end of said member and a transverse bore therethrough adjacent the other end of said member, and a reduced portion therein adjacent said bore providing a flexible hinge in said member.

3,419,920
MATTRESS
Forrest E. Maddux, Jr., 3324 Mannington, Cincinnati, Ohio 45226, and John R. Green, Grays Lane, New Richmond, Ohio 45157
Filed Oct. 17, 1966, Ser. No. 591,372
U.S. Cl. 5-91
Int. Cl. A61g 7/02

9 Claims

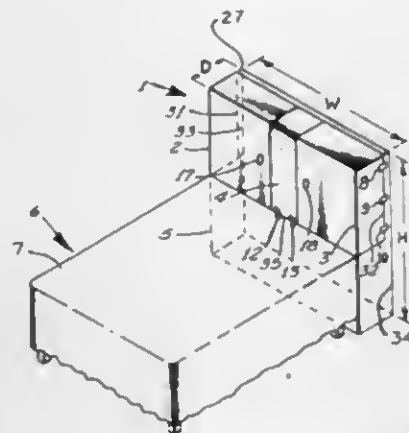


The present invention discloses a mattress particularly adapted for hospital use wherein the head portion of the mattress is hingedly connected to a fixed central portion and a foot portion of the mattress is hingedly connected at the opposite end of said fixed portion. In addition to forming the mattress with hinged portions, each portion is provided with a different compression resistance, the head portion being softer than the central portion while the foot portion is softer than the head portion since it does not need to provide as much support and the central

portion may be harder than either the head or foot portions since it supports the most weight thereby making the patient more comfortable. The mattress is further provided with a bed pan which is supported by the material of the mattress in a recess formed therein so the patient may be comfortably disposed on the pan for long periods of time.

3,419,921
BED HEADBOARD STRUCTURE
Peter J. Flood, Box 173, R.F.D. 1, Reeds Ferry, N.H. 03078
Filed May 12, 1966, Ser. No. 549,559
U.S. Cl. 5-308
Int. Cl. A47c 19/22; A47c 17/52

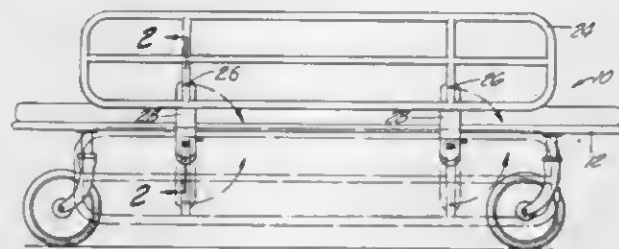
13 Claims



An upright headboard structure contains at least one enclosure pivotally attached to the structure so as to pivot about an upright axis and swing alongside the bed so that the contents of the enclosure are accessible to the occupants of the bed, alongside the bed, and when pivoted closed, the enclosure forms part of the front face of the structure.

3,419,922
FENCES FOR WHEELED STRETCHERS AND BEDS
Edward P. Malherbe, Los Angeles, Calif., assignor to Everest & Jennings, Inc., Los Angeles, Calif., a corporation of California
Filed Oct. 3, 1966, Ser. No. 583,545
U.S. Cl. 5-331
Int. Cl. A47c 21/08

6 Claims



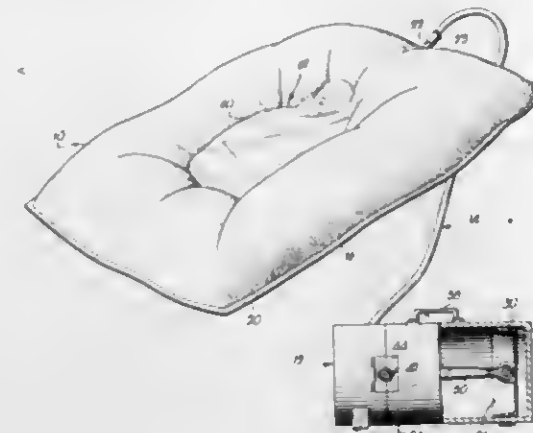
A side rail for stretchers, hospital beds or the like comprising a fence with pivotal connecting means permitting raising and lowering of the fence, the pivotal connecting means having associated therewith means for interlocking a pair of relatively movable parts to releasably secure the fence in either its raised or lowered position.

3,419,923
BABY ENVIRONMENT SIMULATOR
Stuart C. Cowan, Box 52, Reading, Kans. 66868
Filed Dec. 6, 1965, Ser. No. 511,688
U.S. Cl. 5-348
Int. Cl. A47c 27/08; A61y 7/04

5 Claims

A pair of flexible fluid impervious sheets interconnected at their peripheral edges to define a hollow pad coupled through a tube to a fluid piston and cylinder assembly. A

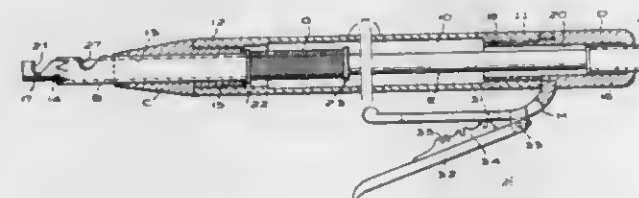
prime mover reciprocates the piston within the cylinder to alternately pump fluid such as air from the cylinder cham-



ber into the pad and back into the chamber to create pulsations in the top sheet sensible to a baby or young animal on the pad.

3,419,924
HOOKE HOLDER AND LINE CUTTER
Emanuel R. Archibald, 520 Buckeye St., Redwood City, Calif. 94063
Filed Jan. 4, 1967, Ser. No. 607,319
U.S. Cl. 7-14.1
Int. Cl. B25f 1/04; B26b 11/00

1 Claim



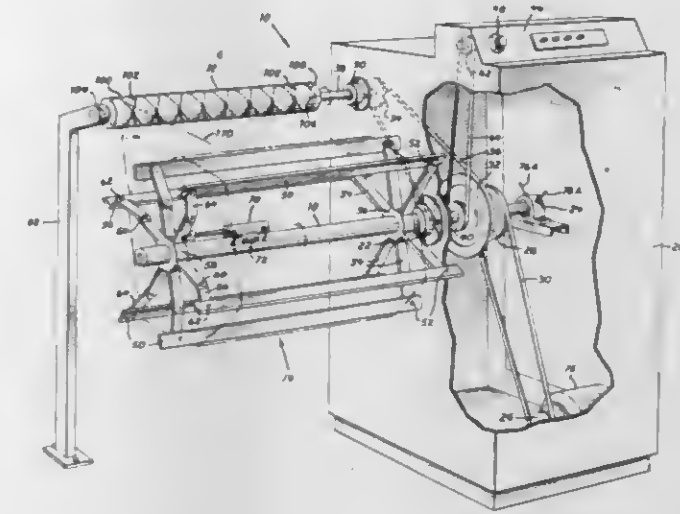
A hook holder and line cutter having a sleeve guide provided with a serrated lower tip into which a fish hook may be clamped by a plunger having a recessed catch engageable with the fish hook, the plunger further having a cutter rim for cutting a fish line extending across a cutter notch in the sleeve guide.

3,419,925
METHOD OF SKEIN DYEING YARN
James A. Scroggie, Guelph, Ontario, Miron Davidson, Galt, Ontario, and Floyd Charles Hall and George Albert Farley, Guelph, Ontario, Canada, assignors to The Dobbie Industries Limited, Galt, Ontario, Canada
Filed Apr. 25, 1966, Ser. No. 545,051
Claims priority, application Canada, May 18, 1965, 930,932
U.S. Cl. 8-155.2
Int. Cl. D06p 7/00

25 Claims

This invention relates to a method of skein dyeing yarn and is primarily concerned with skeins of substantially greater weight than that normally employed. The size of the skeins normally used in a dyeing operation has been limited by various factors among which has been the inability to obtain uniform dyeing throughout the entire skein. Normally when a skein is wound it is of uneven thickness and the more yarn which is wound onto the skein the greater the variation and thickness across the width of the skein. The present invention overcomes these problems by providing a method which includes the steps of winding yarn from a package into a skein on a collapsible reel. The yarn is guided transversely of the reel as it is wound onto the reel to form layers of equal depth across the full extent of the reel. The winding operation is continued until a predetermined

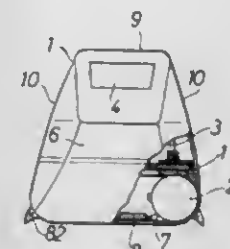
amount of yarn is wound onto the reel after which the reel is collapsed and the skein is removed and dyed. After dyeing the skein is mounted onto a stationary swift from which it is unwound into a package. The use of a stationary swift in the unwinding operation prevents the handling difficulties which would otherwise arise where skeins weighing up to 12 pounds or so were mounted on



a rotating swift. Also the stationary swift serves to apply a constant expansion pressure upon the skein which is supported thereon. The method of the present invention is such that it permits yarn to be wound onto and unwound from a skein at speeds in the range of 600 to 1500 yards per minute in skein widths measuring from 10 to 40 inches.

3,419,926
COLLAPSIBLE CABIN BOAT
Adam Magin, Weststrasse 1, Bochum-Langendreer, Germany
Filed Mar. 14, 1966, Ser. No. 534,078
Claims priority, application Germany, Mar. 13, 1965, M 64,528; Apr. 23, 1965, M 64,978; Sept. 17, 1965, M 66,671
U.S. Cl. 9-2
Int. Cl. B63b 7/08

38 Claims



A collapsible boat having a body, floor planks, an upper deck, side walls, and a cabin roof. An outer skin consists of at least one piece of watertight material and forms the body, upper deck, side walls and cabin roof of the boat. A separable multi-part bracing structure including coupling and connecting members is provided. Also provided is a separable multi-part supporting structure with coupling and connecting members, being arranged within the outer skin is the lower and upper portions of the boat, respectively, for bracing and stretching the outer skin.

3,419,927
SELF-RELEASING MARKER BUOY
Homer Stoffer, 338 Ray St., Newcomerstown, Ohio 43832, and Paul R. Grace, 524 4th St., Dennison, Ohio 44621
Filed Oct. 2, 1967, Ser. No. 672,313
U.S. Cl. 9-9
Int. Cl. B63b 21/52

5 Claims

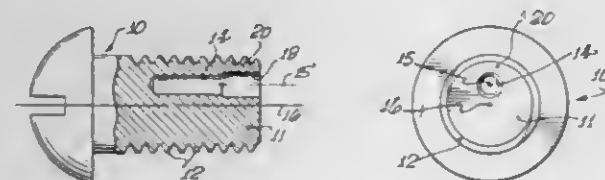
Our self-releasing marker buoy provides means of marking for retrieval the location of nonfloating objects in

jeopardy of being lost overboard from vessels or watercraft or the like. Two hemispheres are held together by



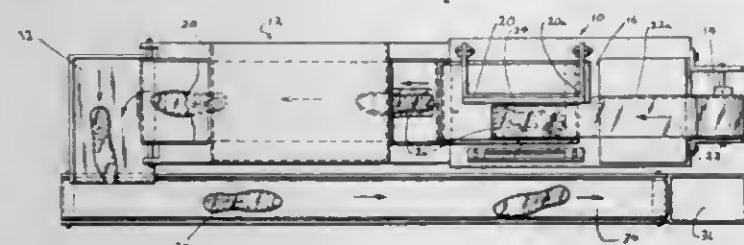
a magnet. The hemispheres separate when immersed in the water and alone between them mark a sunken objects.

3,419,928
METHOD OF MANUFACTURE OF ARTICLE WITH SELF-LOCKING SCREW THREAD
Eric G. Gabbey, P.O. Box 43271, Los Angeles, Calif. 90043
Original application Apr. 29, 1965, Ser. No. 451,784, now Patent No. 3,358,726, dated Dec. 5, 1967. Divided and this application Apr. 17, 1967, Ser. No. 631,445.
U.S. Cl. 10-10 4 Claims
Int. Cl. F16b 39/28



Typically, a bolt has a small bore parallel to but offset from the bolt axis to form a thin, deformable wall at the base of the thread at one side of the bolt. The thread is then expanded locally to increase the pitch diameter at the thin wall, providing additional holding power to resist vibration. The invention may also be applied to a nut having an internal thread.

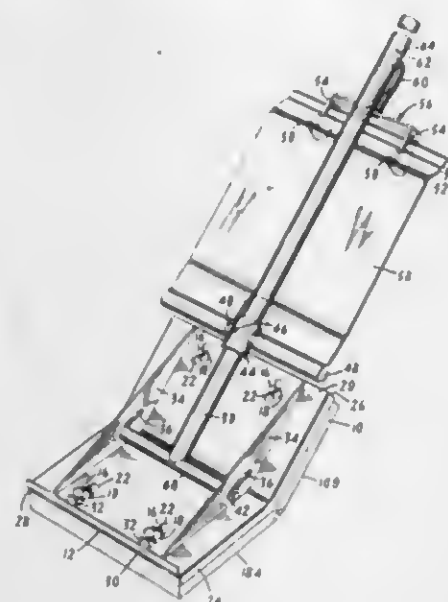
3,419,929
METHOD FOR SHRINK WRAPPING SHOES IN PROCESS
Henry R. Snow, Rockland, and Jerome A. Rubico, Boston, Mass., assignors to Stetson Shoe Division of John B. Stetson Company, South Weymouth, Mass., a corporation of Delaware, and Batchelder-Rubico, Inc., Boston, Mass., a corporation of Massachusetts
Filed May 23, 1967, Ser. No. 640,745
U.S. Cl. 12-142 7 Claims
Int. Cl. A43d 11/00



A method for protecting partially completed shoes during shoemaking process by sealing the shoes in a heat shrinkable wrapping material which is then shrunk tightly

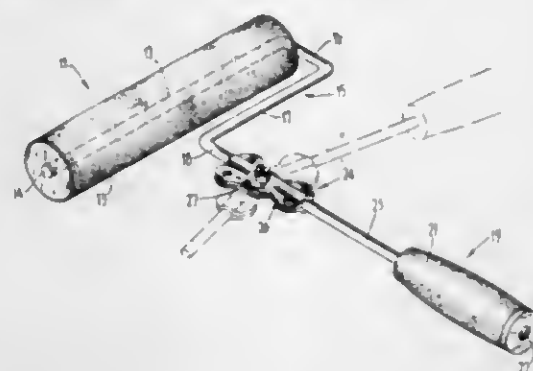
around the shoe by the application of heat. After subsequent shoemaking operations, the heat shrunk wrapping material is removed before the shoes are completely finished and packaged for distribution in the stream of commerce.

3,419,930
DUAL ACTION CLEANING MOP
Vincent Grunert, 157-21 12th Ave., Whitestone, N.Y. 11357
Filed Apr. 6, 1967, Ser. No. 628,915
U.S. Cl. 15-119 9 Claims
Int. Cl. A47e 13/14; A47e 13/46



A mop is provided with a cleaning pad having two substantially flat surfaces disposed at an obtuse angle. The cleaning pad is connected to the mop handle by a transverse rod which is positioned within slots extending across the vertex of the obtuse angle, which vertex is oriented downwardly for contact with a floor. When the mop handle is pushed forward, the transverse rod rides forward in the slots to the forward ends thereof to pivot the cleaning pad about the vertex of the obtuse angle, thereby bringing one of the flat surfaces into forward wiping engagement with the floor. When the mop handle is pulled backward, the transverse rod rides backward in the slots to pivot the cleaning pad in an opposite direction, thereby bringing the other of the flat surfaces into rearward wiping engagement with the floor. A squeeze sheet is also provided for compressing the cleaning pad to expel fluids absorbed therein during use of the mop.

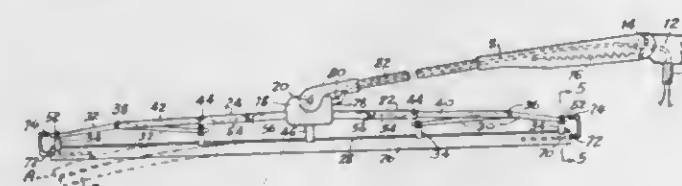
3,419,931
ANGULARLY ADJUSTABLE HANDLE FOR PAINT ROLLERS AND THE LIKE
Frederick W. Willig, 815 Elliott Ave., Santa Rosa, Calif. 95401
Filed Mar. 8, 1967, Ser. No. 621,574
U.S. Cl. 15-144 1 Claim
Int. Cl. A46b 5/02; B05c 1/00; B25g 3/38



A paint roller mechanism in which the handle of the paint roller is pivotal with respect to the roller. The

pivotal connection between the roller and the handle comprises a flat washer of a frictional material interposed between two plate members, one of which is secured to the handle and the other of which is secured to a bracket on which a roller is mounted. A pivot bolt extends through the plate members and washer and holds them in compression. Because of this joint, the handle is pivotal through a range of angles with respect to the roller and yet the provision of the frictional material assures that the handle will remain at any angle to which it is adjusted.

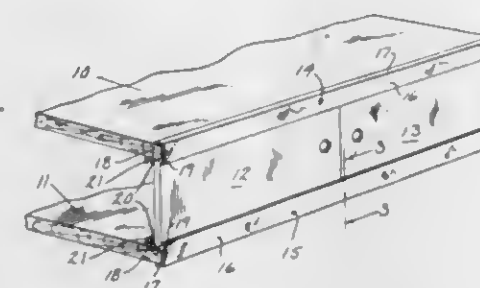
3,419,932
WINDSHIELD WIPER ASSEMBLY
Roy E. Linker, Nursery Road, Titusville, N.J. 08560
Filed Aug. 3, 1967, Ser. No. 658,268
U.S. Cl. 15-250.06 7 Claims
Int. Cl. B60s 1/04; A47i 1/16



A windshield wiper assembly which has an oscillating actuating arm urged toward the windshield, is provided with a connecting member pivotally secured to the actuating arm and lever elements secured to a wiper blade and backing strip. Means are then provided by which the lever elements and the wiper blade and backing strip are secured to the connecting member in such a way as to permit substantially independent flexing of portions of the wiper blade to conform to the curved surfaces of a windshield during oscillation thereof. At the same time the construction embodies means which assure the effective application of pressure to the backing strip and wiper blade throughout the length thereof.

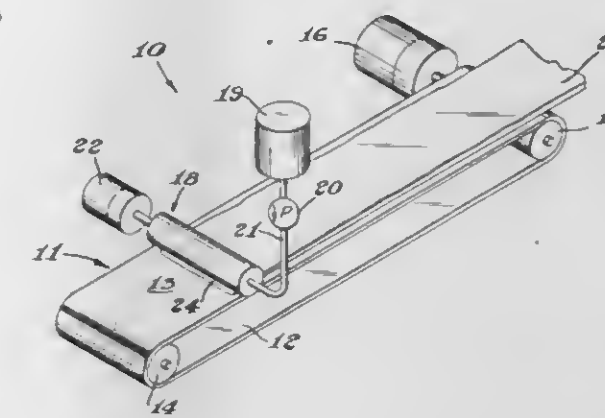
The invention further is adapted for use, and is of particular advantage, in assemblies employing heating means associated with the wiper blade for promoting the removal of ice and snow from a windshield.

3,419,933
COMBINATION MOULDING AND DOOR TRACK FOR SHELVES
John M. Gossen, 7645 N. Berwyn Ave., Glendale, Wis.
Filed Mar. 10, 1967, Ser. No. 622,216
U.S. Cl. 16-94 3 Claims
Int. Cl. E05d 13/02; A47f 3/00



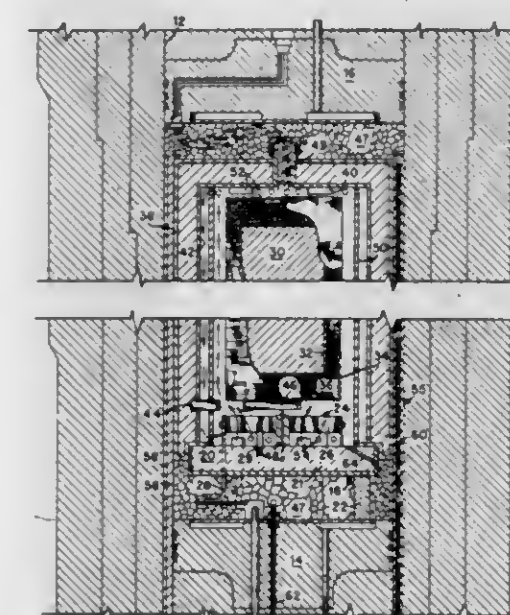
An edge trim or moulding for shelves which is both ornamental and which functions as a track for movably mounting sliding doors between two vertically spaced shelves to form an enclosed cabinet. Intended particularly for do-it-yourself homeowners, said moulding can be manually snapped onto the edge of a shelf without requiring any tools or fasteners.

3,419,934
DISPENSING APPARATUS
Joe B. Lovett, Sweeney, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Continuation-in-part of application Ser. No. 450,816, Apr. 26, 1965. This application Jan. 5, 1967, Ser. No. 613,711
U.S. Cl. 18-4 12 Claims
Int. Cl. B29h 5/00



A dispensing apparatus, primarily for low viscosity liquids, is disclosed. The apparatus employs a hollow housing having a dispensing slot and a helically grooved rotor. The rotor provides a traverse of the discharge stream across the discharge slot for each rotation of the rotor.

3,419,935
HOT-ISOSTATIC-PRESSING APPARATUS
William A. Pfeiler, Norris, and Charles K. Valentine, Oak Ridge, Tenn., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Dec. 19, 1966, Ser. No. 603,066
U.S. Cl. 18-5 9 Claims
Int. Cl. B29c 3/00; B22f 3/14



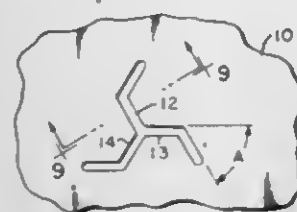
Products exhibiting uniform densification are prepared in a hot-isostatic pressing apparatus using a gas as the heat and stress transmitting medium. Uniform temperature distribution throughout the thermal-pressure zone is achieved by employing a natural thermal convection heating system operating in a closed loop. An inert gas heated in the lower end of the thermal-pressure zone rises by natural convection forces along a first flow path to uniformly

heat the product material and thereafter contacts a "cold wall" for effecting downward flow of the gas along a separate flow path for subsequent reheating and recycling.

3,419,936

SPINNERET FOR MELT SPINNING FILAMENTS
James G. Sims, Pensacola, Fla., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Application Aug. 3, 1965, Ser. No. 476,952, which is a continuation-in-part of application Ser. No. 249,822, Jan. 7, 1963. Divided and this application Jan. 31, 1967, Ser. No. 632,456
U.S. Cl. 18—8
Int. Cl. D01d 3/00; A62c 31/04

8 Claims



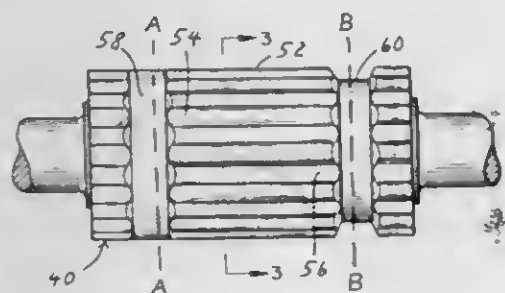
A spinneret plate is adapted for melt spinning skewed multi-lobed section filaments from spinnable melts. The spinneret plate has a melt face and an extrusion face. A bounding wall defines a passageway for molten polymer between the faces and forms at the extrusion face a multi-branched slot. A distinct feature of the spinneret plate is that the end portions of the branches of the slot are inclined together in one direction relative to the respective central portion of the branches.

3,419,937

FILTER AND METHOD AND APPARATUS FOR ITS PRODUCTION

Alexander O. Bally, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Original application Aug. 13, 1965, Ser. No. 479,561, now Patent No. 3,346,121, dated Oct. 10, 1967. Divided and this application June 15, 1967, Ser. No. 656,978
U.S. Cl. 18—10
Int. Cl. B29d 7/14

1 Claim

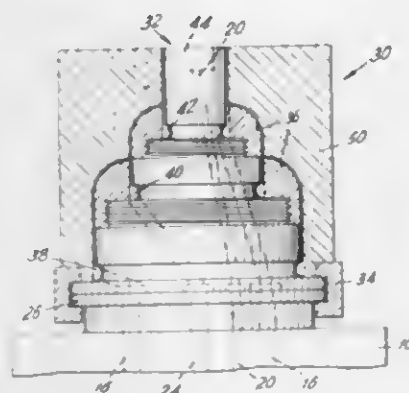


A pair of intermeshing rollers for forming a filter body. Each of the rollers has longitudinal corrugations and at one end a raised cylindrical portion having a radius equal to the maximum radius of the roller at the tops of the corrugations and at the other end an indented cylindrical portion having a radius equal to the minimum radius of the roller at the bottoms of the corrugations. The rollers intermesh such that the raised cylindrical portion of one roller projects into the indented cylindrical portion of the other roller. A filter material is fed between the rollers in order to form a corrugated sheet in which the channels formed by adjacent corrugations are blocked off at opposite ends. Corrugated sheets and flat filter sheets are subsequently sealed together to form a filter body.

3,419,938

MULTI-CHANNEL TUBULAR EXTRUSION DIE
John Sonia, Califon, and Hillard W. Pouncy, Jr., Somerset, N.J., assignors to Union Carbide Corporation, a corporation of New York
Filed Jan. 21, 1965, Ser. No. 426,833
U.S. Cl. 18—14
Int. Cl. B29d 23/04

10 Claims

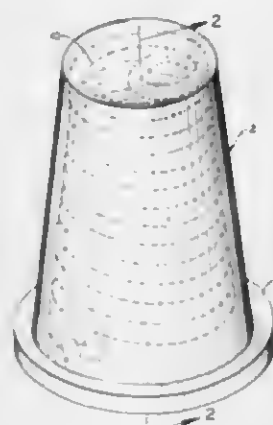


Multi-ply single sheet polymer films are obtained by simultaneously extruding different polymer layers through a tubular die having a plurality of concentric extrusion passages therein which terminate in an extrusion orifice. The polymer layers are extruded from the die as a tubular laminate.

3,419,939

HEATER FOR FORMING PLASTIC BODIES
Richard K. Shelby, Downers Grove, Ill., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Jan. 2, 1964, Ser. No. 335,034
U.S. Cl. 18—35
Int. Cl. B29c 1/00; B29h 5/22

1 Claim



1. A molding die for contacting plastic sheet material and molding articles from the same, said molding die comprising a base member, an upstanding forming member operatively secured to said base member, said forming member having an annular side wall, an electrically energizable heating element firmly embedded in said upstanding forming member and integrally disposed therein, said heating element being shaped in the form of a spiral, with convolutions and a space between each of the spirals, said heating element including a reverse helically shaped portion which has convolutions in the space between said first named convolutions, the convolutions of said heating element having a substantially circular cross section with diameter d , each of the convolutions of the spiral heating element being spaced from the exterior annular side wall by a distance which is from one to two times the diameter d as measured from the spirally shaped axial centerline passing through the convolutions to the exterior annular side wall, the vertical spacing between

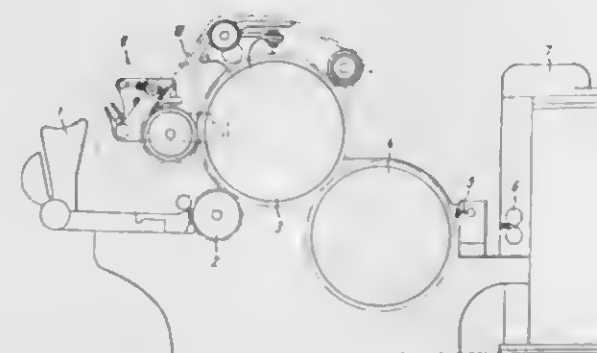
each of said convolutions as measured from the axial centerline passing through each of two vertically spaced adjacent convolutions being from 0.10 to 0.50 times the overall diameter D of the spiral in a horizontal plane passing through one of the convolutions from which measurement is being made, and electrical terminal portions operatively attached to said heating element and extending outwardly from said base.

3,419,940

CARD FLAT STRIPPER

Alexandr Sergeevich, Vinogradov, ulitsa Krasnykh Zor, 400 kvartal dom. kv. 311, Jury Mikhailovich Kapustin, ulitsa Proletarskaya, 2, kv. 91, Ilya Nikolaevich Max-jutenko ulitsa 2 Lagernaya 50, kv. 35, Vladimir Nikola-vich Kiselnikov, ulitsa Malaya Khutorovskaya 5, kv. 20, Igor Sergeevich Borisov, ulitsa 2 Lagernaya, 42, kv. 3, and Ivan Mikhailovich Mazalov, Sosnevo, 7 proezd 57, kv. 8, all of Ivanovo, U.S.S.R.
Filed Nov. 9, 1966, Ser. No. 593,153
U.S. Cl. 19—111
Int. Cl. D01g 15/76

6 Claims



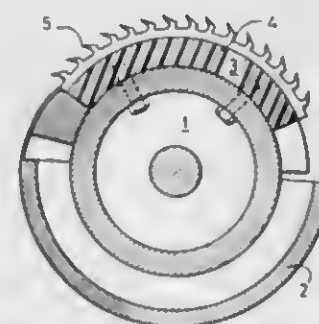
A card flat stripper in which strips are removed from a flat by a rotating needle roller, the strips in turn being removed from the needle roller by an oscillating comb which cooperates with a needle plate mounted on a trough to transfer its strips to the needle plate when the comb is in its extreme bottom position, which causes deposit of the strips into the trough upon successive strokes of the comb. The strips are advanced in the trough and are removed at its lower end by being wound on a roller.

3,419,941

COMBING CYLINDER OF COMBING MACHINE

Akira Moriwaki, 381—6, Kamishibutani-cho, Ikeda-shi, Osaka-fu, Japan
Filed June 21, 1966, Ser. No. 559,186
Claims priority, application Japan, June 25, 1965, 40/38,010, 40/38,011
U.S. Cl. 19—234
Int. Cl. D01g 19/10

8 Claims



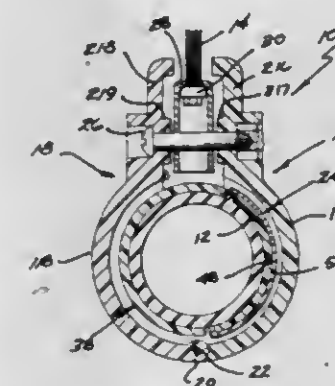
A combing cylinder for a combing machine in which a bare cylinder has a plain arcuate segment thereon and an arcuate combing segment detachably secured covering a part of a remainder of said base cylinder or core. The combing segment has a plurality of wires having saw-teeth

disposed rigidly on a base member of the combing segment. These teeth have a point extending in the direction of rotation of the combing cylinder. The teeth are perpendicular to tangents to the cylinder or inclined to these tangents in the direction of the axis of the cylinder no more than 45°. The teeth are formed on wires that are mounted on the base member of the combing segment. The density of the teeth is such that it decreases in a direction toward the trailing end of the combing segment or laterally in a direction of the axis of the combing cylinder.

3,419,942

SWIVELING CLAMP FOR HOSES AND THE LIKE
Donavan M. Dunklee, Prairieville Township, Barry County, Mich., assignor to Walwood Products, Inc., Doster, Mich., a corporation of Michigan
Filed June 30, 1967, Ser. No. 650,404
U.S. Cl. 24—19
Int. Cl. B65d 63/10

18 Claims



A clamping apparatus having an outer portion which is rotatable about an inner portion secured against lengthwise movement to a hose or the like, in which the outer portion is comprised of a pair of jaw bodies with curved jaw portions which substantially encircle the inner member. The latter is comprised of a resiliently flexible cylinder having a slot in its side extending from one end to the other thereof. This slot may be opened sufficiently to slide over the hose by circumferentially spreading the cylinder, after which the latter resiliently returns to its initial condition, in which it then loosely encircles the hose. The cylinder is circumferentially contractable about the hose to grip the latter, and when so contracted the aforesaid slot becomes substantially closed. The cylinder has a slot-like recess in its outer surface on either side of the aforesaid slot, and an arcuate member having a hooking portion on each end is provided to hold the cylinder in its contracted condition by engaging one such hooking end in each of the aforesaid recesses. This arcuate member is preferably flexible and has a smaller radius of curvature than that of the cylinder, such that it must be flexed toward a greater radius of curvature in order to conform to the cylinder and hook its ends in the recesses of the latter. This flexing of the arcuate member creates a spring force which augments the retention of the hooking members and helps maintain the cylinder in its contracted condition about the hose.

3,419,943

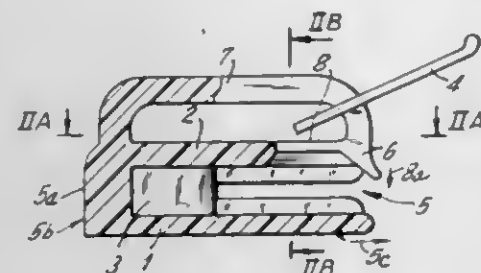
SELF-LOCKING SLIDER

Helmut Heimberger, Essen, Germany, assignor to Firma Opti-Holding A.G., Glarus, Switzerland, a corporation of Switzerland
Filed Mar. 28, 1967, Ser. No. 626,447
Claims priority, application Germany, Apr. 1, 1966, O 11,559
U.S. Cl. 24—205.14
Int. Cl. A45b 19/00

5 Claims

A lockable slider for a slide fastener wherein the slider body has an upper guide member or shield, a lower guide member or shield and a web or splitter connecting the

upper and lower members and forming therewith a pair of guide channels for the respective coupling elements merging at the narrow mouth of the slider body, a bow member surmounting the upper member lies generally in a longitudinal plane thereof while having one end of the bow member anchored to the body and the other end of



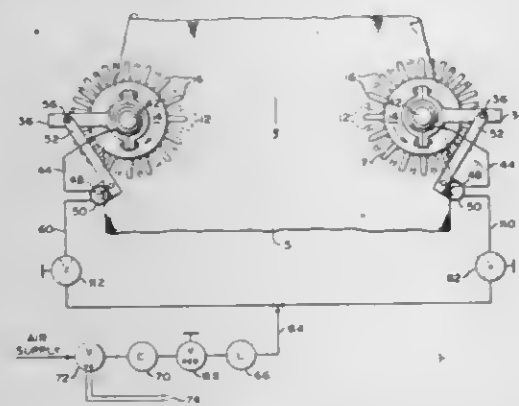
the resiliently deflectable bow member terminating at the mouth and provided with a locking finger at the mouth for engagement with the coupling elements of the slide fastener to lock the slider thereto; the finger is withdrawable from engagement with the coupling elements upon deflection of the cantilevered bow member away from the body by its handle.

3,419,944 COMBINED WEB GUIDER AND SELVAGE UNCURLER

Nicholas T. Santore, Taunton, Mass., assignor to Mount Hope Machinery Company, Taunton, Mass., a corporation of Massachusetts

Filed Sept. 21, 1967, Ser. No. 669,562
U.S. Cl. 26—54
Int. Cl. D06c 3/06

8 Claims



Apparatus for guiding a longitudinally-travelling web in a predetermined path, and simultaneously opening and uncurling the selvages of the web. A pair of rotary selvage uncurlers engage the edges of the web and are driven by variable-speed motive means. Sensors determine the lateral positions of the selvages, and independently control the speeds of rotation of the uncurlers. An outward movement of either selvage slows down the corresponding uncurler to reduce its lateral pull relative to the other uncurler, which maintains a normal speed. This restores the web to its original path. The apparatus also controls web width.

3,419,945 EMBALMING MACHINE

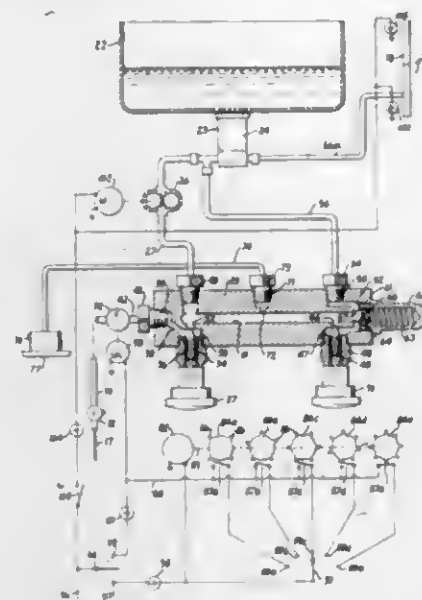
Donald W. Sawyer, % Sawyer Enterprises, 21125 Aspen Ave., Castro Valley, Calif. 94546
Filed May 16, 1966, Ser. No. 550,405

U.S. Cl. 27—24
Int. Cl. A61m 1/00

4 Claims

An embalming machine has an embalming fluid reservoir from which a pump draws liquid to a valve block wherein are incorporated a flow valve regulating volume and a pressure valve regulating pressure. Fluid discharge from the block to a tube leading to the injection needle

is controlled by a solenoid valve. A timer motor turns a plurality of cams, each having different numbers of dwells and each actuating a switch. A selector switch connects



into the circuit of the solenoid any cam switch, thus selecting the desired number of fluid pulsations per minute, choice depending upon the condition of the body being embalmed.

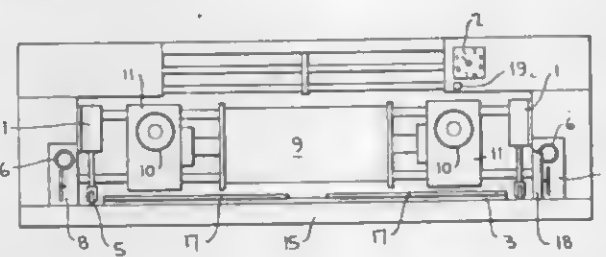
3,419,946 SIZING MACHINE

Max Wenger, Niederuzwil, Switzerland, assignor to Maschinenfabrik Benninger A.G., Uzwil, Switzerland, a body corporation of Switzerland
Filed Oct. 31, 1966, Ser. No. 590,819

Claims priority, application Switzerland, Nov. 2, 1962, 15,188/65

U.S. Cl. 28—28
Int. Cl. D03j 1/02

5 Claims



A sizing machine is disclosed which incorporates a weaver's beam loading and unloading device and which further incorporates a separate pressure applying device for the warp of the weaver's beam during operation of the machine. The novel sizing machine disclosed includes separate actuating devices, one for beam loading and unloading and one for beam pressurizing, and further makes provisions for assuring sequential operation thereof, and for preventing the simultaneous operation of both actuating devices. Additional provisions are made for locking the machine drive when the beam loading device is operating and for enabling both devices to be readily actuated.

3,419,947 COMPACT SOURCE DISCHARGE LAMP MANUFACTURE

Klaus Gottschalk, Cleveland Heights, and John Wilson, Mayfield Heights, Ohio, assignors to General Electric Company, a corporation of New York

Filed Dec. 10, 1965, Ser. No. 512,943

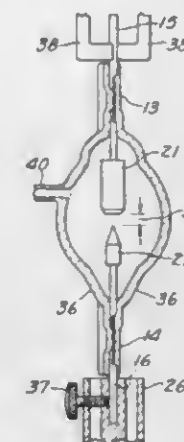
U.S. Cl. 29—25.16

Int. Cl. H01j 9/18

4 Claims

A short arc gap quartz arc lamp utilizing pinch sealed inleads in which electrode alignment during sealing is effected by engaging the tip of the cathode in a recess

provided in the face of the anode. After sealing, one end of the quartz tube is heated to plasticity and the tube is



stretched to disengage the electrodes and accurately set the arc gap, the extent of stretch corresponding to the electrode separation.

3,419,948 METHOD OF MAKING CAPACITORS HAVING IMPROVED CAPACITOR CONSTANCY

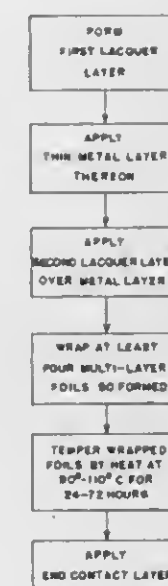
Walter Volkl, Grunwald, Germany, assignor to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany

Continuation of Application 241,027, Nov. 29, 1962, now Patent No. 3,123,895. This application May 5, 1966, Ser. No. 548,357

Claims priority, application Germany, Dec. 8, 1961, S 77,042

U.S. Cl. 29—25.42
Int. Cl. H01g 13/04; H01g 1/01

4 Claims



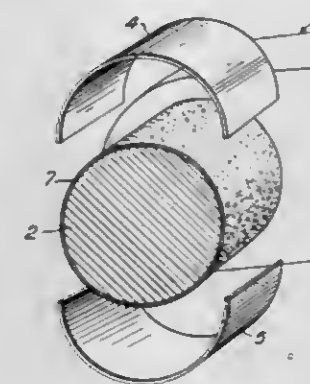
1. A method of producing wrapped electrical thin-foil capacitors with improved capacity constancy, comprising the steps of forming a three-layer foil by forming a first lacquer-layer, applying a thin metal layer thereon, and applying a second lacquer layer of polystyrene over the metal layer, wrapping at least four such foils with the first lacquer layers lying in the field-free space in the finished capacitor, and the second lacquer layers being dielectrically effective, tempering the wrapped capacitor layers by heating the same at a temperature between 90 and 110° C. for a period of approximately 24 to 72 hours, and thereafter applying contact layers to the ends of the wrapped capacitor layers for the contacting of said metal layers.

3,419,949 METHOD OF RECONDITIONING CRANKSHAFTS, CAMSHAFTS, AND THE LIKE

Robert L. Hueboer, 1626 1st Hollywood Drive, Odessa, Tex. 79760

Filed Dec. 14, 1966, Ser. No. 601,652
U.S. Cl. 29—401
Int. Cl. B23p 7/00

8 Claims



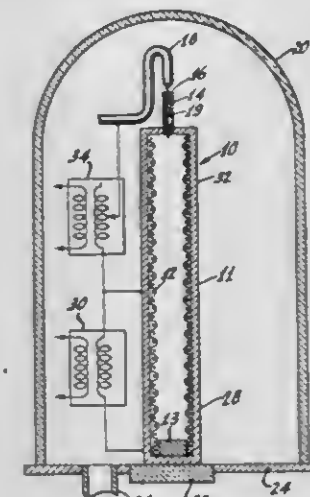
A method of reconditioning worn shafts by reestablishing roundness of the worn portions, cementing sleeves thereon, and grinding the exterior surface of the sleeves down to the original diameters of the shafts.

3,419,950 METHOD OF MAKING A VAPOR DEVICE

William B. Hall, Lancaster, Pa., assignor to Radio Corporation of America, a corporation of Delaware
Filed Oct. 27, 1966, Ser. No. 589,987

U.S. Cl. 29—422
Int. Cl. B23p 17/00

10 Claims



1. Method of outgassing and evacuating a vapor device having an envelope, said envelope including a heat input region and a heat dissipation region and containing a vaporizable heat transfer medium, said envelope at said heat dissipation region including walls defining an orifice for venting gases from said envelope, said method comprising:

- evacuating said envelope,
- heating said heat input region to a first temperature that is at least as high as that required for vaporizing said heat transfer medium, whereby said heat transfer medium urges said gases through said orifice,
- heating said heat dissipation region to a second temperature higher than said first temperature but below a third temperature at which a wall of said orifice softens, whereby that portion of said heat transfer medium passing through said orifice is preserved in the vapor state for preventing excess loss of said medium through said orifice, and
- heating said heat dissipation region to said third temperature, whereby said wall of said orifice softens and closes said orifice.

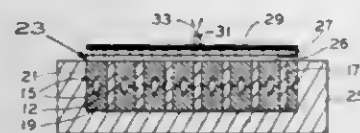
3,419,951

FABRICATION OF METAL STRUCTURES

Ronald J. Carlson, Galloway, Ohio, assignor to The Battelle Development Corporation, Columbus, Ohio, a corporation of Delaware
Filed Apr. 25, 1966, Ser. No. 545,000

U.S. Cl. 29—470.1
Int. Cl. B23k 29/00

11 Claims



A method for producing hollow, ribbed metal structures involving preparing an assembly of several members, the assembly having a flat surface comprising regions of said members and maintaining intimate contact between the members. A metal sheet, greater in thickness than about one-half the thickness of the members which are to be permanently bonded to it, is positioned contiguous with the flat surface of the member assembly and spaced therefrom. A means for producing an explosive shock wave is placed on the outer surface of the metal sheet and fired to produce a shock wave which metalurgically bonds the metal sheet to the member assembly. Certain members are then selectively removed from the assembly.

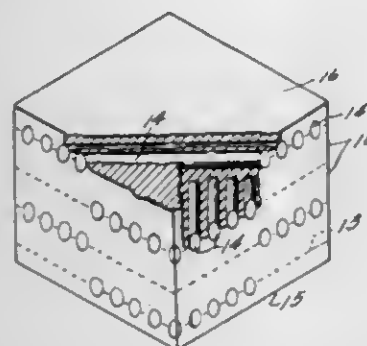
3,419,952

METHOD FOR MAKING COMPOSITE MATERIAL

Robert G. Carlson, Greenhills, Ohio, assignor to General Electric Company, a corporation of New York
Continuation-in-part of application Ser. No. 484,331, Sept. 1, 1965. This application Sept. 12, 1966, Ser. No. 578,602

U.S. Cl. 29—471.3
Int. Cl. B23k 31/00

7 Claims



1. A method for making a composite metallic material comprising the steps of:

- sizing and shaping a plurality of sheets of metal selected from the group consisting of aluminum, titanium and their alloys, each sheet having a top face and a bottom face;
- producing in the top face of each of the plurality of sheets a plurality of aligned substantially parallel grooves such that adjacent grooves do not join one another;
- placing in each of the grooves a reinforcing member, a wire, fiber or filament selected from the group consisting of boron and beryllium, having a diameter of about 0.001–0.01" and a length-to-diameter ratio greater than 20;
- stacking the plurality of sheets one upon the other so that the reinforcing members in the top face of each sheet are positioned opposite the bottom face of the next above of the plurality of sheets; and then
- pressing the plurality of sheets one toward the others with a pressure of about 1000–10,000 p.s.i. while at the same time heating the sheets at a temperature of 800–1500° F. in a vacuum to integrally bond the sheets one to the other and to integrally bond the reinforcing members to the sheets.

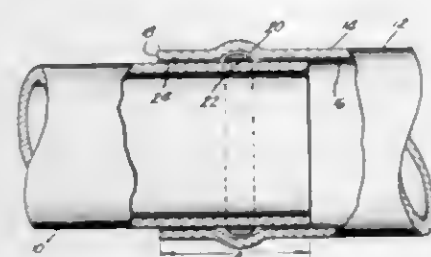
3,419,953

METHOD OF TREATING AND CONNECTING TUBE FITTINGS

Lawrence A. Deimen, Ann Arbor, Mich., assignor to Aeroquip Corporation, Jackson, Mich.
Filed Jan. 6, 1966, Ser. No. 519,071

U.S. Cl. 29—474.5
Int. Cl. B23k 35/12

3 Claims



The invention relates to the method of treating and thereafter brazing together light weight tubing components which are usable primarily in aerospace systems. The treatment includes peening with clean glass beads to provide a clean matte surface thereby insuring a clean, strong, reliable brazed connection.

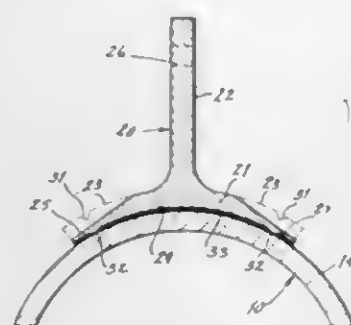
3,419,954

METHOD OF BRAZING ATTACHMENTS ONTO ROTOR BLADE SPARS

Winston E. Brownlee, Suttons Bay, Mich., assignor to Parsons Corporation, Traverse City, Mich., a corporation of Michigan
Continuation-in-part of application Ser. No. 413,199, Nov. 23, 1964. This application Feb. 23, 1966, Ser. No. 529,275

The portion of the term of the patent subsequent to Mar. 8, 1983, has been disclaimed
U.S. Cl. 29—482
Int. Cl. B23k 1/02; B23k 1/20

4 Claims



A method of brazing attachments, especially useful for constructing steel helicopter rotor blades, positively establishes a desired thickness of brazing alloy. The part to be attached is originally formed with marginal portions thicker than ultimately utilized. These are "dimpled" or indented to provide small, equally embossed projections on the under surface. When the parts are assembled and brazed, the brazing alloy flows between them and makes a joint of precisely established thickness. The upper, indented surfaces are then milled to a depth greater than the depth of indenting, removing the indentations which would otherwise result in stress concentrations.

3,419,955

SEMICONDUCTOR FABRICATION

Hans-Jürgen Schütze and Klaus Hennings, Ulm, Germany, assignors to Telefunken Patentverwertungsgesellschaft m.b.H., Ulm (Danube), Germany
Filed Apr. 5, 1966, Ser. No. 540,266
Claims priority, application Germany, Apr. 17, 1965, T 28,418

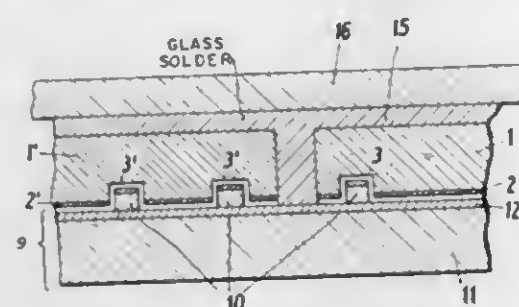
U.S. Cl. 29—577
Int. Cl. H01l 7/68

13 Claims

A method for fabricating an assembly of semiconductor elements which are to be connected together to form a cir-

cuit, the assembly being formed by providing a plurality of individual semiconductor pellets each having positioning holes formed therein and at least some containing at least one semiconductor element, providing a positioning plate having groups of pellet-positioning studs thereon, with

motor between and in overlying relationship with the flanged ends. The strip is deformed around the flanges and into engagement with the stator. Prior to deforming,



each group of studs being distributed to mate with the holes of at least one pellet, placing pellets on the positioning plate in mating relationship with corresponding groups of studs, and connecting the pellets rigidly together to form an assembly which can be readily removed from the positioning plate.

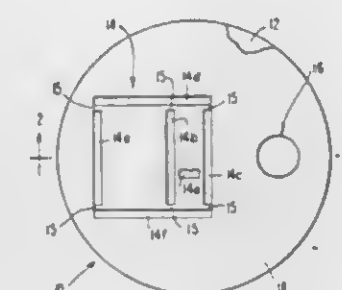
3,419,956

TECHNIQUE FOR OBTAINING ISOLATED INTEGRATED CIRCUITS

John G. Kren, Port Ewen, Joseph Regh, Wappingers Falls, and David K. Seto, La Grangeville, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Jan. 21, 1966, Ser. No. 522,278

U.S. Cl. 29—578
Int. Cl. H01l 5/00

11 Claims



A process of fabricating semiconductor devices according to which isolation channels are produced at the surface of a semiconductor wafer by forming a masking layer for the selective etching of the surface, the masking layer having a plurality of openings in a line pattern including junctions at which the line segments meet, thereafter forming an oxide layer on the surface and into the isolation channels in order to isolate the "device islands" of semiconductor material. Uniformity in the depth of etching of the isolation channels is realized by forming discontinuities in the openings in said masking layer at the junction of the line segments so that when the etching of the surface is performed the semiconductor material underlying the discontinuities is removed.

3,419,957

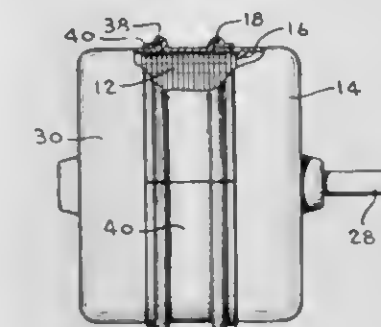
METHOD OF MAKING AN ELECTRIC MOTOR

Thomas W. Stone, Owosso, Mich., assignor to Controls Company of America, Melrose Park, Ill., a corporation of Delaware
Filed Jan. 29, 1965, Ser. No. 429,002

U.S. Cl. 29—596
Int. Cl. H02k 15/00

5 Claims

A motor stator extends between and is engaged in the open ends of two motor end bells. The facing ends of the end bells are flanged and a strip extends around the



one of the end bells is freely movable on the stator to adjust the end play of the rotor supported by the end bells.

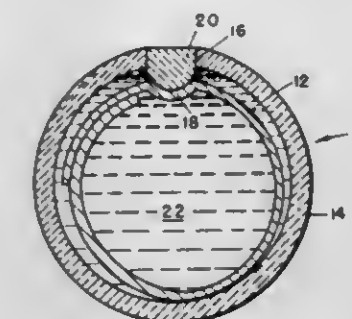
3,419,958

MAGNETOMETER CORE AND PROCESS OF MAKING THE SAME

Arthur W. Obenshain, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy
Continuation-in-part of application Ser. No. 211,454, July 20, 1962. This application Nov. 29, 1963, Ser. No. 327,156

U.S. Cl. 29—602
Int. Cl. H01f 3/04

6 Claims



1. The process of reducing and maintaining low the core noise of high permeability magnetometer core material which has previously been formed into a thin ribbon, rolled into a scroll and secured within a tube to form a core, which comprises the steps of:

- heating the core in a furnace in a pure dry hydrogen atmosphere to a temperature of 1,000 plus or minus 10° C.,
- turning the heat off the furnace and cooling the core in the furnace at a rate of 30° to 40° C. per hour over the temperature range of 600° C. to 300° C., when the core has cooled to 200° C., turning off the hydrogen and removing the core from the furnace, and
- vacuum impregnating the core with hydraulic fluid.

3,419,959

PROTECTIVE COVER FOR INJECTOR-TYPE SAFETY RAZOR HEAD

Earl W. Lively, Jr., 8604 Baltimore Drive, Dallas, Tex. 75225

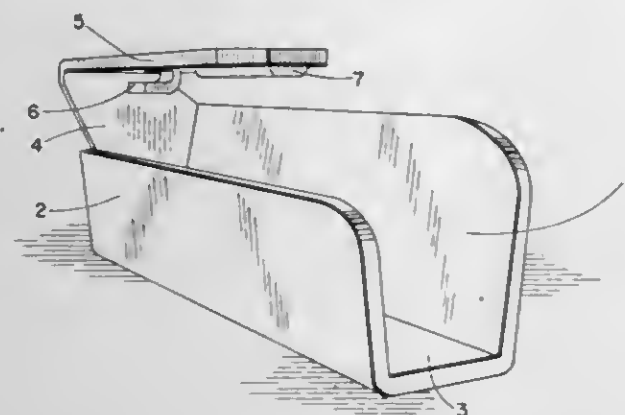
Filed Jan. 18, 1968, Ser. No. 698,797

U.S. Cl. 30—90
Int. Cl. B26b 21/40

1 Claim

A protective cover for guarding the cutting edge of injector-type single-edge safety razor heads when the razors are not in use. This guard has a trough-like shape formed to fit around the cutting edge of injector razors.

It is fastened securely to the razor head by means of an insertion key which fits into the razor head in the same



manner as the insertion key on blade packages for this type of razor.

3,419,960

PARACHUTE LINE CUTTING DEVICE

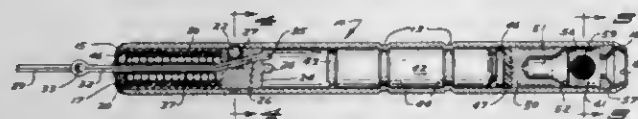
Ralph W. Hanson, Minneapolis, Minn., assignor to Technical Ordnance, Inc., Minneapolis, Minn., a corporation of Minnesota

Filed Jan. 16, 1967, Ser. No. 609,448

U.S. Cl. 30-180

Int. Cl. B64d 17/72; B26b 17/00

2 Claims



A parachute line cutting device having solder sealed closure members and a sealed ball releasing mechanism. The device has a tubular housing with a release pin extending from the rear end and a cylindrical shape cutter in the forward end. Between these elements are a spring powered firing pin and an explosive cartridge. A breakable solder sealed cap surrounds the pin and closes the rear end of the housing. A breakable solder sealed disc is adjacent the cutter and encloses the cutter in the housing. Thus all the working parts of the device are sealed in the housing between the end cap and the disc seal.

3,419,961

MEASURING DEVICE FOR ORTHOPEDIC SHOES

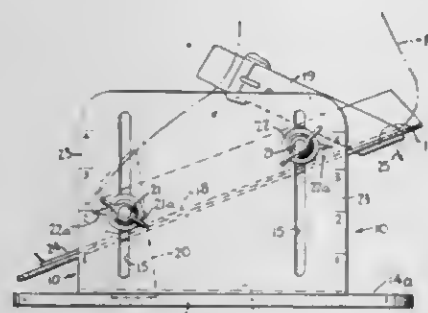
Alfred Benesch, 25 Nagle Ave.,
New York, N.Y. 10040

Filed June 9, 1966, Ser. No. 556,431

U.S. Cl. 33-30

Int. Cl. A43d 1/02

3 Claims



The present invention has for its purpose the provision of a device to measure the amount of elevation required in the construction of an orthopedic shoe. To this end a measuring device is provided having a housing terminating at one end in a fixed base and having a pair of spaced-apart parallel walls at opposite edges of the base.

A platform for a foot is retained between the walls, the platform being vertically movable with respect to the fixed base and adjustably retainable in any desired elevational position, the distance between the platform and the fixed base indicating the amount of elevation required.

3,419,962

CALCULATING DEVICE

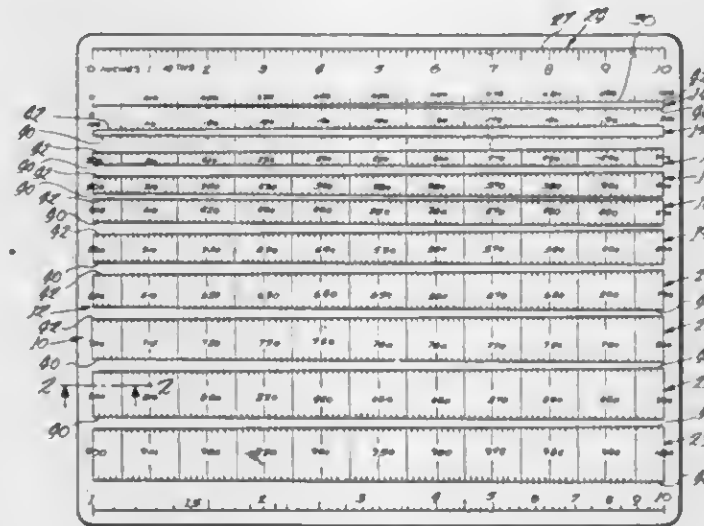
Louis A. Warner, 5223 N. Naloma Ave.,
Chicago, Ill. 60656

Filed Dec. 23, 1966, Ser. No. 604,391

U.S. Cl. 33-111

Int. Cl. G01b 3/04; B43I 7/00

10 Claims



A micrometer scale which is formed by dividing a right triangle having the two sides thereof which form the right angle 100 inches and 1 inch long, respectively, into 10 equal length segments, each 10 inches long. These 10 segments, one of which is triangular in shape and nine of which are quadrangular in shape, are vertically aligned, in spaced relation, on a flat base and each segment is appropriately calibrated to provide measurements within a predetermined range of measurements.

3,419,963

OPTIC CENTER FINDER

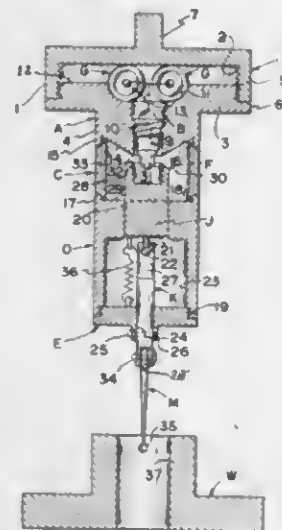
Donald A. Williams, 18287 Center St.,
Castro Valley, Calif. 94546

Filed Dec. 29, 1967, Ser. No. 694,724

U.S. Cl. 33-169

Int. Cl. G01b 3/22; G01b 5/00

4 Claims



An optic center finder for simplifying the setting up of parts on a boring or milling machine where it is required that the spindle of the machine be positioned at

the center of a circular opening in the workpiece or at the center of a cylindrical boss on the workpiece. A circular window extends entirely around the body of the device and novel means is used for continuously varying the width of the light band projected through the window when the chuck center is out of alignment with the axis of the opening or boss. The band width remains constant when the spindle is in alignment with the opening or boss.

3,419,964

APPARATUS FOR MEASURING SWELLING CHARACTERISTICS OF MEMBRANES

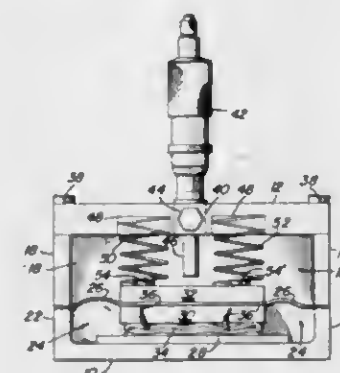
Thomas J. Hennigan, West Hyattsville, Md., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Aug. 9, 1965, Ser. No. 478,491

U.S. Cl. 33-174

Int. Cl. G01b 3/00; G01b 3/18

11 Claims



A structure for measuring the expansion of a dry electrode-membrane battery assembly when subjected to and immersed in an electrolyte includes a chamber of two compartments separated by a flexible elastomeric membrane, the first compartment for retaining the assembly to be measured on a stationary member and the second compartment containing a movable pressure plate and a resilient member attached thereto for maintaining contact by the pressure plate against the sample which is in turn located on the base member. A micrometer probe is positioned such that it engages the surface of the pressure plate and measures its displacement.

3,419,965

PROFILE TRANSFERRING DEVICE

Ernest Francis Madden, 18 Compton Ave.,
Goring-by-Sea, Sussex, England

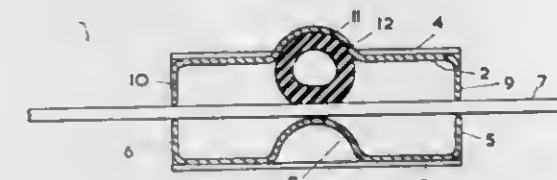
Continuation of application Ser. No. 534,958, Feb. 25, 1966, which is a division of application Ser. No. 360,623, Apr. 17, 1964, which is in turn a continuation of application Ser. No. 184,172, Apr. 2, 1962. This application Jan. 5, 1967, Ser. No. 607,580

Claims priority, application Great Britain, Apr. 7, 1961, 12,535/61, Patent 931,463

U.S. Cl. 33-175

Int. Cl. G01b 5/20

3 Claims



There is disclosed a profile transferring device in which a number of longitudinally movable resilient linear rods are held and disposed together in side by side relation

through a clamping device so that the tips of the rods assume together the profile of any object against which they are pressed. The rods may be bent or flexed, and held by their own resilience or tendency to spring straight when bent, by the edges and shell of the clamping means which may include a fixed rigid integral projection bearing on the rods; by resilient rubber cross members within the clamping means; or by eccentric cam and roller means. Several individual devices may be connected in a chain.

3,419,966

PLUG GAUGE

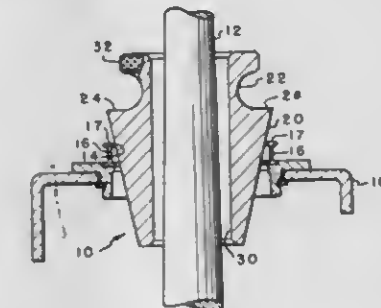
Frank E. Rowe, Jr., Clemson, S.C., assignor to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware

Filed Nov. 18, 1966, Ser. No. 595,407

U.S. Cl. 33-178

Int. Cl. G01 5/10

1 Claim



A plug gauge to check the out of roundness of a circular opening and to check the levelness of a horizontally mounted member. The gauge is a truncated member with a circular cross section and has a flat surface at the top thereof for placement of a level thereon.

3,419,967

GYROCOMPASSES

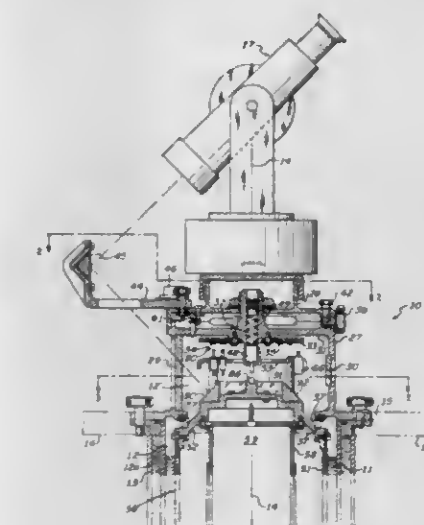
Eugene S. Rocks, Northport, and Harry J. Smith, Sea Cliff, N.Y., assignors to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware

Filed May 24, 1965, Ser. No. 458,146

U.S. Cl. 33-226

Int. Cl. G01c 19/38

3 Claims



The sensitive element of a portable stationary-type gyrocompass floats in liquid in the binnacle enclosure. When the floated element is caged, a shoulder thereon above the liquid engages an interior flange on the enclosure, sealing off from the liquid an upper chamber which contains the upper end of the sensitive element with its alignment means, optical reference means, and gyro battery recharging connections, the latter making contact with external supply connections upon uncaging.

3,419,968
APPARATUS FOR DRYING AND PRE-HEATING
OF PULVERULENT MATERIAL, PARTICULARLY
RAW CEMENT MATERIAL

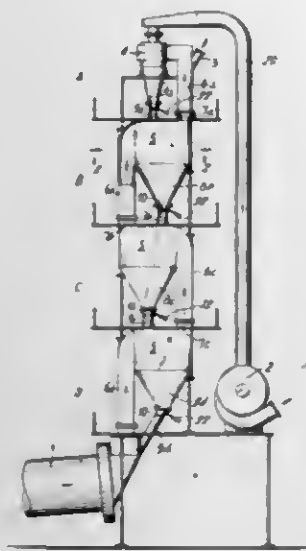
Heinz Jäger, Bochum, Germany, assignor to Westfalia Dinnendahl Groppel Aktiengesellschaft, Bochum, Germany, a corporation of Germany

Filed June 16, 1967, Ser. No. 646,669

U.S. Cl. 34-57

Int. Cl. F26b 17/10

7 Claims



In order to reduce the structural height formerly required due to the series connection of the plurality of cyclone separators, and to reduce the suction force for drawing the kiln gases through the pre-heater, the present invention comprises a pressure-drop chamber 5 located at each heating stage and having a rectangular cross-section in plan view and provided with a funnel-shaped bottom 8. The pulverulent material to be processed is fed in through a feed pipe 3 into the hot gas inlet duct 6 of the uppermost cyclone stage A and carried by the rising heating gases into the cyclone 4, where the material is precipitated and delivered downwardly to the next lower pre-heating stage B, where it enters a pressure-drop chamber 5 while coming into contact with the rising heating gas. The flow of hot gases leading into the expansion chamber is in a direction transverse to the flow of the supply of pulverulent material thereinto.

3,419,969
TUMBLER DRYER

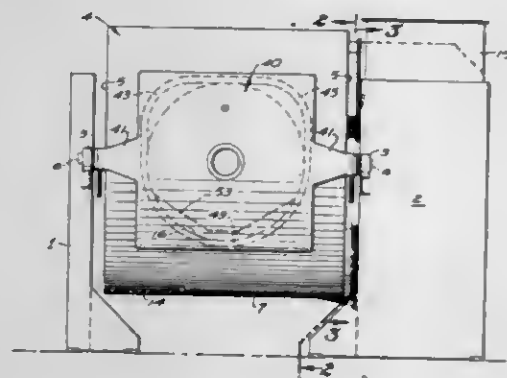
Benjamin H. Freze, Stanton, Calif., assignor to Challenge-Cook Bros., Incorporated, a corporation of California

Filed Aug. 23, 1967, Ser. No. 662,812

U.S. Cl. 34-126

Int. Cl. F26b 11/04

16 Claims



A tumbler dryer having a tumbler barrel therein and a pair of diametrically opposed pairs of access openings closed by doors and ducting arranged for entrance of drying air, principally at the periphery of the door and

exit of the air at the central lower side of the tumbler barrel. The dryer being rotatable about a horizontal axis so that the access openings may be faced vertically, horizontally or at any single therebetween for reception of fabric material to be dried or discharge of the fabric material; the doors being movable about the axis of the dryer between their open and closed positions.

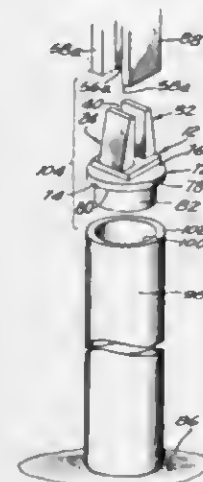
3,419,970
MODEL STRUCTURAL SYSTEM
 Herbert A. Wanderman, Alhambra, Calif., assignor to Engineering Model Associates, Los Angeles, Calif., a co-partnership

Filed Feb. 21, 1966, Ser. No. 529,100

U.S. Cl. 35-16

Int. Cl. G09b 19/00; A63h 33/10

9 Claims



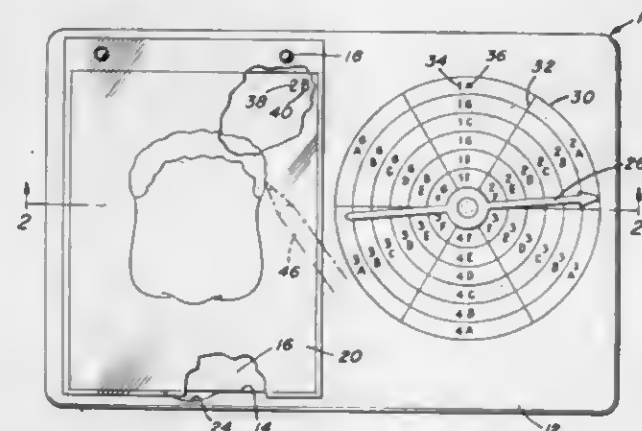
This invention provides a system for providing engineering models having realistic features and removable elements for facilitating the study, design and display of a project or structure. Models of multi-storied structures may be assembled using the inventive system, any one or more floor levels being readily exposed in full or in part by removal of the corresponding portion overhead as a unit or in part to permit close inspection and observation as desired. Such removal permits reporting construction progress photographically at periodic intervals.

3,419,971
TRACING TYPE GAME
 George A. Ribken, Visalia, Calif.
 (2540 N. Miracle Mlle, Tucson, Ariz. 85719)
 Filed Dec. 3, 1965, Ser. No. 511,461

U.S. Cl. 35-26

Int. Cl. G09b 1/00; A63f 3/00

3 Claims



A game including a game board with a recess in the upper surface thereof for receiving a plurality of cards and a tracing panel overlying the recess and cards therein. A chance control device in the form of a spinner is

provided on the game board for indicating the card to be placed in the recess. Each of the cards is provided with a component of a well-known object with various characteristics being provided on the various cards for enabling a complete object to be formed on the tracing panel from a plurality of the cards.

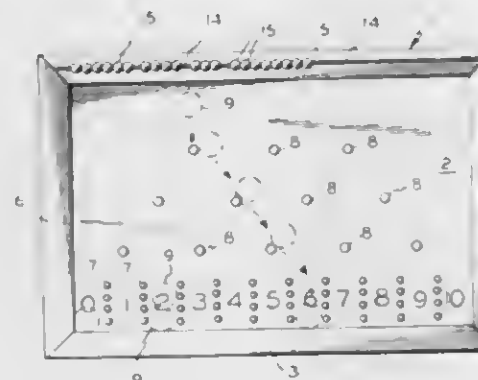
3,419,972
EDUCATIONAL AID FOR USE IN DEVELOPING
ABILITIES IN THE IDENTIFICATION AND MANIPULATION OF NUMBERS OR OTHER INDICIA
 Joseph A. Kitzinger, 309 W. Edmonston Drive, Rockville, Md. 20851

Filed Sept. 21, 1966, Ser. No. 581,005

U.S. Cl. 35-31

Int. Cl. G09b 19/02; G09b 23/02

3 Claims



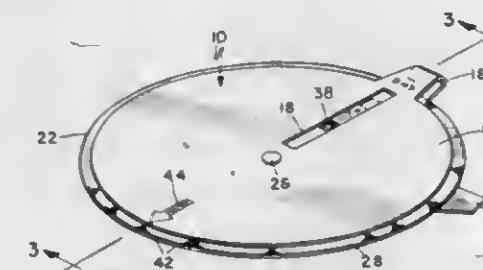
An educational aid for use in exercising arithmetical abilities comprising a container having a plurality of gates arranged along one end thereof with consecutive numbers associated therewith, at least one spherical marker adapted to roll in the container and fall into the gates and a stand for supporting the container in a substantially vertical viewing plane with the gates at the lower end and pivoting the container so that the spherical marker will roll away from the gates whereby arithmetical calculations may be practiced utilizing the numbers associated with the gates into which the marker falls as the container is pivoted to the viewing plane.

3,419,973
MATHEMATICAL TEACHING WHEEL
 Dagmar H. Manotas and Avelino L. Manotas, both of 3711 Jennlogs, San Diego, Calif. 92106
 Filed May 1, 1967, Ser. No. 635,015

U.S. Cl. 35-31

Int. Cl. G09b 19/02

4 Claims



The teaching wheel has a number disc with an array of numbers, a problem disc carrying specific problems and having windows adjacent each problem through which individual numbers on said number disc are visible to become portions of the problem, the two discs being rotatably held between double panels of a selector disc, in which each panel has a presentation window through which each problem is visible individually, specific problems can be selected directly by readily visible indicating

means and the answer to each problem selected appears directly in the presentation window on the opposite side; by a unique double sided arrangement, several distinct sets of problems are accommodated on a unit of reasonable size without compromising legibility.

3,419,974
SKI BOOT
 Robert B. Lange, Washington Bldg., Dubuque, Iowa 52001
 Filed Mar. 14, 1966, Ser. No. 534,222

U.S. Cl. 36-2.5

Int. Cl. A43b 5/04

5 Claims



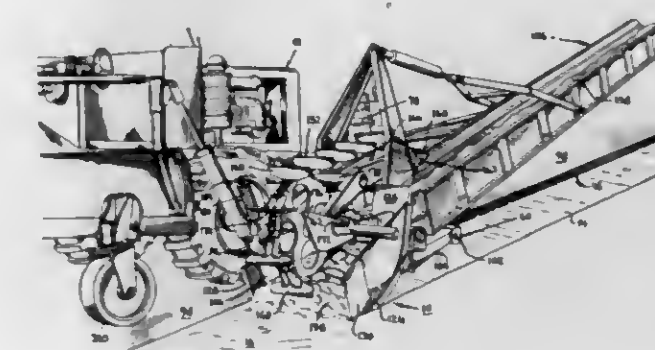
A plastic ski boot having an outer shell of a thickness great enough to deform the interior thereof while maintaining the exterior dimension stable and the method of performing this operation.

3,419,975
ROAD WIDENING TRENCH-LOADER UNIT
 Raymore D. MacDonald, Hinsdale, Ill., assignor to Westinghouse Air Brake Company, Pittsburgh, Pa., a corporation of Pennsylvania
 Continuation-in-part of application Ser. No. 466,945, June 25, 1965. This application Dec. 23, 1965, Ser. No. 516,022

U.S. Cl. 37-8

Int. Cl. B60p 1/36; E02f 9/00

3 Claims

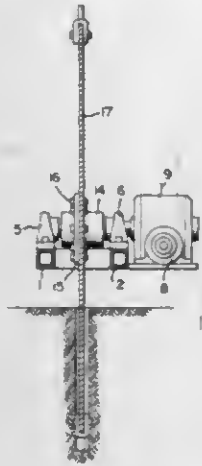


A trench loader attachment for use with a self-propelled prime mover and adapted to cut a trench in and to remove a strip of shoulder material from the edge of an existing roadway. The trench loader attachment includes an elevating conveyor to receive the discharge from a feeding conveyor and chute assembly having a pivotally mounted idler sprocket which yieldably urges a portion of the feeder conveyor toward the bottom of the chute.

3,419,976 DITCHING WHEELS AND MOUNTINGS THEREFOR

Francis M. Reising, P.O. Box 26, Edinburg, Tex. 78539
Filed Jan. 19, 1966, Ser. No. 528,023
U.S. Cl. 37-94
Int. Cl. E02f 5/08

2 Claims

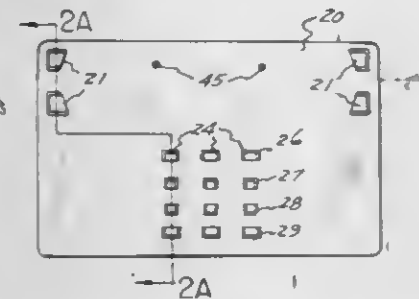


A ditching machine comprising a ditching wheel in the form of a relatively thin annular plate detachably supported from a hub, the plate including welded stop blocks at each side of the plate in spaced predetermined positions to abut removable teeth, the teeth being arranged in arrays and including cutter elements and spaced legs joined together by intermediate portions, the intermediate portions being defined in part by rearwardly extending lugs to prevent rocking movement of the teeth.

3,419,977 PRICE TAGS

Robert J. Slavsky, Lathrup Village, Mich., assignor to Shaw & Slavsky, Inc., Detroit, Mich.
Filed Dec. 15, 1966, Ser. No. 602,086
U.S. Cl. 40-5
Int. Cl. G09f 3/20

1 Claim



A price tag, such as is used for indicating the prices of products displayed in supermarket shelves and cabinets and particularly a price tag which is mountable in a variety of mounting manners, and which is equipped for flexibility of mounting of digits and name strips to indicate the products and their prices. Such price tag comprises a basic panel whose front face has four corner pockets in its upper part for receiving a name strip; twelve pockets, in three vertical, four horizontal rows for receiving large and small digits; and a mounting clip on its rear face.

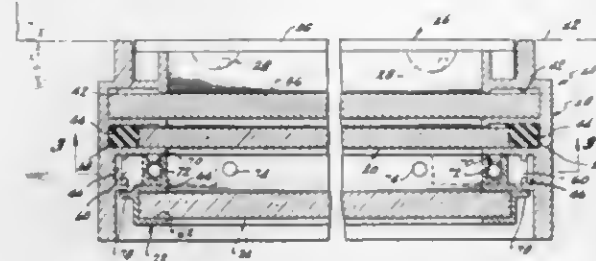
3,419,978 BUILDING DIRECTORY

Herbert P. Van Ostrand, Studio City, Calif., assignor to Vomar Products, Inc., North Hollywood, Calif., a corporation of California
Filed Jan. 24, 1966, Ser. No. 522,737
U.S. Cl. 40-63
Int. Cl. G09f 7/18

6 Claims

A modular wall mountable directory comprising an outer frame and an inner frame, the outer frame is connectable to a wall and includes inwardly facing channels

for receiving the ends of indicia carrying means and further including a substantially continuous outer lip extending forward of the channels and defining an open front for the outer frame. The inner frame is adapted

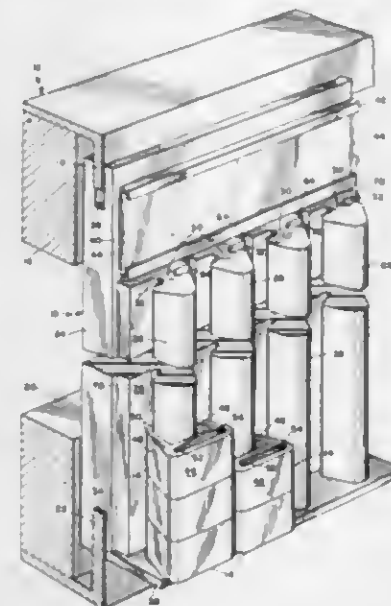


for mounting within the open front of the outer frame and holds a plate of transparent material. Means extend inward from the outer lid for releasably securing the inner frame within the outer frame over the indicia carrying means.

3,419,979 PROGRAM CONTROL DISPLAY

Graham D. McVicker and Frank W. Fink, San Diego, Calif., assignors to San Diego Aircraft Engineering, Inc., San Diego, Calif., a corporation of California
Filed July 13, 1967, Ser. No. 653,071
U.S. Cl. 40-64
Int. Cl. G09f 7/10; G09b 19/18; G09f 9/00

11 Claims



The display comprises a set of board units which are individually movable and interchangeable on a common supporting means, each board unit carrying a plurality of columns of self-stacking, discrete coded marker elements adapted to depict a plurality of distinct display patterns, the markers being individually removable and replaceable without disturbing the basic pattern of the other elements, and the whole providing a composite graphic representation of a predetermined program which is easily kept up to date as the represented factors progress.

3,419,980 MAGAZINE ADVANCING STRUCTURE FOR PHOTOGRAPHIC PROJECTORS

Erich Zillmer, Braunschweig, Germany, assignor to Voigtlander A.G., Braunschweig, Germany, a corporation of Germany
Filed Feb. 28, 1966, Ser. No. 530,533
Claims priority, application Germany, Mar. 8, 1965, Z 11,390

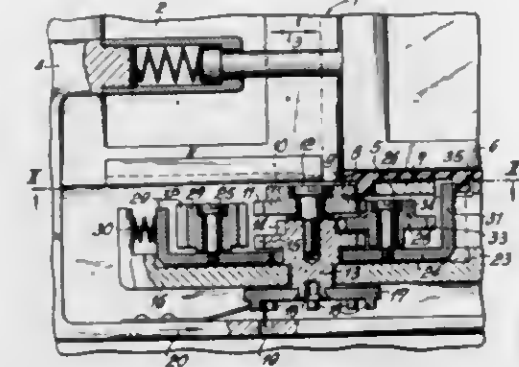
U.S. Cl. 40-79

Int. Cl. G09f 11/30; F16h 3/34

6 Claims

Magazine advancing structure for photographic projectors. The photographic projector is provided with a magazine means which carries a toothed means by which

the magazine means is advanced. A driven gear means meshes with this toothed means while a driving gear means which is not directly connected to the driven gear means is provided for driving the driven gear means. Between the driving and driven gear means there is an adjustable transmission means which coacts with the driving and driven gear means for transmitting a drive therebetween at a selected one of a plurality of different



transmission ratios. In this way it is possible to feed the magazine means at increments corresponding to the spacing between magazine compartments in which slides are respectively located. Thus, where thin slides in narrow compartments are provided, the increments will be relatively small whereas with thicker slides the increments will be larger, and through the adjustable transmission means the drive of driven gear means can be adapted to magazines having different compartment sizes.

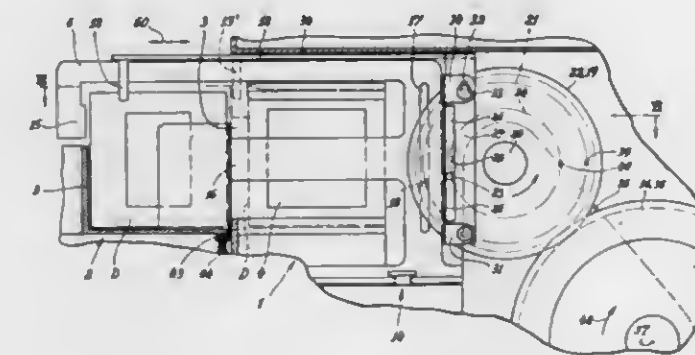
3,419,981 SLIDE-CONTROLLING STRUCTURE FOR PHOTOGRAPHIC PROJECTORS

Erich Zillmer, Braunschweig, Germany, assignor to Voigtlander A.G., Braunschweig, Germany, a corporation of Germany
Filed Mar. 22, 1966, Ser. No. 536,423
Claims priority, application Germany, Mar. 23, 1965, Z 11,425

U.S. Cl. 40-79

Int. Cl. G09f 11/30

8 Claims



In a photographic projector having a slide changing structure, a slide changing means of the projector is provided which has an operating cycle whereby a slide is moved from a magazine to a projecting position and then back to the magazine. The projector has a deflector carrier carrying a pair of deflectors with a drive connected to the deflector carrier to move it during the above cycle of the slide changing means from a raised position wherein the deflectors are beyond the range of the slides to an operating position wherein the deflectors respectively deflect slides which immediately precede and follow the slide acted upon by the slide changing means to deflect from the latter slide, the immediately preceding and following slides, so as to prevent the slide changing means from engaging the immediately preceding and following slides.

3,419,982 SLIDE CHANGER FOR MULTI-THICKNESS TRANSPARENCIES

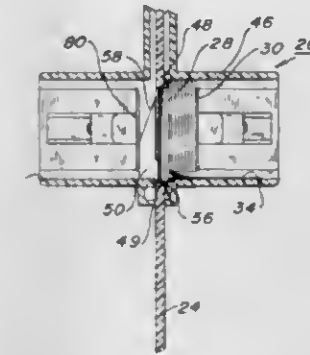
Raymond A. Heisler, 657 Dakota Trail,
Franklin Lakes, N.J. 07417

Filed Dec. 20, 1966, Ser. No. 603,305

U.S. Cl. 40-79

Int. Cl. G09f 11/30

10 Claims



A slide changer, of the operator powered type, is provided with a troughway receiving transparencies having every usual thickness of frame. One side of the troughway is provided with a comb-like spring engaging varying thicknesses of slide frames to provide a multi-width slide stop. As a pusher engages the opposite side of a slide it moves one slide from an array of slide and to the changer path. The pusher is provided with a toggle which requires the pusher to be pushed to its inner stroke limit before returning to the outer stroke limit and vice versa.

3,419,983 CHANGEABLE NAMEPLATE

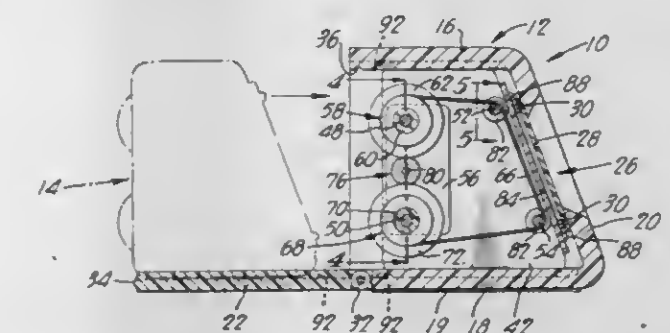
Virgil Hill, 843 Carlotta Court, Redlands, Calif. 92373,
and Frank W. Russo, 1404 Roxbury Drive, San Bernardino, Calif. 92404

Filed Jan. 6, 1966, Ser. No. 519,065

U.S. Cl. 40-95

Int. Cl. G09f 11/24

2 Claims



A changeable nameplate having a plurality of tapes bearing letters and/or numerals which are exposed through apertures in the housing. The ends of each tape are wound onto two spools disposed one above the other, each having a radial flange that can be turned by the thumb to advance the tape in one direction or the other. Between the spools is a small idler wheel of rubber, which bears against the flanges of both spools in each pair. When one of the spools is turned, it drives the other spool through the idler wheel.

3,419,984 SLIDE VIEWER

Yoshihika Sakamoto, 214 2-chome, Sengen-cho,
Ohmiya, Japan

Filed Nov. 28, 1966, Ser. No. 597,405

Claims priority, application Japan, Dec. 24, 1965, 40/79,265; Sept. 22, 1966, 41/88,615

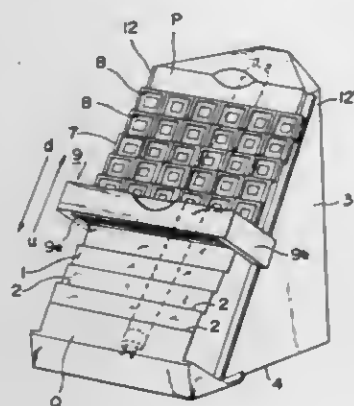
U.S. Cl. 40-106.1

Int. Cl. G09f 13/10

7 Claims

A slide viewer for inspecting slides that are retained in holding frames and distributed over a translucent front plate which has steps for the holding frames. The holding

frames are dispensed from and collected in a chamber which slides in a direction perpendicular to the translucent front plate, so that as the chamber is lowered



the holding frames are stripped sequentially from the chamber and placed on the steps and when the chamber is raised the holding frames are sequentially removed from the steps and stacked in the chamber.

3,419,985

DISTANCE SAFETY STICKER
Duane H. Berrier, 851 Talisman Drive,
Salt Lake City, Utah 84116

Filed Apr. 8, 1966, Ser. No. 541,266

U.S. Cl. 40-129

Int. Cl. G09f 7/00; G09f 21/00

7 Claims



The present invention presents a placard, sticker, sign or the like readily attachable to the rear bumper of a vehicle. The sign bears numeral, speed-indicating indicia which are graduated as to size. These numeral, speed-indicating indicia are designed such that when the driver of a following vehicle and having normal eyesight can read the speed-designation of the speed he is driving, he will know that he is at or closer than a minimum, safe stopping distance behind the vehicle bearing the sticker.

In a preferred form of the invention there is implied on the sticker a certain message, in combination with the physical characteristics of the sign and the numeral speed indicia placed thereon, so as to convey the rear driver the information that if he can read the speed at which he is traveling, then he is traveling too close to the first vehicle for safe stopping.

3,419,986

SIGN CONSTRUCTION WITH TRANSLUCENT REFLECTOR

Perry Vincent Maze, 701 Morton St.
Falls City, Nebr. 68355

Filed May 11, 1966, Ser. No. 557,330

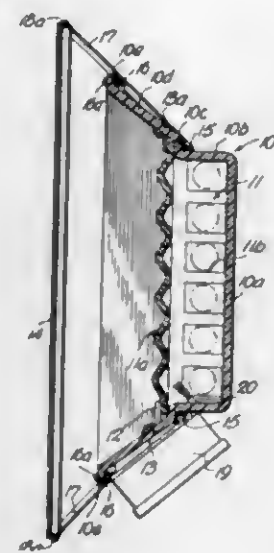
U.S. Cl. 40-130

Int. Cl. G09f 13/12

4 Claims

An illuminated and illuminating sign has a translucent reflector that houses the source of illumination in the centrally located dished out face portion thereof. The reflector has outwardly diverging translucent sides with a translucent and inwardly reflecting sign face positioned opposite the source and spaced outwardly of the end ex-

tremities of the diverging sides. The light source cooperates with the subject construction in that it has a wafered face plate. Each "bubble" thereon acts as an individual "light source" thereby aiding in diffusing and spreading the light rays over the entire face and through the trans-



lucent reflector. The translucent reflector may be colored, thereby producing colored light rays which are substantially the same color as the reflector in order to accentuate significant colors and objects for advertising and display purposes.

3,419,987

SLIDE AND METHOD OF USING

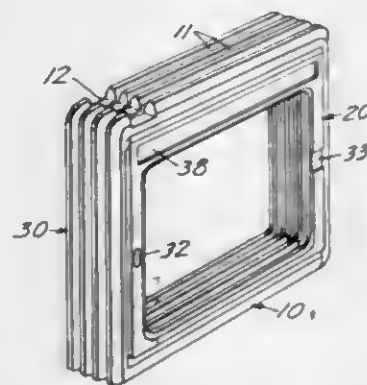
Richard D. Hipp, Jr., Circle Pines, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Filed June 14, 1966, Ser. No. 557,487

U.S. Cl. 40-152

Int. Cl. G09f 1/12

12 Claims



Slides for display of graphic material are provided with external slideways for inter-engagement with adjacent slides to form an integral pack of slides from which single slides may be temporarily slidably removed for display and re-insertion as desired.

3,419,988

CHANGEABLE DISPLAY CONSTRUCTION

Raimundas V. Misauskas, Stone Park, Ill., assignor to Chicago Show Printing Company, Chicago, Ill., a corporation of Illinois

Filed Oct. 19, 1966, Ser. No. 587,857

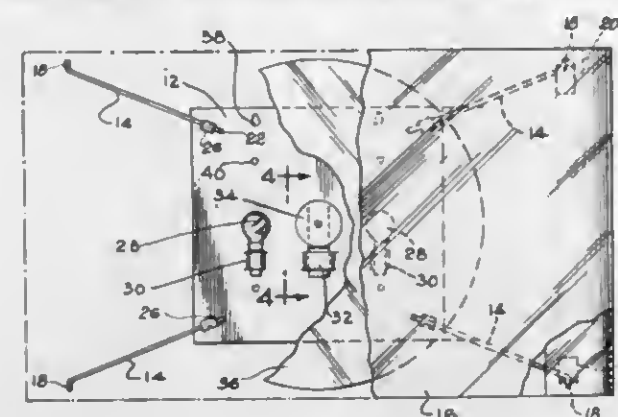
U.S. Cl. 40-152.2

Int. Cl. G09f 13/02

8 Claims

A display assembly comprising a rigid base plate having a series of rods each having one of its ends removably secured to said base plate. The free ends of the rods sup-

port a display sign panel. Movable animating screens with or without associated illuminating means may be mounted



on the base plate to enhance the appearance of the display.

3,419,989

SCENE IN MOTION

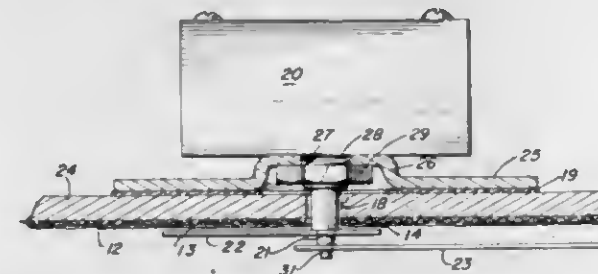
Donald J. Booty, Oak Forest, Ill., assignor to Spartus Corporation, Chicago, Ill., a corporation of Illinois

Filed Mar. 28, 1966, Ser. No. 537,872

U.S. Cl. 40-160

Int. Cl. G09f 19/02; G09f 1/12

4 Claims



Picture including picture canvas surrounded by frame and having clock face painted thereon as part of scene. Opening in picture canvas, at clock face, through which extends rotatable shaft from clock movement located behind picture canvas. Clock movement detachably supported behind picture canvas by structure located entirely behind picture canvas and including fasteners movable independently of picture and of shaft. Clock hands on shaft in front of picture canvas cooperate with clock face on picture canvas to tell the time of day.

3,419,990

FISHING APPARATUS

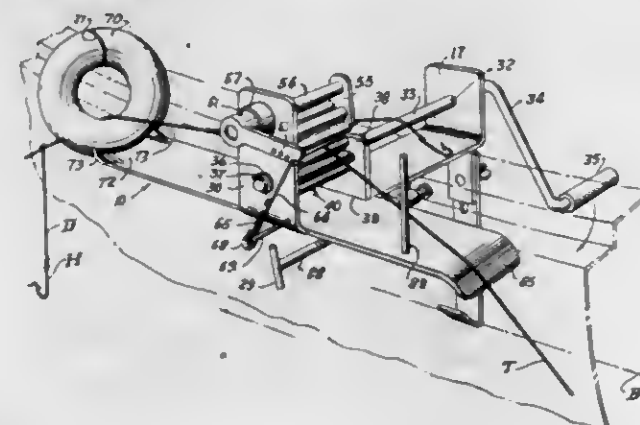
Olin S. Lewis, Rte. 3, Seagoville, Tex. 75159, and Troy V. Morran, Rte. 2, Box 144, Mesquite, Tex. 75149

Filed Mar. 27, 1967, Ser. No. 626,165

U.S. Cl. 43-6.5

Int. Cl. A01k 79/00

11 Claims



A fishing apparatus having a pair of intermeshing gear-like members mounted on a base member for resiliently

gripping and pulling a trotline and moving a boat therealong for servicing the trotline. A torus line guide and a guide post are mounted on the base and on opposite sides of the gear-like members for guiding the trotline there-through. One of the gear-like members is driven by a hand crank and the other gear-like member is mounted for selective engagement therewith to facilitate removing or attaching the trotline. A clamp member is provided for attachment of the apparatus to a boat.

3,419,991

PNEUMATIC DEVICE

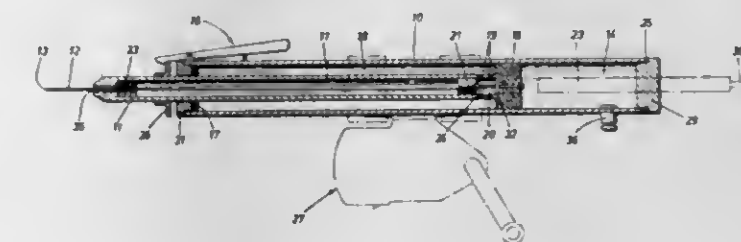
Douglas W. Mitchell, Renfrew, Ontario, Canada, assignor of twenty-five percent to Donald J. Sullivan, Barryvale, Ontario, five percent each to Agnes Mitchell, Douglas S. Mitchell, and Pamela A. Mitchell, Renfrew, Ontario, and four percent to Donald E. Hewson, Streetsville, Ontario, Ontario, Canada

Filed Jan. 27, 1966, Ser. No. 523,414

U.S. Cl. 43-19

Int. Cl. A01k 91/02

6 Claims



A pneumatic casting device provided with a first tubular member closed at one end and partially sealed at its other end. A second tubular member is provided with a plunger at one end and apertures adjacent thereto and is slidably received in the first member. A rod member is provided with a plunger at one end and is slidably received in the second member. A stop rod extends inwardly of the second member from its plunger beyond the apertures to prevent the plunger on the rod member from blocking the apertures. A gas under pressure is introduced into the first member between its closed end and the plunger of the second member. A releasable latch is mounted on the first and second members to prevent relative movement of the same when gas pressure is applied.

3,419,992

CLOSED FACE FISHING REEL ATTACHMENT

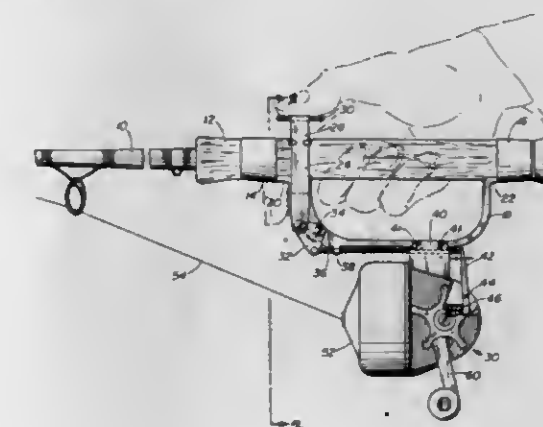
Allen D. Strahm, 3150 S. Atlanta Ave.,
Tulsa, Okla. 74105

Filed Aug. 25, 1965, Ser. No. 482,489

U.S. Cl. 43-20

Int. Cl. A01k 87/06

4 Claims



A U-shaped bracket positioned beneath the handle of the fishing rod includes a closed face spinning reel positioned upon the bracket. A thumb actuated release mem-

ber extends to a position atop the rod in position when naturally gripping said handle and is adapted to actuate the braking and releasing mechanism of the reel.

3,419,993
DOLL HAVING A PLURALITY OF
CHANGEABLE ETHNIC FEATURES

June M. Rodgers, 411 Lafayette Ave.,
Brooklyn, N.Y. 11238

Filed May 11, 1964, Ser. No. 366,473

U.S. Cl. 46—22

Int. Cl. A63h 3/16

1 Claim



1. A doll comprising, in combination, a basic form element including a torso portion and head, arm and leg portions joined thereto, a plurality of sets of detachable cover means for covering said portions, each said set comprising an individual cover for each said portion, the covers of each said set being both colored and shaped to simulate characteristics of the head and body typical of a particular racial group, the racial group represented by each of said sets being different than each of those represented by the others, said covers including means for mechanically detachably attaching each of said covers to said form element.

3,419,994
SNEEZING DOLL

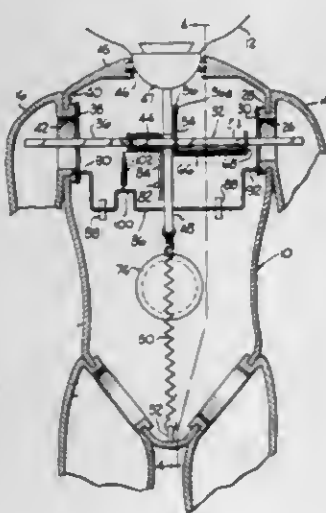
Marvin I. Glass, Chicago, and Leonid Kripak, Villa Park, Ill., assignors to Marvin Glass & Associates, Chicago, Ill., a partnership

Filed Mar. 16, 1966, Ser. No. 534,712

U.S. Cl. 46—118

Int. Cl. A63h 3/31

3 Claims



A doll having relatively movable head and arms which are interconnected and operable to provide a sequence of motions for said parts, so that the doll is caused to

appear to be sneezing. As one arm is manually lifted, it causes the head to move rearwardly and then forwardly in an abrupt fashion. As the head is thus moved forwardly, the other arm is automatically raised to place the hand adjacent the face to appear as though the doll is smothering the sneeze. There is also a noisemaker within the doll which operates as the head moves forwardly.

3,419,995
HAND OPERATED TOY
Lawrence D. Siegler, 2965 Randy,
Farmers Branch, Tex. 75234

Filed July 20, 1965, Ser. No. 473,439

U.S. Cl. 46—124

Int. Cl. A63h 7/00; G09f 19/08

9 Claims



A paper toy simulating an animal formed of a body piece foldable along predetermined lines to define a body portion and appendages such as wings which are movable relative to each other and the body portion when the toy is manipulated by hand.

3,419,996
TURKEY CALLER

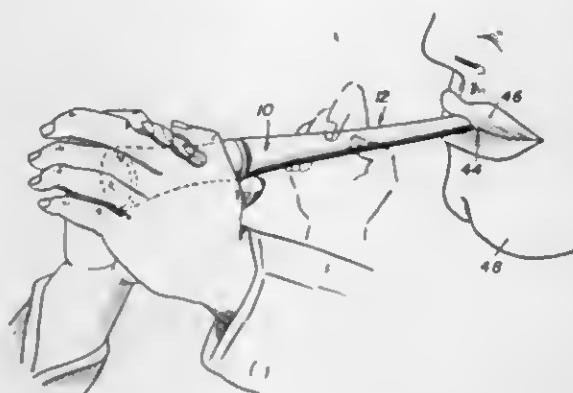
Vedna O. Johnson, Jr., Gould, Ark. 71643

Filed Mar. 28, 1966, Ser. No. 537,744

U.S. Cl. 46—189

Int. Cl. A63h 5/00; G08b 3/00

5 Claims



An elongated tubular body which flares gradually toward one end and defines a small diameter mouthpiece at the other end. The diameter of the mouthpiece end of the tubular body is sufficiently small to enable the mouthpiece to be received between the lips of the user when his lips are pressed tightly together, simulated turkey yelps being produced by the user sharply drawing into his mouth through the tubular body.

3,419,997
TOY SUBMARINE
Herbert H. Owbridge, 3838 Buena Park Drive,
Studio City, Calif. 91604

Filed Apr. 14, 1966, Ser. No. 542,673

U.S. Cl. 46—244

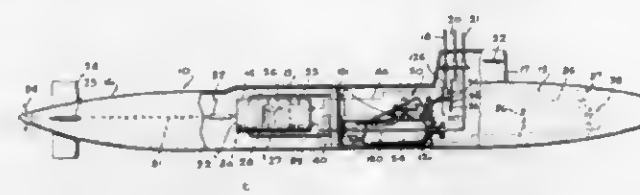
Int. Cl. A63h 23/04; A63h 33/26

9 Claims

This invention relates to a submersible electrically propelled toy submarine and more particularly to such a submarine having novel apparatus for causing the submarine

to alternately dive and resurface by means of a cyclic change in buoyancy while providing positive pressure to

A vertical door frame is secured between the side walls and to and above the platform. The door frame contains a door for gaining access to the storage closet so created.



the motor compartment to purge water and moisture therefrom.

3,419,998
GRAPE TRELLIS

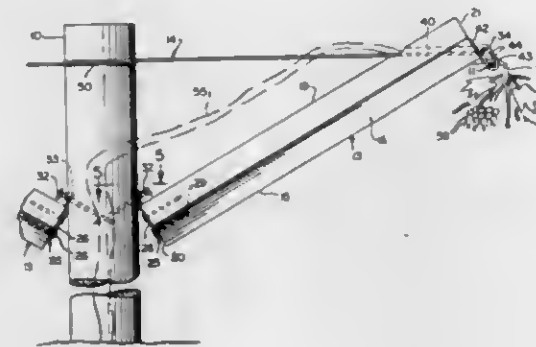
Charles G. Burton, Lewiston, N.Y., assignor to Chisholm-Ryder Company, Inc., Niagara Falls, N.Y., a corporation of New York

Filed Nov. 25, 1966, Ser. No. 597,070

U.S. Cl. 47—46

Int. Cl. A01g 17/06

7 Claims



Machine harvesting of grapes with the harvester of my compending application Ser. No. 449,974, filed Apr. 22, 1965, requires a trellis with a cantilevered longitudinal trellis wire. Simple upwardly and outwardly angled wooden arms are provided for this purpose with simple sheet metal plates provided with stabilizing spurs are nailed both to the posts and to the inboard ends of these bars. A simple attachment is provided between the outboard end of each bar and a transverse grape post wire. This latter connection can also be such that the longitudinal trellis wire can be lifted from the trellis.

3,419,999
CONVERTING MEANS FOR FORMING
STAIRWELL STORAGE CLOSET

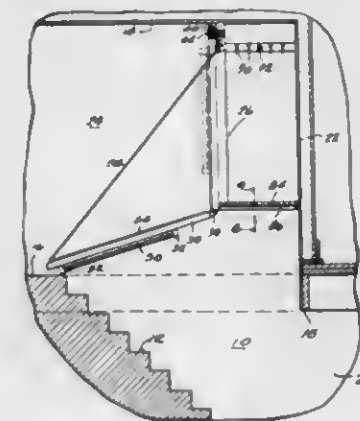
Michael P. Scheafbauer, 4442 S. 5th St.,
Milwaukee, Wis. 53207

Filed Oct. 17, 1966, Ser. No. 587,078

U.S. Cl. 49—33

Int. Cl. E04f 19/08

4 Claims



A storage closet converting means is suitable for installation in the upper portion of a stairwell and includes a platform, mounted between the side walls of the stairwell.

3,420,000
OPENING DEVICE FOR LIGHT DOMES,
SKYLIGHTS, ETC.

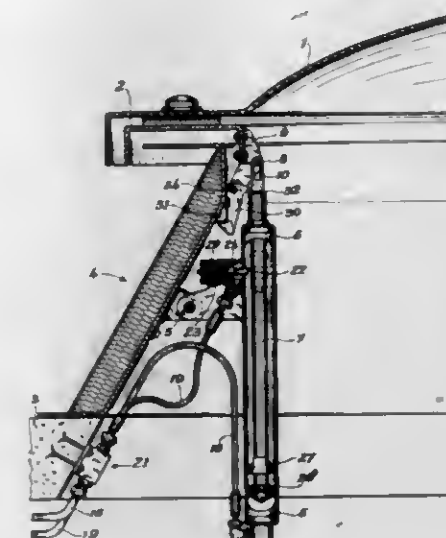
Klaus Esser, Dusseldorf, Germany, assignor to
Klaus Esser K.G., Dusseldorf, Germany

Filed July 29, 1966, Ser. No. 568,849

U.S. Cl. 49—280

Int. Cl. E05f 15/04

9 Claims



A device for pivoting skylight means and the like into opening and closing positions by means of a first fluid operable piston pivotally connected to said skylight means and provided with a collar having an outer conical surface tapering in the direction of the opening movement of said piston and slidably engageable by the correspondingly inclined end face of a second piston which is spring urged into sliding engagement with said conical surface and automatically slips below said collar into locking position for locking said first piston when the latter occupies its skylight means opening position, said second piston being adapted by fluid means to be withdrawn from said locking position to commit said skylight means to move by its non-weight to its closing position while returning said first piston to its skylight means closing position.

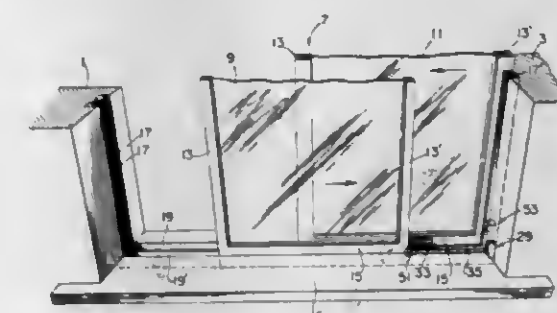
3,420,001
ADJUSTABLE CLOSURE LOCK
Raymond T. Raymon, 11618 Highland Drive,
Warren, Mich. 48089

Filed July 18, 1967, Ser. No. 654,136

U.S. Cl. 49—407

Int. Cl. E05d 13/04

11 Claims



A lock for use with sliding closure panels, and the like, to lockingly maintain a panel in adjusted partially open position, against further opening, or in fully closed position. A locking bar of adjustable length pivotally

mounted at one end, and in operative locking position disposed in the horizontal guide track for the panel, and extending therein in a plane parallel to the plane of sliding movement of the panel, and in inoperative position disposed in the vertical channel guide track for the panel. The adjustable locking bar in operative position having the free end thereof engaged against the rear edge of the panel to prevent the panel from being moved rearwardly. Clamping means positioned in said vertical channel guide track for releasably maintaining said locking bar in inoperative position.

3,420,002

WINDOW GLASS FRAME AND GUIDE

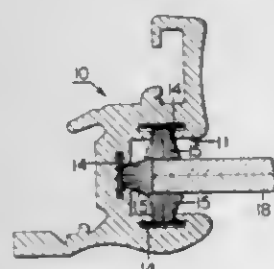
Karl Q. Kondolf, Penfield, N.Y., assignor to The Schlegel Manufacturing Company, Rochester, N.Y., a corporation of New York

Filed May 4, 1965, Ser. No. 453,154

U.S. Cl. 49-440

12 Claims

Int. Cl. E05d 13/02



I. A guide for an unframed, movable window glass in a motor vehicle, said guide comprising:

- (a) a member formed to define a channel wider than the thickness of said window glass and having a bottom wall and a pair of opposed side walls arranged to straddle the edge of said window glass, each of said side walls having a slot opening into said channel and extending longitudinally of said channel, said slot being wider at its bottom than at its top; and
- (b) a pair of fabric strips one of which is arranged in each of said slots, said fabric strips each comprising a pile row interwoven with a woven fabric backing strip to extend from one face of said backing strip, said backing strip extending laterally beyond the area of juncture between said pile row and said backing strip, said backing strip being wider than said top of said slot and being retained in said slot flat against the bottom of said slot with said pile row extending from said top of said slot into said channel so that said pile rows of said pair of fabric strips bear against opposite faces of said unframed window glass.

3,420,003

ADJUSTABLE DOOR FRAME

Robert S. Cline, 112 32nd Ave. W.,

Bradenton, Fla. 33505

Filed May 5, 1967, Ser. No. 636,509

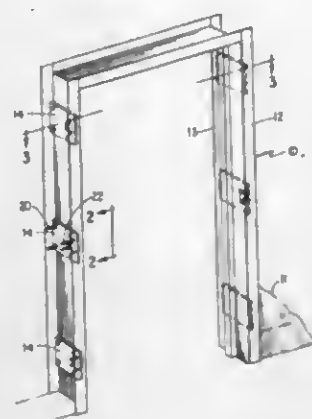
U.S. Cl. 49-505

5 Claims

Int. Cl. E06f 1/20

This invention relates to adjustable door frames which are adjustable for varying wall thickness, which variations are always present along the edge of the wall opening. This frame includes a plurality of relatively short backing plates spaced along at least one edge of the wall opening and having a series of transversely spaced, longitudinally extending ratchet teeth and a pair of trim strips, one mounted on the backing plate and having a hook-shape portion projecting from the backing plate and returning toward the backing plate, all as viewed in section. The other trim strip includes a longitudinal gripping edge which is forced between the one trim strip and the

plates and grips one of the series of ratchet teeth on the backing plate. The other trim strip is urged into gripping engagement by the hook-shaped portion of the one trim strip. The hooked-shaped portion also acts as a door stop.



The one trim strip is mortised at the backing plates to receive the hinges so each hinge rests on a backing plate, and the hinge fasteners extend through the backing plate into the wall surface securely to support the door.

3,420,004

FORMED PLASTIC ARTICLE DE-SLIVER UNIT

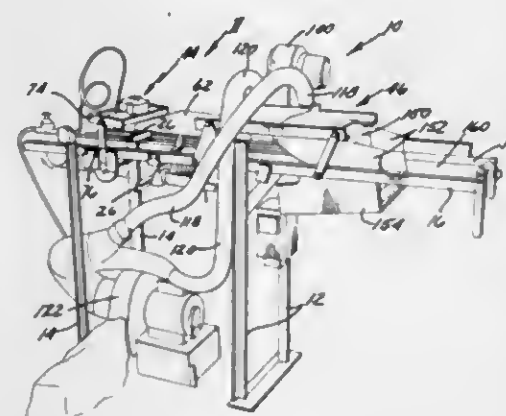
Robert E. O'Brien, Grand Rapids, Mich., assignor to Kirkhof Manufacturing Corporation, Grand Rapids, Mich., a corporation of Michigan

Filed May 28, 1965, Ser. No. 459,782

U.S. Cl. 51-5

8 Claims

Int. Cl. B24b 29/00



Apparatus for de-slivering thin walled plastic articles formed by force from a plastic film and peripherally severed from the film, having dynamic article edge abrading means such as brushes that abrades or rubs the article edges, preferably at angles thereto to detach the slivers, combined with electrostatic sliver charging means and flowing gas sliver removal means that buoy the slivers and sucks them away from the articles.

3,420,005

GRINDING APPARATUS FOR FORMING CABOCHON SHAPED BODIES

Richard Edwin Moppett, 125 Prince Edward Ave., Earlwood, New South Wales, Australia

Filed Oct. 23, 1965, Ser. No. 503,283

Claims priority, application Australia, Dec. 23, 1964,

53,270/64

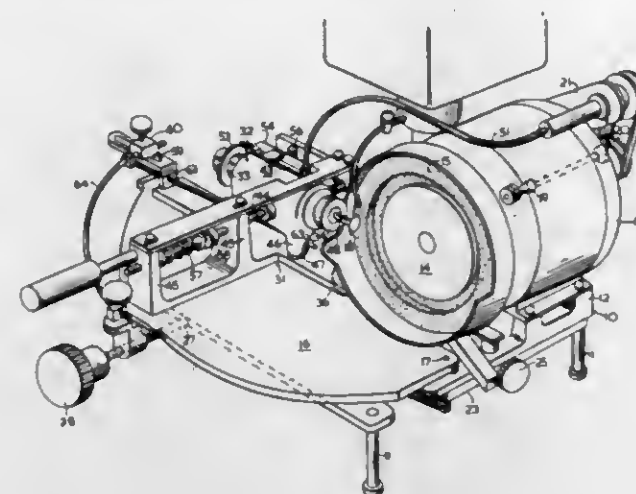
U.S. Cl. 51-121

6 Claims

Int. Cl. B24b 9/16

A grinding apparatus for shaping cabochons comprises a chuck adapted to be rotated and to grip a member which is to be formed into a cabochon so that it is held against

the surface of a rotating grindstone. The chuck is mounted so that it can be swung in a plane perpendicular to the abrading surface of the grindstone. Means is provided for



imposing on the chuck reciprocatory motion so that the cabochon is ground to a desired girdle shape around its periphery and is correspondingly shaped over its curved surface.

3,420,006

APPARATUS FOR GRINDING MULTIFOCAL LENS

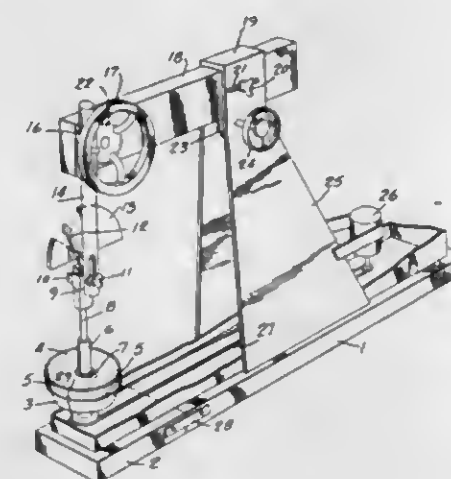
Howard J. Barnett, Quarters 3514-A, Schofield Barracks, APO 957, San Francisco, Calif.

Filed Jan. 27, 1964, Ser. No. 340,574

U.S. Cl. 51-129

12 Claims

Int. Cl. B24b 5/04



This invention comprises an apparatus for making a multifocal lens which has no dividing lines between the separate areas of magnification. The apparatus obtains the multifocal result by grinding a single vision lens blank held at an angular relationship to a spinning chamois skin which has been coated with a grinding compound.

3,420,007

ABRASIVE TOOL

Victor Anthony Kolesh, Holden, Mass., assignor to Wallace-Murray Corporation, a corporation of Delaware

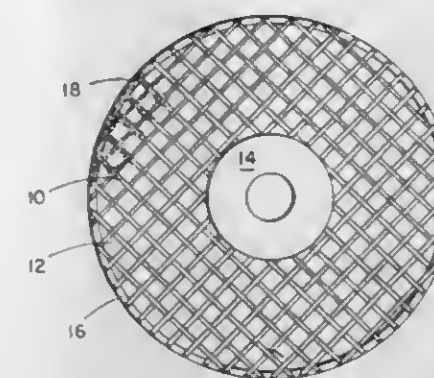
Filed July 11, 1966, Ser. No. 564,369

U.S. Cl. 51-209

7 Claims

Int. Cl. B24d 3/00

An abrasive tool comprising a coarse gage, open mesh woven wire screen disk providing a rigidly formed abrasive surface area, with voids extending therethrough, and an abrasive coating of scattered, hard, sharp-edged particles covering the face of the screen wires including their sides extending into the voids, whereby erosion of the



firmly attached, and not theretofore used, sharp-edged particles.

3,420,008

LOADING MECHANISM

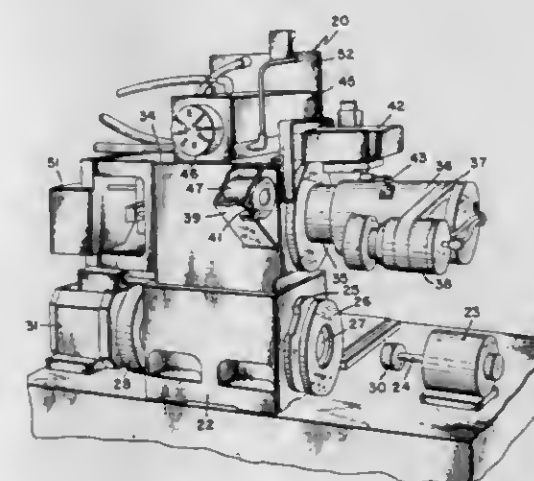
Herbert R. Uhtenwoldt, Worcester, Mass., assignor to The Heald Machine Company, Worcester, Mass., a corporation of Delaware

Filed Mar. 14, 1966, Ser. No. 533,904

U.S. Cl. 51-215

6 Claims

Int. Cl. B24h 47/02



A loading mechanism or apparatus arranged to transfer workpieces from a chute into a work station of a machine tool, including a shaft extending parallel to the axis of the work spindle, including an arm extending at a right angle to the shaft at its outer end, and including means to move the shaft axially and to rotate it to permit the arm to transfer workpieces.

3,420,009

WORK CENTERING CHUCK

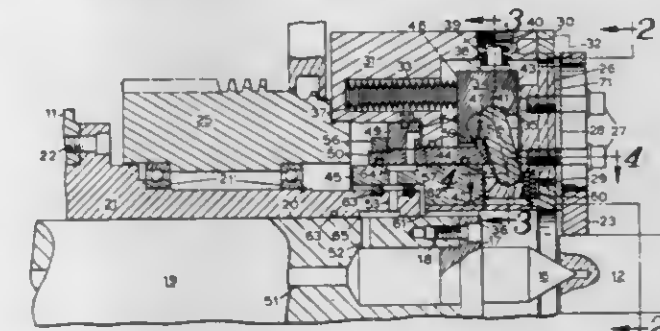
Jacob Decker, Cincinnati, Ohio, assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio

Filed July 11, 1966, Ser. No. 564,087

U.S. Cl. 51-237

6 Claims

Int. Cl. B24b 41/06

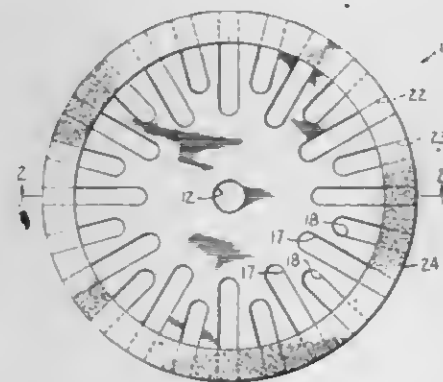


This specification and referenced drawings describe and show a chuck-type work driver for a precision cylindrical grinding machine in which a plurality of gripping jaws

move radially inward to grip the end of a workpiece that is held on a fixed axis by a conventional locating conical center mating with a center hole in the end of the workpiece. The jaws move toward a theoretical center which is permitted to shift as the jaws engage the work so that the workpiece is firmly and uniformly gripped despite an eccentricity of the workpiece relative to the locating center and centerhole.

3,420,010 AIR-COOLED TIRE ABRADING RASP

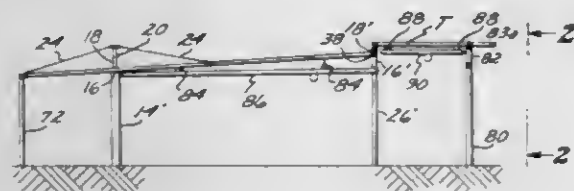
Alton E. Tobey, 2203 Mission St.,
Santa Cruz, Calif. 95060
Filed Apr. 25, 1966, Ser. No. 544,887
U.S. Cl. 51-356 2 Claims
Int. Cl. B24b 55/02



A rasp for abrading tire carcasses to prepare the same for recapping is described which is designed in such a manner to be automatically air cooled. The rasp comprises a rotatable circular disc having a plurality of circumferentially spaced slots extending radially into the outer periphery thereof. A pair of annular abrading elements are concentrically secured respectively to each side face of the disc adjacent the periphery of it and overlying the slots. These elements having abrading surfaces on their exposed side faces and as the rasp is rotated, air is entrained within the slots and flows radially outward due to centrifugal force. This air contacts the inner side faces of the annular elements and conducts heat directly therefrom.

3,420,011 SUSPENDED TRIANGULAR GRID ROOF STRUCTURE

Yoshio Takahashi, 2-chome, Aikawa Nakadori,
Higashiyodogawa-ku, Osaka, Japan
Filed June 13, 1967, Ser. No. 645,793
U.S. Cl. 52-83 8 Claims
Int. Cl. E04b 7/14; E04b 1/342



A suspended triangular grid roof structure of high horizontal rigidity particularly adapted for use in forming a part of a building of extensive floor area, such as an aircraft maintenance hangar for larger planes currently coming into commercial use, of the Boeing 747 type and the like. The roof structure of the present invention permits drastic reduction in the volume of the building of which it forms a part relative to that of a building of comparable

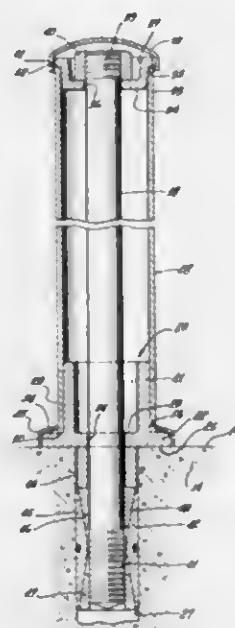
floor area of conventional design, with this reduction in volume being effected without in any way detracting from the utility of the building in efficiently carrying out aircraft maintenance work therein.

3,420,012
ELEVATED FLOOR SYSTEM
Ernest C. Liskey, Jr., P.O. Box 580, Glen Burnie,
Md. 21061, and Richard W. Custer, 410 Chal-
fonte Drive, Catonsville, Md. 21228
Filed Sept. 1, 1966, Ser. No. 576,685
U.S. Cl. 52-126 5 Claims
Int. Cl. E04g 15/18



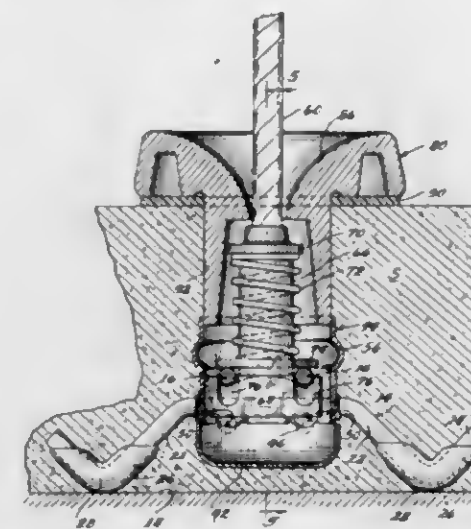
An elevated floor has panels supported by pedestals. The panels can be supported at their corners by the pedestals or a reinforced assembly can be formed by stringers which bridge the pedestals and support the edges of the panels. The panels have an upper tread surface, an intermediate flat steel sheet and an embossed bottom plate which has alternate and depressed portions. The sides of the panels are made of L-shaped bars sandwiched between the sheet and the plate.

3,420,013
POST CONSTRUCTION
William T. Alvarado, El Monte, Calif., assignor to
Alvarado Manufacturing Company, Inc., El Monte,
Calif., a corporation of California
Filed July 1, 1966, Ser. No. 562,345
U.S. Cl. 52-161 1 Claim
Int. Cl. E02d 5/74



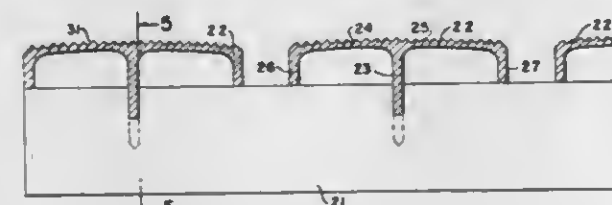
A post or standard construction to be anchored to a floor having an opening in which is positioned a threaded anchor member for receiving a threaded shaft which passes through a tubular post member, the shaft having an upper threaded end for receiving a nut and in which by rotating the nut the shaft will simultaneously secure the tubular member to the floor by fixing the anchor member in the opening in the floor.

3,420,014
ANCHOR INSERT AND PICK-UP UNIT THEREFOR
Peter D. Courtois, Des Plaines, and George J. Ericksson,
Morton Grove, Ill., assignors to Superior Concrete
Accessories, Inc., Franklin Park, Ill., a corporation of
Delaware
Continuation of application Ser. No. 500,491, Oct. 19,
1965. This application Oct. 5, 1967, Ser. No. 690,037
U.S. Cl. 52-173 14 Claims
Int. Cl. E04g 21/14; B66c 1/00



1. In combination, an anchor insert for embedment in a concrete slab and a cooperating pick-up unit therefor, said anchor insert comprising two pairs of spaced parallel rod sections arranged in cross tic-tac-toe fashion and welded together at coplanar regions of crossing, each pair of rod sections having inside medial regions bridging the distance between the other pair of rod sections and having outside end regions, the outside end regions of one pair of rod sections having downwardly extending portions designed for support on a slab foundation, and a cage mounted upon the medial regions of said one pair of rod sections and having a circular bottom wall, a generally cylindrical upstanding marginal wall, and a circular open upper rim, the medial regions of said one pair of rod sections projecting in secant fashion through said side wall and passing through respective pairs of openings in the latter, said cage being imperforate except for said pairs of openings and open upper rim, said pick-up unit comprising a T-head having a shank and designed and placed in interlocking engagement with the medial regions of said one pair of rod sections when inserted through said open rim of the cage below the level of said latter medial regions and then turned through an angle of approximately 90°, and means on the upper end of the shank whereby said pick-up unit may be attached to an overhead hoist.

3,420,015
METAL GRATING
Nicholas Joseph Costanzo, Jr., Rockville, Md., assignor to
Aluminum Plastic Products Corporation, Washing-
ton, D.C., a corporation of Maryland
Filed Apr. 12, 1967, Ser. No. 630,416
U.S. Cl. 52-180 10 Claims
Int. Cl. E04f 11/16



Disclosed is a grating including a number of slats extending in a first direction and a number of tread carrying

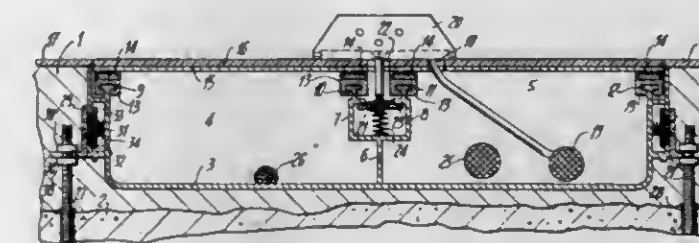
T sections extending in a second direction, at right angles to the direction of the slats. The T sections are connected frictionally with the slats by grooves in the slats and in legs of the T. Forces imparted to the arms of the T section are transmitted to the slats by ears at the ends of the T arms and through the T legs. The T arms are crowned to provide water run-off and are grooved to prevent slippage of a person or object placed thereon. The slats have resilient rubber feet mounted on the bottoms thereof at spaced locations.

3,420,016
BUILDING CONSTRUCTION
Robert L. Findlay, 116 Lowell Ave.,
Youngstown, Ohio 44512
Filed Feb. 6, 1967, Ser. No. 614,231
U.S. Cl. 52-221 3 Claims
Int. Cl. E04b 2/22; E04b 2/50; E04c 2/52



A building construction including a hollow structural member having a longitudinally extending channel for the reception of panels to be supported thereby and forming a perimeter ductwork for heating, lighting and air conditioning of the structure.

3,420,017
CHANNEL ADAPTED CHIEFLY TO PROTECT A
PIPE LINE CONVEYING ELECTRICITY, GAS OR
WATER
Roger H. Brugger and Erwin E. Salvisberg, Geneva,
Switzerland, assignors to Erwin Salvisberg, Geneva,
Switzerland
Filed Nov. 21, 1966, Ser. No. 595,970
Claims priority, application Switzerland, Nov. 30, 1965,
16,461
U.S. Cl. 52-221 6 Claims
Int. Cl. E04b 5/48; E04f 19/06



A channel shaped member adapted to house electric or telephone cables, gas or water, has at least one intermediate partition dividing the channel into a plurality of in-

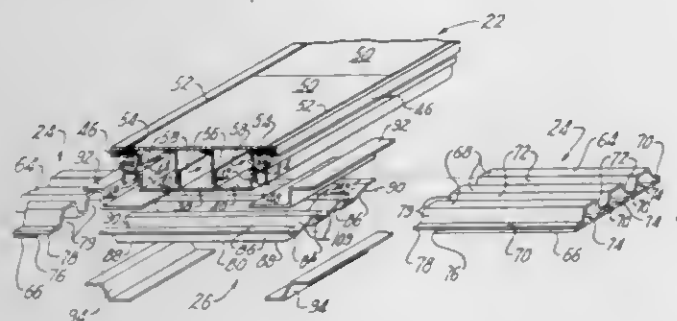
dividual housings or compartments. The side walls of the basic channel shaped member and each of the partitions have attached to their outer edge a strip of permanent magnetic material. An iron plate forming a cover is placed on the strips of magnetic material thus providing coupling means for securely closing the channel shaped member.

3,420,018

UNDERFLOOR ELECTRICAL CROSSUNDER UNIT
Frank W. Fork, Allison Park, Pa., assignor to H. H. Robertson Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Oct. 18, 1967, Ser. No. 676,217

U.S. Cl. 52-221 8 Claims
Int. Cl. E04b 5/48



A wiring crossunder arrangement for a wiring distributing system of a building floor including a main electrical trench and laterally extending cellular raceways disposed at the same level as the trench. The crossunder unit is disposed beneath the trench and defines transverse wiring passageways which communicate with the cellular raceways and the trench.

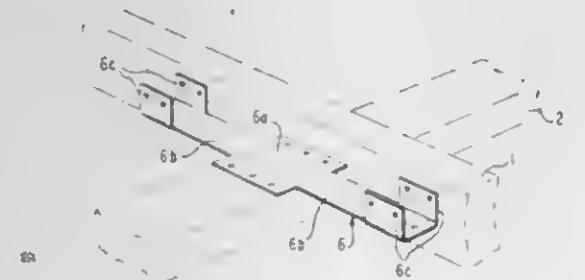
3,420,019

BUILDING JOINT WITH FLEXIBLE CONNECTING STRAP

Robert J. Padilla, Albuquerque, N. Mex., assignor to Flexstrap Inc., Albuquerque, N. Mex., a corporation of New Mexico

Continuation-in-part of application Ser. No. 479,499, Aug. 13, 1965. This application Sept. 20, 1965, Ser. No. 488,627

U.S. Cl. 52-238 8 Claims
Int. Cl. E04b 7/04

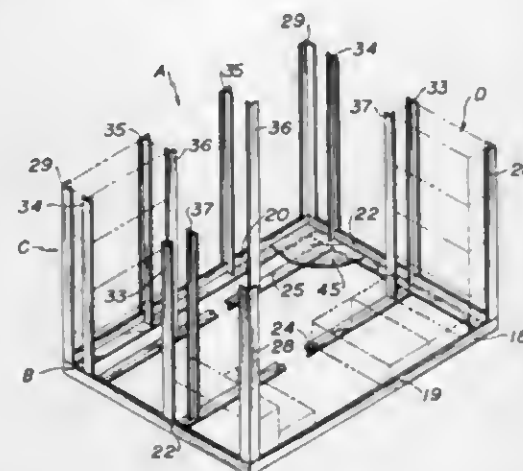


A device for flexibly connecting two mutually crossing construction parts comprises an elongated strap-like element formed at its central portion to enable attachment to a first building construction part and formed at its opposite ends to enable the ends to be attached to a second building construction part. Flexible portions of the strap-like element intervening between the central attachment and the respective end attachments have no direct attachment to the construction parts, and are thus free to flex and permit limited relative movement between the two crossing construction parts.

3,420,020
FIREPLACE STRUCTURE
Carlton J. Keppelman, Rte. 3, Box 289-D, Carmel, Calif. 93921

Filed Dec. 22, 1966, Ser. No. 603,826

U.S. Cl. 52-264 1 Claim
Int. Cl. E04b 2/06; F24b 1/18



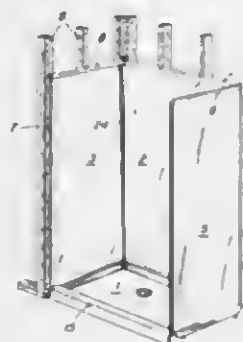
A fireplace structure formed of a skeletal frame of vertical and horizontal members which are spaced to receive bricks and upon receipt, hold the bricks in tightly nested structural support to thereby obtain a fireplace.

3,420,021

KNOCK-DOWN SHOWER UNIT ENCLOSURE
Joseph Richard Anghinetti and David Abbott Burden, Kennebunkport, and Albert Eugene Pelletier, Springvale, Maine, assignors to Formica Corporation, Cincinnati, Ohio, a corporation of Delaware

Filed Oct. 10, 1967, Ser. No. 674,164

U.S. Cl. 52-264 10 Claims
Int. Cl. E04b 2/08



A knock-down shower unit enclosure suitable for assembling into a unit comprising a floor unit with central drain, raised walls and a vertical flange along the sides and back portions which fit with a back panel and right and left side panels. The panels are of sandwich form with thermoset resin laminate surfaces and a central core of light, water resistant material, such as polystyrene foam, and are provided with a metal grooved portion in the bottom fitting on the flange of the floor element and metal side moldings on the vertical edges, the molding comprising a channel of panel thickness extending out from the two vertical edges and a smaller channel next to it on the inside and forming an integral portion of the molding. Side panels of the same material with the same channel in the polystyrene foam at their bottom are applied on the flanges of the floor element and slid back into the channel in the moldings on the corresponding side of the back panel. The side panels are provided with a metal molding having an extending flange on the front vertical edge and capable of being nailed into a building stud. Corner moldings of extruded metal such as aluminum, preferably clad with decorative laminate, are provided with a toothed leg extending their full length which can be forced into the small channel on each side molding of

the back panel. This locks the metal molding, which appears as a quarter round. Cap moldings are provided on the top of each panel and are nailable to studs and capable of receiving wallboard or other material so that the panels appear flush into the wall of the final built shower. All elements, including the shower floor and the panels, are relatively flat and shippable in compact units. Assembly of the panels can be effected by first installing the back panel and then sliding the side panels into the channels of its two side moldings without the use of any fastening or special equipment. If desired, the front wall may be provided with a suitable hanger for receiving slideable plastic or glass enclosures or curtains.

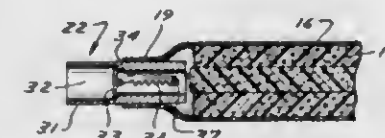
3,420,022

CONCRETE INSULATION BLANKET

Wayne C. Brock, 4409 Curve Ave., Minneapolis, Minn. 55424

Filed Sept. 20, 1966, Ser. No. 580,738

U.S. Cl. 52-302 12 Claims
Int. Cl. E04b 1/62; E04c 2/04



A portable blanket for protecting concrete surfaces having a water impervious elongated plastic film cover surrounding one or more sheets of flexible material as expanded polystyrene sheet members. One way valves mounted in the ends of the cover allow air to be discharged from within the blanket.

3,420,023

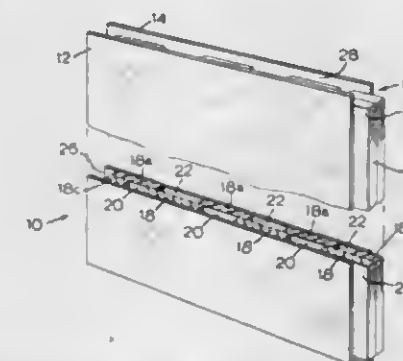
BAFFLE UNIT

Werner K. H. Gregori, Oakville, Ontario, Canada, assignor, by direct and mesne assignments, to Robert Bohm Limited, Nassau, Bahamas

Filed Aug. 3, 1966, Ser. No. 569,864

Claims priority, application Canada, June 2, 1966, 961,886

U.S. Cl. 52-309 5 Claims
Int. Cl. E04c 1/10; E04b 2/28



1. A pre-assembled wall unit for buildings comprising, a sandwich construction of a pair of spaced wall board panels and an inner core, said core being formed of a first series of elongated rigid heat insulating board-like core members arranged in spaced side-by-side relationship in juxtaposition with the inside surface of one of said panels and a second series of like core members arranged in similar pattern in juxtaposition with the inside surface of one of said panels and a second series of like core members arranged in similar pattern in juxtaposition with the inside surface of said second panel, said first series core members being staggered with respect to said second series core members and overlapped therewith along the side edges of the core members to define staggered air spaces, said unit having four marginal edges, a first of said marginal edges being formed

with said core extending outwardly therefrom to form a tenon, a second of said marginal edges, opposite said first marginal edge, being formed with said pair of spaced wall board panels extending outwardly beyond said core to form a groove adapted to receive a tenon of a further unit, a third marginal edge, extending between said first and second edges, being formed with said pair of spaced wall board panels extending outwardly beyond said core to form a mounting groove adapted to cooperate with suitable mounting means in use, a fourth marginal edge, opposite said third edge, formed with one edge of one of said spaced wall board panels extending outwardly beyond the opposed edge of the opposite panel and beyond the edge of the core member to form a lip adapted to cooperate with suitable mounting means in use.

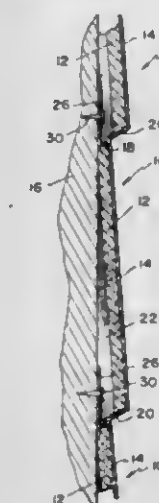
3,420,024

ARTIFICIAL SIDING FOR USE IN A BUILDING CONSTRUCTION

Anthony Satvo, Tiverton, R.I., assignor to Dura-Last Shingle Corp., Fall River, Mass., a corporation of Massachusetts

Filed Dec. 19, 1966, Ser. No. 602,968

U.S. Cl. 52-316 4 Claims
Int. Cl. E04d 13/18; E04c 2/20; E04b 1/62



An artificial siding that simulates wood shingles and that includes a base member on which a plastic laminate is adhered. The plastic laminate extends beyond the confines of the base member to form an upper and side extension and a lower sealing edge, the extensions cooperating with sealing edges of an adjacent siding to form a sealed interlock between the adjacent sidings.

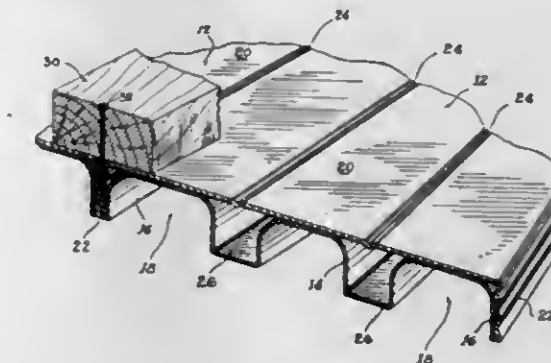
3,420,025

COMPOSITE STRUCTURAL MEMBER WITH NAILING MEANS

William H. Portz, Calumet City, Ill., assignor to Stanray Corporation, Chicago, Ill., a corporation of Illinois

Filed Apr. 21, 1967, Ser. No. 632,692

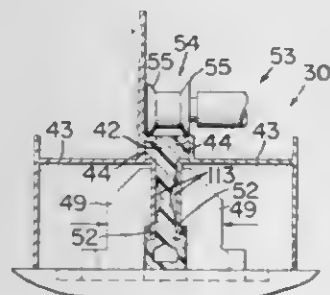
U.S. Cl. 52-377 6 Claims
Int. Cl. E04b 5/12; E04b 2/02



A structural member comprised of a plurality of cooperating parts to provide nailable metallic planks for

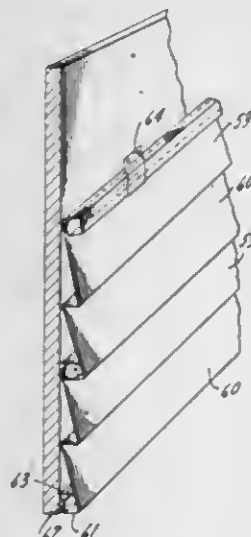
spanning an application to stringers or studs in building floors, walls, or the like, which planks have an element of yieldability to heavy forces applied thereagainst.

3,420,026
THERMAL INSULATING APPARATUS AND METHOD OF MAKING SAME
William A. Nolan, Louisville, Ky., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Oct. 6, 1966, Ser. No. 584,878
U.S. Cl. 52-403
Int. Cl. E04b 1/62



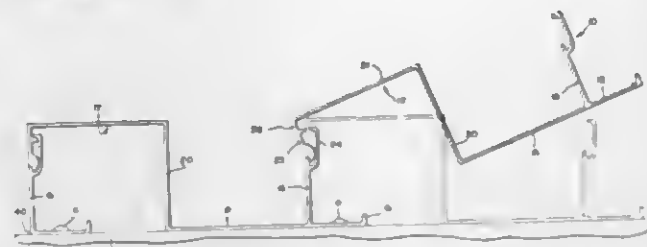
A thermal insulating apparatus of the type adapted to prevent or reduce condensation problems encountered in using metal frame windows, or the like. The apparatus utilizes metal member means having groove means therein which is deformed about cooperating projection means in thermal insulating member means without deforming such projection means to thereby provide an interlocked assembly which is nondismountable.

3,420,027
BUILDING PANEL
Marlon A. Creveling, Tinley Park, Ill., assignor to Eugene R. Pietkiewicz
Filed Feb. 9, 1967, Ser. No. 614,966
U.S. Cl. 52-529
Int. Cl. E04c 2/40; E04b 1/62



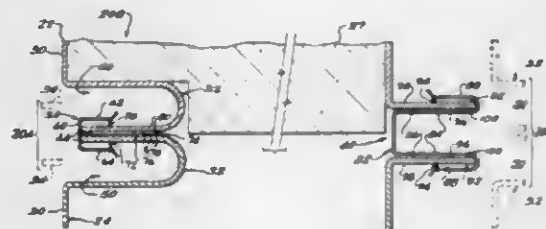
A building panel which is formed to enable simple assembly of a reinforced joint between adjoining panels and which enables uses of the connecting facilities as supporting columns when positioned vertically. The panels simulate normal wood siding construction, enable use of thin sheet material, and permit easy handling of long panels.

3,420,028
INTERLOCKING ROOF DECK AND WALL CONSTRUCTION
Layle B. Barker, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed May 19, 1966, Ser. No. 551,335
U.S. Cl. 52-588
Int. Cl. E04c 1/30



A corrugated roof deck and wall construction formed from identical interlocked extrusions. Each extrusion is provided with a flat base member which is attached to the roof or wall of the structure. A leg upstanding from the base carries a female locking member. An inverted channel attaches to one end of the base member and terminates in a foreshortened downwardly extending portion which carries a male locking member which interlocks with the female locking member to provide a joint free from capillary action located a substantial distance from the base.

3,420,029
PREFABRICATED PANEL UNIT
Harold E. Martin, Connerville, Ind., assignor to H. H. Robertson Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 19, 1966, Ser. No. 580,416
U.S. Cl. 52-594
Int. Cl. E04c 1/30; E04c 2/38

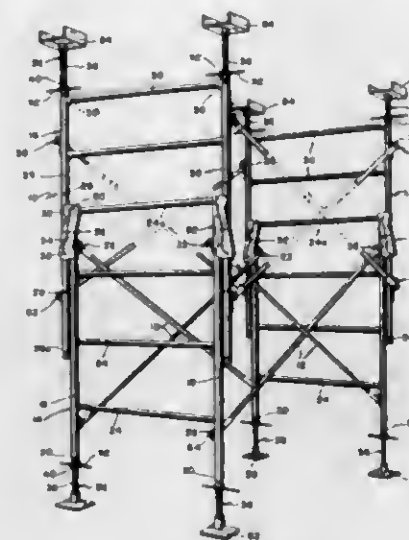


A unitary, high strength panel unit comprising a pair of facing sheets, each sheet having a male lip and a female lip formed along opposite sides of the facing sheet. The facing sheets are assembled in male lip-to-male lip and female lip-to-female lip correspondence. Connecting means, such as spring steel clips, are employed to secure the opposing male lips together and to secure the opposing female lips together. The unitary, high-strength panel presents a pair of female lips on one side positioned to receive a pair of male lips of an adjacent wall panel, and a pair of male lips on the opposite side positioned to be inserted into the female lips of an adjacent panel unit.

3,420,030
KNOCKDOWN SCAFFOLDING
Fred C. Kosmach, Wauconda, Richard C. Mocny, Prospect Heights, and Donald B. Moritz, Arlington Heights, Ill., assignors to Waco Scaffold & Shoring Co., Division of Bliss & Laughlin Industries, Inc., Schiller Park, Ill., a corporation of Delaware
Filed July 27, 1967, Ser. No. 656,512
U.S. Cl. 52-637
Int. Cl. E04g 7/00; E04b 12/10

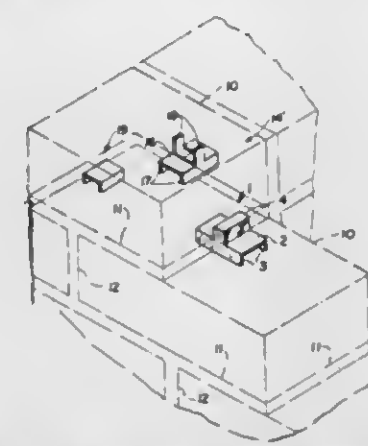
Demountable scaffolding in which stirrup type hanger brackets operating in tension adjustably interengage upper securements on upright supporting members and lower securements on overlapping like-size supported members

to hold them parallel in weight bearing relationship with great rigidity and strength. Accordingly, either end of the



assembly can serve as the lower end and full size cooperating levelling and securing elements can be used interchangeably on ends of the assembly.

3,420,031
MASONRY CONSTRUCTION
Deno Castelli, Western and Clark Aves., Jeannette, Pa. 15644
Filed Nov. 16, 1966, Ser. No. 594,767
U.S. Cl. 52-687
Int. Cl. E04b 1/41

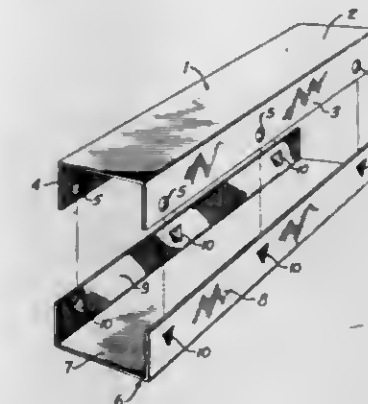


1. For use in a masonry wall comprising a plurality of courses of bricks laid end-to-end, with end-to-end joints staggered between courses; a gage element having two integral seats mounted on depending runners for supporting the bottom end portions of said bricks at said end-to-end joints and having an integral central upstanding portion to gage the distance between adjoining ends of bricks, said central upstanding portion being hollow and having a top cover portion bridging said runners, said runners and said central upstanding portion having common sidewalls of inverted T shape, said central upstanding portion being in the form of a frame having a rectangular opening superimposed on and parallel to a second rectangular opening below said integral seats and arranged to permit mortar to move freely therethrough in the direction of said courses.

3,420,032
LOCKING LANCE TAB PRE-ASSEMBLY OF BOX-SECTION FRAME MEMBER
Adolph E. Felt, Milwaukee, Wis., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed Sept. 29, 1965, Ser. No. 491,366
U.S. Cl. 52-731
Int. Cl. E04c 3/32

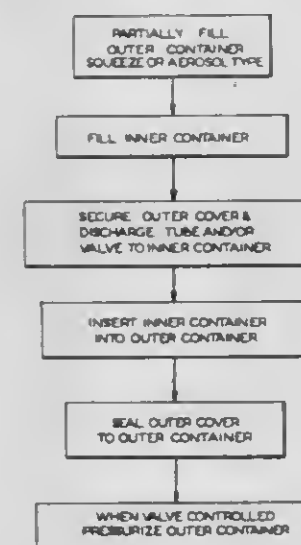
A box section frame member includes an upper channel-shaped member having the flanges partially telescoped

into the flanges of a lower channel-shaped member. A weld connection is made at the upper edge of the lower channel-shaped member. The flanges of the lower channel-shaped member are formed with integral struck out tabs which project inwardly and are longitudinally spaced. The upper channel-shaped member is provided with cor-



respondingly spaced openings located to mate with the tabs in the assembled relation. The tabs and opening are made during the formation of the channel members which are preassembled by press fitting of channel-shaped members with the flanges and web portions thereof deflecting to permit the movement of the openings past and into locking engagement with the tabs.

3,420,033
METHOD OF FILLING AND ASSEMBLING COMPARTMENTED DISPENSING DEVICE
John P. Modderno, Gambrills, Md., assignor to Modern-Lab, Inc., Baltimore, Md., a corporation of Maryland
Original application Feb. 9, 1965, Ser. No. 431,420, now Patent No. 3,255,926. Divided and this application Mar. 24, 1966, Ser. No. 537,174
U.S. Cl. 53-36
Int. Cl. B65h 3/04

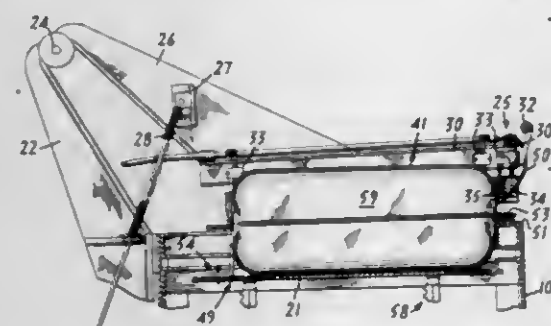


This application is concerned with a method of filling containers for retaining reactive components separate until the discharge thereof as a mixture or reaction product as desired.

3,420,034
WRAPPING MACHINE
Alfred B. Sarisky, 27 Cayuga Ave., Oakland, N.J. 07436, and Bert Neuman, 129 Ascension St., Passaic, N.J. 07055
Filed June 25, 1965, Ser. No. 466,906
U.S. Cl. 53-182
Int. Cl. B65b 9/02; B65b 51/30

The invention provides apparatus for packaging articles without the necessity of shrinking the wrapper or expanding the article after sealing the wrapper, and still provide

a close-fitting package. This is accomplished by incorporating with the heat-sealing means a heat-shielding sheet material-fitting means arranged to draw the wrapping material towards and tightly against substantially all of the exterior surface of the article being wrapped,



including the surfaces immediately adjacent to the seal, while shielding the sheet material and the article from the heat arising from the heat-sealing means except at the point where the seal is being applied. The seal accordingly directly abuts the article, and there is no loose wrapping material in the package.

3,420,035

PACKAGING MACHINE

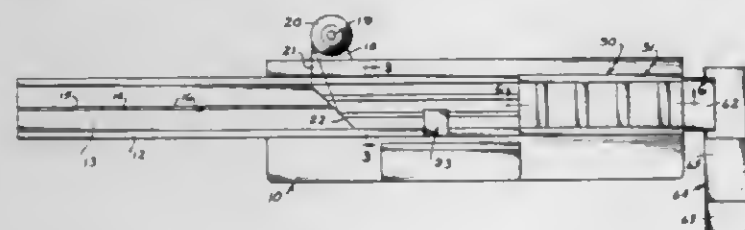
Howard Deans, Secane, and Vincent Pace, Havertown, Pa., assignors to Kleer-Vu Industries, Inc., New York, N.Y.

Filed June 8, 1966, Ser. No. 556,111

U.S. Cl. 53-182

2 Claims

Int. Cl. B65b 9/12; 51/26



An article packaging apparatus having means for spacing the articles to be packaged, inserting the articles into a web of heat sealable material which has been folded substantially in half, sealing the edges of the material to provide a tubular package and thereafter sealing the ends of the package while forcing excess air therefrom.

3,420,036

CARTON HANDLING SYSTEM AND APPARATUS

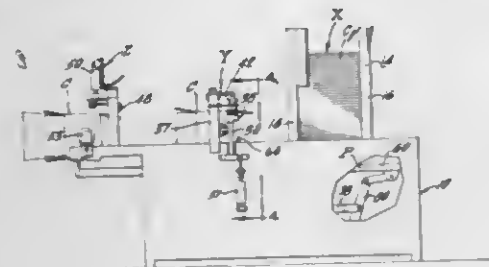
Edmund C. Hutchinson, deceased, late of Collingswood, N.J., by Elizabeth B. Hutchinson, executrix, Collingswood, N.J., assignor to Campbell Soup Company, Camden, N.J., a corporation of New Jersey

Filed Mar. 18, 1966, Ser. No. 536,195

U.S. Cl. 53-186

6 Claims

Int. Cl. B31b 1/76



Carton handling apparatus to advance a carton from a stack of flat blanks, erect the carton and hold the carton at a loading station until it is loaded including a carton

stacking station at one end of the machine to receive a stack of flat folded cartons, a carton erecting station at the center of the machine where the cartons are erected and a carton loading station at the other end of the machine where the cartons are loaded, together with reciprocal carton feed means operable during one stroke to advance a carton blank from the stacking station to the erecting station and simultaneously advance an erected carton from the erecting station to the loading station.

3,420,037

BOXING MACHINE

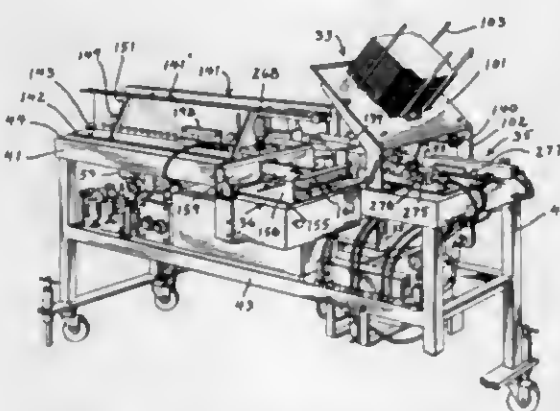
Fred W. Villemure, Rockford, Ill., and Ralph F. Anderson, 332 Calvin Park Blvd., Rockford, Ill.; said Villemure assignor to said Anderson

Filed Aug. 22, 1966, Ser. No. 573,991

U.S. Cl. 53-186

20 Claims

Int. Cl. B65b 5/02



1. An apparatus for packaging articles in cartons of the type having four interconnected side walls and end closure flaps on at least some of the side walls comprising, means defining an elongated support for supporting erected cartons with the axis of the erected cartons extending generally horizontally, conveyor means having spaced carton engaging members for advancing the erected cartons in one direction in a path along said support means, said carton support means having a carton loading station, a magazine for supporting a stack of cartons in flattened condition above said loading station, carton feed means for withdrawing a flattened carton from the end of the stack; opening the flattened carton; and depositing the opened carton on said support means at said loading station, a first carton end closing means mounted for movement into and out of position at a first end of the opened carton at the loading station to close said first end of the carton sufficient to prevent articles from passing outwardly therethrough, loading means for loading articles into the carton at said loading station through a second end thereof, a first operating means for operating said carton feed means to feed a carton to said loading station, a second operating means for operating said first end closing means to close said first end of the carton at the loading station, a third operating means for operating said conveyor means to advance a loaded carton away from said loading station and along said path and means for infolding certain flaps on said first and second ends of the cartons as they are moved along said path by said conveyor means.

3,420,038

FRUIT BOX FILLER

Jasper R. Crabb, Yakima, Wash., assignor to AG-Pak Inc., Gasport, N.Y., a corporation of New York

Filed Sept. 7, 1965, Ser. No. 485,316

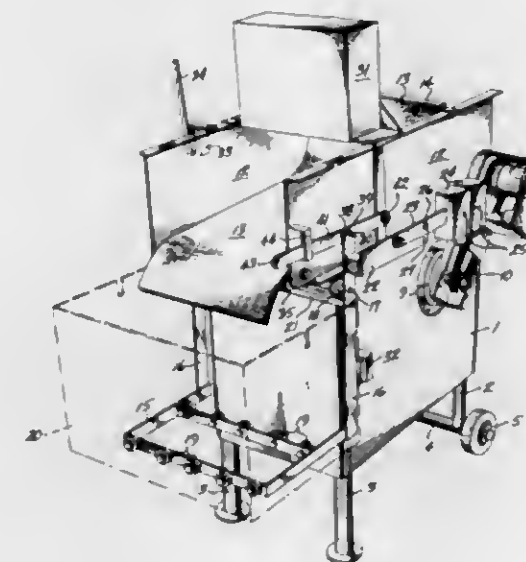
U.S. Cl. 53-248

2 Claims

Int. Cl. B65b 25/02; 35/52

The box filler includes a substantially horizontal fruit-feeding trough along which a conveyor belt moves fruit

positively in a horizontal direction. During such movement the fruit is rearranged as necessary by a flexible flap mounted over the conveyor so as to be discharged from the trough as a single uninterrupted layer. A swingable L-shaped box-supporting cradle is provided to support a rectangular box with one side wall substantially horizontal at the bottom and its bottom substantially vertical with the one side wall supported immediately below the



feed trough and conveyor belt bottom and with the discharge end of the feed trough extending into the box in such position. A horizontal idler roller beyond the downstream end of the conveyor forms a crotch therewith to hold back the fruit on stopping the conveyor. The machine also includes a jointed or two-piece counterweight arm with means for adjusting the angular relation of the two pieces to insure uniform and complete fill as well as to avoid over fill of boxes of different weights and shape.

3,420,039

PURIFICATION OF OIL-CONTAMINATED WATER

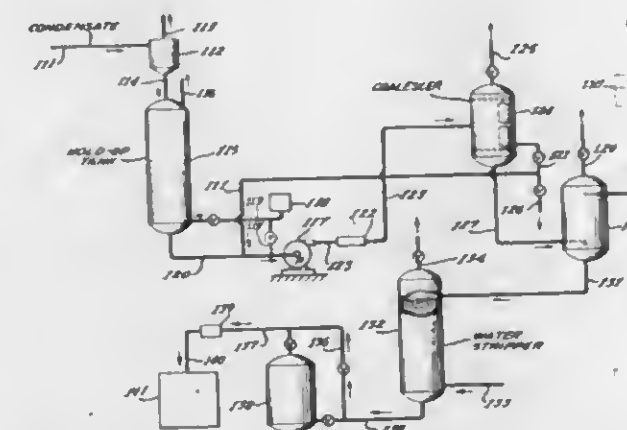
Joseph Morris Blader, Pittsburgh, Pa., assignor to Air Products and Chemicals, Inc., Allentown, Pa., a corporation of Delaware

Continuation-in-part of application Ser. No. 592,699, Sept. 26, 1966. This application Aug. 23, 1967, Ser. No. 667,026

U.S. Cl. 55-45

12 Claims

Int. Cl. B01d 19/00



Water contaminated with oil heavier than water and with water-soluble components, such as an air compressor condensate in the form of an emulsion containing such contaminants, is treated for recovery of the oil and for removal of such water-soluble components by the successive operations of: deaerating the contaminated condensate emulsion, as needed, in a pre-separating zone

for release of excessive amounts of incorporated air; maintaining a surge supply of the relatively air-free emulsion in a hold-up zone; adding a chemical de-emulsifying agent to the degassed fluid condensate; distributing the de-emulsifying agent throughout the condensate to accelerate the resultant reaction; coalescing and filtering the de-emulsified mixture in a coalescing zone to remove any heavy sludge; and separating the remaining liquid in a settling zone into a lower layer comprising recoverable oil and an upper layer comprising water contaminated by said water soluble components. The sludge is separately withdrawn from the coalescing zone and may be recycled, if desired. The contaminated water fraction is treated in an adsorbing zone containing a body of adsorbent material, so as to remove said water-soluble components. In a typical operation according to the invention, a condensate emulsion containing triaryl-phosphate in an amount between about 0.1-0.5 wt. percent is treated with about 0.2 wt. percent of calcium chloride as the de-emulsifier.

3,420,040

DUST COLLECTOR

Robert E. Neely and Alex D. Limonczenko, Los Angeles, Calif., assignors to Joy Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania

Continuation of application Ser. No. 112,147, Apr. 21, 1961. This application June 22, 1965, Ser. No. 468,672

U.S. Cl. 55-346

14 Claims

Int. Cl. B01d 45/12



1. In a cyclone type dust collector having an elongated separating tube axially disposed about an elongated outlet tube with one end of said outlet tube terminating intermediate the length of said separating tube the improvement comprising, a first open ended tapered sleeve mounted at and concentrically of said one end, said first sleeve having its smaller end spaced radially inwardly from said one end of said outlet tube in a plane to define therewith an opening of annular shape substantially in a plane transverse to the axis of said outlet tube at said one end and having its larger end remote from said outlet tube, a second open ended tapered sleeve mounted at and concentrically of said larger end of said first sleeve, said second sleeve having its smaller end spaced radially inwardly from said larger end in a plane to define therewith an opening of annular shape substantially in a plane transverse to the axis of said outlet tube at said larger end and having its own larger end more remote from said outlet tube, and said separating tube having a substantially constant internal cross sectional area extending at least from a transverse plane containing said one end to a transverse plane spaced axially from said larger end of said second sleeve in the same direction said larger ends are spaced from said one end.

3,420,041

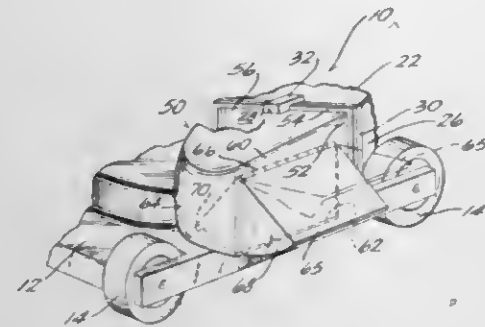
LAWN MOWER

Finn T. Irgens, Milwaukee, Wis., assignor to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware

Filed July 12, 1965, Ser. No. 471,375

U.S. Cl. 56—25.4
Int. Cl. A01d 35/26

3 Claims



A rotary mower having the usual generally circular housing for its blade and provided with a discharge chute in the form of an inverted channel initially conforming in arc to the housing and then extending tangentially therefrom in a rearward and outward direction is provided with clamp means for a fitting having a wall portion positioned to intercept material discharged from said chute and curved oppositely to the curvature of the housing and leading arcuately to a lateral opening controlled for selective windrowing or dispersion of grass clippings by means of a shield having a lateral web and having a friction-hinged connection with said chute at the top of said discharge opening.

3,420,042

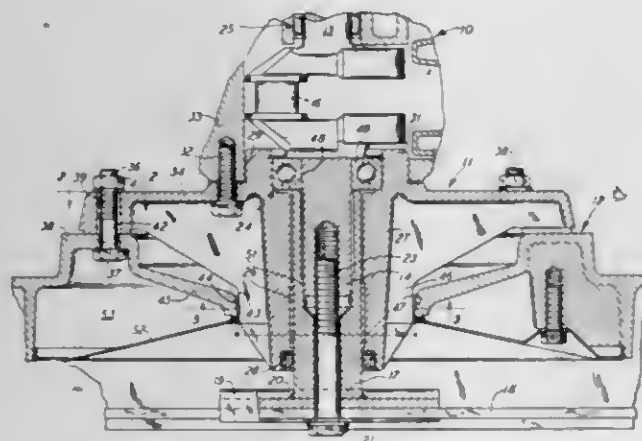
ENGINE MOUNTING FOR A ROTARY LAWN MOWER

Vernon R. Kaufman, Racine, Wis., assignor to Jacobsen Manufacturing Company, Racine, Wis., a corporation of Wisconsin

Filed Oct. 24, 1965, Ser. No. 504,684

U.S. Cl. 56—25.4
Int. Cl. A01d 35/26

5 Claims



A lawn mower housing and engine assembly with the engine base slidably mounted on the mower housing. The engine crankshaft extends through the base and the housing and is rotatably supported by means of bearings which have a slight clearance with respect to the mower housing. The clearance between the engine base and the mower housing is less than the amount that the engine base can slide on the housing. Thus when the cutter mounted on the crankshaft engages a foreign object, the engine base slides on the mower housing until it abuts the housing by

taking up the clearance between the base and the housing.

3,420,043

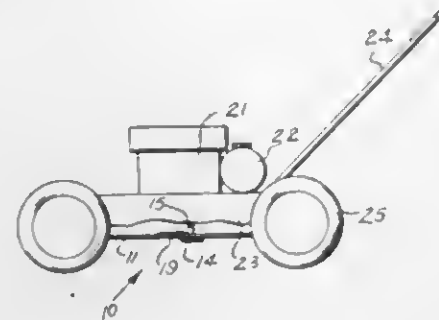
SAFETY ROTARY BLADE FOR A LAWNMOWER

Henry Hershey, Chinook, Wash. 98614

Filed Feb. 14, 1966, Ser. No. 527,206

U.S. Cl. 56—295
Int. Cl. A01d 55/18

5 Claims



A rotary blade for a lawnmower having four or more cutting blades fixed to and joining three concentric circular ring guards on the circumference of a circular metallic plate which is attached to the mower motor shaft.

3,420,044

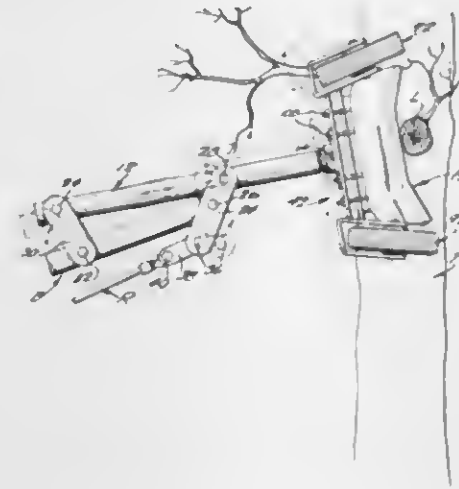
TREE SHAKER HEAD

Morton F. Phelps and William D. Phelps, Jr., both of 715 Thomas St., Little Rock, Ark. 72202

Filed Sept. 28, 1965, Ser. No. 490,788

U.S. Cl. 56—328
Int. Cl. A01g 19/00

14 Claims



A shaker head apparatus, for use in a tree shaker of the type including a shaker machine having an extensible and steerable boom, a shaft extending along the boom and reaching forwardly therefrom, and means for longitudinally reciprocating the shaft relative to the boom, comprising an elongated rammer head, a swivel type bearing at the center of the head for journalling the head to the forward end of the shaft to freely rotate in a plane transverse to the axis of the shaft, and roller means at both ends of said head journalled for free rotation about the axis of said head and protruding slightly forward of the forward surface of the head. The construction of the rammer head is symmetrical so that normally the head is balanced to extend horizontally into engagement with a vertical tree trunk. When, however, the head is moved forward to engage a horizontal or inclined tree limb the roller means engages the limb first and automatically rotates the head into a vertical, or other plane at right angles to the tree limb engaged.

3,420,045

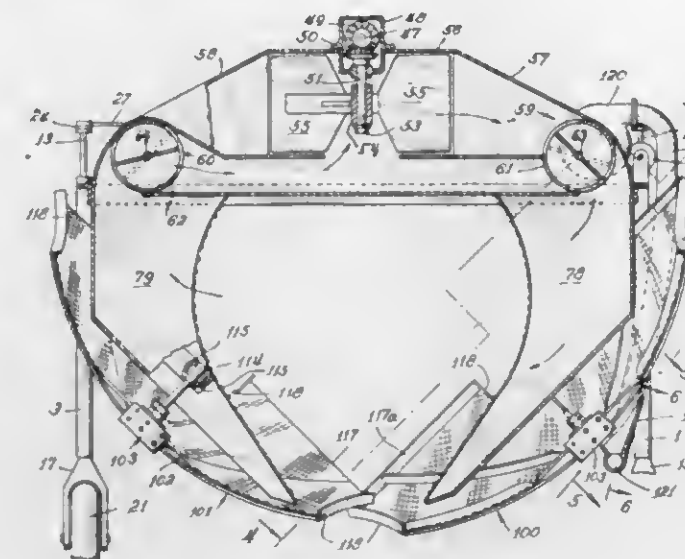
MACHINE FOR PICKING BERRIES AND THE LIKE

Paul Holzmann, 76th St. S., R.R. 3, Box 151, South Haven, Mich. 49090

Filed June 28, 1966, Ser. No. 561,102

U.S. Cl. 56—330
Int. Cl. A01g 19/00

10 Claims



1. An apparatus for picking berries or fruit comprising a frame having wheels mounted thereon and adapted to straddle bushes or trees bearing said berries or fruit, blower means mounted on said frame adapted to provide both air pressure and air vacuum, valve means connected to said blower means, and duct means connected at one end to said valve means and having the other end disposed at one side of said frame, said valve means causing air alternately to be forced into and to be withdrawn from the space within said frame in rapid sequence, thereby providing an oscillating air stream for dislodging said berries or fruit from said bush or tree.

3,420,046

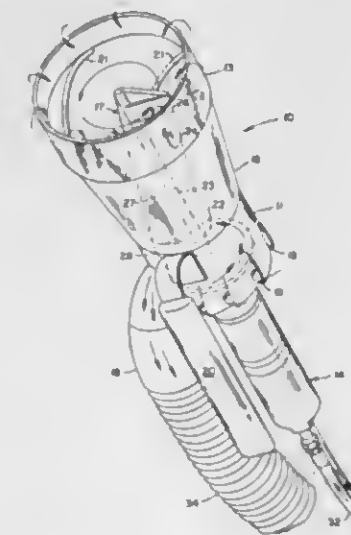
PNEUMATIC NOZZLE ASSEMBLY FOR HARVESTING GRAPES AND BERRIES

Wallace J. S. Johnson and Robert E. Fisher, Berkeley, and Gerald L. Claxton, Albany, Calif., assignors to Up-Right, Inc., Berkeley, Calif., a corporation of California

Filed Sept. 20, 1966, Ser. No. 580,820

U.S. Cl. 56—330
Int. Cl. A01g 19/08

9 Claims



1. In an apparatus for harvesting fruit:
(a) a tubular member having an open end,
(b) a paddle disposed in said tubular member,
(c) means for rotating said paddle axially of said tubular member,

(d) said paddle having a blade portion extending radially towards said tubular member, said blade portion being disposed adjacent said open end of said tubular member,
(e) a flexible conveying hose,
(f) means connecting said hose to the interior of said tubular member opposite to the open end thereof.

3,420,047

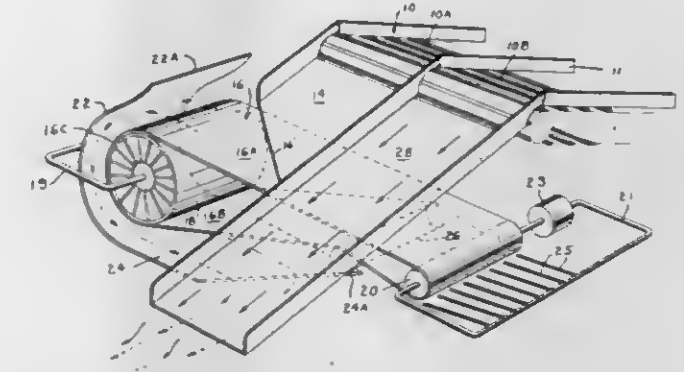
PEANUT HARVESTING MACHINE

Eli W. Reinhardt and Henry E. Morris, Ashburn, Ga. 31714

Filed Dec. 13, 1965, Ser. No. 514,173

U.S. Cl. 56—366
Int. Cl. A01d 81/00

7 Claims



Vines with the roots attached are discharged in two separate continuous swaths in one of which the vines in upright position are received on an inverting conveyer which rotates them through substantially 180 degrees about an axis extending generally in the direction of discharge for delivery of the vines onto the ground in an inverted roots-up position. The other swath of upright vines is received on a conveyer which discharges them still in upright position onto the inverted vines, whereby the roots of both vines are supported above the ground and protected from the sun.

3,420,048

METHOD AND APPARATUS FOR MONITORING THE TRAVEL OF A FIBER STRAND AT FLY FRAMES OR THE LIKE

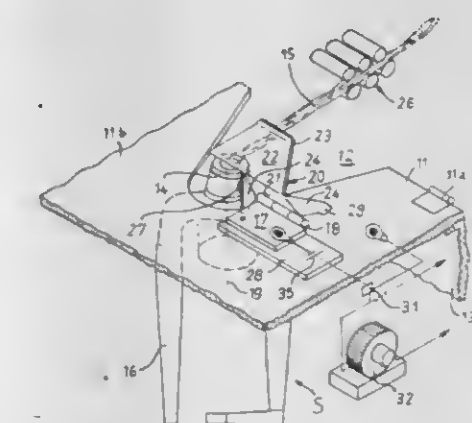
Johann Ferri, Uster, Switzerland, assignor to Luwa AG, Zurich, Switzerland, a corporation of Switzerland

Filed Aug. 3, 1967, Ser. No. 658,200

Claims priority, application Switzerland, Aug. 9, 1966, 11,397/66

U.S. Cl. 57—81
Int. Cl. D01h 13/16

14 Claims



A method of monitoring the travel of a fiber strand at fly frames, the traveling fiber strand being scanned at a location between the drafting arrangement and its entry into the flyer head and upon absence of the fiber

strand in its normal path of travel a signal is triggered. The inventive method contemplates simultaneously further scanning the fiber strand in the direct neighborhood of the flyer head for a further disturbance, and upon the appearance of the latter producing an error signal independently of the condition of the traveling fiber strand.

3,420,049 PROCESS FOR MAKING COMBINATION YARN AND PRODUCT

Georg Heberlein, Wattwil, Switzerland, assignor to Heberlein Patent Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Dec. 29, 1965, Ser. No. 517,481
Claims priority, application Switzerland, Jan. 5, 1965, 72/65

U.S. Cl. 57—140
Int. Cl. D02g 3/02

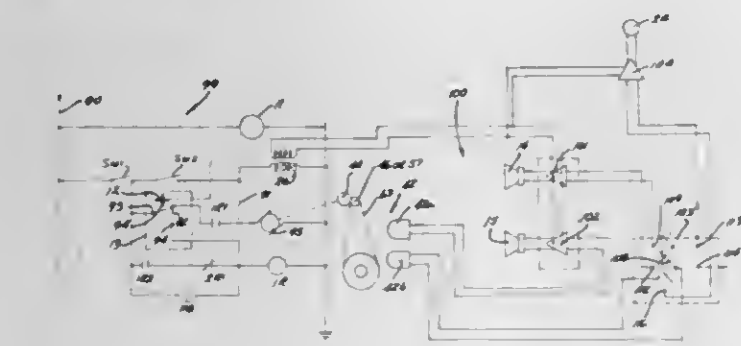
Process for making elastic yarn, and novel yarn obtained thereby, wherein a crimped synthetic multifilament yarn component, the filaments of which have a titer greater than six denier, is ply-twisted with another crimped synthetic multifilament yarn component

3,420,050
LUBRICATED POLYOLEFINE ROPES
Michael Richard Parsey, Edward Thompson, and Eric Walker, Harrogate, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed Aug. 18, 1965, Ser. No. 480,778
Claims priority, application Great Britain, Aug. 31, 1964, 35,528/64

U.S. Cl. 57—149
Int. Cl. D02g 3/36

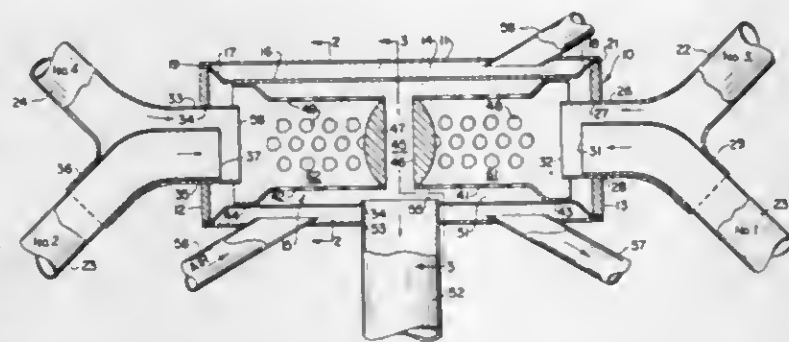
Two to five percent by weight non-drying vegetable oil, such as peanut oil or olive oil, is distributed through a rope constructed of polyolefine yarns, such as polypropylene yarn, to increase the resistance of the rope to fusion and kinking. The oil preferably contains antioxidant stabilizers and may be applied to the filaments at spinning or at any subsequent point in the production of the rope.

3,420,051
COMBINATION CLOCK AND TAPE PLAYER
Donald W. Matteson, Jackson, Mich., assignor to Clement Davis and Donald W. Matteson, both of Jackson, Mich.
Filed Oct. 21, 1966, Ser. No. 588,605
U.S. Cl. 58—14
Int. Cl. G04b 21/08



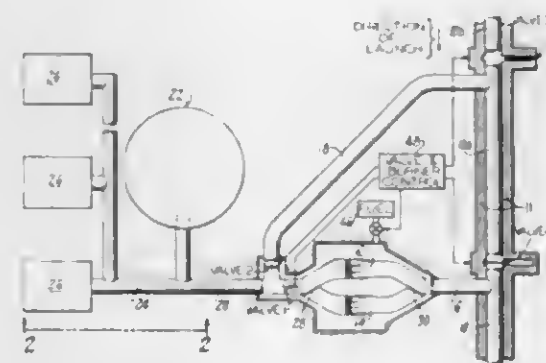
A combination clock and tape player wherein an electric clock is mounted in a cabinet having speakers located at each side of the clock and endless tape playing mechanism is located within the clock housing accessible from the top of the housing. Electric switch means actuated by the clock serve to initiate operation of the tape to produce an audible signal, and a control signal located upon a second track of the tape serves to terminate operation of the tape movement.

3,420,052
COMBINATION EXHAUST MUFFLER
AND HEATER
Frank S. Miller, Pittsburgh, Pa., assignor to North American Rockwell Corporation, a corporation of Delaware
Filed Mar. 8, 1967, Ser. No. 621,626
U.S. Cl. 60—31
Int. Cl. F01n 3/02; F01n 7/10; F01n 1/08



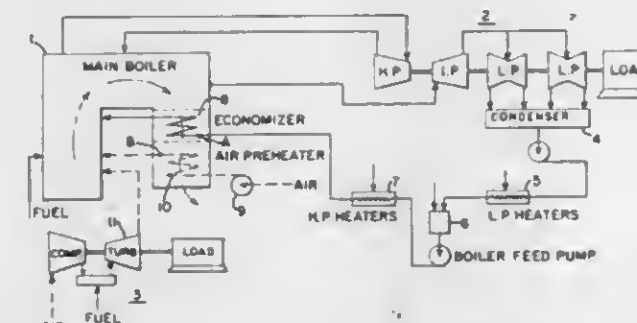
An exhaust muffler and air heater combination comprising a housing surrounding an annular high heat transfer inner wall to define an annular air heating space extending the length of the housing. The inner wall surrounds an exhaust gas chamber. A pair of exhaust pipes from the engine manifold each comprise a cylindrical pipe end fixed eccentrically within a larger diameter cylindrical pipe end concentrically fixed within a housing end wall plate. The pipe ends discharge hot gas according to the engine firing order into perforated side wall closed inner end baffle tubes that are fixed within the exhaust gas chamber independently of the pipe ends and the hot expanding gases pass through the baffle apertures and along the inner wall surface for optimum air warming heat transfer before discharge.

3,420,053
AIRCRAFT LAUNCHING THRUST
AUGMENTATION SYSTEM
John M. Tyler, Glastonbury, Frederick D. Havens, Bloomfield, Richard C. Hickok, East Hartford, and Ernest Feder, Hartford, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Jan. 18, 1967, Ser. No. 610,129
U.S. Cl. 60—39.01
Int. Cl. B64g 5/00



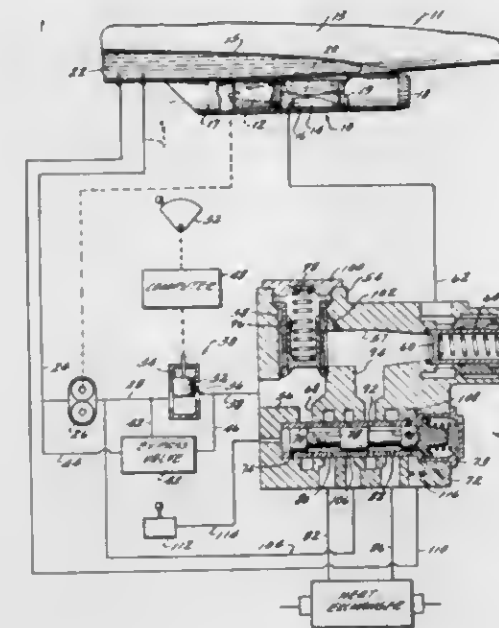
A plurality of turbofan jet engines supply large volumes of high pressure air to a weight-controlled, constant-pressure, variable-volume accumulator, which in turn feeds air to a burner that essentially doubles the volume of air supplied thereto through the combustion of fuel at a high rate over short periods of time. The output of the burner is used to force a cart-mounted aircraft launching apparatus down a long pneumatic thrust cylinder (such as catapult) by means of a piston slidably disposed therein.

3,420,054
COMBINED STEAM-GAS CYCLE WITH LIMITED
GAS TURBINE
Richard C. Sheldon, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Sept. 9, 1966, Ser. No. 578,372
U.S. Cl. 60—39.18
Int. Cl. F02g 5/02; F22b 33/00; F22d 1/00



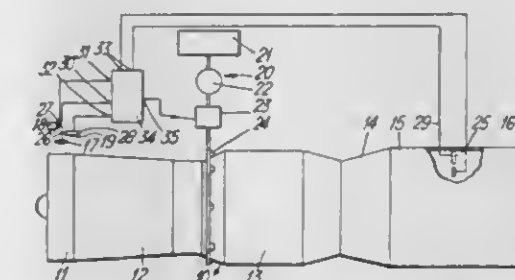
A combined steam turbine-gas turbine cycle, where the combustion-supporting air for the main boiler is supplied both from an air preheater in the stack and by gas turbine exhaust, the latter being limited to a flow on the order of 15 to 25 percent of the total flow to the boiler.

3,420,055
FUEL CONTROL SYSTEMS
John P. Lavash, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York
Filed Dec. 29, 1966, Ser. No. 605,788
U.S. Cl. 60—39.28
Int. Cl. F02g 3/00; F02c 9/04; F02c 7/12



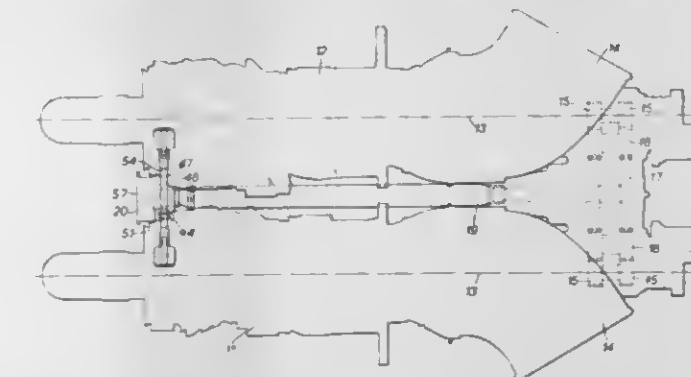
The disclosure shows a fuel delivery system for a gas turbine engine wherein a positive displacement pump is driven by the engine rotor. In normal operation a scheduled amount of fuel is metered for delivery to the engine combustor. The metered fuel flows through a heat exchanger to cool oil employed in the engine. During conditions of high rotor speeds and high pump outputs occurring where a small amount of fuel is desired for delivery to the engine combustor, means are provided for diverting a portion of the pump output from the scheduling means to the heat exchanger. This minimized the amount of fuel which would be throttled through a bypass valve to maintain a desired pressure differential across the metering valve. In this fashion, excessive heat input to the fuel is avoided.

3,420,056
FUEL CONTROL SYSTEM FOR A GAS
TURBINE ENGINE
Keith Eames, Allestree, Derby, England, assignor to Rolls-Royce Limited, Derby, England, a British company
Filed Feb. 17, 1967, Ser. No. 616,872
Claims priority, application Great Britain, Feb. 23, 1966, 7,874/66
U.S. Cl. 60—39.28
Int. Cl. F02g 3/00; F02c 9/08



A fuel control system for an aircraft gas turbine engine, in which a computer receives as inputs data relating to the ambient conditions to which the engine is subjected, and uses the data to calculate a value of an engine operating parameter, e.g., jet pipe total pressure, necessary to achieve a minimum value of engine thrust consistent with a mode of operation of the engine such as take-off, normal climb or normal cruise.

3,420,057
ENGINE DRIVE
Benjamin William Barlow, Harrow Weald, Middlesex, England, assignor to Bristol Siddeley Engines Limited, Bristol, England
Filed Mar. 29, 1966, Ser. No. 538,280
Claims priority, application Great Britain, Mar. 30, 1965, 13,460/65
U.S. Cl. 60—39.32
Int. Cl. F02g 3/00; F02c 7/20; F16m 1/02

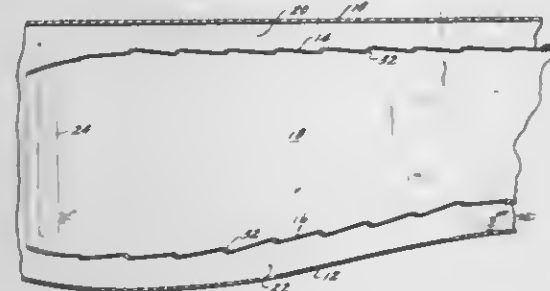


This invention relates to a mounting for engines in an aircraft in which two engines drive a common shaft through a common gearbox. In order to simplify the mounting arrangements and to provide for the minimum possible number of flexible joints so as to restrict the freedom of movement to the minimum necessary, one engine and the gearbox casing are mounted as a rigid assembly rigidly from the frame of the aircraft while the other engine is mounted from this rigid assembly through joints permitting some freedom of angular movement.

3,420,058
COMBUSTOR LINERS
Werner E. Howald and Robert G. Stabrylla, Cincinnati, Ohio, assignors to General Electric Company, a corporation of New York
Filed Jan. 3, 1967, Ser. No. 606,753
U.S. Cl. 60—39.66
Int. Cl. F02c 7/18

A combustor liner construction which has cooling passageways formed in stepped portions thereof. The cooling

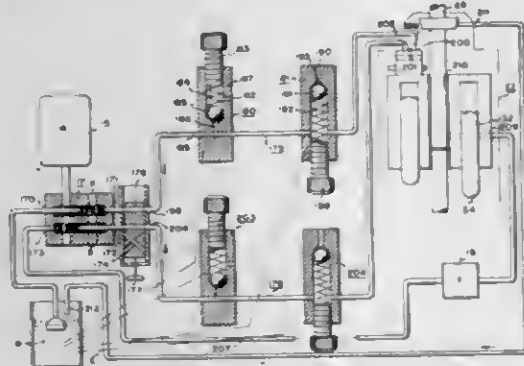
passageways are discrete holes having a diameter between .015 and .095 inch and are spaced apart a distance of 2-6 diameters. The holes are angled to discharge the



cooling air against the adjacent downstream surface of the liner. A method of fabricating such angled holes by a coining operation is described.

3,420,059 FLUID MOTOR TRANSMISSION AND IMPROVEMENTS THEREIN

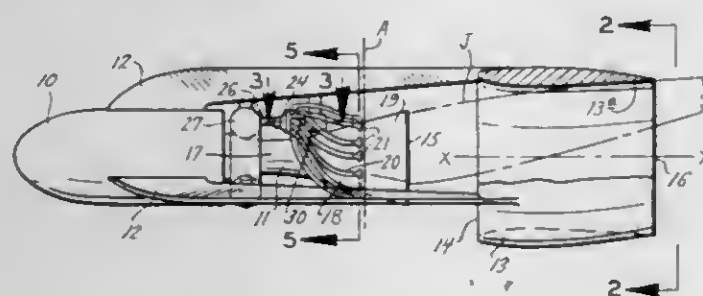
Norman L. Van Wagenen, 378 E. Truman Ave., Salt Lake City, Utah 84115, and Ara Norman Lamph, 540 North 200 East, Bountiful, Utah 84010
Filed Jan. 5, 1967, Ser. No. 607,428
U.S. Cl. 60-53
Int. Cl. F04c 1/04; F16d 31/06; F16d 33/00



The present invention comprises an improved fluid motor, systems, therefor, and improvements therein. The instant disclosure and claims stress torque and pressure relief devices in the system, retaining a serially-connected reservoir in the system itself as a heat sink, a large volume fluid supply, and a source of lubrication for the fluid motor. Both input and output leading to and from the fluid motor are, preferably, positively driven by a two-stage, mutually isolated stages' gear pump.

3,420,060 PRESSURE INDUCED JET VECTORING AUGMENTATION APPARATUS

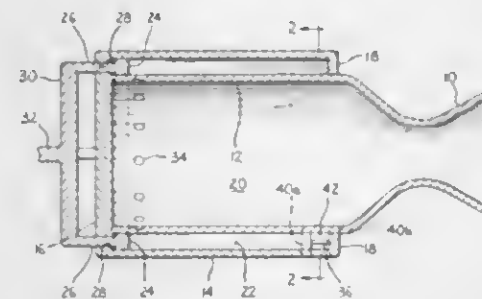
Harold H. Ostroff and Ernest W. Toney, Normandy, Mo., assignors, by mesne assignments, to McDonnell Douglas Corporation, St. Louis County, Mo., a corporation of Maryland
Filed Apr. 22, 1966, Ser. No. 544,492
U.S. Cl. 60-264
Int. Cl. F02k 3/04; B63h 25/46; B64c 15/10



Vectoring and jet augmentation apparatus utilizing control means for delivering around the inner periphery of a jet nozzle a flow of fluid that will cause the main jet

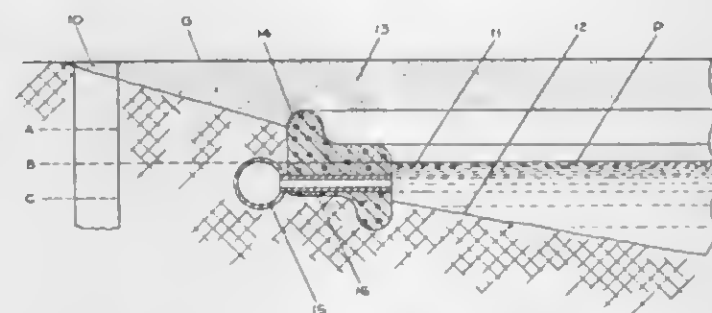
axis to sweep around the inner surface of the nozzle, such apparatus including augmentation means in the form of a shroud spaced downstream from the main jet nozzle.

3,420,061
ROCKET COMBUSTION CHAMBER AND PROPELLANT INJECTION APPARATUS
John I. Schaeffer, Forest Place, Towaco, N.J., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed Nov. 4, 1966, Ser. No. 592,090
U.S. Cl. 60-267
Int. Cl. F02k 11/00; F02c 7/12; F02g 3/00



1. In a rocket motor, the combination comprising a thrust nozzle, a first tubular housing the aft end of which is communicatively connected to the forward end of said thrust nozzle, a second tubular housing concentrically positioned around said first housing, a first end closure fixedly secured to the forward ends of said first and second housings, a second end closure fixedly secured to said first housing and to the aft end of said second housing, said first and second housings and said first and second end closures defining an annular cooling chamber extending around said first housing, said first housing being provided with a plurality of apertures which extend through its wall tangential to the inner surface thereof and which are circumferentially spaced apart adjacent the forward end thereof, said second housing being provided with at least one aperture which extends through its wall tangential to the inner surface thereof and which is adjacent the aft end thereof, and means for injecting liquid propellant under pressure through said aperture in said second housing, whereafter said propellant is whirled around said cooling chamber and injected through said apertures in said first housing.

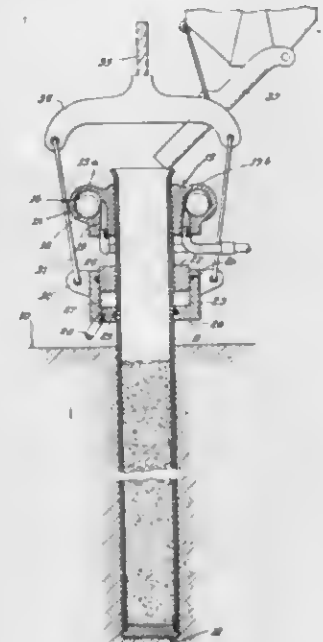
3,420,062
METHOD OF MAKING SWIMMING POOLS
Martin H. Schroeder, 904 N. Lyndale, Faribault, Minn. 55021
Filed May 2, 1966, Ser. No. 547,021
U.S. Cl. 61-1
Int. Cl. E02b 1/00; E02b 3/00; E02b 11/00



A deep test hole is dug adjacent the site of the pool and the optimum level of the water table is determined by observing its fluctuations over a long period of time. The pool is then formed by excavating the ground so that the optimum level of the water table will be substantially coincident with the normal level of water in the pool.

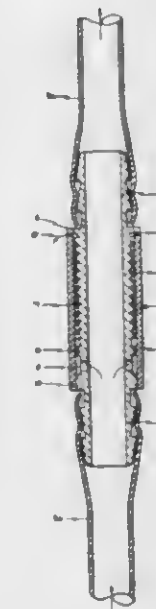
3,420,063 SONIC PROCESS OF PLACEMENT OF SAND DRAINS

Albert G. Bodine, Jr., Los Angeles, Calif. (7877 Woodley Ave., Van Nuys, Calif. 91406)
Filed Feb. 10, 1966, Ser. No. 526,542
U.S. Cl. 61-11
Int. Cl. E02b 11/00



A method of installing water drainage sand pillars in the ground comprising inserting a tubular casing of elastic material into the ground, filling the casing with sand, and elastically vibrating the casing while simultaneously withdrawing it from the ground, leaving the sand pillar therein.

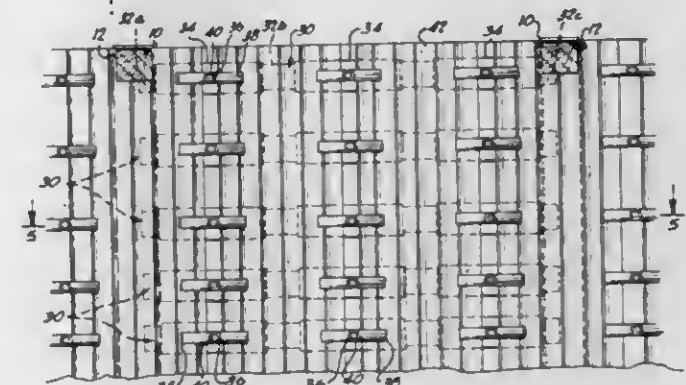
3,420,064
IRRIGATION DRIPPER UNIT AND PIPE SYSTEM
Ischajahu Blass and Symcha Blass, both of 26 Rehov Manneh, Tel Aviv, Israel
Filed Dec. 22, 1966, Ser. No. 603,980
Claims priority, application Israel, Feb. 17, 1966, 25,197
U.S. Cl. 61-13
Int. Cl. E02b 13/00



This invention relates to an irrigation dripper unit for use in irrigation in association with an irrigation supply pipe and more particularly relates to a dripper unit which may be connected in series with the supply pipe and which has means to tap off a portion of the water flowing through the unit and to discharge such portion at a low drip rate.

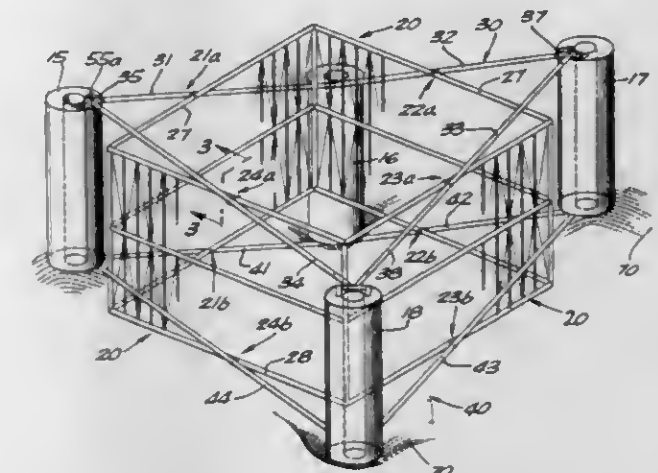
3,420,065 ADJUSTABLE BRACING MEANS FOR VERTICALLY DISPOSED EARTH-SHORING PLANKING

Edward J. Holl, 320 Warwick Ave., South Orange, N.J. 07079
Filed Mar. 6, 1967, Ser. No. 620,803
U.S. Cl. 61-41
Int. Cl. E21d 5/06; E02d 29/00



A brace disposable substantially horizontally between vertical channels of spaced, upright beams, in bracing association with vertical, earth retaining planks serially arranged adjacent to two or more of such beams; the brace being telescopically or equivalently adjustable in length and/or having articulatedly connected parts making the brace distortable in longitudinal form to enable it to coact with said beams to support said planks.

3,420,066
STABLE STRUCTURE
Charles Richard Bishop, deceased, late of Garden Grove, Calif., by Muriel Janet Bishop, executrix, 10342 Hill Road, Garden Grove, Calif. 92640
Continuation-in-part of application Ser. No. 418,203, Dec. 14, 1964. This application Sept. 18, 1967, Ser. No. 668,993
U.S. Cl. 61-46.5
Int. Cl. E02b 17/00



A support structure which is designed to accommodate itself to unevenness in the surface of terrain or continuing undulations in the surface of a body of water upon which it is supported, which includes four elongated corner posts that are arranged at the respective corners of a rectangle and are intended to remain in vertically aligned positions at all times, a rigid housing which at all times is aligned precisely perpendicular to the posts and hence normally in a horizontal plane, and a dual flexible frame for supporting the rigid housing from the posts, one portion of the flexible frame being attached at the upper ends of the posts and the other portion being attached at the lower ends of the posts, and the dual

flexible frame being pivotally joined both to the posts and to the rigid housing in such manner that the elevation of the rigid housing is intermediate to the elevation of the lowest and highest posts and is determined in part by the elevation of each post.

3,420,067 PRODUCTION OF PILES AND PILE STRUCTURES IN THE GROUND

Sven-Erik Bjerking, Gotgatan 3, Uppsala, Sweden
Filed Sept. 8, 1966, Ser. No. 577,996
Claims priority, application Sweden, Sept. 13, 1965,
11,923/65

U.S. Cl. 61—53.64
Int. Cl. E02d 5/38

13 Claims

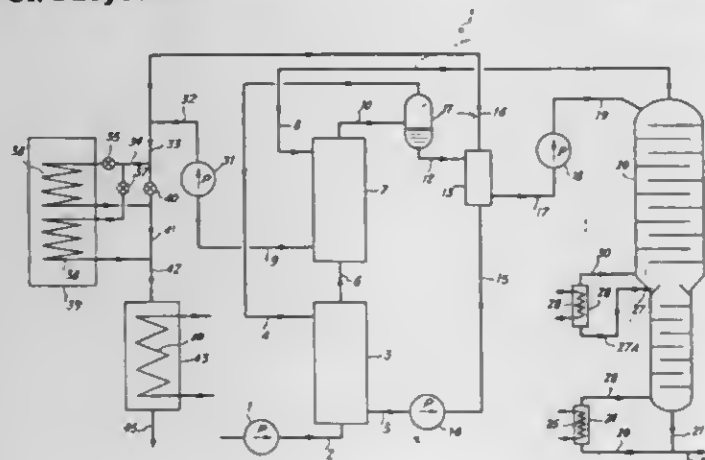


A pile forming method and apparatus therefor is disclosed wherein the anvil pipe and shoe at the bottom thereof driven into the earth by driving weight means having a casting material hopper at the upper end thereof and a supply pipe means extending downwardly from the driven weight means into the anvil pipe. After the anvil pipe is driven, concrete is deposited from the hopper through the supply pipe means into the anvil pipe and the latter thereafter is withdrawn.

3,420,068
PROCESS FOR THE PRODUCTION OF A FLUID
RICH IN METHANE FROM LIQUEFIED NAT-
URAL GAS UNDER A LOW INITIAL PRESSURE
Pierre Petit, Chateaux-Malabry, France, assignor to L'Air
Liquide, Societe Anonyme Pour l'Etude et l'Exploitation
des Procédés Georges Claude, a company
Filed Aug. 28, 1967, Ser. No. 663,857
Claims priority, application France, Sept. 13, 1966,
76,149; May 29, 1967, 108,256

U.S. Cl. 62—23
Int. Cl. F25j 3/00

5 Claims



Process for the production of a liquid or a gas rich in methane from liquefied natural gas under a low pres-

sure wherein the LNG is subjected to a first partial re-vaporisation providing a first gaseous fraction enriched in methane, and a residual liquid fraction which is subjected to a second partial vaporisation under a higher pressure, which provides a second gaseous fraction enriched in methane. The first gaseous fraction is reliquefied in heat exchange with the LNG undergoing a warming up, and the second gaseous fraction in heat exchange with the LNG undergoing the first partial vaporisation.

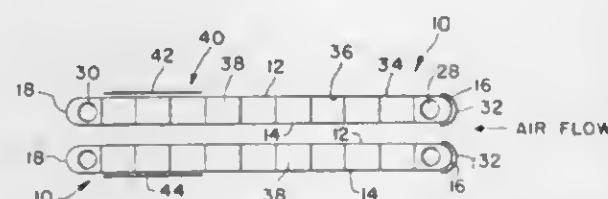
3,420,069 CONDENSER-SEPARATOR

Franklin W. Booth, Hampton, Va., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed May 1, 1967, Ser. No. 635,970

U.S. Cl. 62—93

11 Claims

Int. Cl. F25d 17/04; F25d 21/00



A condenser-separator for dehumidifying air that utilizes a sintered metal surface separating a humid air-stream from a coolant media of the same liquid as the condensate taken from the airstream. A system utilizing a coolant chamber having an outer surface made of sintered metal and the interior connected to the suction side of a pump that passes coolant, including condensate, past a constant pressure valve into a reservoir from which it is drawn for recirculation and cooling of the interior of the sintered metal surfaces.

3,420,070 REFRIGERATED CABINET WITH CIRCULATING AIR STREAMS

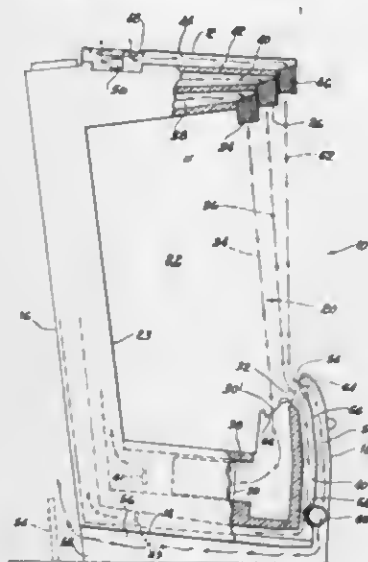
Bernard A. Hermanson, Waukegan, Ill., assignor to Dual Jet Refrigeration Co., Chicago, Ill., a corporation of Illinois

Filed Mar. 22, 1967, Ser. No. 625,129

U.S. Cl. 62—256

6 Claims

Int. Cl. A47f 3/04; F24f 13/00



A refrigerated enclosure including driven air streams circulating across an access opening to the interior of the enclosure. The air streams include at least one refrigerated stream which circulates in passages formed in the walls of the enclosure. An outer stream comprising air collected from the surrounding atmosphere is directed into contact with the inner streams for maintaining the inner streams in a desired path. The outer stream is passed

into an outer passage formed in the cabinet, and is then carried to the rear of the cabinet for discharge to the atmosphere.

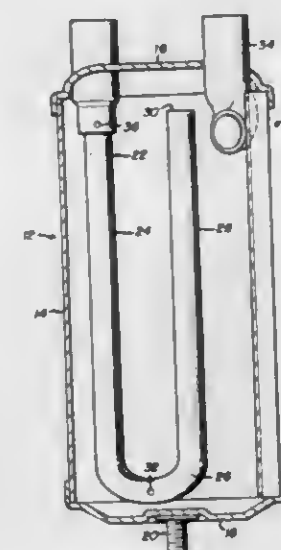
3,420,071 SUCTION ACCUMULATOR Edward W. Bottum, 9357 Spencer, Brighton, Mich. 48116

Filed Mar. 10, 1967, Ser. No. 622,127

U.S. Cl. 62—503

Int. Cl. F25b 43/00

7 Claims



A suction accumulator is provided with a casing having upper and lower ends and a side wall. A conduit extends through the casing and terminates near the upper end thereof for providing an inlet path for introducing gaseous refrigerant having liquid refrigerant entrained therein into the casing. The terminal portion of the conduit is constructed to direct gas and liquid refrigerant against the side wall of the casing where the liquid can deposit and run down to the lower end of the casing. This avoids introduction of liquid into the outlet from the casing which is a tube having an open end adjacent the casing upper end. The outlet tube also has an opening adjacent the lower end of the casing. Suction is applied to the outlet tube and gas is drawn through the open end thereof while liquid is drawn through the bottom opening. In one embodiment, the side wall of the casing comprises an inner tube and an outer tube which form a heat exchange passageway. All joints between the inner and outer tubes and the end closures for the tubes are available externally to allow furnace brazing of the joints and convenient repair and servicing.

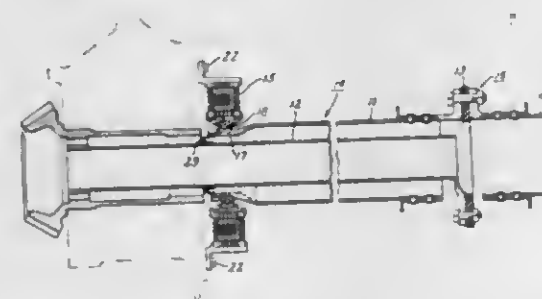
3,420,072
POWER TRANSMISSION SYSTEM
Robert J. Baier, Claymont, Del., and John C. Mack, West-
town, Pa., assignors to The Boeing Company, Seattle,
Wash., a corporation of Delaware

Filed Jan. 5, 1967, Ser. No. 607,487

U.S. Cl. 64—1

Int. Cl. F16c 1/00

12 Claims



A power transmission system having a drive shaft and a dual shaft arrangement, the inner dual shaft is secured

3,420,073 SHAFT COUPLINGS

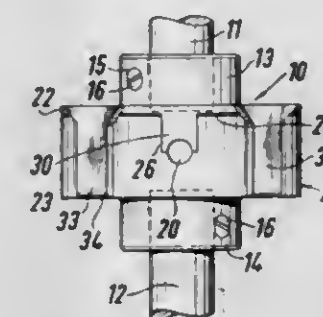
Eric Walden, 5 Provost Court, Eton Road,
London NW. 3, England

Filed Aug. 15, 1966, Ser. No. 572,445

Claims priority, application Great Britain, Aug. 20, 1965,
19,582/65

U.S. Cl. 64—18
Int. Cl. F16d 3/19

13 Claims



A universal coupling comprising a pair of connecting members adapted for mounting on the adjacent ends of shafts to be joined. The connecting members are each provided with a pair of diametrically opposed trunnions which are slidably mounted in four radial bores spaced 90° apart in an intermediate ring member. In order to position the trunnions in the bores the intermediate ring member is formed in two axially abutting parts which are detachably connected together. The radial bores are formed partly in each of the intermediate ring member parts and the intermediate ring member is made of a thermoplastic material so as to avoid the necessity of separate bearings or added lubrication.

3,420,074
HOMOKINETIC UNIVERSAL JOINT CAPABLE OF
ANGULARLY SHIFTING AND OF AXIALLY
SLIDING

Andrea Bellomo, Strada Sant'Anna 82, Turin, Italy

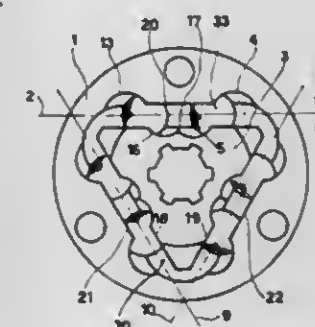
Filed May 26, 1966, Ser. No. 553,220

Claims priority, application Italy, June 1, 1965,
12,477/65

U.S. Cl. 64—21

Int. Cl. F16d 3/30

4 Claims



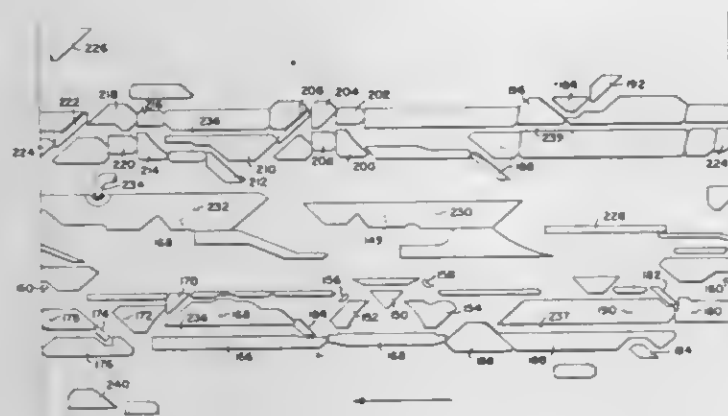
A universal sliding joint for constant velocity includes a prismatic hub, a ring enclosing the hub and spaced therefrom, and an even number of driving balls engaged by opposed and crossing grooves formed on the outer surface and the hub and on the inner surface of the ring. At least two grooves on a prismatic face of the hub converge in one axial direction and two corresponding grooves on the ring converge in the opposite axial direction.

3,420,075

KNITTING MACHINE AND METHOD

Ivan David Grothbey, Laconia, N.H., assignor to Scott & Williams, Inc., Laconia, N.H., a corporation of Delaware
Filed Apr. 11, 1967, Ser. No. 630,113

U.S. Cl. 66—14 9 Claims
Int. Cl. D04b 9/10



A knitting machine having superposed cylinders and of the double-ended latch needle type produces separate stockings, each being started on bare needles and pressed off at its completion. Makeup is affected with all of the needles in one cylinder. Control of tension is by air flow, accompanied by the action of humps and fins in a sinker cup. The air flow also ejects the finished stockings.

3,420,076

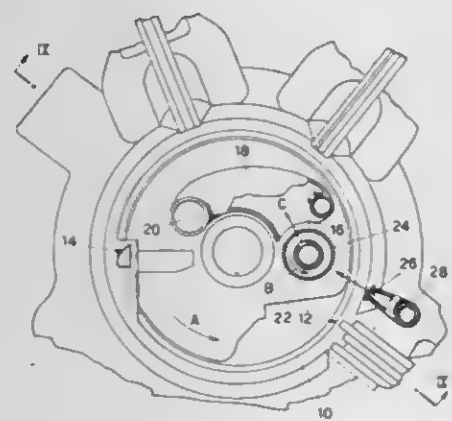
METHOD AND DEVICE FOR SEVERING AND MECHANICALLY REMOVING YARN ENDS IN CIRCULAR KNITTING MACHINES FOR FINE KNITTED GOODS, IN PARTICULAR STOCKINGS

Ettore Luzzatto, Corso Matteotti 7, Milan, Italy

Filed Nov. 3, 1966, Ser. No. 591,872

Claims priority, application Italy, Nov. 10, 1965, 11,036/65

U.S. Cl. 66—140 13 Claims
Int. Cl. D04b 35/32



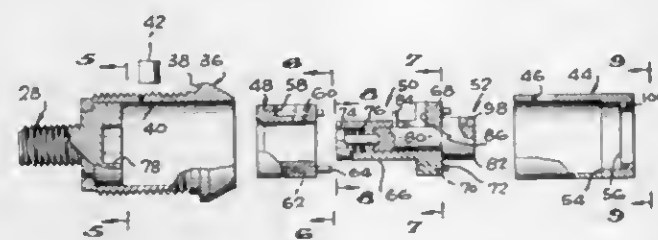
A stream of pressurized gas is directed by a first nozzle onto inactive yarn ends, which extend from a yarn feed station across the top of a dial plate in a circular knitting machine, to urge the yarns into frictional tangential engagement with a portion only of the periphery of a foraminous drum that rotates above the dial plate adjacent the inlet of a conventional suction device. The suction device is positioned opposite the first nozzle and the point where the yarns initially engage the drum. Compressed air is also blown radially outwardly from the interior of the drum through one or more nozzles that are directed at the inlet to the suction device, so that the yarns are disengaged from the drum and blown into the suction device approximately 180° from the point they initially engage the drum. Instead of the drum, a travelling, foraminous belt may be used.

3,420,077

PICK-PROOF LOCKS

George E. Drazin, deceased, late of Los Angeles, Calif., by Robert M. Drazin, administrator (13855 Oxnard St., Apt. 24, Van Nuys, Calif. 91401), Los Angeles, Calif.

Filed Dec. 16, 1966, Ser. No. 602,428
U.S. Cl. 70—276 6 Claims
Int. Cl. E05b 47/00; E05b 33/00; E05b 19/26



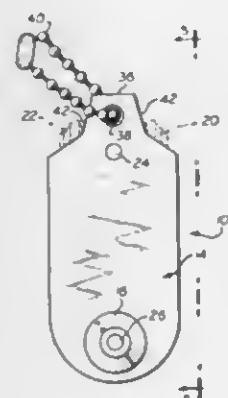
This invention discloses a lock operable by a magnetic key which when inserted longitudinally therein moves a key guide against the action of a spring. The key guide includes a transverse pin which slides within a longitudinal slot in the key guide housing, the pin being withdrawn from the slot upon insertion of the magnetic key thereby allowing for rotation of the key guide within the key guide housing and the releasing of the lock mechanism.

3,420,078

KEY CASE

Melton P. Nielsen, 815 J St., Crescent City, Calif. 95531
Filed Aug. 4, 1967, Ser. No. 658,467

U.S. Cl. 70—456 10 Claims
Int. Cl. A45c 11/32



A combined case and operator for a pair only of related flat keys is provided, consisting of thin, rigid, parallel cover members, having their outer faces clearly differentiated in appearance and configuration.

3,420,079

COLD PROJECTION WELDING, TACKING, SEVERING OR METAL FORMING

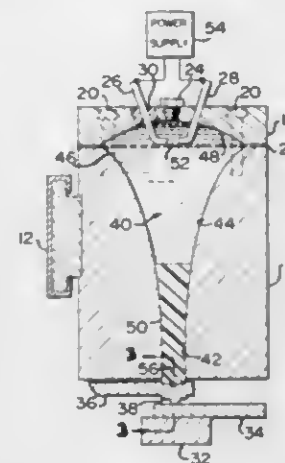
Paul M. Erlandson, Palos Park, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Apr. 26, 1966, Ser. No. 545,283
U.S. Cl. 72—56 16 Claims
Int. Cl. B21j 5/04

Methods and apparatus for performing operations on metal strips and the like through the production of an electrical discharge within a fluid containing chamber are disclosed. An elastomeric plug seals a fluid containing chamber in which are disposed at least two spaced electrodes for producing an electrical discharge therebetween. The chamber is of a tapered configuration and the elastomeric plug is similarly tapered and extends along an axial extent of the chamber in contact with the walls

thereof. Upon the occurrence of an electrical discharge a force is transmitted to the plug via the chamber fluid to

tension in the wire. The mandrel is cylindrical and is provided with a ridge to form a V-shaped portion on each turn of the helix. The ridge slopes away from a frusto-

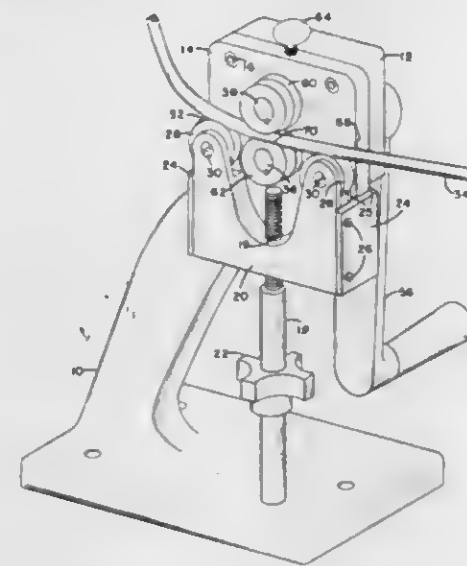


3,420,080

COILING DEVICE

Walter R. Supina and George H. Fleming, Jr., State College, Pa., assignors to Applied Science Laboratories, Inc., State College, Pa., a corporation of Pennsylvania

Filed June 23, 1966, Ser. No. 559,775
U.S. Cl. 72—138 2 Claims
Int. Cl. B21f 3/10



This invention is a laboratory tube bending device which permits tubes or rods to be bent in a predetermined radius or spiral. The device is comprised of two hand driven driving wheels, mounted on a base, a crank attached to these wheels for rotation and an adjustable bending member adapted to press against the tubing to be bent to form the desired radius. A sliding device is attached to a driving wheel permitting the wheels to be slid apart so that tubing may be inserted therebetween.

3,420,081

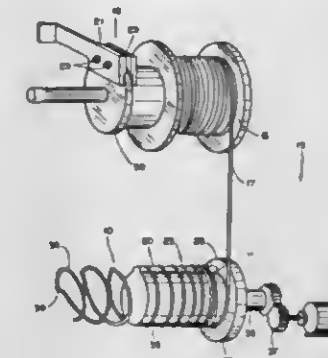
CHAIN LINK FABRIC FASTENER

Rudolph Edgar Parislen, 891 Rainbow St., Ottawa 9, Ontario, Canada

Original application Apr. 4, 1966, Ser. No. 539,905, now Patent No. 3,371,911, dated Mar. 5, 1968. Divided and this application Sept. 18, 1967, Ser. No. 680,278
Claims priority, application Canada, Mar. 15, 1966, 954,746

U.S. Cl. 72—139 3 Claims
Int. Cl. B21f 3/10

An apparatus for forming a helical fence fastener, the apparatus includes a rotating mandrel on which a wire drawn from a supply reel is wound and means to provide

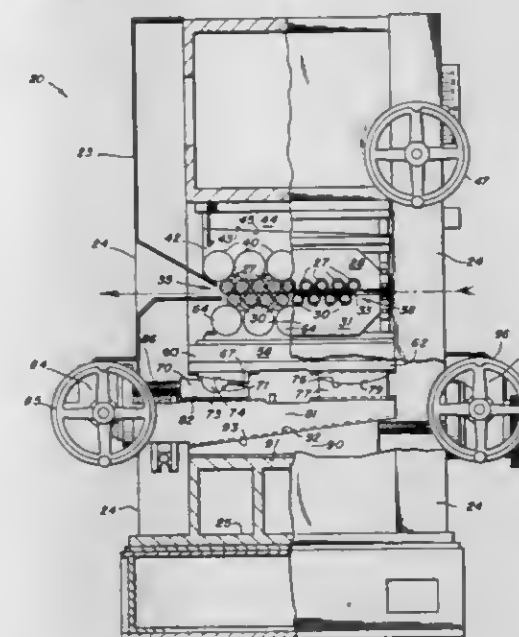


3,420,082

LEVELER

Gerald L. Bearer, Pittsburgh, Pa., assignor to Lee Wilson Engineering Company, a corporation of Ohio

Filed June 2, 1966, Ser. No. 554,875
U.S. Cl. 72—163 12 Claims
Int. Cl. B21d 1/02



The disclosure relates to a machine to work a web such as a metal sheet by progressively bending it between first and second pluralities of work rolls. One plurality may be tilted relative to the other and the greatest separating force exerted by the metal sheet on the work rolls occurs at either the entrance or exit end. A large arcuate journal surface is located vertically in line with that end of the machine having the largest separating force to support such force and permit easy adjustment of the tilt angle without materially changing the height adjustment.

3,420,083

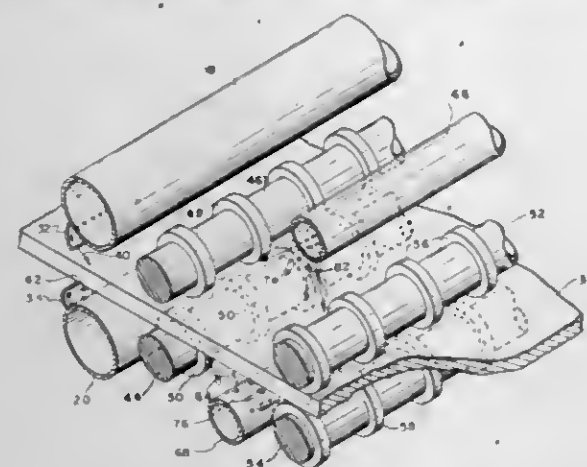
ROLLER PRESSURE HIGH INTENSITY QUENCH SYSTEMS

Franklin C. Safford, Bristol Township, Bucks County, Pa., Robert A. McGrath, Northampton Township, Bucks County, Pa., and Edgar Lloyd Loveless, Rockledge, Pa., assignors to Drever Company, Bethayres, Pa.

Continuation of application Ser. No. 520,493, Jan. 13, 1966. This application Dec. 8, 1967, Ser. No. 689,205
U.S. Cl. 72—201 11 Claims
Int. Cl. B21b 27/10

An apparatus for quenching a heated metal plate which has an upper and lower roller bed to support and re-

strain the plate. As the plate is moved through the apparatus, a curtain of quench fluid impinges the surfaces of the plate at an angle to prevent quench fluid from



reaching a part of the metal plate which has not advanced to the point of impingement. Tired rolls permit the quench fluid to follow the plate after impingement on the plate.

3,420,084

MISCUT MECHANISM FOR SHEARS

Jeremiah Wagner O'Brien and John Thomas O'Keefe, Pittsburgh, Pa., assignors to United Engineering and Foundry Company, Pittsburgh, Pa., a corporation of Pennsylvania

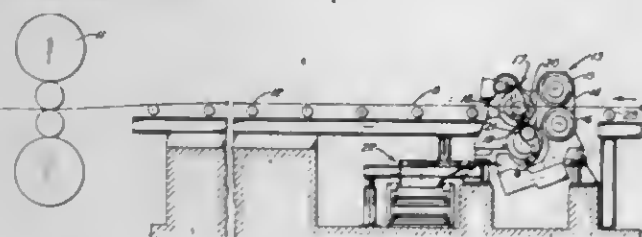
Filed Sept. 27, 1965, Ser. No. 490,513

Claims priority, application Great Britain, Oct. 12, 1964, 41,645/64

U.S. Cl. 72-203

Int. Cl. B21b 15/00

4 Claims



The present disclosure relates to a scrap chopper shear employed in conjunction with a side trimming shear for trimming the marginal edges from moving rolled metallic strip. The scrap chopper shear, employed to shear up the scrap marginal edges, includes an upper and lower knifehead to which there are secured cropping knives. The knives are adapted to effect a cut of the strip fed therebetween upon the rotation of at least one of the knifeheads. The rotatable knifehead is provided with an arm that controls its position so as to bring the knife into the cutting position upon each rotation of the head. An extendible arm is connected to the other knifehead which is constructed to have two positions. In one position the position of the knifehead is constructed so as to place the knife in a cutting position. In the second position the knife is displaced out of the cutting position to avoid the scrap chopping operation. Means are provided for extending and retracting the extendible arm.

3,420,085

METAL EXTRUSION FORMING APPARATUS

Wilson N. Pratt, Anaheim, and Eugene G. Freehauf, Ontario, Calif., assignors to General Dynamics Corporation, a corporation of Delaware

Filed Dec. 1, 1965, Ser. No. 510,903

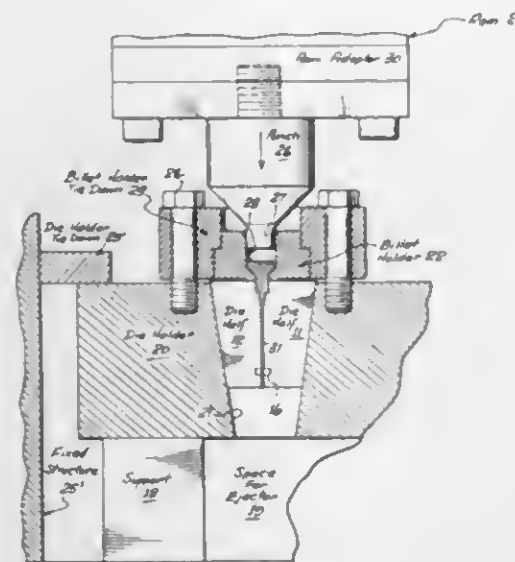
U.S. Cl. 72-253

Int. Cl. B21c 23/00

10 Claims

Broadly, the disclosure involves the use of a pin or projection extending through a vent or opening in a die cavity below the cavity area defining the desired part

to be formed. The die being particularly adapted for use in a high energy rate forming apparatus which is capable of forming a three dimensional object by a single stroke of the forming apparatus. The projection or pin extends transversely to the direction of flow of material through the vent for purposes of impeding flow of material through the die cavity without closing the vent, where-



3,420,086

HAND TOOL FOR CRIMPING TERMINALS

Robert Alvin Long, Harrisburg, and Daniel Eugene Poplaski, York, Pa., assignors to AMP Incorporated, Harrisburg, Pa.

Filed June 3, 1966, Ser. No. 555,173

U.S. Cl. 72-338

Int. Cl. B21d 43/28; B21k 27/06

7 Claims



Terminals in strip form are crimped onto wires by hand held apparatus comprising die, anvil, and shearing member located against anvil. Terminal strip is inserted into apparatus to locate leading terminal between die and anvil. Apparatus is manually actuated to move anvil relatively towards die until leading terminal is crimped. At the same time, shearing member is moved relatively past anvil to

shear leading terminal from the strip. Hand held strip is then laid aside and wire is inserted into terminal. Apparatus is again actuated to complete movement of anvil towards die and crimp the terminal onto the wire.

3,420,087

ELECTRICAL CONNECTOR MEANS AND METHOD OF MANUFACTURE

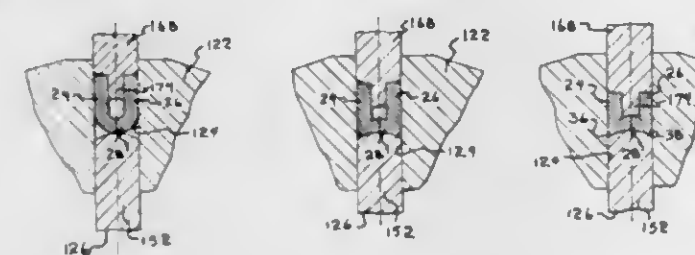
John G. Hatfield, Camp Hill, and Robert M. Murray, Elizabethtown, Pa., assignors to AMP Incorporated, Harrisburg, Pa.

Original application July 25, 1963, Ser. No. 298,002, now Patent No. 3,288,915, dated Nov. 29, 1966. Divided and this application July 29, 1966, Ser. No. 581,674

U. S. Cl. 72-338

Int. Cl. B26d 3/00

5 Claims



An electrical connector is disclosed which is formed of relatively thin sheet metal to include a one piece configuration having a rigid post section with four sharp corners to receive a wrapped wire therearound and a tubular support portion for mounting purposes. The connector includes a further portion extending from the mounting portion which is readily deformable or may be made to provide a spring function. The connector post section is formed by impact compressing flat stock into a U-shaped configuration between dies within a channel having fixed side walls to a point of extrusion of the outer edges of the post.

3,420,088

MANUFACTURING OF CONTAINERS BY DEEP DRAWING

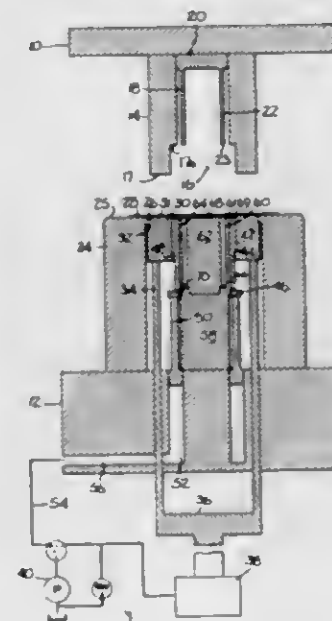
Bernard L. Hoffman, Trenton, N.J., assignor to Frederick A. Krause Associates, Inc., Frenchtown, N.J., a corporation of New Jersey

Filed Sept. 27, 1965, Ser. No. 490,294

U.S. Cl. 72-349

Int. Cl. B21d 22/24

12 Claims



Deep drawing arrangements wherein sheet metal to be drawn is simultaneously forced into a number of con-

**3,420,089
VARIABLE PRESSURE DRAWPRESS AND METHOD**

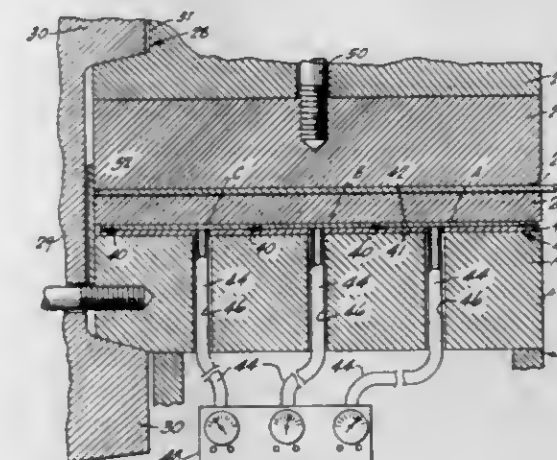
Richard A. Myers, Rolling Hills Estates, Calif., assignor, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland

Continuation-in-part of application Ser. No. 321,472, Nov. 5, 1963. This application Feb. 16, 1966, Ser. No. 527,954

U.S. Cl. 72-351

Int. Cl. B21d 22/22

21 Claims



3. Apparatus for forming sheet metal comprising: a punch movable along an axis normal to the plane of a workpiece to be formed and establishing a forming zone; opposed gripping members located laterally adjacent to said forming zone and relatively movable toward each other in a direction parallel to the axis of movement of said punch to establish a gripping zone extending laterally outward from said forming zone for slidably gripping marginal portions of said workpiece; fluid pressure means to apply and maintain a limited number of zones of different clamping pressures at areas successively spaced outwardly from the forming zone; and wear plate means disposed against and covering said pressure means to provide a smooth wear resisting surface to engage said workpiece; said wear plate means being locally yieldable in an axial direction at said successive areas to transmit different gripping pressures to the workpiece corresponding to the different clamping pressures exerted by the fluid pressure means.

3,420,090

RETENTION FORCE GAGE

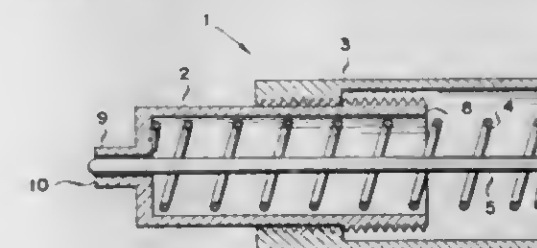
Richard D. Crenshaw, Palo Alto, and Ronald S. Saddoris, San Jose, Calif., assignors to Lockheed Aircraft Corporation, Burbank, Calif.

Filed June 29, 1967, Ser. No. 649,937

U.S. Cl. 73-9

Int. Cl. G01n 19/02

1 Claim



A gage for determining if a female electrical socket has sufficient grip force includes a pin which is inserted into the socket. If the socket lacks sufficient grip force, a

spring associated with the pin pulls the pin out of the socket.

3,420,091 GAS LEAK DETECTION

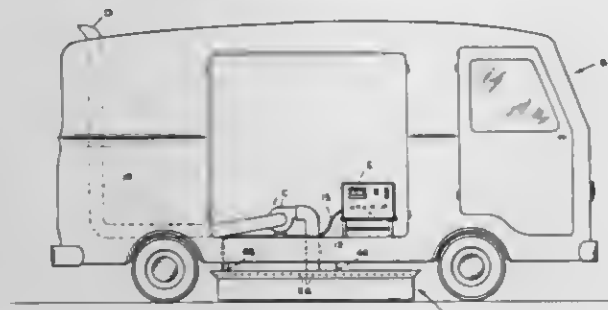
Russell N. Franklin, 261 Spruce St.,
Bloomfield, N.J. 07003

Filed Apr. 1, 1966, Ser. No. 539,356

U.S. Cl. 73-23

Int. Cl. G01n 31/00

14 Claims



1. A hood for detecting gas leaks adapted to be attached to a vehicle in close proximity to a roadway, said device comprising a frame member, a wall member beneath the frame member extending substantially parallel thereto and spaced therefrom, side walls extending between said frame and wall members providing an air chamber, an air inlet extending through the frame member in communication with the air chamber, a plurality of transversely spaced partitions extending longitudinally from the underside of the wall member, means extending across the ends of said partitions to provide a plurality of longitudinally extending compartments open to the bottom of the hood, an air outlet in the wall member in communication with each compartment at the front end thereof, and gas pick-up means for connection to gas analyzer means positioned in and at the rear of each compartment.

3,420,092 MEASURING THE SPECIFIC GRAVITY OF GASES AND LIQUIDS AND APPARATUS THEREFOR

Dieter Dorsch, Ludwigshafen (Rhine), Germany, assignor to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

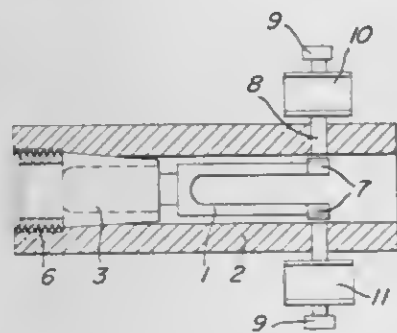
Filed Feb. 21, 1966, Ser. No. 528,947

Claims priority, application Germany, Dec. 21, 1965, B 85,069

U.S. Cl. 73-32

Int. Cl. G01n 9/00

3 Claims



Apparatus for continuously measuring the specific gravity, density or pressure of gases or liquid in a tube which contains a tuning fork capable of being excited electrically from outside to mechanical vibration with its natural frequency. The changes in natural frequency due to changes in these properties of the gases or liquids are measured by means of an electric frequency measuring system.

3,420,093 METHOD AND APPARATUS FOR TESTING CORE PERMEABILITY

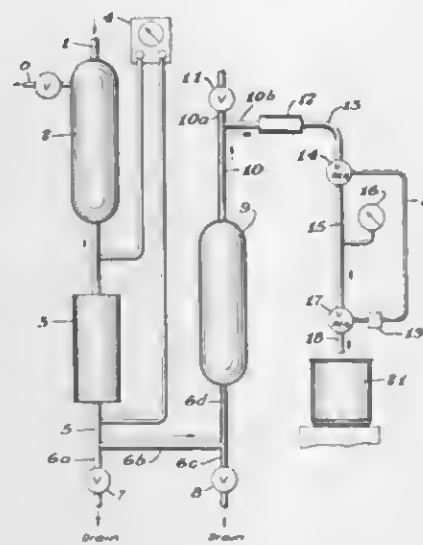
Leon A. Collins, Norman, Okla., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Aug. 3, 1966, Ser. No. 570,051

U.S. Cl. 73-38

Int. Cl. G01m 3/00; G01m 3/26

10 Claims



An apparatus and method of use thereof whereby the pressure gradient is immediately varied in the exact proportion to any decrease or increase in the permeability, of a test sample, thereby to maintain a truly constant rate of flow. The invention is especially adaptable to studying the effect on permeability of a rock core while it is being subjected to the action of a fluid which is reactive therewith or which otherwise tends to change the permeability thereof as by either plugging or opening existing channels.

3,420,094 APPARATUS FOR MEASURING PERMEABILITY

Alfred Schmid, Buena Vista, Coahuila, Mexico, and Heinz Nyffenegger, Villnachern, Switzerland, assignors to Cementfabrik Holderbank-Wildeggen AG., Holderbank, Aargau, Switzerland, a corporation of Switzerland

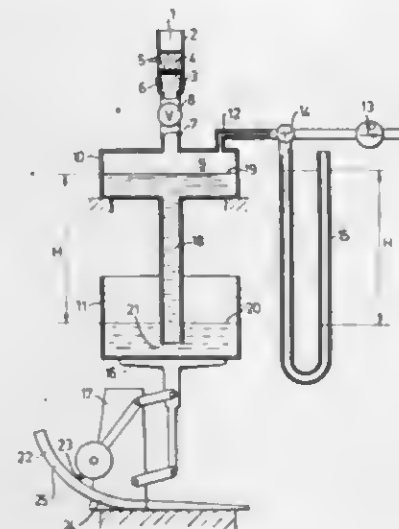
Filed Sept. 26, 1966, Ser. No. 582,105

Claims priority, application Switzerland, Oct. 4, 1965, 13,628/65

U.S. Cl. 73-38

Int. Cl. G01m 3/00

5 Claims



An apparatus for measuring the gas permeability of a specimen of material comprises a closed container partly

filled with liquid. The gas space in the container communicates with a gas flow path which contains the specimen. An open container, containing a liquid, is connected by a liquid-filled transfer path to the closed container. The liquid levels are different and means are provided to position one of the containers so that a constant head is maintained by the transfer of liquid between the containers when gas flows through the specimen. The rate of displacement of liquid through the path is determined and the permeability of the specimen may be derived from this determination.

3,420,095 LEAK TESTER FOR FLOW CONDUCTORS

Norman F. Brown, Dallas, Jack W. Tamplen, Celina, and Dudley Joseph Meaux, Dallas, Tex., assignors to Otis Engineering Corporation, Dallas, Tex., a corporation of Delaware

Filed Sept. 12, 1966, Ser. No. 578,572

U.S. Cl. 73-40.5

Int. Cl. G01m 3/08

35 Claims



A pipe and joint tester having packer means sealing off the joint or coupling between two coupled lengths of pipe separately from a packer means sealing between one length of pipe and the tester, whereby the coupling or joint may be tested with gas and the remainder of one length of pipe tested with liquid, for pressure leaks. Testing may be done simultaneously with the two types of fluids, or the testing may be done by gas alone or liquid alone, if desired. Releasable anchor means is provided for supporting the tester in the pipe while additional lengths of pipe are connected.

3,420,096 MEASUREMENTS OF MOLECULAR WEIGHTS OF HIGH POLYMERS

Jack W. Hoyt, Pasadena, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Filed Sept. 20, 1966, Ser. No. 580,837

U.S. Cl. 73-54

Int. Cl. G01n 11/02

1 Claim

A method for determining the molecular weight of a high polymer compound comprising the steps of forcing the solution through a measuring tube, measuring the pressure between two sensing stations on the tube, and calculating the coefficient of turbulent friction reduction. The result is then compared with a plot of molecular weight vs. measured values of coefficient of turbulent friction reduction for reference polymers of known molecular weight to determine the molecular weight of the unknown polymer.

3,420,097 VIBRATION COUPLING DEVICE FOR AN ULTRASONIC TRANSDUCER

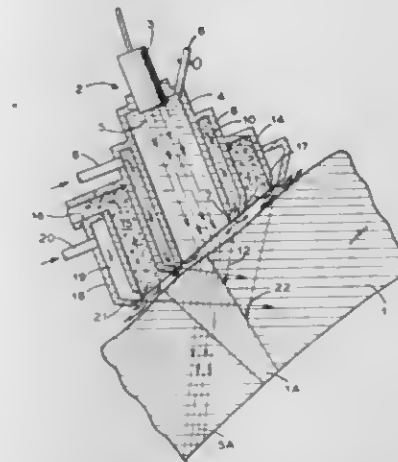
Johan Battermann, Auhervilliers, and Bernard Froman, Paris, France, assignors to Babcock & Wilcox, Limited, London, England, a company of Great Britain

Filed Dec. 22, 1965, Ser. No. 515,624

U.S. Cl. 73-71.5

Int. Cl. G01n 29/00

8 Claims



A liquid coupling device for coupling ultrasonic energy to a workpiece surface through a column of liquid. The coupling device preferably comprises a tubular member for containing the column of liquid, has an ultrasonic emitter mounted on one of its ends and a nozzle about the periphery of its other end, which is open. In operative relationship with respect to the workpiece, the open end of the tubular member is located apart from (but adjacent) the workpiece. In operation, the nozzle directs a jet of liquid from a pressurized source against the workpiece and inwardly toward the open end of the tubular member to establish and maintain the column of liquid.

3,420,098 TRANSIENT SYNTHESIZING SYSTEM

Giles W. Painter, Granada Hills, and Hugh J. Parry, Van Nuys, Calif., assignors to Lockheed Aircraft Corporation, Burbank, Calif.

Continuation-in-part of application Ser. No. 382,493, July 14, 1964. This application Aug. 22, 1967, Ser. No. 662,425

The portion of the term of the patent subsequent to Oct. 10, 1984 has been disclaimed and dedicated to the Public

U.S. Cl. 73-71.6

Int. Cl. G01n 29/00

7 Claims

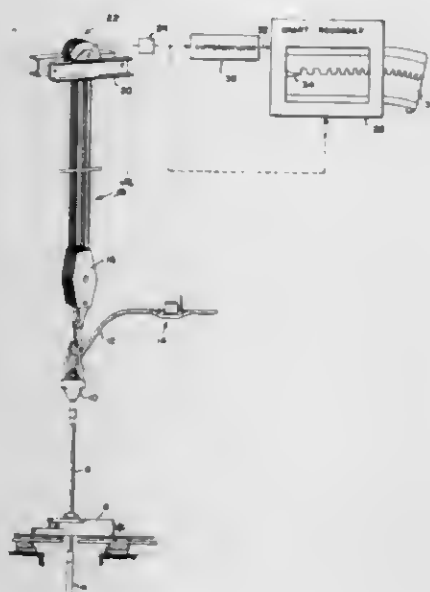


The apparatus of the invention produces an electrical oscillatory transient having a given spectrum envelope. This transient is applied to an electrodynamic shake table to produce an acceleration transient suitable for the shock testing of structures. Synthesis of the shock transient is achieved by the application of a short driving pulse to an appropriate number of series-connected peak-notch filters. The weighted, composite output of the filters corresponds to the desired shock-spectrum envelope.

3,420,099 APPARATUS FOR AND METHOD OF LOGGING EARTH FORMATIONS

John D. Bennett, Richardson, and John W. Peret, Dallas, Tex., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed Oct. 4, 1965, Ser. No. 492,792
U.S. Cl. 73—151.5
Int. Cl. E21b 45/00

5 Claims



Characteristics of earth formations at various depths are determined by detonating standard explosive charges at various points at the bottom of a bore hole, and drilling through the fractured formation. The rate of drilling is measured, and recorded against depth, so that distances of relatively easy drilling can be determined. Since different formations are fractured to different depths, the record indicates the nature of the formation being drilled.

3,420,100 METEOROLOGICAL OBSERVATION APPARATUS AND ITS INFRASTRUCTURE INSTALLATION

Ernest Marie René Dubois, Fontenay-aux-Roses, France, assignor to Bertin et Compagnie, Paris, France, a company of France
Filed Jan. 12, 1967, Ser. No. 608,898
Claims priority, application France, Jan. 14, 1966, 45,964
U.S. Cl. 73—170
Int. Cl. G01w 1/08

10 Claims



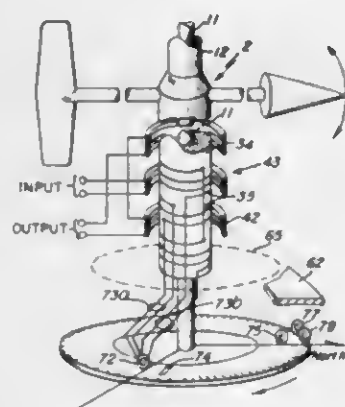
A device for making meteorological measurements and comprising, in addition to a propulsion system for a sonde which contains measuring instruments and which is con-

nected to a parachute, a recovery cable which unwinds when the device climbs and which is rewound to return the sonde to its starting place.

3,420,101 FLOW VELOCITY AND DIRECTION SENSOR

Harry E. Adams, Needham, Mass., assignor to Control Equipment Corporation, Needham Heights, Mass., a corporation of Massachusetts
Filed Oct. 22, 1965, Ser. No. 501,319
U.S. Cl. 73—189
Int. Cl. G01w 1/02

10 Claims

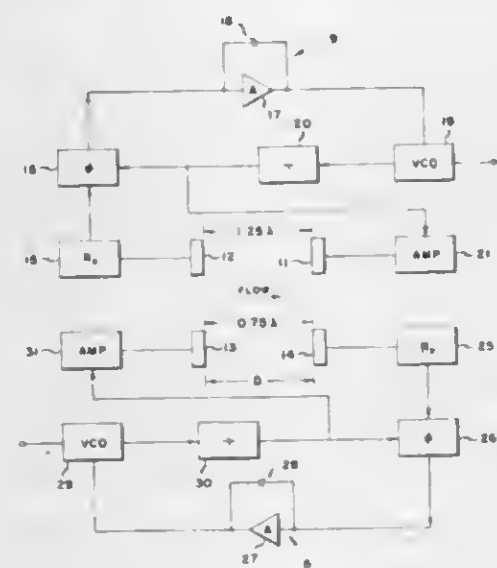


A fluid (wind) velocity and direction detector produces pulses at a rate indicative of wind velocity by a set of wind velocity driven indices passing a fixed detector and also produces signals defining an interval during which a count of the pulses is indicative of wind direction. The interval defining signals are produced by wind velocity driven indices passing a moveable detector which is positioned by wind direction.

3,420,102 ACOUSTIC FLUID METERING DEVICE

Alvin E. Brown, Cupertino, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Dec. 15, 1966, Ser. No. 601,934
U.S. Cl. 73—194
Int. Cl. G01f 1/00

3 Claims



In an acoustic fluid metering device, an oscillator is modulated by a voltage controlled oscillator (VCO). The resulting signal is transmitted through an intervening fluid medium to a receiver whose output signal and the VCO output are compared in a phase detector. The frequency range of the VCO is set so the path length of the intervening medium provides a needed quadrature to operate the phase detector. The output of the phase detector is integrated and used to control the VCO.

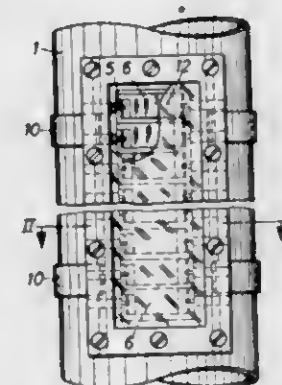
3,420,103 LIQUID LEVEL INDICATOR

Robert Peschek, Frankfurt am Main, Germany, assignor to Phönix Armaturen Werke Bregel G.m.b.H., Frankfurt am Main, Germany, a company of Germany
Filed Feb. 13, 1967, Ser. No. 615,584
Claims priority, application Germany, Feb. 19, 1966, P 38,821

U.S. Cl. 73—319

Int. Cl. G01f 23/06

3 Claims

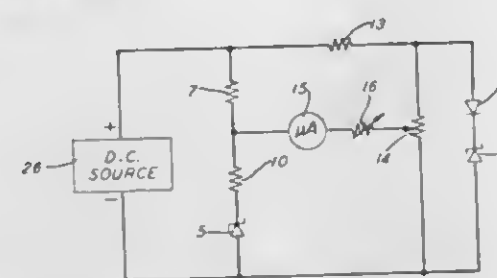


A liquid level indicator in which plates of magnetizable material are mounted on pivot pins arranged in two vertical rows, two coaxial pins of the respective rows engaging elongated slots of an associated plate. The center of gravity of the plate is located between the two parallel planes defined by the pin axis in the two terminal positions of the pins in the slots. The plates are turned and shifted on the pins by a magnet floating on the liquid when the liquid level changes.

3,420,104 TEMPERATURE MEASURING APPARATUS USING SEMICONDUCTOR JUNCTION

Clarence P. Troemel, Middlesex, and Edward H. Weber, Jr., Madison Township, Middlesex County, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, Berkeley Heights, N.J., a corporation of New York
Filed May 26, 1966, Ser. No. 553,152
U.S. Cl. 73—362
Int. Cl. G01k 5/18

1 Claim



A temperature measuring bridge having a sensing leg containing a Zener diode back-biased into its breakdown region. Two of the other legs are joined by a potentiometer across which is connected a temperature stable voltage-regulating breakdown diode device.

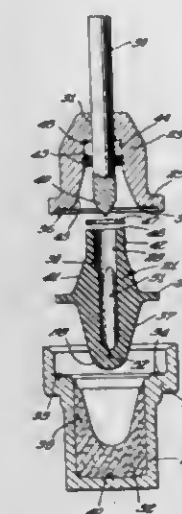
3,420,105 THERMAL SENSITIVE ELEMENT

James S. Winter, Springfield, Ohio, assignor to Vernay Laboratories, Inc., Yellow Springs, Ohio, a corporation of Ohio
Filed June 8, 1966, Ser. No. 556,161
U.S. Cl. 73—368.3
Int. Cl. G01k 5/32; F01b 19/00; F16j 3/00

19 Claims

1. A thermal power unit comprising:
a casing containing a thermally expansible material, a resilient boot fitted within the casing in operable contact with the thermally expansible material,

a well formed within the boot for receiving a relatively extensible power piston therein, said well having an inner cross-sectional profile substantially triangular in configuration, and

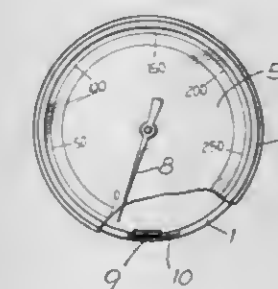


a power piston operably disposed within said well and being extended relative to said casing in response to an increase in temperature ambient said thermally expansible material.

3,420,106 MANOMETER

Blasius Spedel, 244 Hochmeisterstrasse, and Paul Keller, 288 Weilbachstrasse, both of 7455 Jungingen, Germany
Filed Apr. 4, 1967, Ser. No. 628,332
Claims priority, application Germany, Apr. 7, 1966, S 103,109

2 Claims



The improvement in a manometer for permitting it to be adjusted in accordance with temperature variations by designing the dial ring so as to permit it to be turned to an extent corresponding to the possible deviations of the pointer from the zero point of the dial due to temperature variations.

3,420,107 DISPOSABLE URINE SPECIMEN TUBE

Lancelot R. Rowett, 233 Jersey St., Wembley, Western Australia, Australia
Filed July 12, 1966, Ser. No. 564,590
Claims priority, application Australia, July 16, 1965, 61,613/65

1 Claim

A disposable urine specimen tube comprising a test tube formed of flexible plastic material, the test tube having a rounded closed end to facilitate the use of the test tube as a centrifuge tube and being provided with a cap adapted to fit onto the open end of the test tube, the cap having

a dropper tube projecting outwardly therefrom so that urine can be aspirated into and expelled from the test tube

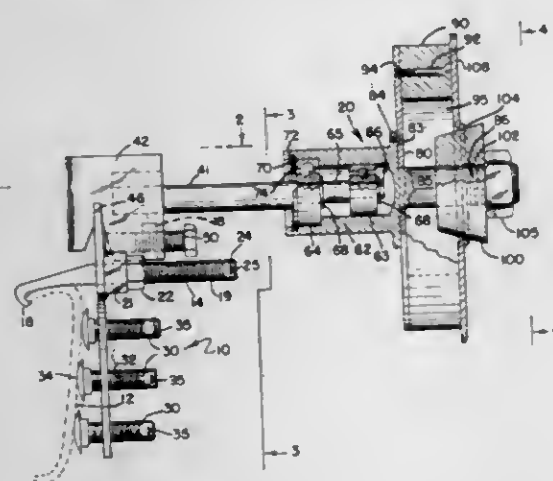


through the dropper tube, and a removable cover for the dropper tube.

3,420,108
WHEEL BALANCER
Quentin Matthew Lockrem, Box 484,
Yankton, S. Dak. 57078
Filed Sept. 23, 1965, Ser. No. 489,514

U.S. Cl. 73-480
Int. Cl. G01m 1/14

9 Claims



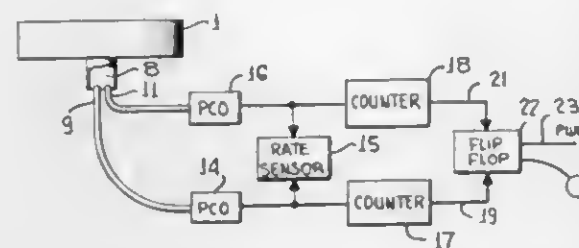
A wheel balancing apparatus of the portable type designed to be mounted on a bumper of a vehicle and adjustably positioned thereon to provide a horizontal reference and a vertical mounting for the wheel to be balanced so that unbalance in the wheel or tire thereon will be evident by rotation of the wheel under the influence of gravity.

3,420,109
READOUT FOR A VORTEX RATE-OF-TURN SENSOR
Edwin M. Dexter, Silver Spring, Md., assignor to Bowles Engineering Corporation, Silver Spring, Md., a corporation of Maryland
Filed Feb. 5, 1965, Ser. No. 430,697
U.S. Cl. 73-505
Int. Cl. G01p 15/00

18 Claims

A readout system for a vortex rate sensor employs a pressure controlled oscillator responsive to an output pressure from said sensor to provide a signal having a frequency which varies about a center frequency as a function of the rate and sense of rotation of fluid in the

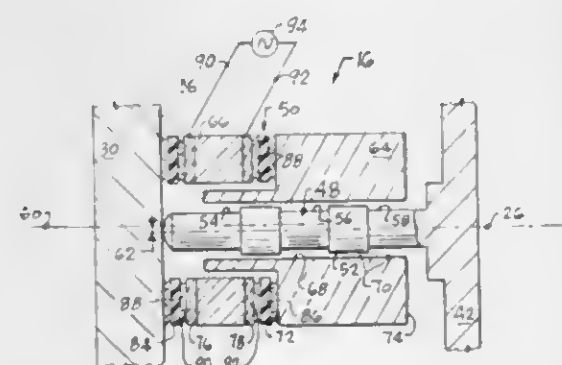
sensor. In a preferred embodiment, a differential output pressure from said sensor controls the frequencies of a pair of pressure controlled oscillators such that the



difference between said frequencies is a measure of the rate and sense of rotation of fluid in the sensor.

3,420,110
GIMBAL PIVOT
John L. Evans, Oakland, N.J., assignor to General Precision Inc., Little Falls, N.J., a corporation of Delaware
Filed Nov. 10, 1965, Ser. No. 507,147
U.S. Cl. 74-5.5
Int. Cl. G01c 19/02

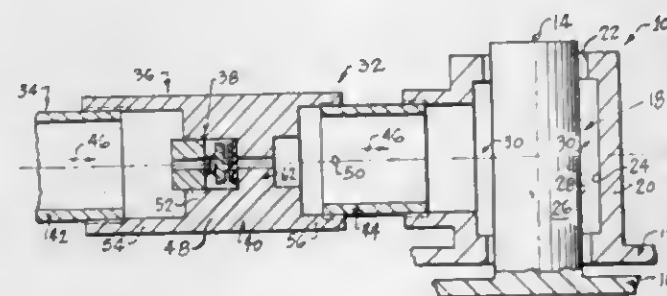
3 Claims



A bearing having a sleeve with a fluid film lining and having a piezo-electric vibrator connected to the sleeve for shearing the fluid film in an axial direction causing the film to apply radial pressure on the sleeve and shaft so as to center the shaft on the sleeve axis.

3,420,111
FLUID REGULATOR
John L. Evans, Oakland, N.J., assignor to General Precision System Inc., a corporation of Delaware
Filed June 22, 1965, Ser. No. 465,993
U.S. Cl. 74-5.7
Int. Cl. G01c 19/06

14 Claims

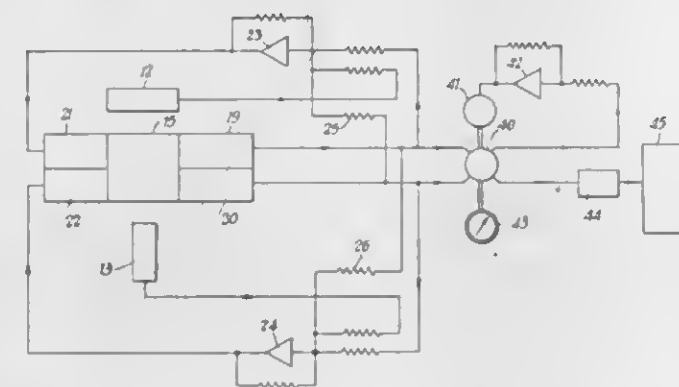


A constant flow regulator includes a chamber with inlet and outlet apertures and means for regulating communication between the chamber and the outlet aperture in accordance with the chamber pressure. The regulation is

achieved by a pair of thin discoid members, one being a porous member immediately over the outlet aperture and the other being a flat plate in juxtaposition with the porous member but on the side of it remote from the outlet aperture. Pressure within the chamber bears against the plate member and causes it to both deflect the plate and to compress the porous member to restrict the opening between chamber and outlet. Since the deformation of the plate is a function of pressure, the response of the plate is to regulate the flow from the chamber.

3,420,112
GYROSCOPIC APPARATUS
Douglas Barnett, Watford, England, assignor to S. G. Brown Limited, Watford, England, a British company
Filed Feb. 7, 1966, Ser. No. 525,410
Claims priority, application Great Britain, Feb. 8, 1965, 5,292/65
U.S. Cl. 74-5.22
Int. Cl. G01c 19/02

12 Claims



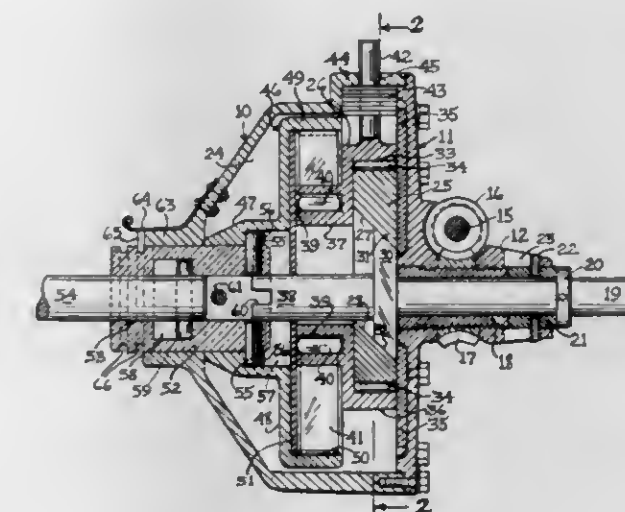
A device for detecting the angular deflection of structures such as buildings and towers is provided wherein the tank containing a multiple axis gyroscope can be mounted directly to said structure. Pick-off means present therein provide electric signals in response to misalignments of the gyroscope axes and the tank thereof due to a tilt of the structure. The signals may be used for indicating, recording, and/or control purposes. Additionally, these signals are combined with signals from transmitting pendulums to effect the precession of the gyroscope to thereby provide a vertical reference for achieving long-term stability. The pendulums are mounted on the structure so that the device will continue operation in spite of a permanent tilt of the structure. A pick-off means and a pendulum are provided for each of two perpendicular tilt planes and cross coupling errors are overcome by applying part of the signal from one pick-off means to the torquing means associated with the other. The pick-off signals can be used to control the orientation of a beam transmitted from an aerial carried by the structure.

3,420,113
VARIABLE SPEED MECHANISM
Henry Tauscher, Oak Park, Ill., assignor to Triple H Transmission Corporation, Chicago, Ill., a corporation of Illinois
Filed Dec. 12, 1966, Ser. No. 600,816
U.S. Cl. 74-63
Int. Cl. F16d 3/10

10 Claims

A variable speed mechanism to be inserted between a drive shaft and a driven shaft having an eccentric selector fixedly connected to and rotated by the drive shaft which in turn oscillates a drive plate within a housing, which drive plate provides a plurality of flexible pawls extending substantially radially from a center hub thereof and engage the teeth of a driven member. The driven member

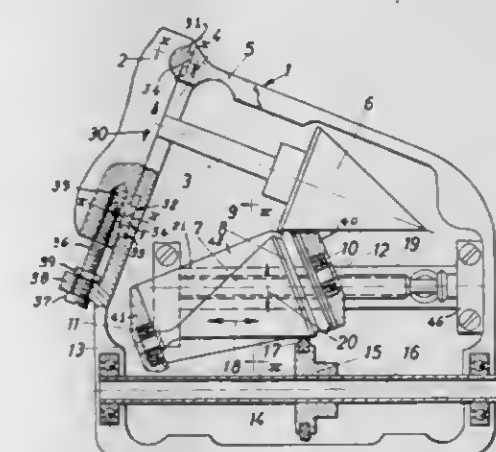
by a ball connection to the housing is moved through an orbital path about the axis of the drive shaft. The oscillating drive plate has a key connection to a rotatable bushing journaled in the housing and which bushing is in turn keyed to the driven shaft so as to effect rotation



thereof in response to the orbital movement of the driven plate. The bushing may be moved longitudinally of the driven shaft to disengage it from the driven plate as well as to effect a positive drive connection with the drive shaft, all for the purpose of obtaining differential rotation between the drive shaft and the driven shaft.

3,420,114
FRICTION GEAR FOR INFINITELY-VARIABLE REGULATION
Karl Prestl, Starenstrasse 23, Kelheim (Dannhe), Germany
Filed Aug. 3, 1966, Ser. No. 569,861
Claims priority, application Germany, Aug. 27, 1965, P 37,552
U.S. Cl. 74-191
Int. Cl. F16h 15/16

7 Claims



A variable-speed friction gear assembly in which the convex surface of a rotary input cone is in frictional rotation transmitting engagement with the periphery at the base of a rotary transmission cone thereby rotating the transmission cone by rotation of the input cone and in which the convex surface of the transmission cone is in frictional rotation transmitting engagement with the periphery of a wheel secured upon an output shaft thereby rotating the shaft by rotation of the transmission cone. The ratio of transmission between the input cone and the output shaft is variable by selectively changing the peripheral line of engagement at which the convex sur-

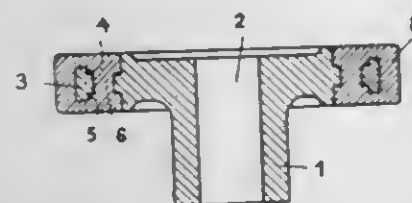
face of the input cone is engaged by the base of the transmission cone and/or the peripheral line of engagement at which the convex surface of the transmission cone is engaged by the periphery of the wheel on the output shaft.

3,420,115
FRICION DISC FOR FRICTION DRIVES
Otto Lang, Schweinfurt, Germany, assignor to Firma Kugelfischer Georg Schafer & Co., Schweinfurt, Germany

Filed Oct. 31, 1966, Ser. No. 590,764
Claims priority, application Germany, Nov. 10, 1965, K 57,627

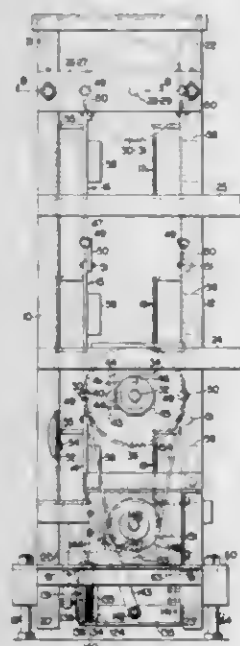
U.S. Cl. 74-215 4 Claims
Int. Cl. F16h 55/34

A friction disc for friction drives for high-speed spindles, especially spindles for crimping synthetic threads, characterized in that the disc carrier or hub of the disc is made of a non-resilient material (e.g. aluminum) and the



rim of the disc is made of a resilient synthetic resin (e.g. polyurethane).

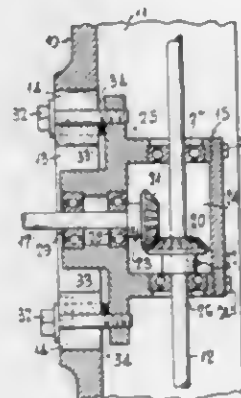
3,420,116
TRANSMISSION GEARING FOR ELEVATORS
Frederick W. Seybold, 1979 Dogwood Drive, Scotch Plains, N.J. 07076
Filed Mar. 1, 1968, Ser. No. 710,450
U.S. Cl. 74-394 6 Claims
Int. Cl. F16h 35/02



This invention provides a gear drive mechanism for a continuously operating elevator, which imparts a cyclic, varying rate of speed and a momentary stop to the conveyances of the so-called paternoster lift, which heretofore has operated at a uniform rate of speed and this made the entrance and exit hazardous. The gear drive mechanism herewith disclosed overcomes this drawback by the provision of a momentary stop of the conveyance, whereby a

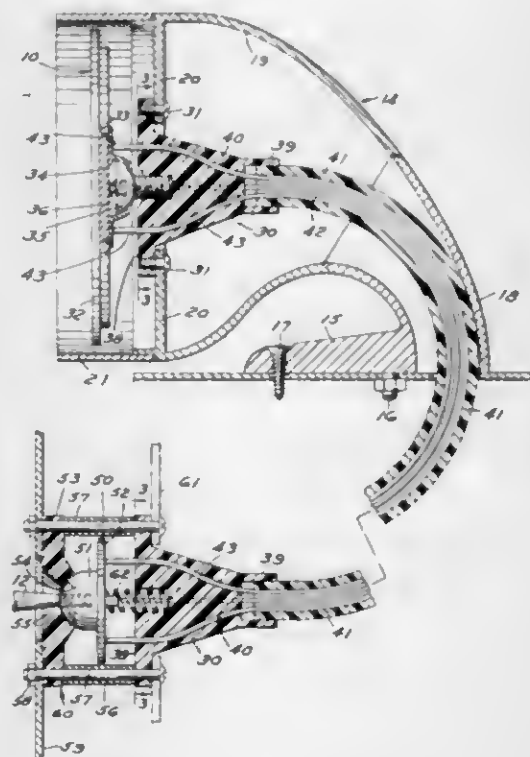
passenger may enter into or leave therefrom with greatly improved safety.

3,420,117
ADJUSTABLE DRIVE ASSEMBLIES FOR TEXTILE COILERS
Bryant W. Gossett, Gastonia, N.C., assignor to Gossett Machine Works, Inc., Gastonia, N.C., a corporation of North Carolina
Filed July 25, 1967, Ser. No. 655,846
U.S. Cl. 74-417 5 Claims
Int. Cl. F16h 1/14



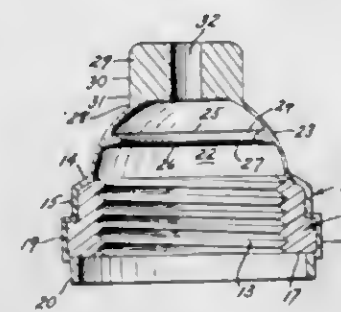
A drive assembly for textile coilers wherein the assembly is mounted for adjustment longitudinally and transversely of the coiler column and in spaced relation to the latter.

3,420,118
REMOTELY CONTROLLED REAR-VIEW MIRROR ASSEMBLIES FOR VEHICLES
Bruce C. Dudley, 4304 Covered Bridge Road, Bloomfield Hills, Mich. 48013
Filed Nov. 1, 1966, Ser. No. 591,190
U.S. Cl. 74-501 3 Claims
Int. Cl. F16c 1/12; B60r 1/06



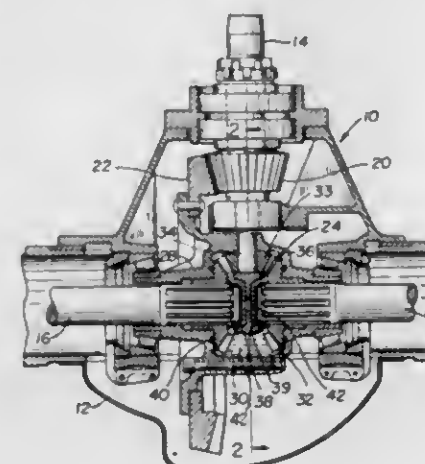
A remotely controlled rear view mirror assembly having a universally mounted mirror spaced from a universally mounted actuator with each having adaptor heads interconnected by a cable sheath housing push-rods leading between the mirror and the actuator so that motion of the actuator is transferred to the mirror via the push-rods.

3,420,119
NONEXPANDABLE BOOT
Milton Morse, 1 Horizon Road, Fort Lee, N.J. 07024
Continuation of application Ser. No. 431,037, Feb. 8, 1965. This application June 19, 1967, Ser. No. 652,389
U.S. Cl. 74-566 3 Claims
Int. Cl. G05g 1/00



A composite switch boot including a nut element and boot element surrounding and bonded to the nut element, the boot element including a thin-walled flexible portion of generally arcuate configuration tapering in a direction away from the nut element, the flexible portion having inner and outer surfaces, and an annular reinforcing rib secured to said inner surface.

3,420,120
GEAR DRIVE SYSTEMS
David S. Burtner, 515 Hewitt St., Buffalo, N.Y. 14226
Filed Sept. 6, 1966, Ser. No. 583,160
U.S. Cl. 74-711 4 Claims
Int. Cl. F16h 1/38

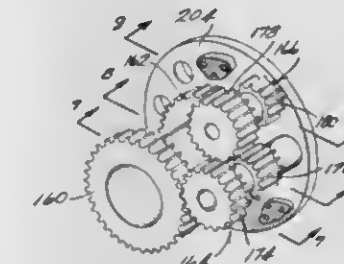


A dilatant material is interposed among the gears of a differential and resists rapid relative movement of the gears but permits slow movement to provide a limited slip action.

3,420,121
TORQUE DIVIDING SPUR GEAR DIFFERENTIAL
Robert W. Stieg, Clintonville, Wis., assignor to FWD Corporation, Clintonville, Wis., a corporation of Wisconsin
Original application Oct. 29, 1965, Ser. No. 505,707. Divided and this application Oct. 23, 1967, Ser. No. 677,175
U.S. Cl. 74-714 3 Claims
Int. Cl. F16h 1/42

A drive train to multiple driven rear axles in a vehicle includes a torque dividing differential having a pair of output shafts which transmit the power to separate axles or groups of axles, the torque division, the number of axles served by each output shaft, and the number of wheels on each said axle being chosen to effect application of a torque on each driving wheel in proportion to its ground loading. The differential employed in so dividing the

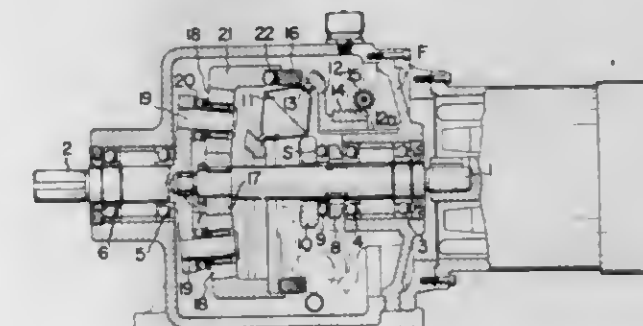
torque is a novel form of spur gear differential in which each set of planetary pinions on the differential carrier



comprises a reducing gear train between the differential side gears.

3,420,122
INFINITELY VARIABLE FRICTION DRIVE
Kenzo Okabe, 43 Hiroike-machi, Showa-ku, Nagoya-shi, Aichi-ken, Japan
Filed Sept. 26, 1966, Ser. No. 581,788
Claims priority, application Japan, Nov. 11, 1965, 40/69,309

U.S. Cl. 74-796 4 Claims
Int. Cl. F16h 15/50



A planetary differential type infinitely variable friction device having coaxial input and output shafts and a driving disc for transmitting the rotation of the input shaft. A plurality of intermediate power transmitting double cone rollers are supported obliquely respecting the input shaft and are adapted to roll with frictional contact relative to the disc and to be movable in the axial direction of the input and output shafts. An outer conical ring is disposed around and in rolling contact with the outer surfaces of the double cone rollers for receiving power by friction. A plurality of planet friction cone rollers are rotatably mounted on planet shafts supported on the output shaft. The planet cone rollers are in rolling frictional contact with an internal surface of the conical ring and a sun cone roller fixed to the input shaft is disposed in rolling contact with the planet cone rollers.

3,420,123
KNIFE SHARPENER
Frederick W. Waterman III, Aurora, Colo., assignor to Coors Porcelain Company, Golden, Colo., a corporation of Colorado
Filed July 14, 1966, Ser. No. 565,221
U.S. Cl. 76-84 4 Claims
Int. Cl. B24d 15/08



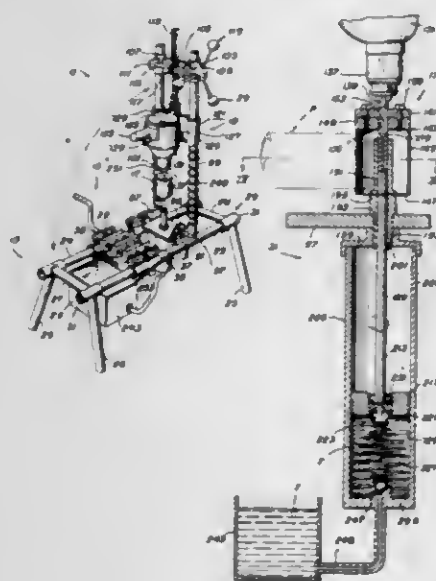
A knife sharpener comprising an elongated tapered dense non-porous sintered alumina ceramic rod contain-

ing at least 85% by weight aluminum oxide and having a surface finish not greater than about 60 microinches.

3,420,124 PIPE FITTING MACHINE

Walter E. Trevathan, McKenzie, Tenn., assignor to Walter Trevathan Corporation, a corporation of Tennessee
Continuation-in-part of application Ser. No. 481,456, Aug. 23, 1965. This application Apr. 6, 1966, Ser. No. 552,680
U.S. Cl. 77-5
Int. Cl. B23b 41/00

23 Claims

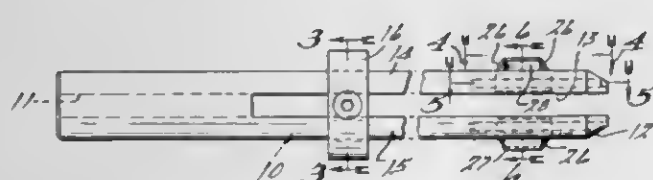


A pipe-fitting machine for cutting a length of pipe to fit another length of pipe. The machine includes holding means mounted on a base for supporting and holding the pipe to be cut. A cutting head including a hollow cylindrical body portion having cutting teeth at one end thereof is movably supported for axial movement of the cutting head between retracted positions away from the pipe to be cut and towards cutting position relative to the pipe. There are means provided responsive to the axial movement of the cutting head to give a yieldable resistance to the movement of the cutting head towards the cutting positions to prevent the teeth from digging in too quickly into the pipe and for simultaneously supplying a lubricating fluid to the cutting teeth.

3,420,125 DEBURRING TOOL

Stuart A. Cogsdill, Orchard Lake, Mich., assignor to Cogsdill Tool Products, Inc., Detroit, Mich., a corporation of Michigan
Filed July 5, 1966, Ser. No. 566,702
U.S. Cl. 77-73.5
Int. Cl. B23b 51/10; B23d 77/02

2 Claims

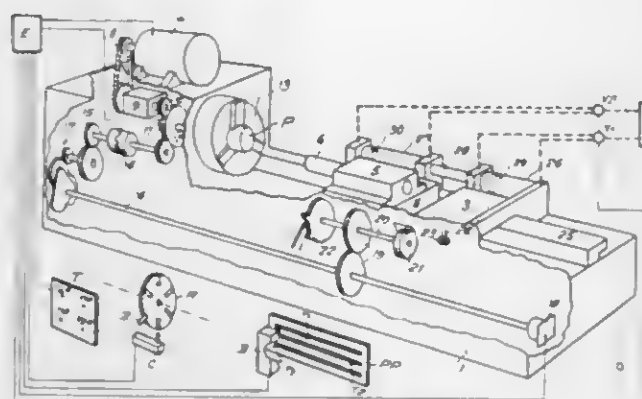


A deburring tool is constructed from an element made of a case hardenable material having a slot therein to form tangs with at least one of the tangs having a recess for supporting a blade of hard cutting material. This permits the body to be made of a cheap, soft material while providing cutting edges of hard cutting material.

3,420,126 THREAD CUTTING MACHINE

Pierre Edouard Renoux, Colombes, France, assignor to Societe Anonyme dite: Cri-Dan, Paris, France, a corporation of France
Filed Aug. 15, 1966, Ser. No. 572,560
Claims priority, application France, Sept. 3, 1965, 30,440
U.S. Cl. 82-5
Int. Cl. B23g 1/00; B23g 11/00

9 Claims

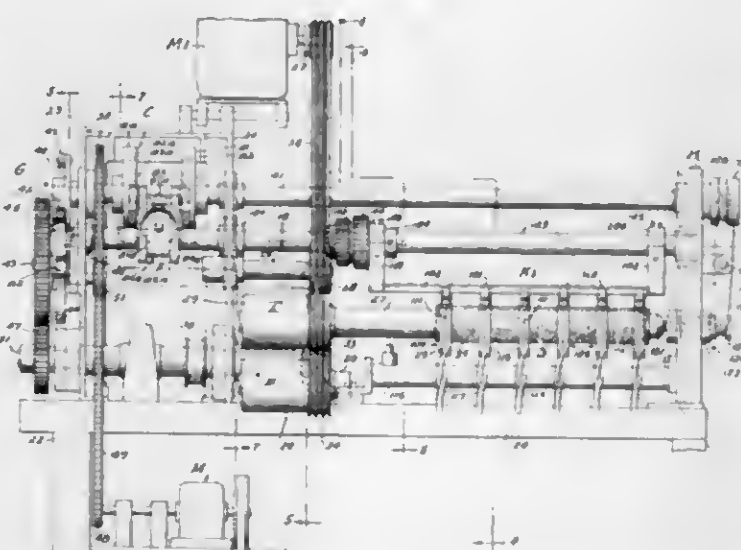


1. A thread-cutting machine, especially a semi-automatic thread-cutting lathe of the type comprising at least one headstock with rotary spindle and chuck for clamping the part to be machined, a bed, a slide-rest which is adapted to move lengthwise along the bed by means of a roller working in conjunction with a longitudinal-motion rotary cam in opposition to a pressure means, a cross-slide which is adapted to move transversely on the slide-rest under the action of a transverse-motion control unit, a tool-holder mounted on the cross-slide and means for driving the rotary spindle, the longitudinal-motion rotary cam and the transverse-motion control unit, said machine being characterized in that the longitudinal-motion cam or at least one of its longitudinal-motion cams is provided with a recess which permits the entry of the roller with which said cam cooperates, means being provided for preventing said entry during thread-cutting operations.

3,420,127 AUTOMATIC TUBE CUTTING MACHINE

Emil P. Kiss, Philadelphia, and Raymond C. Onyx, Ambler, Pa., assignors to Paco Winders, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Filed Dec. 16, 1966, Ser. No. 602,223
U.S. Cl. 82-83
Int. Cl. B23b 3/04

7 Claims



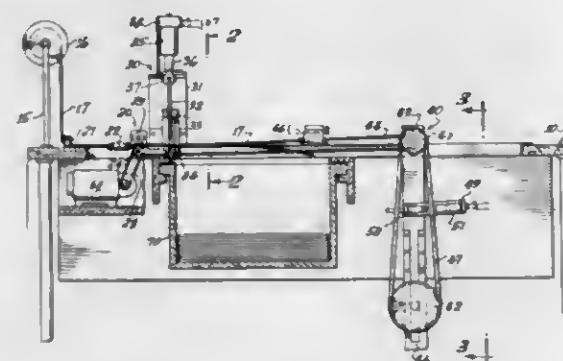
An apparatus for cutting lengths of cardboard tubing into a plurality of sections and for performing finishing operations on the cut sections. A set of yieldable knives or alternatively a set of finishing tools are positioned in

opposition to main cutting knives. The yieldable knives are used to perform final severance and the finishing tools are used for performing finishing operations such as burnishing, grooving and the like on the sections being cut.

3,420,128 STRIP CUTTING MACHINE

William H. Russell, 21515 Strathern St., Canoga Park, Calif. 91304
Filed July 13, 1965, Ser. No. 471,633
U.S. Cl. 337-35
Int. Cl. B26d 5/30

2 Claims



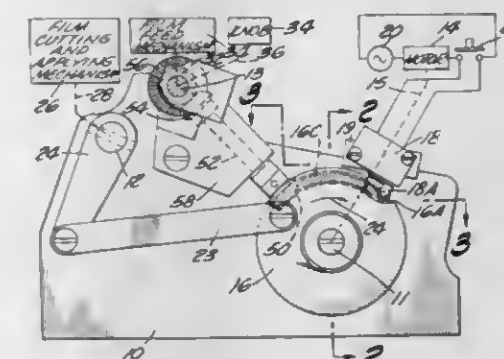
1. A machine for automatically cutting strips of predetermined lengths comprising, in combination:
a supporting structure;
adjustable guide means on said supporting structure for guidably and movably supporting a continuous strip of cuttable material;
feeding means operatively connected to said strip, said feeding means comprising two electric motor driven geared rollers through which the strip passes and is advanced along said guide means;
a strip cutting mechanism positioned on said supporting structure adjacent to the path of travel of said strip, controllable actuating means for said cutting mechanism;
means for controlling the actuation of said strip cutting mechanism comprising a pair of rotatable flanged pulleys supported in vertical alignment from the said supporting structure, the upper driving pulley being fixed with relation to said supporting structure and having a sprocket wheel attached thereto, the lower driven pulley being vertically adjustable in its support with relation to said upper driving pulley, a multiple slotted belt passing around said pulleys, a photoelectric unit supported by said supporting structure adjacent to said slotted belt and operatively connected therewith, said slotted belt passing through the continuously operated light beam emitted by said photo-electric unit, and power relay means operatively connected with said photo-electric unit for supplying electrical power impulses to the said controlling actuating means for the said cutting mechanism; and synchronizing means operatively connecting said feeding means and said controlling means comprising a sprocket wheel affixed to the axle of one of said motor driven geared rollers and a roller chain connecting said roller sprocket wheel with said upper driving pulley sprocket wheel whereby the length of the cut strips is a function of the distance between the slots in the slotted belt.

3,420,129
SELF-INDEXING INTERMITTENT DRIVE MEANS
David A. Farrant, Northridge, Calif., assignor to Scionics Corporation, a corporation of California
Filed Feb. 10, 1966, Ser. No. 526,456
U.S. Cl. 83-205
Int. Cl. B26d 5/22

9 Claims

In a system for cutting a film chip from a strip and mounting such chip in a card, a specially constructed

motor-driven disc has a resilient integrally formed section on which section gear teeth are formed for resilient and releasable connection to a pinion. The pinion is operatively connected to a shaft which drives a film-feeding mechanism, such shaft also being positionable by a manually operable knob when, in the at-rest position of the special

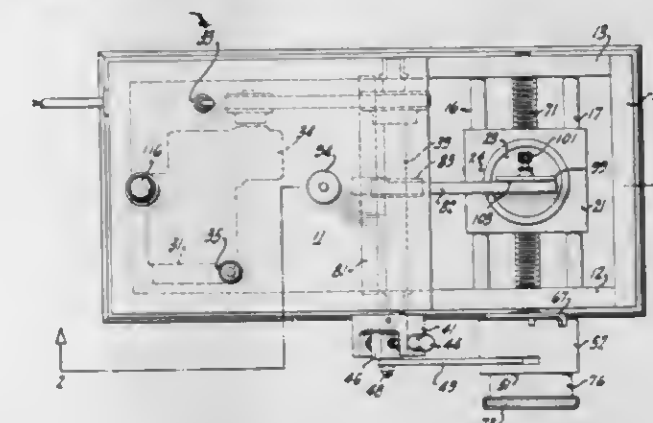


disc the pinion is out of engagement with the disc teeth. Means are provided for assuring only one revolution of the disc for each film-cutting and applying operation. Also operatively connected to the disc is a shaft which is reciprocated during such one revolution of the disc, such shaft being coupled to and serving to drive the film-cutting and applying mechanism.

3,420,130 MACHINE FOR THIN SLICING A NON-FROZEN SPECIMEN

Marilyn G. Farquhar, San Mateo, Robert E. Smith, Mountain View, and Emil Z. Barish, San Francisco, Calif., assignors to The Regents of the University of California, Berkeley, Calif.
Filed Feb. 18, 1966, Ser. No. 528,442
U.S. Cl. 83-245
Int. Cl. B26d 5/20

3 Claims



A machine for thin slicing a non-frozen specimen, especially for biological preparation, has a cutting table movable across a frame by a screw shaft. A cam shaft on the frame has a cam for lifting and dropping a lever. A knife on the lever is thus moved toward and away from the table. A variable radius crank on the cam shaft is connected by a pitman to an overrunning or unidirectional clutch on the crew shaft.

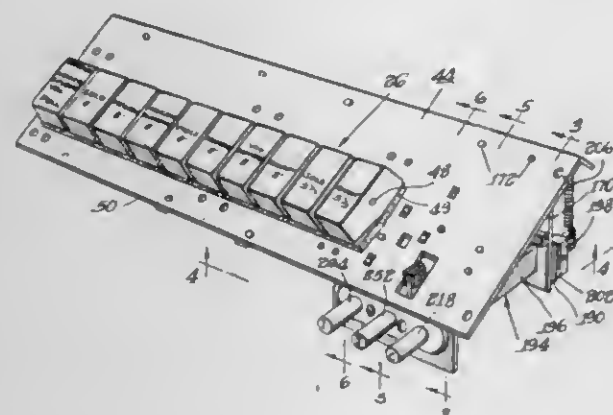
3,420,131 ELECTRONIC ORGAN PRESET AND CANCEL MECHANISM

Howard M. Thomas and Robert A. Quigley, North Tonawanda, N.Y., assignors to The Wurlitzer Company, Chicago, Ill., a corporation of Ohio
Filed May 12, 1965, Ser. No. 455,234
U.S. Cl. 84-345
Int. Cl. G10b 3/12; G10b 3/10

10 Claims

A stop tablet assembly for use with an electronic musical instrument comprising a base, a plurality of stop tablets, and a rock shaft on which the stop tablets are

mounted for selective manual movement from a first position to a second position. A plurality of cams mounted on a cam shaft are respectively engageable with projections extending from each of the stop tablets, so that upon the movement of said cam shaft, said cams are moved against all stop tablets in a second position, which are thereby returned to the first position. Each of the

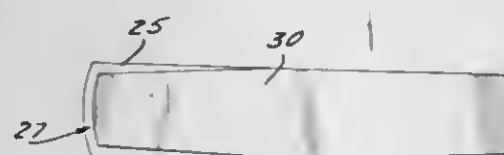


stop tablets includes a stop tablet setting means which is engaged or is not engaged by one of a plurality of operators mounted on a second rock shaft, depending on the alignment of each operator and associated stop tablet setting means. The operation of the rock shaft causes the operators aligned with a respective stop tablet setting means to move the tablets from a first to a second position.

3,420,132 REEDS FOR WOODWIND INSTRUMENTS

John G. Backus, 2233 Via Guadalupe,
Palos Verdes Estates, Calif. 90274
Filed Jan. 18, 1966, Ser. No. 521,353

U.S. Cl. 84-383 16 Claims
Int. Cl. G10d 9/02



A composite reed for woodwind musical instruments which has a first member with a relatively thin body portion, a tapered intermediate portion, and a thin vibratory tip portion adapted to extend into the musicians mouth and to vibrate to form the desired tones. Covering at least one of the surfaces of the thin vibratory tip portion is a relatively thin member which functions to control the stiffness, the mass, and the damping of the vibrating tip portion of the reed.

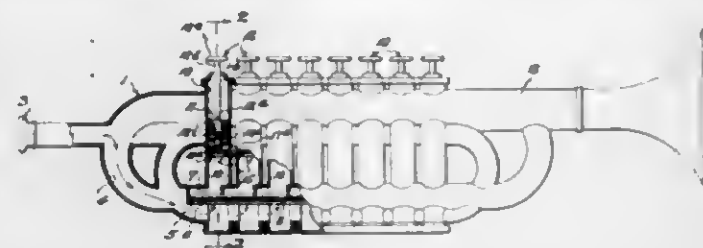
3,420,133 VALVE STRUCTURE FOR MUSICAL WIND INSTRUMENTS

Peter S. Proll, Newark, N.J., assignor to Proll Products
Co., Newark, N.J., a corporation of New Jersey
Filed July 12, 1965, Ser. No. 471,016

U.S. Cl. 84-388 11 Claims
Int. Cl. G10d 7/10

An improved valve structure for musical wind instruments, especially suitable for toy instruments, having a chamber and a port communicating with the chamber, which comprises valve means mounted in operative relationship to the chamber and the port so as to be movable between port-open and port-closed positions, a mem-

ber for controlling the opening and closing of the port by the valve member, and a return spring means for normalizing the position of the valve member after opera-



tion, the return spring means being made integral with the valve means, for example, by molding the valve means and return spring from plastic as a unitary structure.

3,420,134 SNARE DRUM BRUSH

Charles P. Cordes, 27 Kenneth Place, Clark, N.J. 07066

Filed May 19, 1967, Ser. No. 639,759

U.S. Cl. 84-422 5 Claims
Int. Cl. G10d 13/00



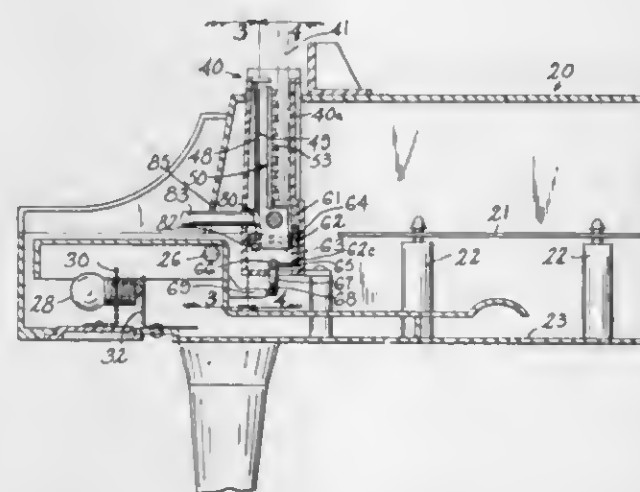
The device disclosed is a snare drum brush comprised of plastic bristles adjustably mounted in a hollow tubular handle having an oval mouth for varying the spread of the bristles.

3,420,135 PROGRAMMED MUSICAL INSTRUMENT

Tobin Wolf, Bloomfield, N.J., assignor to The A. C. Gilbert Company, New Haven, Conn., a corporation of Maryland

Filed Nov. 22, 1965, Ser. No. 508,994

U.S. Cl. 84-478 17 Claims
Int. Cl. G09b 15/08



This invention is directed to a musical instrument having a plurality of note indicators such as lights, which

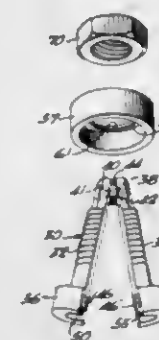
are operated in a predetermined sequence in accordance with the position of selection devices on a card. The card is scanned by the use of a movable carriage having sensing means which will cause the respective light positioned adjacent a note to emit light, thus indicating the note producing means of the instrument to be played.

3,420,136 FASTENING MEANS

Oscar T. Edlund, North Miami, and Robert G. Wagner,
North Miami Beach, Fla., assignors to Jet Avion Corporation, Hialeah, Fla.

Filed Sept. 19, 1967, Ser. No. 668,901

U.S. Cl. 85-1 10 Claims
Int. Cl. F16b 35/00; F16b 27/00



For use in connecting channel form runners of a conveyor system to a headed floor stud, a fastening means which includes a screw split longitudinally of two equisized mirror portions with each portion having a recess in the head and with the head of the portions adapted to be diverged and thence clamped over the head of the stud to captivate the head of the stud in the recess in the screw head. A transverse pin extends through the shank end of the screw which extends through the web and spacer means are carried on the pin between the mirror image portions so that a clamp washer may be positioned on the screw and a nut threadably moved on the screw to tighten the channel form portion to the head of the floor stud.

3,420,137 CONTAINED COMPACTED AMMUNITION PRIMER COMPOSITION AND METHOD OF PREPARATION

Edward A. Staba, Hlfganum, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Aug. 18, 1967, Ser. No. 661,514
U.S. Cl. 86-1 13 Claims
Int. Cl. F42b 5/00

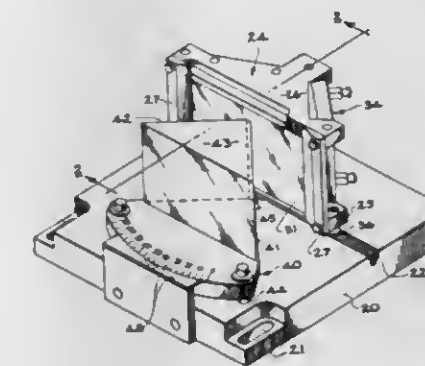
Improved process and compositions for ammunition priming are provided by suspending finely divided priming ingredients in water or other volatile inert liquid to form a stable concentrated fluid suspension, containing about 20% to 65% solids, preferably 45% to 55% solids. The charging of containers with priming is then effected easily and uniformly, by automatic means if desired, by dispensing one or more drops, or other predetermined volume, of such suspension into each container. On subsequent removal of the water or other liquid, the priming composition is obtained, without a pressing step, as a substantially pore-free coherent pellet which is firmly bonded to the container, particularly when the surface thereof is initially permeable. The priming ingredients having a specific gravity over 2.5 are preferably used in the form of particles having the largest dimension less than 15 microns, and those having a specific gravity less than 2.5 are used in the form of particles the largest dimension of which is less than about 60 microns.

3,420,138 VARIABLE ANGLE ATTENUATED TOTAL REFLECTION ATTACHMENT

Wilford N. Hansen, Thousand Oaks, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware

Filed Sept. 17, 1964, Ser. No. 397,194

U.S. Cl. 356-246 3 Claims
Int. Cl. G01n 21/00; G01j 3/00; G01t 1/16



An attenuated total reflection devices allows the angle of reflection of a light beam from a sample to be varied and maintains the total light path length the same for each angle of reflection. The device comprises a prism having one of its surfaces in contact with a sample and a pair of reflecting surfaces normal to each other and rotatable about a pivot point which lies on a line within the plane of the largest face of the prism. The largest face is positioned parallel to the light beam which is reflected from one mirror surface to one prism surface, to the other prism surface (sample surface) and back to the second mirror surface so that the incoming and exit light beams remain aligned.

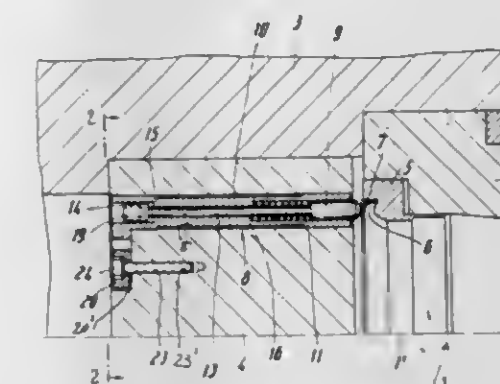
3,420,139 WEDGE BREECH BLOCK FOR GUNS WITH EXCHANGEABLE RING PACKINGS

Erich Bartels, Ratingen, near Dusseldorf, Germany, assignor to Firma Rheinmetall G.m.b.H., Dusseldorf, Germany, a corporation of Germany

Filed Dec. 6, 1967, Ser. No. 688,487

Claims priority, application Germany, Dec. 14, 1966, R 44,800

U.S. Cl. 89-17 10 Claims
Int. Cl. F41f 11/00; F41d 11/06



A wedge breech block device for guns which comprises a breech block wedge including a liner and a gun barrel secured at its rear end in the breech ring. A barrel bottom is provided which has a recess. A ring packing is received in the recess of the barrel bottom. A locking member is displaceably guided in the breech block wedge parallel to the axis of the liner and the locking member falls into the recess in case the ring packing is missing, at the start of the closing procedure of the breech block and prevents a further movement of the breech block.

3,420,140

MECHANISM FOR DELAYING RELEASE OF BOLT AFTER FIRING A FIREARM

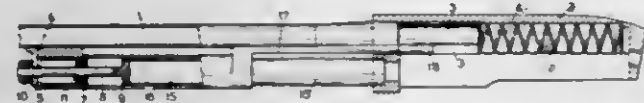
Carlo Pietro Beretta, Gardone Val Trompia, Italy, assignor to Fabbrica d'Armi Pietro Beretta S.p.A., Gardone Val Trompia, Brescia, Italy

Filed Mar. 17, 1967, Ser. No. 624,041

Claims priority, application Italy, Mar. 25, 1966, 16,018/66

U.S. Cl. 89—193
Int. Cl. F41d 5/08

4 Claims



A device, applicable to automatic and semi-automatic firearms is disclosed, for delaying the release of the breech bolt so as to adapt the operation of the bolt mechanism to different explosive powers of different cartridges, said device having the advantage of facilitating and rendering harmless the extraction of the spent shells.

3,420,141

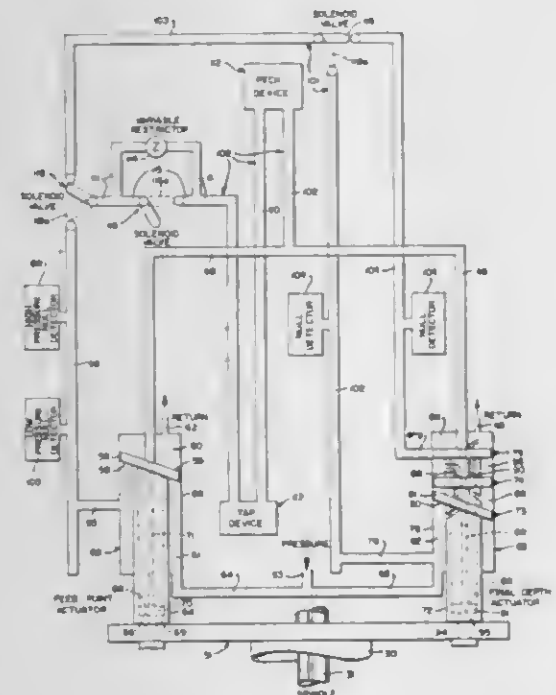
POSITIONER FOR A MEMBER SUCH AS A MACHINE TOOL SPINDLE

Robert Z. Hague, Oradell, N.J., John S. Ballard, East Aurora, and John J. Lewlew, Williamsville, N.Y., and Franklin G. Miller, Passaic, N.J., assignors to Moog, Inc., East Aurora, N.Y., a corporation of New York

Filed Sept. 19, 1966, Ser. No. 580,453

U.S. Cl. 90—14
Int. Cl. B23c 1/00

31 Claims



1. In a positioner for a member such as a machine tool spindle movable in one direction from an initial position through a feed point position to a final position, the improvement therein which comprises fluid powered actuator means for moving said member in said direction, cylinder means, piston means associated with said cylinder means to provide pressure and drain chambers on opposite sides of said piston means, means for providing a feed point port in said cylinder means on the pressure side of said piston means communicatively connected to said actuator means so as to move said member from said initial position toward said feed point position at one rate, and means for providing a final position port in said cylinder means on the pressure side of said piston means

communicatively connected to said actuator means when said piston means moves over said feed point port so as to move said member from said feed point position toward said final position at another rate.

3,420,142

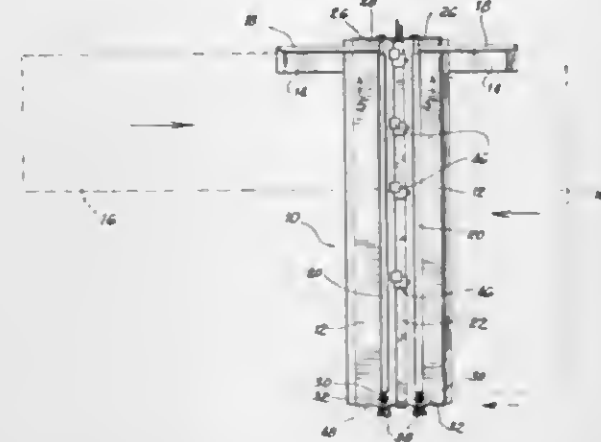
MACHINE FOR CUTTING FORMATIONS OF DIFFERENT SHAPES IN FIBERBOARD

Leo R. Gale, Morton Grove, and Alfred R. Remack, Addison, Ill., assignors to The Lockformer Company, Chicago, Ill., a corporation of Illinois

Filed Sept. 15, 1966, Ser. No. 579,627

U.S. Cl. 90—24
Int. Cl. B23d 1/26

8 Claims



1. A machine for cutting formations of different shapes in fiberboard comprising a table, a beam mounted above said table, said beam including cutting tools, means for positioning a first cutting tool having a cutting edge of one shape in an operative position and a second cutting tool having a cutting edge of second shape in an inoperative position, means for moving said fiberboard in one direction relative to said beam whereby the operative cutting tool carried by the beam will cut a formation in the fiberboard having said one shape, means for repositioning said tools whereby said first tool is inoperative and said second tool is now operative, and said moving means being capable of moving said fiberboard in the opposite direction relative to said beam whereby the second cutting tool will cut another formation in said fiberboard having said second shape.

3,420,143

INSIDE FLASH TRIMMER WITH REMOTELY ADJUSTABLE CUTTER

Russell E. Nance, Portage, Ind., assignor to United States Steel Corporation, a corporation of Delaware

Filed Oct. 3, 1966, Ser. No. 583,812

U.S. Cl. 90—24
Int. Cl. B23d 1/00

5 Claims



1. In an apparatus for trimming a flash bead on the inner surface of a longitudinally welded metal tube; said trimming apparatus including an elongated body adapted to be disposed within the tube so as to permit relative longitudinal motion between the body and the tube, rigid supporting means for said body, said body having a recess adjacent one end, a tool shank disposed in said recess, and a cutting tool disposed in said tool shank with its cutting edge projecting therefrom in the plane of said flash

bead whereby relative longitudinal motion between said body and said tube results in the trimming of said flash bead by said cutting tool, wherein the improvement comprises an inclined way in said recess, said tool shank being slidable on said way, a transverse bar mounted on said body and being movable longitudinally along the body, said transverse bar engaging said tool shank, manipulating means attached to said bar and extending longitudinally along said body to a point remote from the body, said manipulating means in cooperation with said transverse bar being operable from said remote point to move said tool shank upwardly along said inclined way and hold it in a selectively adjusted position.

3,420,144

FLUID PRESSURE MOTOR SYSTEM

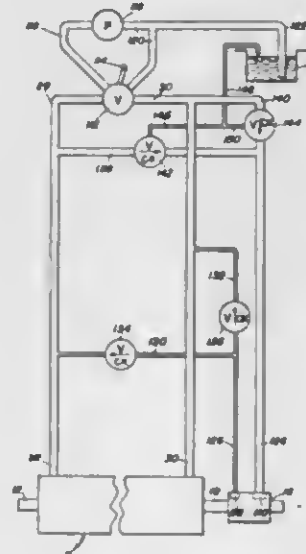
Frank Berry, Corinth, Miss., assignor to Westinghouse Air Brake Company, a corporation of Pennsylvania

Original application Sept. 20, 1965, Ser. No. 488,532, now Patent No. 3,353,455, dated Nov. 21, 1967. Divided and this application June 7, 1967, Ser. No. 644,180

U.S. Cl. 91—45

Int. Cl. F15b 15/26

3 Claims



A self-locking fluid pressure motor including a piston movably mounted in a cylinder, the piston including first and second piston parts axially spaced on a piston rod having first and second conduits therein. A spring loaded cam is movably mounted on the rod between the piston parts and defines therewith first and second chambers in fluid communication with the first and second conduits. A cam follower is axially fixed relative to the piston parts and is adapted to be moved into locking contact with the inner periphery of the cylinder by the cam. In one embodiment the cam is spring loaded to the lock position and the first and second conduits are connected by a fluid circuit having check valve and bleed ports therein to the pressure and return lines to the cylinder.

3,420,145

FLUID PRESSURE SERVOMOTOR

Werner Stumpe, Ditzingen, Germany, assignor to Robert Bosch G.m.b.H., Stuttgart, Germany

Filed Oct. 9, 1967, Ser. No. 673,855

Claims priority, application Germany, Oct. 14, 1966, B 89,355

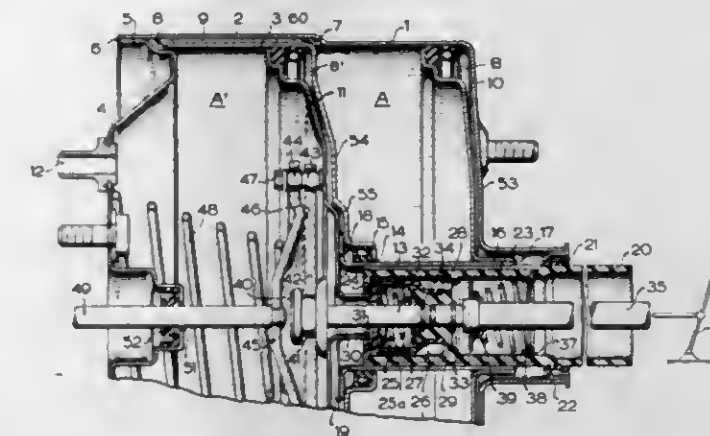
U.S. Cl. 91—376

Int. Cl. F15b 9/10; F01b 19/02

10 Claims

A fluid pressure servomotor for braking systems of automotive vehicles which is actuated by means of vacuum-to-atmospheric pressure differential. Its shell comprises two cylinders one of which accommodates the other thereof and defines a first channel which connects

the two vacuum chambers. Each cylinder accommodates a piston whose configuration conforms to that of the bottom wall of the respective cylinder to reduce the volume of second chambers which can be connected to atmosphere in response to opening of the control valve. The second chambers are connected to each other by a second



channel which extends through a hub having ends welded to the pistons and cooperating with the casing of the control valve to restrict the effective cross-sectional area of the second channel so that it corresponds to the maximum cross-sectional area of the path in which the fluid can flow into the second chambers when the control valve is fully open.

3,420,146

LOWERING VALVE

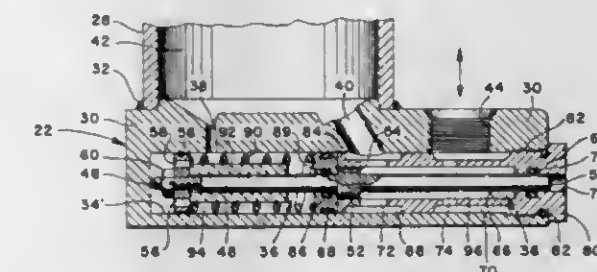
John C. McPherson, Philadelphia, Pa., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio

Filed Oct. 28, 1966, Ser. No. 590,376

U.S. Cl. 91—443

Int. Cl. F15b 11/10; F15b 13/042

7 Claims



A lowering valve for an industrial lift truck is placed in a hydraulic circuit in such a position as to be subjected to load lifting and lowering hydraulic pressure. The valve responds to hydraulic pressure during load lowering to regulate the load velocity during lowering.

3,420,147

LEVER DEVICE

Richard G. Beach, Greece, N.Y., assignor to Taylor Instrument Companies, Rochester, N.Y., a corporation of New York

Filed July 20, 1966, Ser. No. 566,613

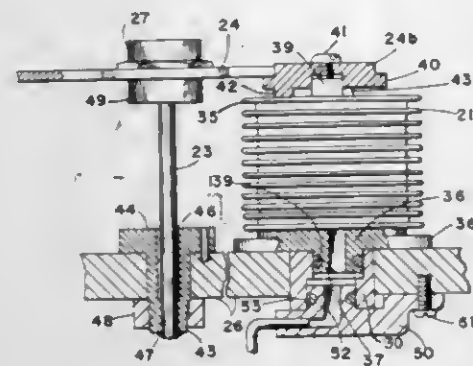
U.S. Cl. 92—37

Int. Cl. F01b 9/04; F16j 3/00; F15b 5/00

14 Claims

A lever is fixed to a base by a stiff wire and several bellows, which tilt the lever about axes intersecting at the wire. The bellows are fixed to the base by eccentric mountings rotatable to shift the base ends of the bellows transverse to the direction of thrust of the bellows and of the wire's length. Such shift also shifts the location of the centers of bellows thrust both transversely and along the

corresponding lever arms. The ends of the wire are fixed above the lever and below the base, in effect, so that the

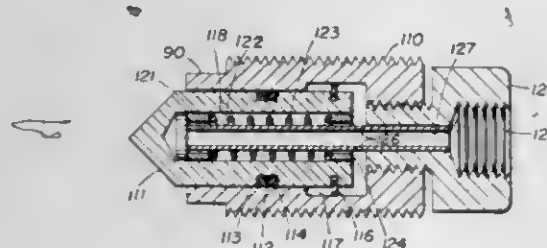


free length of wire is considerably larger than the spacing between base and lever.

3,420,148 HOLDING DEVICE

Richard E. Duerfer, Four Seasons Drive 50701, and Marion E. Hutchison, P.O. Box 2332 50705, both of Waterloo, Iowa

Filed Mar. 12, 1965, Ser. No. 439,152
U.S. Cl. 92-107
Int. Cl. F01b 31/06; F15b 13/06; F01b 31/12

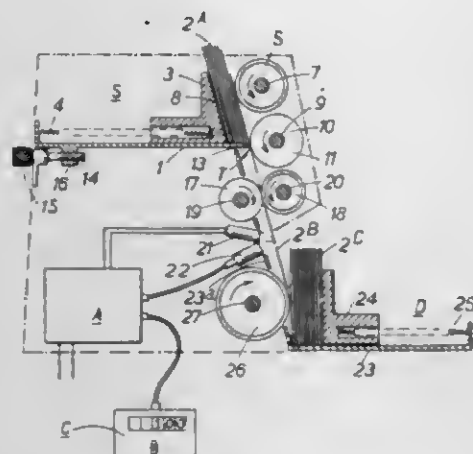


This invention relates in general to holding means and, in particular, to a novel hydraulically actuated holding and chucking device.

3,420,149 SHEET FEEDING APPARATUS

Stanley William Middleditch, Little Heath, Potters Bar, and Victor Richard Sels, Sidcup, England, assignors to De La Rue Instruments Limited, London, England, a corporation of Great Britain

Filed Sept. 13, 1965, Ser. No. 486,721
Claims priority, application Great Britain, Sept. 25, 1964, 39,204/64
U.S. Cl. 93-93
Int. Cl. B65h 33/00



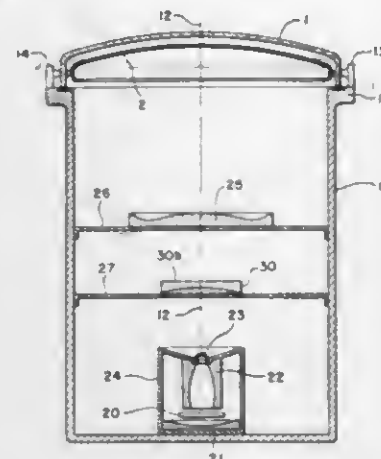
Apparatus for sequentially feeding and counting a supported stack of sheets as disclosed herein comprises a sheet gauging throat defined by the periphery of a non-yieldable roller and one end of sheet support means, the

sheets being fed one at a time through said throat by rotary feed means against which the foremost sheet of the stack is biased. Sheets fed through the throat are predeterminedly spaced apart by conveying rollers, counted preferably by optical means, and conveyed to a receiving stage.

3,420,150 LIGHTHOUSE INTENSITY EXPOSURE CONTROL LENS

Sam H. Kaplan, Chicago, Ill., assignor to The Rauland Corporation Chicago, Ill., a corporation of Illinois

Filed May 10, 1965, Ser. No. 454,275
U.S. Cl. 95-1
Int. Cl. G03b

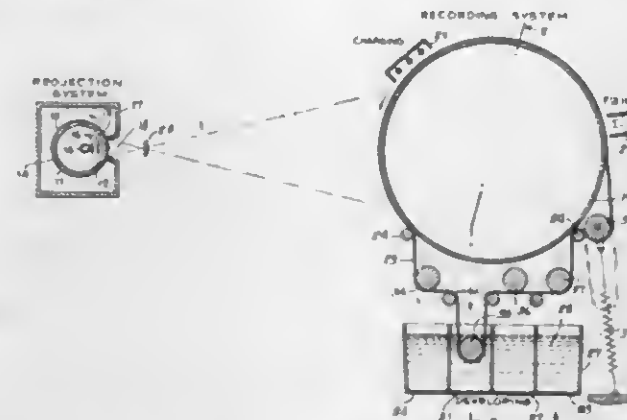


1. In an exposure chamber having a reference axis, means for supporting the screen section of a color cathode-ray tube and an assigned aperture mask transversely of said axis, and an optical system, including a light source having a nonuniform intensity distribution pattern in a plane transverse to said axis, for exposing said screen section through said mask, the improvement which comprises a lens element of a material which is absorptive at the wavelength of light from said source, said lens element having a thickness variation to compensate for the nonuniformity of said distribution pattern and being included in said optical system to effectively constitute one component of a plane-parallel optical member which contributes negligible refraction and spherical aberration effects to said optical system.

3,420,151 APPARATUS FOR ELECTROPHOTOGRAPHIC PRINTING

Samuel W. Levine, Westbury, and John S. Copeland, Stony Brook, N.Y., assignors to Fairchild Camera and Instrument Corporation, Syosset, N.Y., a corporation of New York

Filed Nov. 16, 1965, Ser. No. 508,055
U.S. Cl. 355-4
Int. Cl. G03g 15/00



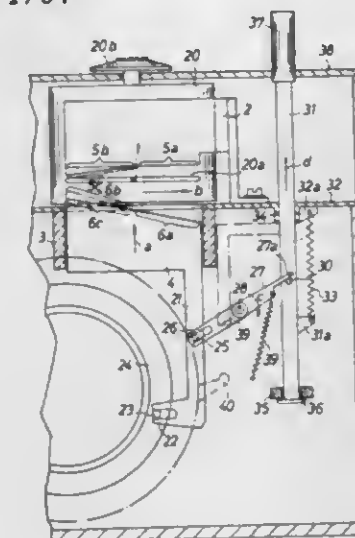
Apparatus for electrophotographic color printing from plurality of color separation transparencies positioned se-

rially about copy cylinder having light source positioned therein, said light source projecting the image defined by transparencies onto recording cylinder having positioned about its periphery a printing sheet with photoconductive surface and motor means for driving said copy cylinder and recording cylinder in synchronism whereby color electrostatic reproduction is formed on the printing sheet surface.

3,420,152 PHOTOGRAPHIC CAMERA WITH EXPOSURE METER

Dieter Engelsmann, Unterbaching, Munich, and Dieter Maas, Munich, Germany, assignors to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany

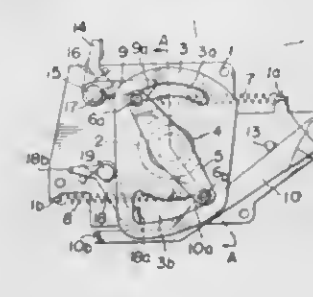
Filed Nov. 30, 1965, Ser. No. 510,598
Claims priority, application Germany, Dec. 3, 1964, A 47,765
U.S. Cl. 95-10
Int. Cl. G01j 1/04



The pointer of an exposure meter is movable between a stop face which is at least partially inclined with reference to the path of the pointer and a reciprocable or pivotable tracking element which can displace the pointer against the stop face to thereby adjust the shutter or diaphragm as a function of scene brightness. The tracking face of the tracking element is inclined with reference to the path for the pointer but its maximum inclination is less than that inclination at which the tracking element would cause the pointer to change its position along the path during deflection against the stop face. Excessive inclination of the tracking face can be avoided due to at least partial inclination of the stop face.

3,420,153
SHUTTER FOR PHOTOGRAPHIC CAMERAS
Yoshio Fukushima, Tokyo, Japan, assignor to Kahushiki Kaisha Ricoh, Tokyo, Japan, a corporation of Japan
Continuation of application Ser. No. 580,066, Sept. 16, 1966. This application Nov. 2, 1966, Ser. No. 604,091
Claims priority, application Japan, Sept. 16, 1965, 40/56,356

U.S. Cl. 95-59
Int. Cl. G03b 9/10



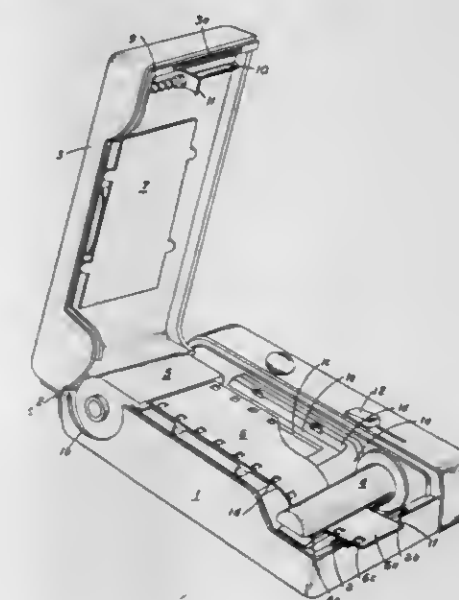
8. A shutter comprising,
(a) surfaces defining a light-admitting aperture;

(b) a shutter blade having first and second extremities and a central portion located between said extremities;
(c) means for supporting the shutter blade in a cocked position with the central portion occluding the light-admitting aperture;
(d) means for moving the second extremity in a first rotary motion about the first extremity of sufficient distance to uncover the light-admitting aperture;
(e) means for moving the first extremity in a second rotary motion about the second extremity a sufficient distance to occlude the light admitting aperture with the central portion, said second rotary motion being in the same rotary direction as the first rotary motion; and
(f) means for restoring the shutter blade to the cocked position by rotating said shutter blade in a third rotary motion opposite in rotary direction to the first rotary motion while simultaneously maintaining the central portion in occluding relation to the light-admitting aperture.

3,420,154 EASILY LOADED CAMERA WITH OPEN ENDED SPOOL

Ernst Lieser, Horst Simon, and Edwin Mueller, Stuttgart-Wangen, Germany, assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Aug. 27, 1965, Ser. No. 505,299
Claims priority, application Germany, Aug. 27, 1964, K 53,849
U.S. Cl. 95-31
Int. Cl. G03b 19/04



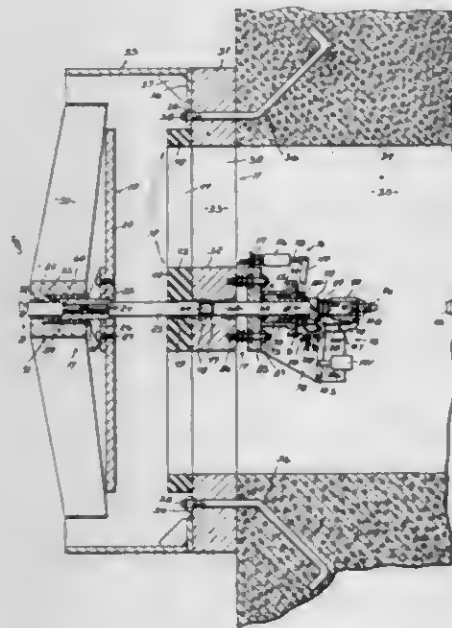
In a photographic camera for use with film in rolls, cartridges or cassettes, the take-up spool is furcated to form a transverse slot extending parallel to the axis of rotation to all edgewise insertion of the film leader. A slidable member impinges on the film leader to properly align the film and gauge the film width, thereby transmitting information concerning the characteristics of the film.

3,420,155
DELAY LATCH FOR BLAST VALVES
Charles E. Slater, Hamilton, Ohio, assignor to The Mosler Safe Company, Hamilton, Ohio, a corporation of New York

Filed Oct. 10, 1966, Ser. No. 585,614
U.S. Cl. 98-119
Int. Cl. F24f 11/00

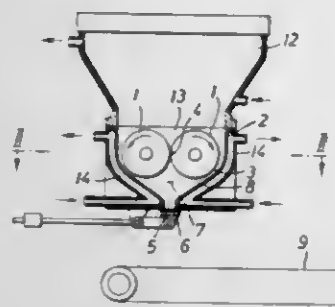
1. A pressure actuated, normally open, latching valve mechanism comprising,
a fixed valve seat,

a valve head assembly including a valve head and movable in response to an overpressure of blast magnitude toward said seat to form a closure, an elastomeric member on one of said head and seat for cushioning the impact of closure, inter-engageable latch means presented in part on said head assembly and in part on latch mounting means, the parts of said latch means cooperating to latch said head assembly to said latch mounting means



when said elastomeric member is engaged by closure of said valve mechanism, said latch means permitting limited movement of said head relative to said latch mounting means over a distance corresponding substantially to the compression imparted to said elastomeric member in cushioning said closure, spring means supporting said latch mounting means for elastic movement relative to said seat, and means for selectively disengaging said latch means.

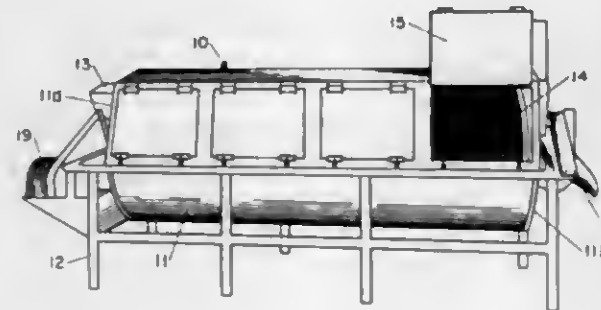
3,420,156
DISCHARGE DEVICE FOR A VACUUM COOKER USED TO COOK A SUGAR MASS
Gerhard Anders, Viersen, Germany, assignor to Hamac-Hansella Gesellschaft mit beschränkter Haftung, a corporation of Germany
Filed May 11, 1967, Ser. No. 637,720
Claims priority, application Germany, May 12, 1966, H 59,372
U.S. Cl. 99-234
Int. Cl. A231 1/00
2 Claims



Vacuum vessel, for holding a sugar mass, having bottom discharge slot defined on at least one side by a roll rotating so that it moves downwardly adjacent to the slot. The other side of slot may be defined by another roll, or

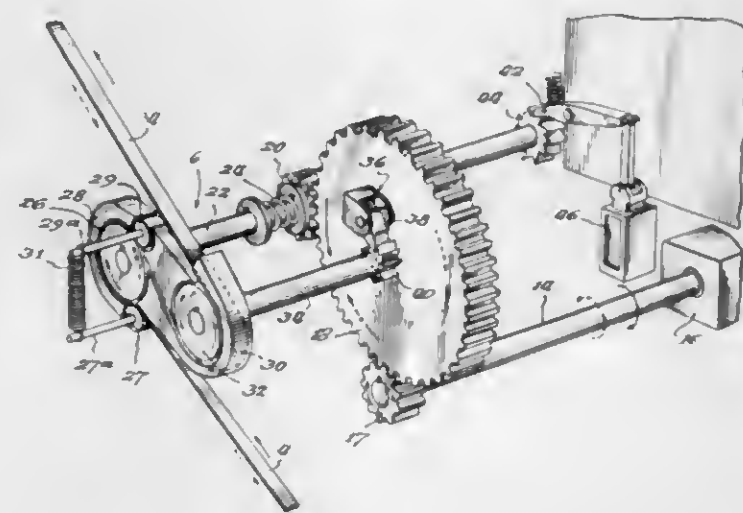
by wall of the vessel. Roll and/or vessel wall may be heated. Two rolls may contact each other and serve as scrapers for each other, or separate scrapers may contact roll below slot. A sealing strip may contact roll above slot. Additives may be injected into region between slot and scraper.

3,420,157
BLANCHERS FOR FOOD PRODUCTS
William G. Frish, 302 North Ave., Watertown, Wis. 53094
Filed Aug. 30, 1967, Ser. No. 664,451
U.S. Cl. 99-404
Int. Cl. A47J 27/00
4 Claims



A blancher having steam injectors mounted in the closed ends of a blancher tank and immersed in a water bath for introducing steam directly into the water for heating and circulating same with a minimum of noise and vibration. The injectors have a tubular nozzle which discharges steam peripherally into a water passage defined by a cylindrical outer shroud encircling the nozzle. The water is drawn into the rear of the shroud for heating and pumped out the front end thereof for circulation in the tank.

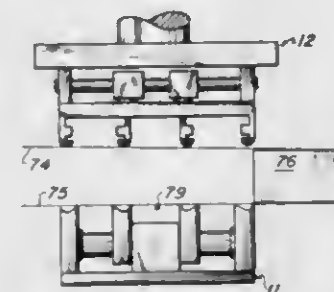
3,420,158
STRAP FEED AND TENSIONING MECHANISM
Robert J. Kobiella, Rolling Meadows, Ill., assignor to Signode Corporation, a corporation of Delaware
Filed Jan. 31, 1967, Ser. No. 612,910
U.S. Cl. 100-2
Int. Cl. B65b 13/02
10 Claims



A system for feeding and taking up strap at a high rate of speed with the ability to pull a high final tension from a common power source. The feed and tension wheels are driven at a multiple speed ratio with the feed wheel being driven at a high speed and the tension wheel being driven at a low speed following the feeding action

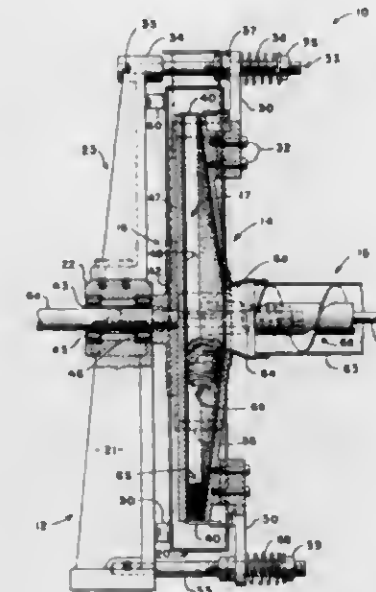
to pull a high tension in the strap disposed about the bundle being strapped.

3,420,159
METHODS FOR CONTAINER TAPING
Thomas Barnickel, 265 Main St., Ridgefield Park, N.J. 07660
Filed July 27, 1967, Ser. No. 660,863
U.S. Cl. 100-2
Int. Cl. B65h 13/04
8 Claims



My invention relates to container closures generally and specifically to methods for applying tape such as oriented polypropylene and in particular the securing of ends of the tape by mechanical means.

3,420,160
WAFERING DEVICE
Aquila D. Mast, Lancaster, Pa., assignor to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed Feb. 3, 1967, Ser. No. 613,851
U.S. Cl. 100-39
Int. Cl. B30b 13/00
10 Claims

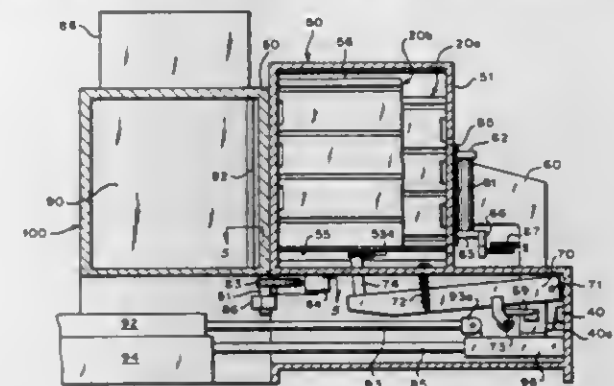


A hay wafer forming device for condensing hay and other crop materials into relatively small units to facilitate their handling by mechanical means wherein the hay is compressed, rolled, and twisted between opposed plate-like members.

3,420,161
BALE DIVIDER INSERTER
William G. Freund, Bordentown, N.J., assignor to Hugh F. Munro and Sons Inc., Huntingdon Valley, Pa.
Filed May 15, 1967, Ser. No. 638,498
U.S. Cl. 100-44
Int. Cl. B30b 15/14
9 Claims

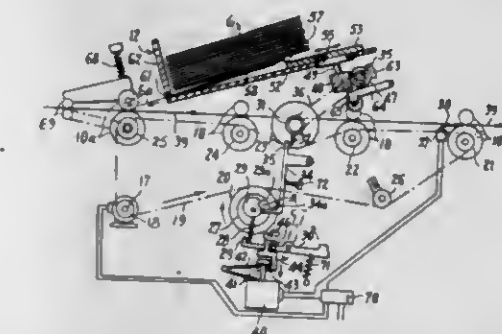
An apparatus used with a baling machine to insert dividers between bales as they are formed. A magazine for

bale dividers is provided on the side of the baler, and automatically controlled power driven means insert the



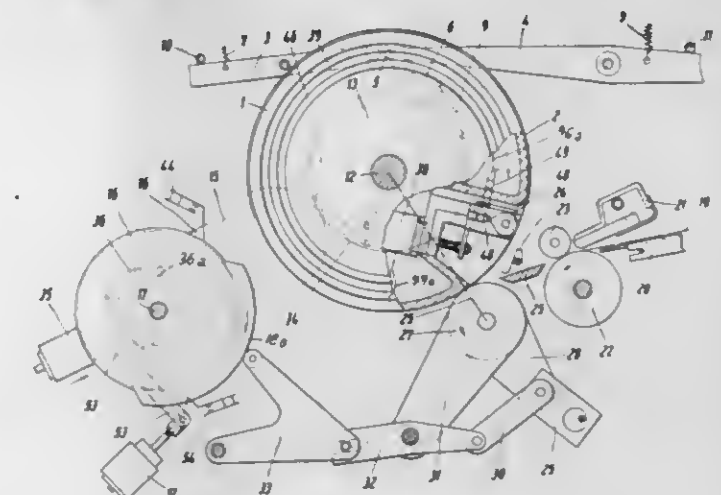
dividers as required. Jamming of the divider or leakage of the baled material is prevented by the apparatus.

3,420,162
DRIVE MEANS FOR FEEDING AND MOISTENING MEANS IN ADDRESS PRINTING MACHINES
George E. Shepherd, Dollard des Ormeaux, Quebec, Canada, assignor, by mesne assignments, to Royal McBee (Canada) Limited, Toronto, Ontario, Canada, a corporation of Canada
Filed Mar. 23, 1967, Ser. No. 625,419
U.S. Cl. 101-53
Int. Cl. B411 45/00
14 Claims



A feed mechanism for feeding single master address punched cards through an addressing machine, synchronized with the feed into the machine of the sheet to be printed from the address card.

3,420,163
NUMBERING ARRANGEMENT FOR SELECTIVE PRINTING MACHINES
Gerhard Ritzfeld, 21 Franzensbader Strasse 1, Berlin 33, Germany
Filed Apr. 13, 1967, Ser. No. 630,579
Claims priority, application Germany, Apr. 18, 1966, R 43,073
U.S. Cl. 101-76
Int. Cl. B411 45/00
19 Claims



The printing drum of a rotary duplicator is provided with a numbering device which is shifted to the next num-

ber whenever different text section of a printing form is printed on a copy sheet so that copy sheets having different texts are consecutively numbered.

3,420,164

CYCLICALLY OPERABLE PRINTING AND PROPORTIONAL SPACING APPARATUS

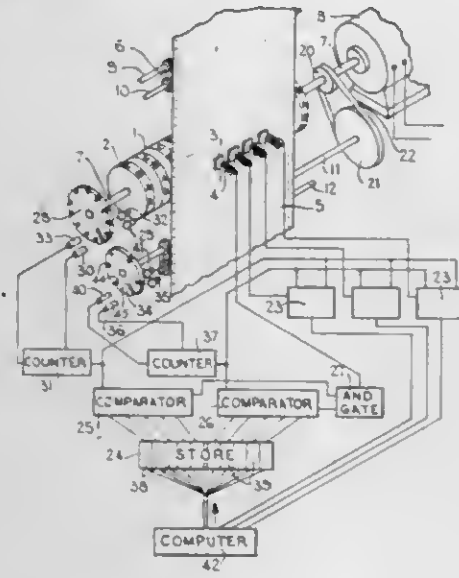
Ronald Henry Lee, Stevenage, England, assignor to International Computers Limited, London, England, a British company

Filed Dec. 20, 1965, Ser. No. 514,984

Claims priority, application Great Britain, Dec. 23, 1964, 52,176/64

U.S. Cl. 101—93
Int. Cl. B41j

5 Claims



An on-the-fly printer is described in which type barrel is formed to represent a number of typewheels, each carrying a complete type font and is mounted on a shaft for rotation opposite a row of print hammers. A paper web is fed between the print hammers and the type barrel and a line of characters is printed on the paper by impelling the hammers towards the type barrel as characters required in the various positions in the printed line pass the printing position. The paper web is fed line-by-line through the printer by tractor drives which include tractor bands engaged with marginal perforations in the paper web and also include a cam arrangement for shifting the web sideways by a fraction of the inter-typewheel spacing.

3,420,165

PRINT MEMBER ACTUATORS WITH LOST MOTION COUPLING MEANS

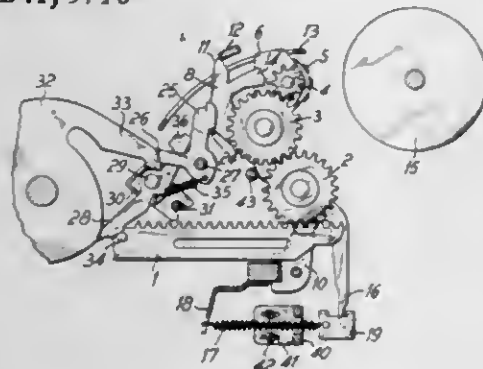
Willy Kohmaon, Villingen, Black Forest, Germany, assignor to Kienzle Apparate G.m.b.H., Villingen, Germany

Filed Apr. 28, 1967, Ser. No. 634,739

Claims priority, application Germany, Apr. 29, 1966, K 59,121

U.S. Cl. 101—93
Int. Cl. B41j 9/10

13 Claims



Ordinal printing members or printing hammers for driving type carriers to a printing position, are driven by

springs through lost motion couplings which are stopped shortly before the type carriers arrive in the printing position so that the printing members and type carriers are disconnected from the springs and move by inertia into the printing position.

3,420,166

PAPER CARRIAGE SHIFTING MEANS IN HIGH SPEED LINE PRINTERS

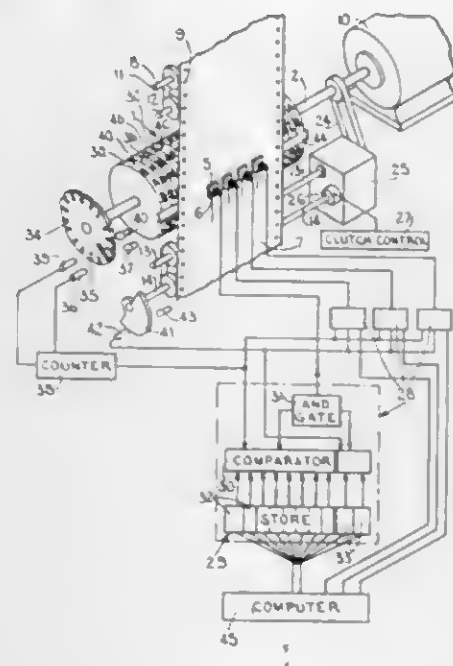
Jonas Ellis, Oak Park, Mich., and John Hamilton-Fey, Letchworth, England, assignors to International Computers and Tabulators Limited, London, England

Filed July 27, 1967, Ser. No. 656,451

Claims priority, application Great Britain, July 30, 1966, 34,343/66

U.S. Cl. 101—93
Int. Cl. B41j 9/10

4 Claims



A line printer in which relative movement between a paper web and a print barrel, in a direction parallel to the axis of the barrel, is used to increase the repertoire of characters. Adjacent bands of characters include different character groups, e.g. upper and lower case letters, so that a shift of one column pitch enables a character of either group to be printed in any particular columnar position. The character repertoire can be doubled without increasing the diameter of the print barrel or the operating speed of the print hammers.

3,420,167

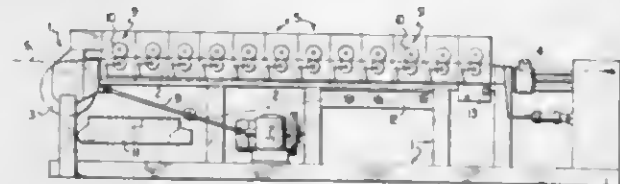
SCREEN PRINTING MACHINE WITH DRIVEN SCREEN

Johannes Bernardus Van der Winden, Amstelveen, Netherlands, assignors to Gebr. Stork & Co.'s Apparatenfabriek N.V., Amsterdam, Netherlands

Continuation-in-part of application Ser. No. 395,656, Sept. 11, 1964. This application Jan. 10, 1967, Ser. No. 608,268

U.S. Cl. 101—116
Int. Cl. B41j 13/04

4 Claims



The speed at which the material being printed upon travels and the speed of the printing screen are slightly

different, the speed of the screen being somewhat slower. The internal drag of the squeegee on the screen is thereby counteracted by the external drag on the screen exerted by the material being printed upon. The net torsional loading on the screen is therefor minimized to lengthen screen life.

3,420,168

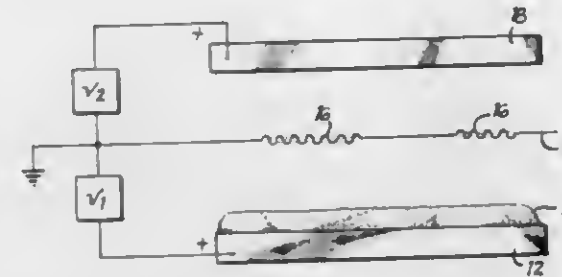
ELECTRICAL PRINTING PROCESS USING AN OPPOSING FIELD

William E. Johnson, Temperance, Mich., assignor to Owens-Illinois, Inc., a corporation of Ohio

Filed Sept. 22, 1965, Ser. No. 489,350

U.S. Cl. 101—129
Int. Cl. B41j 1/12

4 Claims



Electrical printing processes of the type in which powder particles in a supply bed are electrically charged and impelled from the bed through the apertures of an electrically conductive stencil to an article's surface. Improved image resolution is achieved by establishing an electric field between the article's surface and stencil which opposes or retards the movement of charged particles toward the article's surface, this field being most effective on particles which deviate from straight line paths toward the article's surface.

3,420,169

MASTER HANDLING MEANS FOR DUPLICATING MACHINES

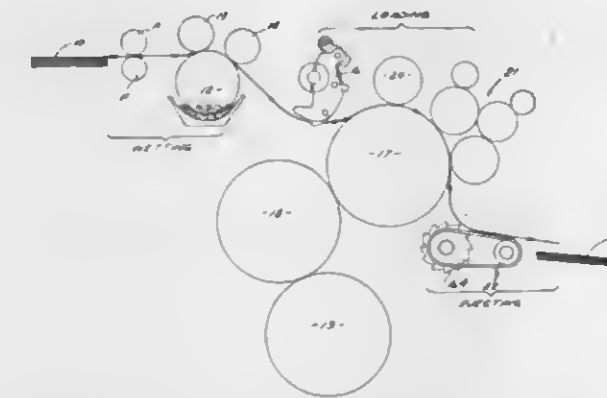
Harry F. Gammeter, Cleveland Heights, Ohio, assignor to Addressograph-Multigraph Corporation, Cleveland, Ohio, a corporation of Delaware

Filed July 29, 1966, Ser. No. 568,837

U.S. Cl. 101—141

Int. Cl. B41f 7/00; B41f 13/08

8 Claims



A schematic FIGURE 1 shows the general arrangement of a lithographic printing machine, and the balance of the drawing and disclosure teaches the separate wetting conversion of a master, and a master loader which takes the master by its lead edge to a cylinder clamp which accepts the master by its lead edge and draws the master to the cylinder, thus avoiding the dependency upon inherent stiffness to project a master into a cylinder clamp.

3,420,170

SINGLE IMPRESSION MULTICOLOR PRINTING

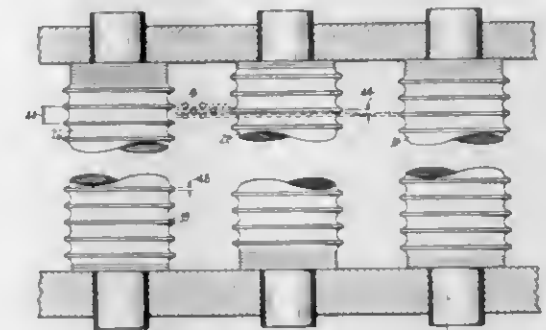
James E. Smith, Avon, Conn., assignor to United Aircraft Corporation, Hartford, Conn., a corporation of Delaware

Filed Oct. 11, 1966, Ser. No. 585,920

U.S. Cl. 101—175

Int. Cl. B41f 5/18

17 Claims



1. Apparatus for printing color reproductions of high resolution, color fidelity and color saturation in a single impression in a printing press, comprising:

- a printing plate mounting;
- a printing plate affixed to the mounting and having the intelligence to be printed provided thereon in relief, the intelligence comprising a plurality of interradial microscopically projections in an overall triangular array, each of the projections having a discrete surface area for receiving ink, the projections which occupy the corresponding apex positions in each of the unit triangles of the array lying in spaced parallel rows;
- a plurality of ink transfer members in contact with the printing plate projections, each of the members having a plurality of spaced ribs thereon oriented parallel to specific rows of projections and in alignment therewith, the surface of each rib being adapted to carry ink and having a width not exceeding the spacing between the inner portion of alternate rows of projections, the spacing between ribs being a multiple of the projection row spacing, the respective ink transfer members being aligned with each other in the press so that the ribs on each ink transfer member are displaced from those on each other member; and means for inking the rib surfaces of the respective ink transfer members with the desired color.

3,420,171

DATA RECORDER WITH SWINGABLE BED

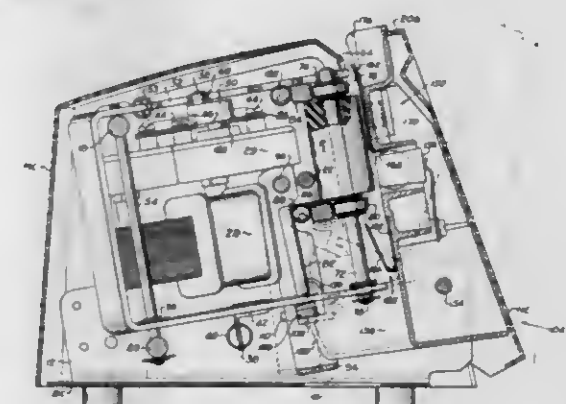
John A. Maul, Lyndhurst, and James T. Zofchak, Mentor, Ohio, assignors to Addressograph Multigraph Corporation, Cleveland, Ohio, and Wilmington, Del., a corporation of Delaware

Filed Oct. 4, 1965, Ser. No. 492,513

U.S. Cl. 101—269

Int. Cl. B41f 3/00

11 Claims

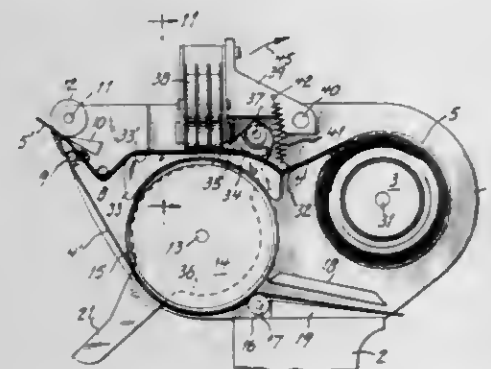


A power operated data recorder which is roughly cubical provides an open-throat effect by hinging at the bottom a side section of the cube, permitting it to open

to approximately a 45° angle. The hinged section serves as a bed of the machine against which a roller platen is designed to act, and contains means for positioning and retaining printing elements and forms.

3,420,172 APPARATUS FOR FEEDING AND ATTACHING LABELS

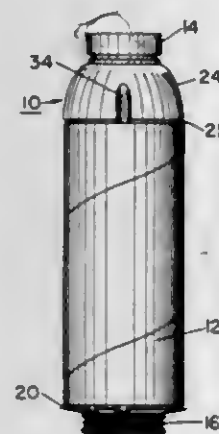
Irving Kaplan, El Cerrito, Calif., assignor to Label-Matic, Inc., a corporation of California
Continuation-in-part of application Ser. No. 480,412, Aug. 17, 1965. This application Oct. 9, 1967, Ser. No. 679,283
U.S. Cl. 101-291
Int. Cl. B41f 3/18



An apparatus for feeding and attaching labels, and particularly labels which are attached to a tape and are adapted to be stripped therefrom and successively attached to articles. The device includes a pair of plates carrying a projecting handle. A supply roll is rotatively mounted between the plates and the label-bearing tape is drawn therefrom and is passed between guiding elements to an applicator roller whereat the labels successively leave the tape for application, the tape continuing to a feed roller and proceeding out of the device. The device also includes indexing means for insuring the correct feeding of the labels and it can optionally have a printing head that is operative by the movement of a finger piece which, with or without the printing head, is effective to cause feeding of proper length of the tape on each stroke of the finger piece.

3,420,173 AXIALLY EXPANDABLE AND CONTRACTABLE CONTAINER

Frank E. Slawinski and Herbert H. Whetstone, Tamaqua, Pa., assignors to Atlas Chemical Industries, Inc., Wilmington, Del., a corporation of Delaware
Filed Mar. 31, 1967, Ser. No. 627,480
U.S. Cl. 102-24
Int. Cl. F42b 3/00; C06c 1/00

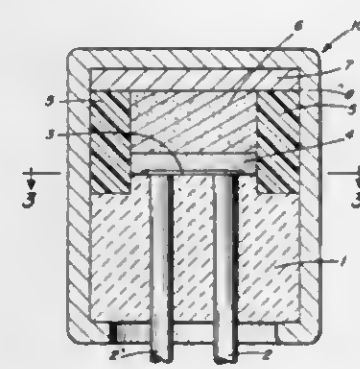


A thin-walled container having bellows disposed along its length for axial expansion and contraction by contained materials which undergo variation in volume

through physical or chemical changes. The container is particularly useful for containing explosives and for forming an explosive column assembly comprising a number of individual containers.

3,420,174 PULSE SENSITIVE ELECTRO- EXPLOSIVE DEVICE

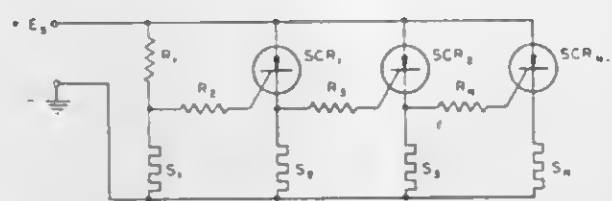
Richard R. Potter, Dahlgren, Va., assignor to the United States of America as represented by the Secretary of the Navy
Filed Sept. 29, 1967, Ser. No. 671,885
U.S. Cl. 102-28
Int. Cl. F42b 37/00



The present invention discloses a pulse sensitive electro-explosive device which is a generic system for the controlled electrical initiation of explosives. The particular device consists of (1) a primary explosive charge which is initiated by application of heat; (2) an electrical bridge formed by using a thin film gold conductor having surface thermal contact with the explosive charge; (3) a beryllium oxide heat sink having high thermal conductivity and capacity; and (4) two electrical leads.

3,420,175 SEQUENCING SWITCH

Robert E. Swallow and Jerry R. Miller, China Lake, Calif., assignors to the United States of America as represented by the Secretary of the Navy
Filed Apr. 5, 1967, Ser. No. 628,787
U.S. Cl. 102-70.2
Int. Cl. F42c 13/00



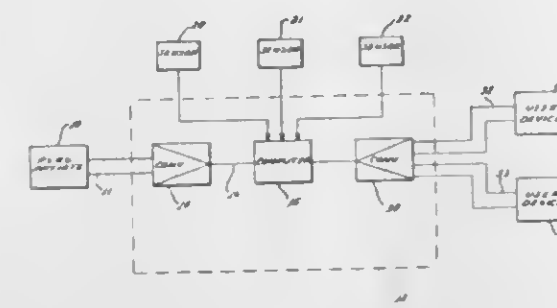
Electric circuit for use with aircraft carried dispenser which sequentially permits dispenser door to open and then allows ram air to enter same for discharging its contents.

3,420,176 ELECTRICAL PYROTECHNIC PROGRAMMING SYSTEM

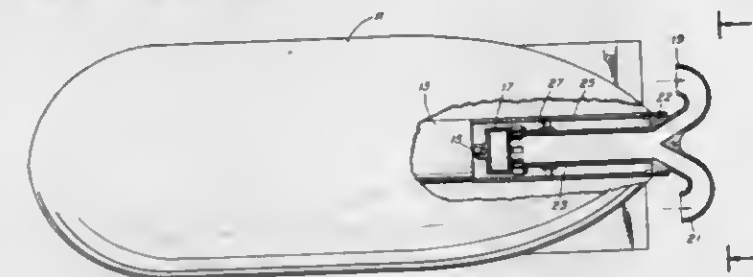
Kenneth E. Pope, Litchfield Park, Ariz., assignor to UMC Industries, Inc., a corporation of Missouri
Filed Apr. 10, 1967, Ser. No. 629,556
U.S. Cl. 102-70.2
Int. Cl. F42c 13/00

An electrical pyrotechnic programming system, including a pyrotechnic signal source for activating an electrical power source. The power source provides current to an electrical switching system, including individual switches

responsive to velocity acceleration and barometric altitude. Closure of the switches after actuation of the electrical power source produces a pyrotechnic output signal by igniting bridge wires.



3,420,177
TIME DELAY MECHANISM
Frank H. Swalm, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Oct. 22, 1965, Ser. No. 502,749
U.S. Cl. 102-81
Int. Cl. F42c 5/00



In an elongate aerial vehicle, an arming device, which is responsive to the rotation of a shaft extending therefrom and is positioned entirely within the vehicle. A turbine is rigidly affixed to the shaft for rotation therewith and is air driven via scoop means extending into the slipstream of the vehicle at the rear thereof, an inlet channel for directing the air forward into the vehicle and through the turbine, and an outlet channel for exiting the air at the rear of the vehicle. The inlet channel is slidably mounted, being restrained by an arming wire in a first position to lock the turbine prior to flight but released in flight to slide to its second position thereby freeing the turbine for rotation.

3,420,178
WAD FOR SHOTGUN SHELLS
Henry George Rempel, 4207 Fraser St., Vancouver 10, British Columbia, Canada
Filed Mar. 9, 1967, Ser. No. 621,961
U.S. Cl. 102-95
Int. Cl. F42b 7/08

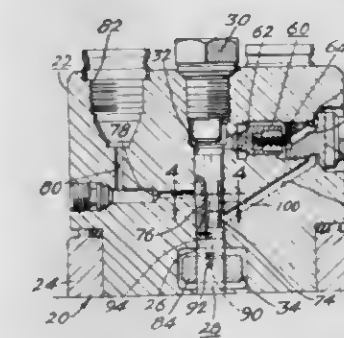


An improved wad for shotgun shells is disclosed, the same element of which may be assembled for use in

shells of various gauges and in shells of the high and low inner base type. The wad comprising an inner and outer member may be assembled in an alternative manner so that the total wad can be adapted to all principal kinds of shotgun shells.

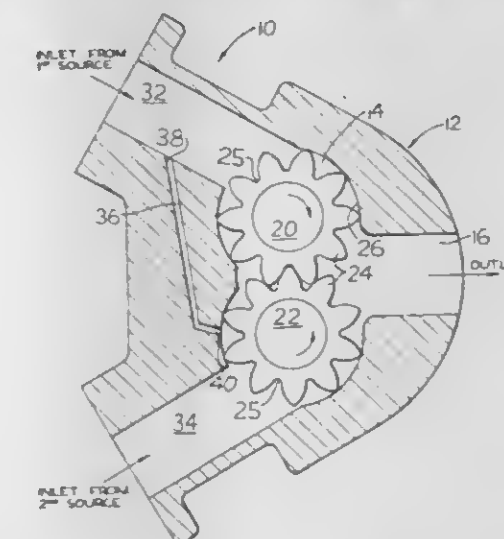
3,420,179 PLUNGER BALANCING ARRANGEMENT FOR FUEL INJECTION PUMPS

Theodore S. Chmura, Chicopee, and Max H. Voigt, Chicopee Falls, Mass., assignors to AMBAC Industries, Incorporated, Columbus, Miss., a corporation of New York
Filed June 22, 1967, Ser. No. 648,069
U.S. Cl. 103-2
Int. Cl. F04b 13/00; F04b 15/00; F02m 39/00



A plunger balancing arrangement for distributor type fuel injection pumps having a rotating and reciprocating plunger which includes a fuel distributor slot communicating with a plunger annulus into which high pressure fuel is intermittently pumped by the reciprocation of the plunger. By the present invention, the unbalanced side loading of the plunger normally caused during injection by the high pressure fuel in the distributor slot is eliminated by the provision of one or more balancing slots in the plunger communicating with the plunger annulus and having a combined area and location sufficient to provide a radial force equal and opposite that produced by the pressurized fuel in the distributor slot. The balancing slots are positioned so as to be out of communication with the fuel distributor passages during the injection phase of the plunger stroke.

3,420,180
GEAR PUMP
Bertwin E. Behrends, East Peoria, and James L. Schmitt, Washington, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed July 21, 1967, Ser. No. 655,216
U.S. Cl. 103-2
Int. Cl. F04b 13/02; F04b 19/06; F04c 1/04



A gear pump having a pair of interengaging gears rotatable in a chamber, two inlet ports for admitting fluid

from two separate sources and in a set ratio into the chamber, each of the gear wheels serving to impel fluid from one of the sources toward an outlet port, the fluid from the two inlet ports being combined at the outlet port.

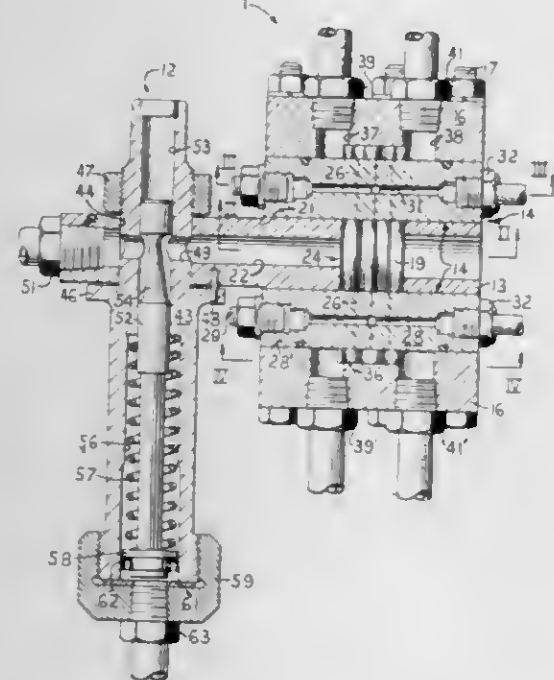
3,420,181
PUMPING SYSTEM
Norman Berry, 57 Lombard St., Glebe,
New South Wales, Australia

Filed Dec. 12, 1966, Ser. No. 600,806
U.S. Cl. 103—5 8 Claims
Int. Cl. F04b 23/14; F04f 5/48



A pumping system utilizing an eductor having its nozzle connected to the discharge side of a pump, a by-pass from the delivery side of the eductor to the suction side of the pump, and valves arranged to selectively connect the suction side of the pump with the by-pass or with a suction pipe and to selectively deliver the output of the pump to the nozzle or as a backwash for the eductor or to discharge before reaching the eductor.

3,420,182
FLUID OPERATED PUMPING COMPONENT FOR ENGINES AND MOTOR DRIVEN APPARATUS
Arthur A. Zuhn, East Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Nov. 2, 1966, Ser. No. 591,507
U.S. Cl. 103—13 4 Claims
Int. Cl. F04b 49/00; F04b 35/00



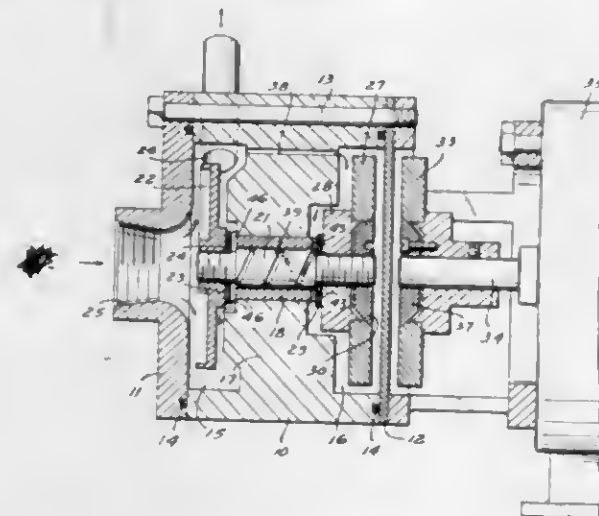
A compact and versatile liquid pump for supplying oil, fuel, or the like to components of an engine is comprised of a unitary assembly having a fluid motor driving a pair of pumps, which may be parallel or series connected, together with a control valve which varies the flow of driving fluid to the motor as a function of a fluid pressure applied to a control input.

3,420,183
SUBSURFACE PUMP
Merida L. Hart, P.O. Box 779, Hobart, Okla. 73651
Filed Jan. 13, 1967, Ser. No. 609,227
U.S. Cl. 103—44 6 Claims
Int. Cl. F04b 9/10; F04b 47/04; F04b 21/06



A hydraulically operated, rodless pump for use in subsurface pumping. The pump includes concentric power fluid and production fluid strings, and has a free, compound working piston mounted in the power fluid string and driven downwardly therein by a hydraulic power fluid delivered from the surface. The upward stroke of the compound working piston is assisted by the hydrostatic head exerted by production fluid standing in the annulus between the strings, and by pneumatic pressure exerted by a gas entrapped above production fluid collected in a production fluid collection chamber at the top of the production tubing. Means is provided for automatically and continuously maintaining a constant volume of power fluid in the column of power fluid which extends between a power fluid piston located at the surface and the compound working piston located down hole.

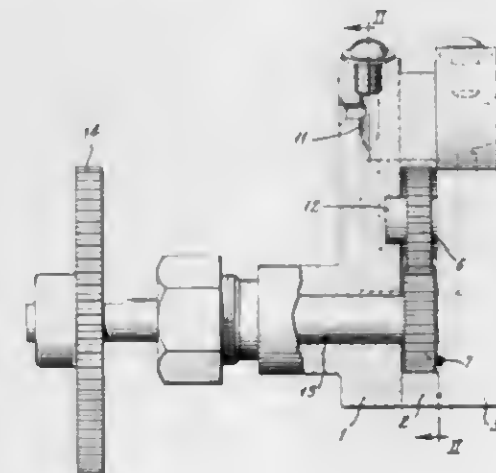
3,420,184
PUMP EMPLOYING MAGNETIC DRIVE
Jullus L. Englesberg, 123 Knollwood Road, Rockville Centre, N.Y. 11570, Alfred Krell, North Bellmore, and Walter J. Otto, Wantagh, N.Y.; said Krell and said Otto assignors to said Englesberg
Filed May 17, 1967, Ser. No. 639,201
U.S. Cl. 103—87 5 Claims
Int. Cl. F04d 13/02; H02k 49/10



Pump impeller mounted on shaft which carries a permanent disk magnet. Latter magnetically coupled to a disk

magnet carried by a motor shaft. Impeller shaft, rotatable within a sleeve bearing, provided with an external spiral groove terminating at interface between bearing end and impeller hub. A portion of the liquid being pumped is led into the spiral groove and pumped through groove to interface. The liquid flows radially outwardly between interface and counteracts force on impeller shaft produced by attraction between the magnets. Notched washer preferably used between bearing end face and impeller hub.

3,420,185
GEAR PUMP
James W. I. Heijnis, Arnhem, Netherlands, assignor to American Enka Corporation, Enka, N.C., a corporation of Delaware
Filed Mar. 4, 1966, Ser. No. 531,851
Claims priority, application Netherlands, Mar. 5, 1965, 6502896 6 Claims
U.S. Cl. 103—126
Int. Cl. F04c 1/04; F01c 1/18



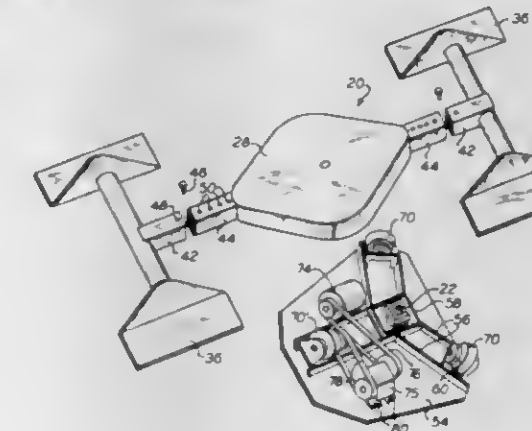
A gear pump comprising a driving gear and a driven gear positioned within a pump housing, each of the gears having an axial clearance between the sides of the housing. The axial clearance of the driven gear is greater than the axial clearance of the driving gear to the extent that the gear wear during the operation of the pump is substantially reduced without considerably increasing leakage of liquid around the gears.

3,420,186
METHOD AND APPARATUS FOR PRECONSTRUCTING RAILROAD TRACK SECTIONS
Max E. Kerns, Greenwich, Conn., assignor to The New York Central Railroad Company, New York, N.Y., a corporation of Delaware
Filed Aug. 4, 1966, Ser. No. 570,333
U.S. Cl. 104—3 27 Claims
Int. Cl. E01b 29/02; E01b 29/26

An apparatus for preconstructing railroad track sections comprising means for conveying a plurality of longitudinally spaced ties and a pair of laterally spaced rails along a predetermined path, conveying means for supplying ties and rails from a storage position to a position substantially adjacent the first conveying means, spacing means operatively associated with the first mentioned conveying means for maintaining a predetermined longitudinally spaced relationship between the ties, laterally movable means adjacent the path for laterally aligning the ties, means rotatably engageable with the rails for uniformly laterally spacing the rails along the first mentioned conveying means, means for supplying rail fastening means to a predetermined position along the path, hammer means and support means for supporting the

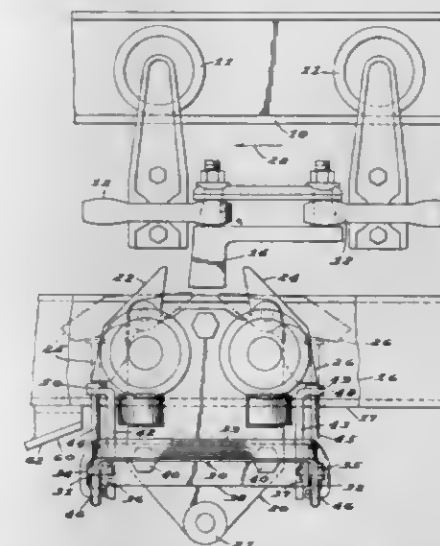
hammer means for longitudinal movement along the first mentioned conveying means, gripping means for releasably securing the support means to track sections traversing the first mentioned conveying means, and means for selectively actuating the hammer means to effect securing the ties and rails together with the fastening means.

3,420,187
TURNTABLE WITH SHORT RADIUS ROLLER RING
David Bruce Johnson, Stamford, Conn., and Daniel Moro, Harrison, and Nicholas G. Cristy, Pleasantville, N.Y., assignors to Macton Machinery Company, Inc., Stamford, Conn., a corporation of Connecticut
Filed Mar. 28, 1967, Ser. No. 626,559
U.S. Cl. 104—35 11 Claims
Int. Cl. B60s 13/02; B61j 1/00



This invention relates to turntables of a type that are used in automobile showrooms, railroad stations and at other locations for advertising displays of automobiles or other items. More particularly, the invention relates to turntables that have a short-radius circle for the supporting rollers and that have the turntable beyond the roller circle of cantilever construction.

3,420,188
DOG POSITIONING MECHANISM FOR CONVEYOR CARRIERS
Clarence A. Dehoe, Orchard Lake, Mich., and Robert J. Roland, Cincinnati, Ohio, assignors to Jervis B. Webb Company, a corporation of Michigan
Filed Feb. 14, 1966, Ser. No. 527,173
U.S. Cl. 104—172 9 Claims
Int. Cl. B61b 13/04; B61c 11/02



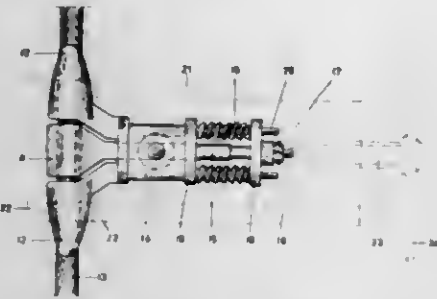
A power and free conveyor carrier having driving and holdback dogs movable between operative and inoperative positions relative to a pusher of a propelling member, in which mechanism is provided on the carrier enabling at least one of the dogs to be moved from one position to the other and retained therein, the mechanism being operable manually or by a trackside cam.

3,420,189 MONOCABLE GRIP

Georg Wallmannsberger, Spaurweg 19, Salzburg-Parsch A 5020, Austria

Filed July 11, 1966, Ser. No. 564,409

U.S. Cl. 104-202 4 Claims
Int. Cl. B61b 7/20; B61c 11/02



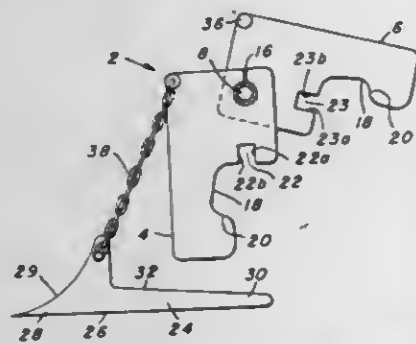
A monocable grip consisting of two non-movable jaws connected to a hanger adapted to grip a cable in conjunction with a movable hook-like jaw positioned therebetween. The hook-like jaw has a rearward rod extension which passes through the hanger and has a plate and nut positioning means on the end thereof. A plurality of springs mounted between the plate and the hanger for biasing the plate and hook-like jaw away from the hanger so as to clamp the cable between the two non-movable jaws and the hook-like jaw.

3,420,190 RAILCAR WHEEL STOP

Buford P. Rice, 2207 E. 73rd Ave., Crown Point, Ind. 46307

Filed Feb. 17, 1967, Ser. No. 616,921

U.S. Cl. 104-258 4 Claims
Int. Cl. B61k 7/04



A railcar wheel stop having two plates rotatably connected together by a hinge means. The plates each have a concave recess into which the head of the rail fits, and there are flange portions extending into the concave recesses designed to engage the underside of the railhead on opposite sides of the web of the rail. At the portion of each recess that is designed to fit over the top of the railhead is located a passageway or slot, and the slots of all the plates align to form a continuous passageway when the edge portions of the concave recesses engage the railhead. A wedge member forced into this continuous passageway secures the plates to the rail and provides an effective stop for railcar wheels.

3,420,191 RAILWAY CAR MOVING VEHICLE

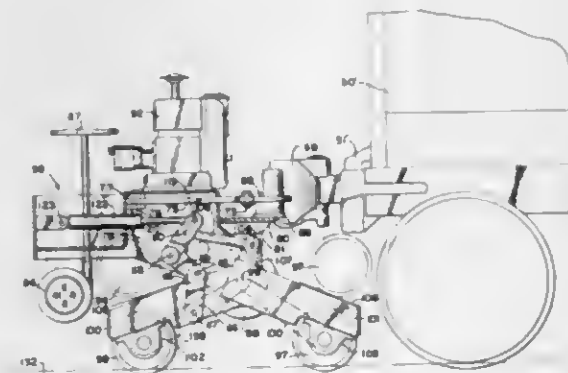
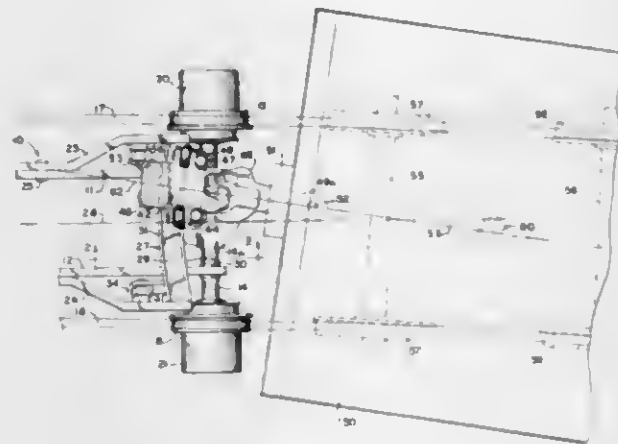
Eugene B. White, Jr., Park Forest, Ill., assignor to Whiting Corporation, a corporation of Illinois

Filed Nov. 7, 1966, Ser. No. 592,472

U.S. Cl. 105-73 15 Claims
Int. Cl. B61c 17/00; B61g 7/12

The coupler head of the traction vehicle is mounted for bodily movement in a horizontal arcuate path such that the coupler head is rocked in a horizontal plane for maintaining the longitudinal centerline of the latter in substantial coaxial relation with the longitudinal center-

line of the coupler of a railway car positioned on a curved section of track and in coupled engagement with the traction vehicle. The traction vehicle includes road wheels and rail wheels. The rail wheels are mounted on two axles which are carried by support arms such that the rail axles may be swung about a common axis co-



axial with one of the road wheel axles. Powered means are engaged with the support arms for raising and lowering the vehicle for alternate support thereof by the road wheels and the rail wheels and also for transferring to the traction vehicle a portion of the weight of a railway car coupled thereto.

3,420,192 UNITIZED FLOORING FOR WHEELED VEHICLES

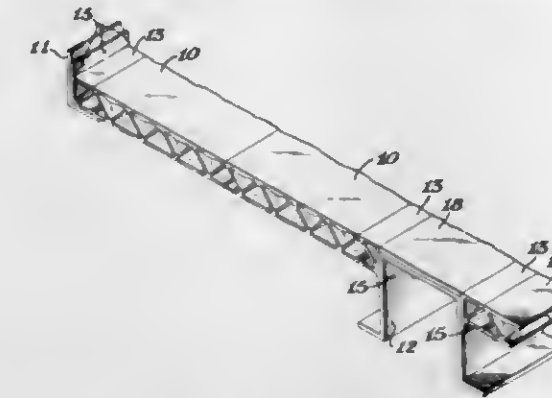
John T. Ellis, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed June 3, 1966, Ser. No. 555,163

U.S. Cl. 105-422 9 Claims
Int. Cl. B61d 17/10

A unitized flooring assembly for a wheeled vehicle has longitudinally extending side sills and a center sill supported on the axle by mounting means and first and second complementary arrays of extruded multi-cavity hollow-core aluminum alloy panels lying in abutting side by side relationship, the panels in each array being welded together and each array being rigidly attached to adapter sections at each edge and each adapter section being rigidly attached to, as the case may be, the adjacent side sill or center sill so that the sills, the adapters and the arrays of panels are all connected together so as to provide a substantially continuous and connecting flat upper surface that lies substantially in one plane. The center sill is protected by either a metal plate or a multi-cavity hollow-core panel of lesser face to face dimension than the panels. The panels, in effect, are nested between the sills and there is no other underlying construction so that

the center of gravity of the vehicle is kept very low, and a large volume payload can be accommodated. In addi-



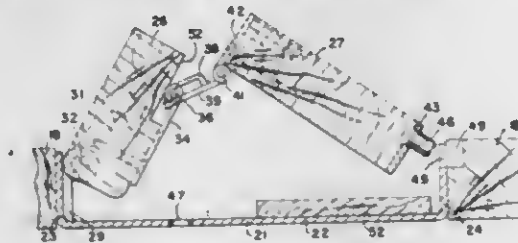
tion, the floor structure is lightweight and strong so that a heavier payload may be carried in the vehicle.

3,420,193 FREIGHT VEHICLE FLOOR STRUCTURE

Kenneth J. Austgen, Griffith, Ind., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware

Filed Sept. 16, 1966, Ser. No. 580,123

U.S. Cl. 105-422 10 Claims
Int. Cl. B61d 17/10; B61d 3/16; B60p 7/06



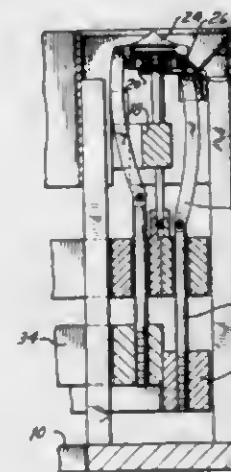
1. A freight vehicle having an underframe and a floor extending the length of said underframe, said floor comprising a plurality of transversely extending floor board means fixed to said underframe in co-planar relationship with one another, said floor including at least one set of two lengthwise spaced floor board assemblies movable into and out of planar relationship with said fixed floor board means, each assembly providing two raised pivotally interconnected floor sections when moved out of said planar relationship for supporting with the other assembly lading in spanning relationship on the assemblies, and each floor assembly being separated by one of said fixed floor board means and accommodating the reception of the tines of a lift fork between the assemblies.

3,420,194 FOURFOLD PASTRY MAKING DEVICE

Leonhard Schafer, 2770 Briggs Ave., Bronx, N.Y. 10458

Filed Sept. 19, 1967, Ser. No. 668,831

U.S. Cl. 107-9 3 Claims
Int. Cl. A21c 11/00



This invention relates to a mechanical device for successively folding over the four corners of a square of

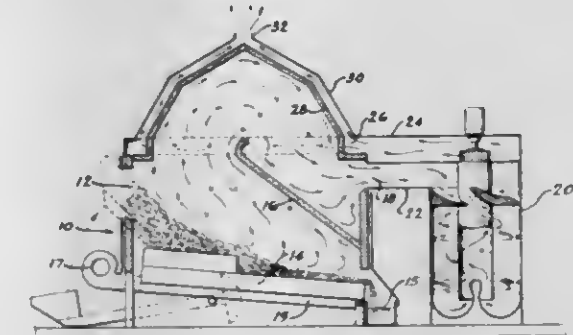
pastry dough over a filling placed centrally upon said square. The device utilizes individually operated folding fingers, each finger being hingedly secured to a central stationary plate.

3,420,195 COMBINATION INCINERATOR AND WET SCRUBBER ARRANGEMENT

Peter W. Kalika, Simsbury, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware

Filed Aug. 24, 1967, Ser. No. 662,972

U.S. Cl. 110-7 2 Claims
Int. Cl. F23j 11/00



A combined incinerator and wet scrubber, wherein the hot, dust-laden gases from the incinerator are scrubbed and cleaned, and then flow through the space enclosed by a double wall arrangement of the incinerator to raise the temperature of the saturated gases.

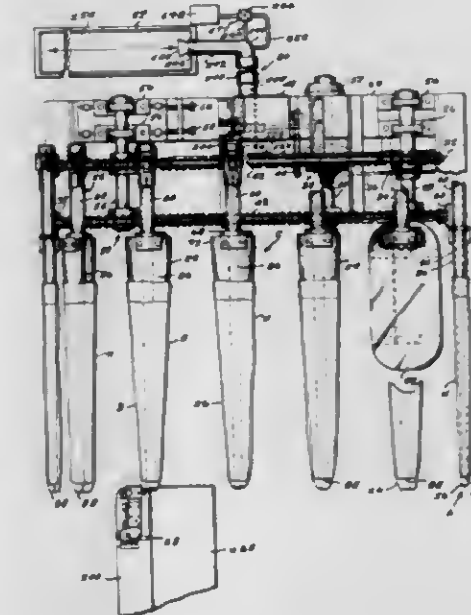
3,420,196 METHOD AND MEANS FOR PROCESSING TUBULAR ARTICLES

Junious J. Edwards, Charlotte, N.C., and Richard G. Levine, Lawrence, N.Y., assignors to Emile Mills Inc., New York, N.Y., a corporation of North Carolina

Filed Feb. 3, 1965, Ser. No. 430,132

U.S. Cl. 112-2 13 Claims
Int. Cl. D04b 1/26

A method and means for processing tubular fabric articles, such as hosiery, on a plurality of forms that advance sequentially through inspecting, end-closing and evertng-removing stations whereby the articles are in-

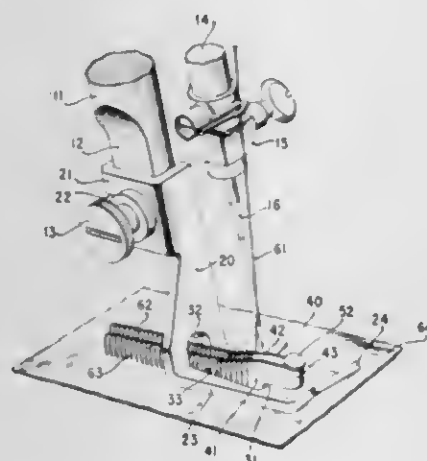


suspected, their ends are closed, and they are delivered to the evertng-removing station without intermediate remov-

al from the forms and with a plurality of articles being in process at the same time.

3,420,197 TUFTING PRESSER FOOT FOR ZIGZAG SEWING MACHINES

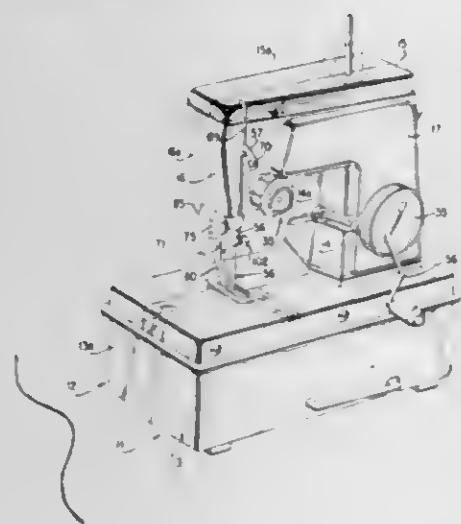
Sigurd S. Jacobsen, Rockaway, Frank J. Bartosz, Cranford, and Manfred R. Laidig, Whippany, N.J., assignors to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed May 8, 1967, Ser. No. 636,852
U.S. Cl. 112-235 2 Claims
Int. Cl. D05b 29/00



A sewing machine presser foot is disclosed having a needle aperture into which two parallel stitch supporting fingers project. The simultaneous formation of two rows of tufted stitches using this presser foot is illustrated.

3,420,198 NEEDLE BAR AND PRESSER BAR SUBASSEMBLY

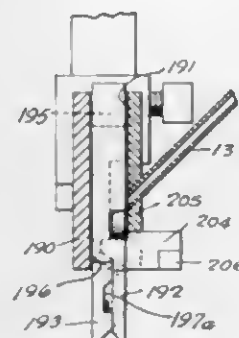
Robert G. Greulich, Belleville, N.J., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Apr. 17, 1967, Ser. No. 631,271
U.S. Cl. 112-238 4 Claims
Int. Cl. D05b 29/00



A needle bar and presser bar subassembly for sewing machines preassembled before final assembly in the frame of a sewing machine. The needle bar and presser bar subassembly includes means for lifting a presser bar when desired.

3,420,199 COMBINATION PRESSER FOOT AND THREAD CUT-OFF

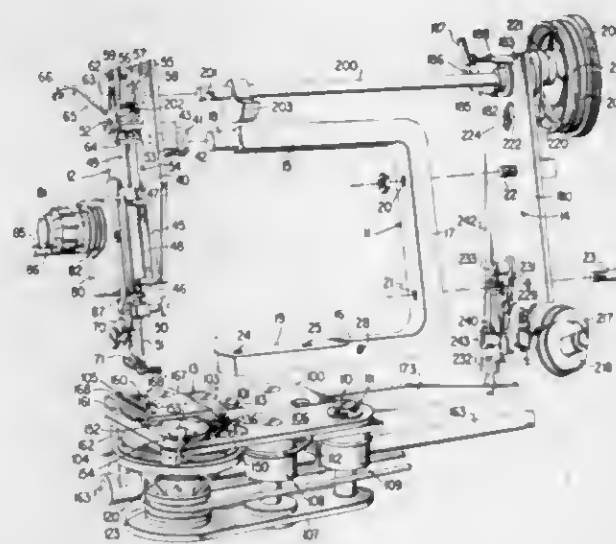
Roy E. Miller and Robert F. Miller, Mechanicsburg, Pa., assignors, by mesne assignments, to The Reece Corporation, Waltham, Mass., a corporation of Massachusetts
Original application May 28, 1965, Ser. No. 459,638, now Patent No. 3,359,931, dated Dec. 26, 1967. Divided and this application July 11, 1967, Ser. No. 652,610
U.S. Cl. 112-252 2 Claims
Int. Cl. D05b 65/00



The present application is particularly concerned with a combination, presser foot and thread cut-off wherein a presser foot slideably mounted on a sewing machine includes a slot in said presser foot with a blade extending across said slot, a thread retainer and thread pick-up slideably positioned in said slot and spaced from said thread retainer and a controlled arm pivotally mounted in said thread retainer and said thread pick-up for raising and lowering the same.

3,420,200 MODULAR SEWING MACHINES

Ralph E. Johnson, Boonton, N.J., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Feb. 3, 1966, Ser. No. 524,949
U.S. Cl. 112-258 1 Claim
Int. Cl. D05b 75/00

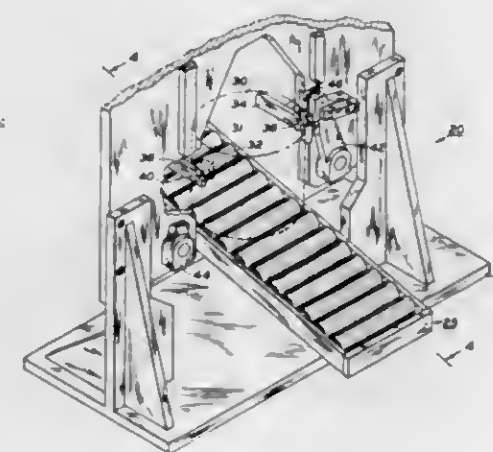


A modular lockstitch sewing machine construction is disclosed in which a frame member having only two accurately machined surfaces supports all of the parts of the sewing machine. A needle module including a needle thread take-up is located and secured on one of the accurately machined surfaces and a loop taker module is carried on the other accurately machined surface. A drive module including a rotary drive shaft is secured on a portion of the frame which is not accurately machined. The rotary drive shaft which is operatively connected to

reciprocate the needle and actuate the take-up is supported in self-aligning bearings in the needle drive modules. Wide variations in the alignment of the rotary drive shaft can be accommodated because the take-up is formed as an extension of the needle bar drive link.

3,420,201 EARED CONTAINER FEEDING APPARATUS

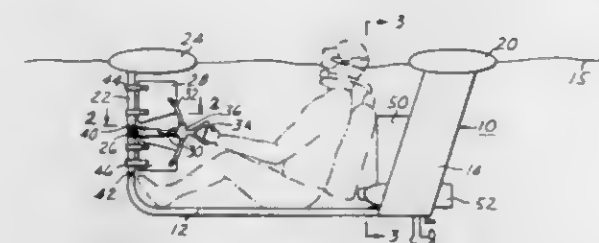
Raymond A. Heisler, 657 Dakota Trail, Franklin Lakes, N.J. 07417
Filed July 18, 1967, Ser. No. 654,208
U.S. Cl. 113-113 16 Claims
Int. Cl. B21d 43/26



A container feeding apparatus adapted for semi-automatic and hand feeding of eared containers to and through a bail-inserting machine and which includes a gravity-type roller conveyor having a selected slop through the machine. A pair of ramps are mounted on the machine and are positioned so as to engage the ears of the advancing container and provide a cam surface for lifting the container by its ears from the inclined conveyor and at the end of the cam surface a beveled end forms a receiving notch for retaining the ears at a determined bail-inserting position. After the bail is inserted a stop arm in the way of each of the ears of the container is moved to release the ears so that the container drops onto the conveyor for transporting from the inserting machine. A detecting means may be provided to insure that an unballed container is properly positioned in the apparatus before insertion of the bail.

3,420,202 UNDERWATER CRAFT AND SUBMERGED PROPULSION SYSTEMS

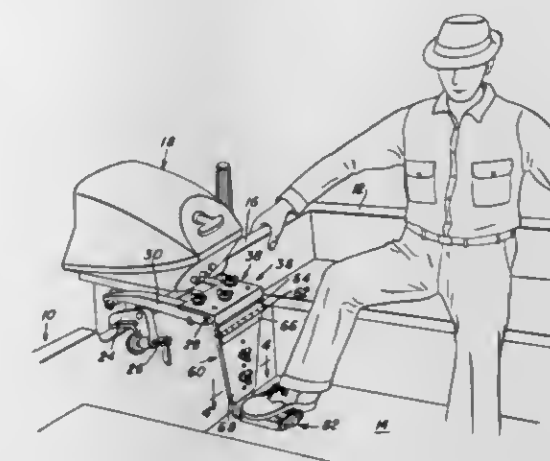
Robert H. Oversmith, 1315 Alexandria Drive, San Diego, Calif. 92107
Filed May 3, 1965, Ser. No. 452,557
U.S. Cl. 114-16 8 Claims
Int. Cl. B63b 21/14; B63b 5/00



An internal combustion engine is disposed in an open bottomed housing. A compressed air source provides air to the housing for use by the engine. A float controls the level of water in the housing.

3,420,203 FOOT STEERING BRACKET FOR OUTBOARD MOTORS

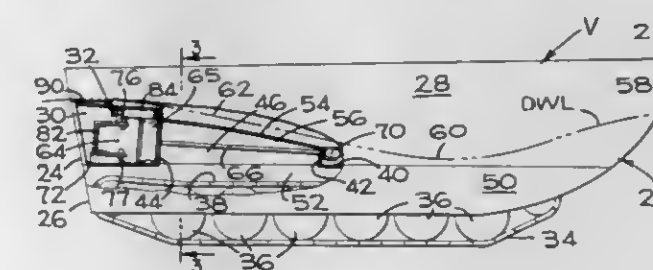
Frederick R. Ambrosch, 2619 E. 19th Ave., Hibbing, Minn. 55746
Filed Apr. 10, 1967, Ser. No. 629,511
U.S. Cl. 114-153 4 Claims
Int. Cl. B63h 21/26; B63h 25/52



A steering mechanism for an outboard motor including an upstanding leg assembly pivotally supported at its upper end to a forward portion of an outboard motor for rotation about a generally horizontally disposed axis extending transversely of the motor and with the upstanding leg means or assembly disposed within an associated boat and the lower end of the assembly terminating at its lower end portion in a foot engageable portion adapted to be engaged by one foot of an operator of the boat, the foot engageable portion being supported from the leg means or assembly for rotation about an axis generally perpendicular to the axis of rotation of the leg assembly relative to the outboard motor and the longitudinal center axis of the leg assembly and the leg assembly being adjustable in length between its pivot axis and the foot engageable portion.

3,420,204 REACTION PROPULSION SYSTEM

Alan J. Samuel, San Jose, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Oct. 17, 1966, Ser. No. 587,014
U.S. Cl. 115-1 6 Claims
Int. Cl. B60f 3/00; B63b 11/08; B63b 11/10



An amphibious military vehicle having crawler tracks and hull portions termed sponsons overlying the tracks is provided with a rearwardly discharging water jet propulsion unit in each sponson, and an individually operable swinging gate or deflector for each jet to selectively aim the jets laterally away from the hull for steering. Induction water to the pumps travels upward through the upper reach of each crawler track into a suction chamber formed in the superposed sponson. A second embodiment of the invention uses a pair of swinging gates in each propulsion unit. Both embodiments are capable of marine propulsion and steering with only one pump operating.

3,420,205

INDICATING DEVICE

Ayers Morison, Grosse Pointe, Mich., assignor to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana

Original application Dec. 18, 1961, Ser. No. 160,127.

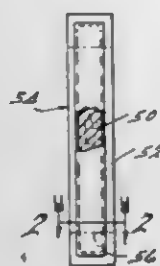
Divided and this application Mar. 23, 1966, Ser.

No. 590,106

U.S. Cl. 116-114

Int. Cl. G01d 1/00

14 Claims



An indicator device suitable for indicating elapsed time and time-temperature relationships consisting of a porous capillary material enclosed within an impervious sheath disposed in intimate contact with the surface thereof and a reservoir containing a fluid of controlled properties which is adapted to be opened to communicate with a selected point of the capillary material to initiate a measuring function by the absorption of the fluid in a guided direction through the capillary material.

3,420,206

RETRIEVE-MARKER

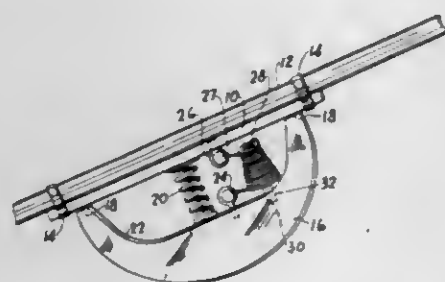
William M. Pelger, Sr., 1810 Clarendon Ave. SW., Canton, Ohio 44706

Filed June 20, 1967, Ser. No. 647,450

U.S. Cl. 116-124

Int. Cl. G09f 9/00

3 Claims



A retrieve marker secured to a fishing rod or any other object accidentally sinks into a body of water, float is released in ten to twelve hours and floats to the surface while remaining tied to the object by a length of cord or line, as a result the retrieve marker both marks the location of the sunken object and provides a means for recovering same.

3,420,207

PNEUMATIC DIAPHRAGM OSCILLATORS

Bengt Lennart Holm, Malmo, Sweden, assignor to Kockums Mekaniska Verkstads Aktiebolag, Malmo, Sweden

Filed Oct. 24, 1966, Ser. No. 589,010

Claims priority, application Sweden, Oct. 27, 1965, 13,863/65

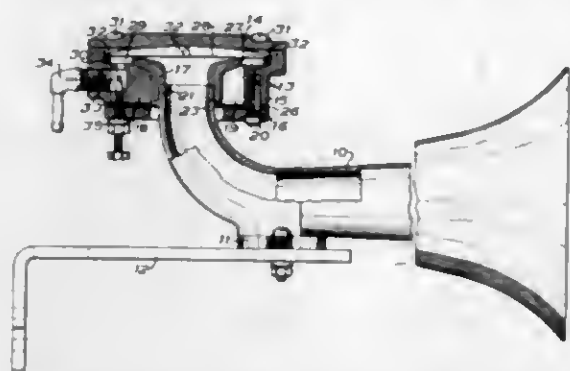
U.S. Cl. 116-142

Int. Cl. G10k 9/00

1 Claim

A pneumatic diaphragm oscillator has a resonance horn connected to a housing containing the diaphragm and consisting of an intermediate part, an annular closure providing a seal between the horn and the intermediate part, and a cover applied to the end of the intermediate part opposite the horn and biasing the diaphragm against a seat in the intermediate part. The intermediate part has

an integral molding consisting of a tubular wall flaring towards one end thereof for forming the seat. A peripheral wall is spaced from and surrounds the tubular wall,



and webs are spaced apart around the tubular wall and extend between and integrally interconnect the tubular wall and the peripheral wall.

3,420,208

PNEUMATICALLY CONTROLLED APPLICATOR SYSTEM FOR ADHESIVE AND THE LIKE

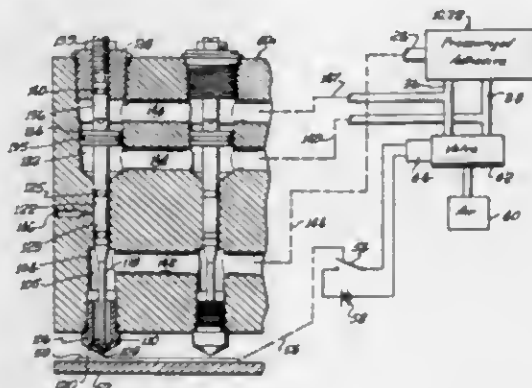
John W. Guthrie, Del Rey Oaks, Calif., assignor to Lockwood Technical, Inc., Sand City, Calif., a corporation of California

Filed Dec. 2, 1966, Ser. No. 598,645

U.S. Cl. 118-2

Int. Cl. B05c 5/00

9 Claims



Liquids such as hot melt adhesives are applied to a work surface through orifices connected in parallel and controlled by individual needle valves actuable in response to pneumatic signals. The same pneumatic signals control the valves and the pump mechanism by which the adhesive is intermittently pressurized.

3,420,209

APPARATUS FOR APPLYING POWDERED RELEASE AGENT WHILE CUTTING STOCK

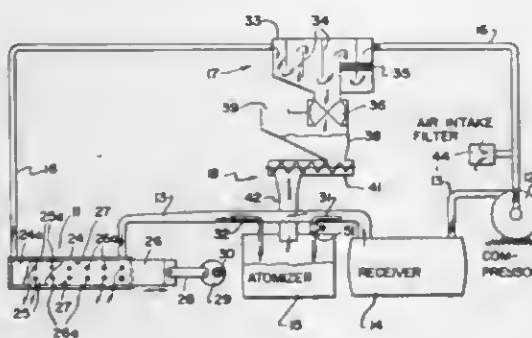
Bernard T. Hensgen, Highland Park, Ill., assignor to B. T. Hensgen, Inc., a corporation of Illinois

Filed July 25, 1966, Ser. No. 567,707

U.S. Cl. 118-15

Int. Cl. B26d 7/00

6 Claims



A system for coating and applying a powdered release agent to the cut surface of a plastic material such as bacon

where the plastic material is sliced while supported at a cutting station with a powder applicator valve facing the freshly cut surface. The device includes a chamber supplying fluidized powder through the valve and includes a cyclic conduit for delivering powder through the chamber, thence to a trap which is in an enlargement in the conduit and contains baffles and a filter for separating the powdered material from the fluidizing medium and the fluidizing medium continues through the conduit, a compressor, and a receiver for return to the valve chamber. Between the receiver and valve chamber a stream of the fluidizing medium is diverted into an atomizer and returned to fluidize and pick up more release agent which is delivered back to the conduit with the remainder of the fluidizing medium passing through the conduit creating a venturi effect to assist in introduction of the release powder into the conduit. The release powder separated from the fluidizing medium at the trap is delivered through a pressure valve to a collector from which it is removed and delivered to the atomizer. The collector includes a refill port for adding release powder to the system.

as an aid in loading live turkeys at a farm into coop trucks for transport to a processing plant. A conveyor



system carries the turkeys to an elevated position for convenient manual transfer into the coops of the trucks.

3,420,212

CIRCUIT FOR A REGENERATIVE PREHEATING

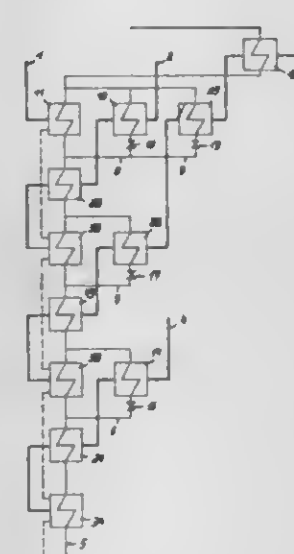
Klaus Knizla, Nochen uher Engelskirchen, Germany, assignor to L. & C. Steinmuller G.m.b.H., Gummersbach, Germany

Filed Mar. 27, 1967, Ser. No. 626,256

U.S. Cl. 122-1

Int. Cl. F22d 1/34

9 Claims



The present invention relates to a circuit for use in connection with steam plants for regeneratively preheating feed water which includes primarily feed water conveying conduit means with a plurality of first deheater means serially interposed therein while a plurality of bleeder steam lines respectively lead into said first deheater means for conveying thereto bleeder steam to be deheated in said first deheater means. The said circuit also comprises feed water preheater means likewise interposed in said primary conduit means from which latter secondary feed water conduit means are branched off and arranged in parallel thereto while bypassing said feed water preheater means, said secondary conduit means having interposed therein second deheater means.

3,420,213

FORCED AIR ROOF-CLEANING SKEWBACK CHANNEL AND FRAME

June H. Reighart, Cleveland, Ohio

(% Sticker Industrial Supply Corporation, 37877 Elm St., Willoughby, Ohio 44094)

Filed Sept. 13, 1967, Ser. No. 667,507

U.S. Cl. 122-390

Int. Cl. F23j 3/00

12 Claims

A forced air roof-cleaning skewback channel for an open hearth furnace having elongated horizontal slots therein located just above the adjacent edge of the roof. A closed corrugation in the web of the skewback chan-

CAKE ORNAMETING FLOWER SPINNER

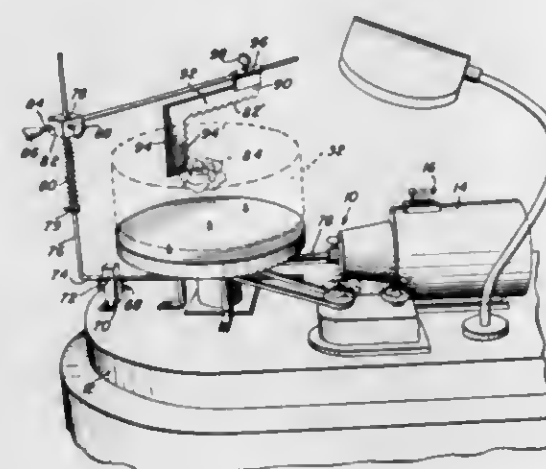
Carl R. Lindquist, 1800 Stillwell Ave., Brooklyn, N.Y. 11223

Filed Mar. 29, 1967, Ser. No. 626,801

U.S. Cl. 118-18

Int. Cl. A21c 15/00

8 Claims



A small turntable driven at slow speed and adapted to have individual quantities of icing deposited thereon at points spaced circumferentially thereabout in a manner forming a replica of a flower on the small turntable, the latter including an upwardly convex upper surface so as to enable the building up of the center portion of the flower to be formed thereon without excess use of icing and without causing the lower portions of the central area of the flower formed to support an excess amount of icing weight thereabove and with the center of the upwardly convex upper surface of the small turntable including an upwardly extending projection adapted to form a supporting core for the center portion of the icing flower formed on the small turntable.

3,420,211

TURKEY HANDLING MACHINE

Norman W. Hartvickson, 110 A St., Turlock, Calif. 95380

Filed Jan. 16, 1967, Ser. No. 609,601

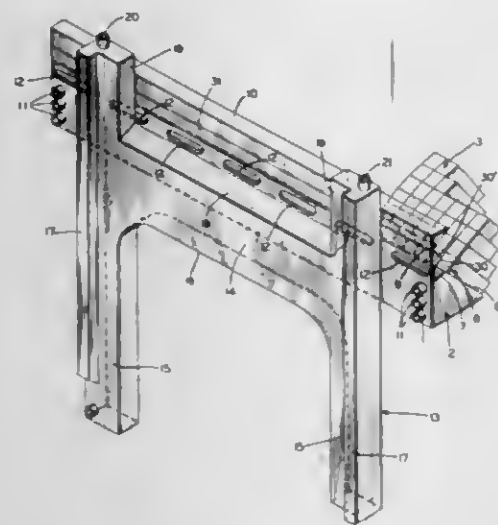
U.S. Cl. 119-82

Int. Cl. A01k 31/06; B65g 21/12

10 Claims

A portable machine especially adapted but not limited for use by the turkey transport industry and particularly

nel, just above these slots, serves as a passageway for compressed air or other cleaning media, with downwardly disposed jets to direct a blast of air toward the



slots. If no strengthening corrugation is provided in the web of the skewback channel, a welded-on channel member or pipe may be substituted therefor for providing positive motivation of the dust and dirt through the slots.

3,420,214

ROTARY PISTON ENGINE

Wolf-Dieter Bensinger, Stuttgart-Riedenberg, Helmut Dobler, Stuttgart-Mohringen, and Heinz Lamm, Esslingen-St. Bernhard, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany

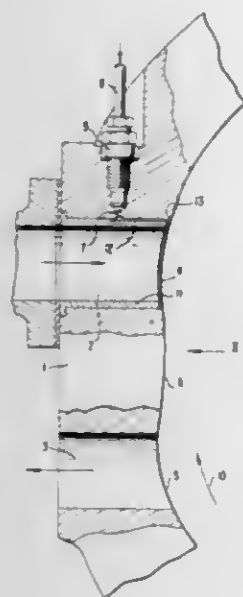
Filed June 17, 1966, Ser. No. 558,424

Claims priority, application Germany, June 19, 1965, D 47,551

U.S. Cl. 123—8

Int. Cl. F02b 53/04; F04c 29/02; F04d 29/06

14 Claims



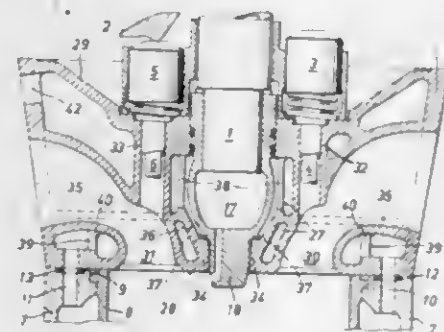
A rotary piston internal combustion engine of trochoidal construction having an inlet channel in the housing whose control aperture lies in the contact surface thereof, and in which a lubricant supply aperture is arranged in the forward wall of the inlet channel in relation to the direction of piston rotation, and having an insert in the inlet channel forming a narrow gap with the forward wall extending from the lubricant supply aperture to the contact surface to shield the lubricant from the media flowing through the inlet channel.

3,420,215
LIQUID-COOLED CYLINDER HEAD FOR INTERNAL COMBUSTION ENGINES
 Richard Seifert, Friedrichshafen-Manzell, Germany, assignor to Maybach Mercedes-Benz Motorenbau G.m.b.H., Friedrichshafen, Germany
 Filed Nov. 29, 1966, Ser. No. 597,593
 Claims priority, application Germany, Dec. 10, 1965, M 67,591

U.S. Cl. 123—32

Int. Cl. F01p 3/12; F01p 3/14; F02f 1/36

15 Claims



A liquid-cooled cast cylinder head for an air-compressing internal combustion engine with multiple overhead valves, the fuel being injected into a pre-combustion chamber arranged in the cylinder-axial direction, intermediate bottom wall means extending from the outer walls to the inlet and exhaust ports, cylindrical support walls provided with apertures for cooling water passage arranged between the bottom wall and the intermediate bottom wall, a basket-like hollow body acting as support between the bottom and top wall and surrounding the pre-combustion chamber within a predetermined distance, apertures for the cooling medium uniformly distributed over the circumference of the hollow body, and the hollow body being cylindrically shaped above and conically below the intermediate bottom wall.

3,420,216
SPARK IGNITION FOR AN INTERNAL COMBUSTION ENGINE WITH FUEL INJECTION
 Siegfried Meurer, Horst Querfurt, and Walter Herzog, Nuremberg, Germany, assignors to Maschinenfabrik Augsburg-Nürnberg Aktiengesellschaft Werk Nürnberg, Nuremberg, Germany

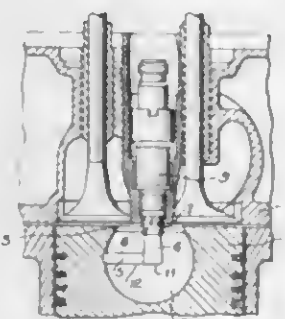
Filed Dec. 1, 1966, Ser. No. 598,400

Claims priority, application Germany, Dec. 2, 1965, M 67,496

U.S. Cl. 123—32

Int. Cl. F02b 3/00; F02f 11/00; F02p 1/00

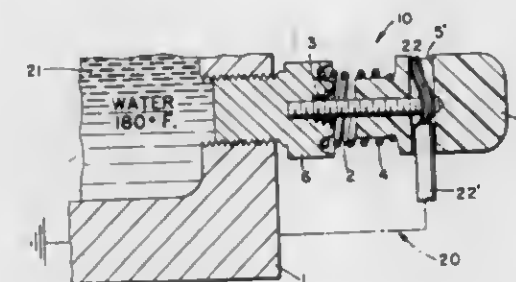
2 Claims



The piston for a spark ignition internal combustion engine with fuel injection has a guide channel leading to a cutaway in the wall of a combustion chamber. At top dead center a sleeve around the spark electrode enters the cutaway. Injected fuel particles are led by the guide channel to the bottom of the cutaway from which the rising piston throws the particles into the sleeve in the form of a fuel rich air mixture for ready ignition.

3,420,217
SAFETY DEVICE FOR INTERNAL COMBUSTION ENGINE
 Paul R. Powell, 518 Charles St. Ave., Towson, Md. 21204, and John Roper, 1325 Eutaw Place, Baltimore, Md. 21217
 Filed July 31, 1967, Ser. No. 657,227
 U.S. Cl. 123—198
 Int. Cl. F22b 37/47; F02 77/08

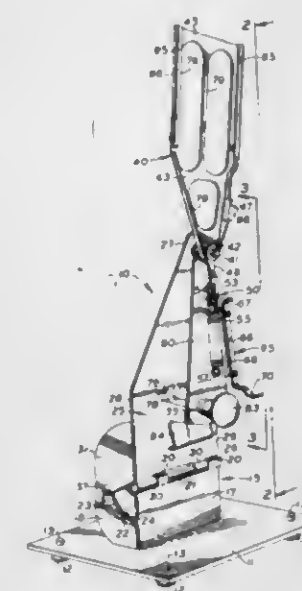
3 Claims



An apparatus for preventing overheating of internal combustion engines wherein the engine is provided with a fusible element compound to melt at a pre-determined temperature. The device is adapted for use with an electrically operated pump or ignition system and is connected to the ground side of the electric circuit operating the same. When the fuse element melts the apparatus operates to break the electric circuit to either the fuel pump or the ignition system, stopping the engine from operation.

3,420,218
TRAPSHOOTING TARGET PROJECTOR
 Thomas P. Rademacher, Medina, Ohio, assignor to Hamlin Products, Incorporated, Akron, Ohio, a corporation of Ohio
 Filed Aug. 26, 1965, Ser. No. 482,708
 U.S. Cl. 124—7
 Int. Cl. F41b 3/04; F41f 7/00

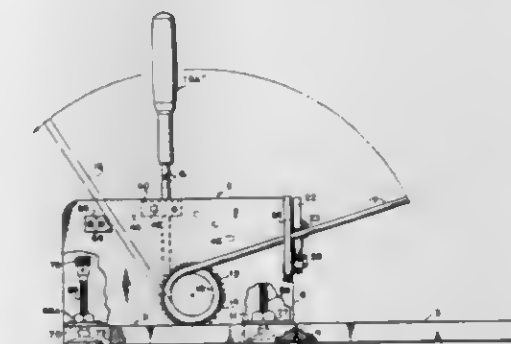
4 Claims



A trapshooting target projector having a fixed upright frame, an elevation arm vertically pivotable about the frame and a directional arm pivotally mounted on the elevation arm, each selectively positioned to control the trajectory of a projected target in elevation and azimuth, a throwing arm having a target holder pivotally attached to the elevation arm, an actuation device tending to resiliently maintain the throwing arm aligned with the directional arm, and a latching device retaining the throwing arm in a displaced position and selectively releasing it therefrom.

3,420,219
SPRING-ACTUATED TARGET THROWING DEVICE
 Edward J. Rabberger, 1863 J St., Sweet Home, Oreg. 97386
 Filed Dec. 13, 1965, Ser. No. 513,454
 U.S. Cl. 124—8
 Int. Cl. F41b 3/04

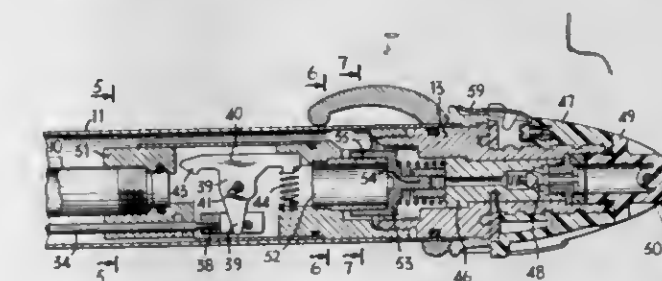
3 Claims



A device adapted for use in aerial target shooting such as practiced in trap and skeet shooting contests, and more particularly to a device especially designed for control and operation by an individual in throwing his own targets in contrast to trap-shooting practices at gun clubs and other target ranges where targets are thrown by a hired individual, at the command of the contestant, from concealed apparatus remotely located ahead of or to one side of the firing line. A torsion spring has one end forming the target throwing arm which can be latched. The other end of the spring forms a handle which is rotated, while the throwing arm is latched, to load the spring.

3,420,220
PNEUMATIC RIFLE WITH ADJUSTABLE VALVE
 Juan V. Ferrando, Barcelona, Spain, assignor to Vilarrubis & Sague S.A., Barcelona, Spain, a corporation of Spain
 Filed Aug. 20, 1965, Ser. No. 481,171
 U.S. Cl. 124—11
 Int. Cl. F41b 11/00

4 Claims



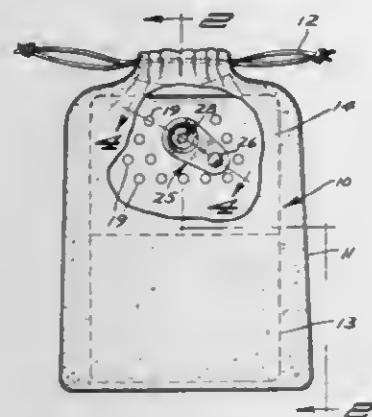
A pneumatic rifle having a pressure chamber within a tubular housing surrounding part of the rifle barrel with a valve establishing communication between the pressure chamber and the end of the rifle barrel, and means for varying the size of the passage through the valve to regulate the firing power.

3,420,221
HAND WARMER COVER
 Donald E. Wintz, St. Paul, Minn., assignor to Aladdin Manufacturing Company, Minneapolis, Minn., a corporation of Minnesota
 Filed Aug. 31, 1967, Ser. No. 664,695
 U.S. Cl. 126—208
 Int. Cl. A61f 7/06

12 Claims

A catalytic hand warmer having a cover enclosing a burner releasably attached to a body storing liquid fuel. The burner has a catalytic combustion promoting element which on being heated will sustain flameless combustion. The cover has a plurality of holes for controlling the movement of air and the temperature in the chamber surrounding the burner. One of the holes aligned with

the combustion promoting element is enlarged to receive an end of a cigarette. A spring biased closure member

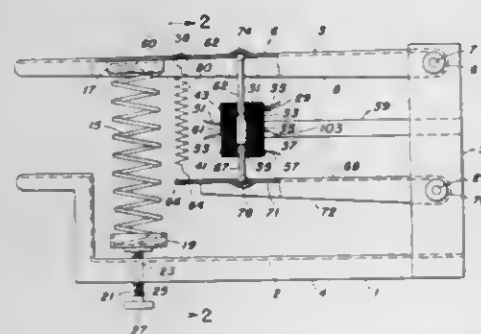


having a hole is pivotally mounted on the cover to restrict the opening of the large cigarette lighting hole.

3,420,222 APPARATUS FOR DETECTING AND INDICATING PHYSIOLOGIC MOVEMENT

Joseph T. Noe, Chicago, Ill., and Donald M. Peppard and Bernard J. McCabe, Wyandotte, Mich., assignors to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan

Filed Dec. 13, 1965, Ser. No. 513,211
U.S. Cl. 128-2 8 Claims
Int. Cl. A61b 5/05



An apparatus for detecting and indicating physiologic movement comprising a pair of elongated members, means for pivotally connecting the elongated members to each other, spring means provided between the elongated members and spaced from the pivotal connecting means to resist movement of the elongated members toward each other, transducer means mechanically connected to the elongated members, a source of potential electrically connected to the transducer means, indicating means for indicating electric current changes, and means for electrically connecting the transducer means to the indicating means whereby physical movement of the elongated members relative to each other is converted by the transducer to proportionate electric current changes which are indicated by the indicating means.

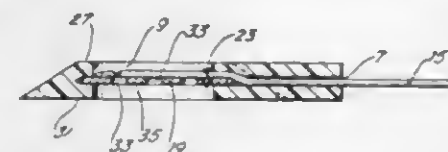
3,420,223 ELECTRODE FOR BIOLOGICAL RECORDING

Joe L. Day and Maxwell W. Lippitt, Jr., Houston, Tex., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Dec. 31, 1964, Ser. No. 422,864
U.S. Cl. 128-2.06 7 Claims
Int. Cl. A61b 5/04

An electrode for detecting potential differences generated by parts of the human body comprising an electrochemically reversible silver chloride anodized silver disk which contacts the skin through an electrode paste on one face of the disk. A lead wire is soldered to the opposite

face and this connection is then coated with an epoxy resin to preclude contact of it with the paste in order to



prevent spurious electrical activity which would spoil the quality of the signal.

3,420,224 APPARATUS FOR ANALYSIS OF RESPIRED GAS

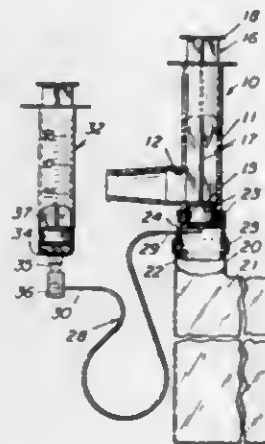
Andrew F. Farr, South Gate, Calif., assignor to Bio-consultants, Inc., Glendale, Calif., a corporation of California

Continuation-in-part of applications Ser. No. 295,058, July 15, 1963, and Ser. No. 626,280, Mar. 27, 1967.

This application June 13, 1967, Ser. No. 645,666

U.S. Cl. 128-2.07 7 Claims

Int. Cl. A61b 5/00



Throw-away apparatus for immediate diagnostic analysis of respired air of a patient collected in a pliable-breathing bag which at times communicates with a titrating syringe having a measured volume of an absorbing reagent for absorbing a known amount of a selected constituent of respired air, including means for measuring the residual volume of the respired air after contacting the reagent in the syringe; and a method for making an immediate diagnostic analysis of the respired air of a patient.

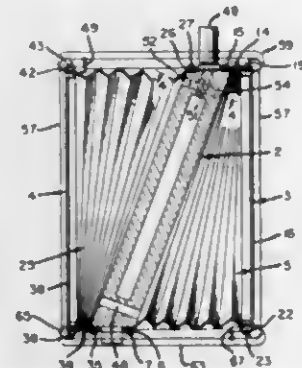
3,420,225 BALANCED BELLOWS SPIROMETER

George R. Holden, Palo Alto, and Joseph R. Smith, Jr., Milpitas, Calif., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Aug. 21, 1964, Ser. No. 391,343

U.S. Cl. 128-2.08 8 Claims

Int. Cl. A61b 5/08



1. A spirometer comprising a center wall, a bellows mounted on each side of said wall to form an expandable and contractable chamber on each side of said wall, inlet

and outlet means in communication with said chambers, one side of one of said bellows being pivotally connected to one edge of said center wall, one side of the other of said bellows being pivotally connected to the opposite edge of said center wall, said center wall having a passage interconnecting said chambers, a string loop, and means forming a continuous travel path for said loop around both of said bellows said string being connected to both of said bellows on the sides of the bellows opposite the pivotally connected sides of the bellows.

3,420,226 PRESSURE JET MASSAGE BATH

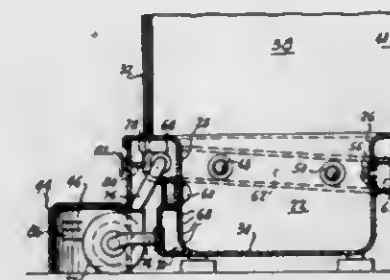
Lauren E. Berry, Sr., 3750 21st Ave.,

Sacramento, Calif. 95820

Filed Oct. 12, 1966, Ser. No. 586,071

U.S. Cl. 128-24.1 10 Claims

Int. Cl. A61h 33/00; A61h 9/00



1. A bath for ejecting liquid under high pressure toward all parts of a bather's body simultaneously to massage and exhilarate the bather comprising:

- a bathtub of depth sufficient to receive the bather in sitting position having walls and ends approximately the height of the bather and having a plurality of orifices arranged in descending order from one end to the other of the bathtub in the walls and ends and passages adjacent the bottom for withdrawing the liquid for recirculation;
 - a manifold communicating with the orifices extending substantially around the tub for supplying liquid to the orifices;
 - a recirculation pump for the liquid; and
 - withdrawal and supply conduits interconnecting the orifice supply manifold and the withdrawal passages with the recirculation pump;
- whereby the liquid is ejected at high pressure at all parts of the bather's body and then withdrawn from the tub for recirculation.

3,420,227 WATER-AIR MASSAGING DEVICE

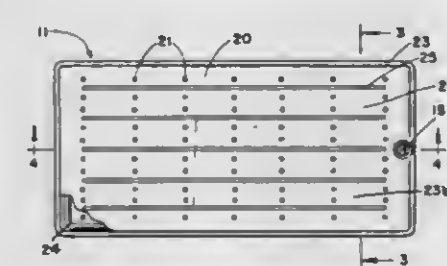
Peter H. Voorlas, 218 13th St.,

Racine, Wis. 53403

Filed Aug. 26, 1965, Ser. No. 482,790

U.S. Cl. 128-66 1 Claim

Int. Cl. A61h 9/00



An air injection mat for producing a massaging effect on the occupant of a bathtub is formed from two, undulating layers of flexible material which are sealed to-

gether around their peripheral edges and along longitudinally extending seal areas where the bases of the undulations of the oppositely disposed layers contact each other. The longitudinally extending seal areas provide spaced-apart air passages through which air may be injected upwardly into the water of a bathtub through perforations in the upper layer. A reinforcing ring disposed between the two layers of material inside the peripherally sealed edges thereof serves to hold the mat in a rectangular shape and to maintain the mat on the floor of a bathtub filled with water.

3,420,228 MASSAGING AND CLEANING DENTAL SYRINGE

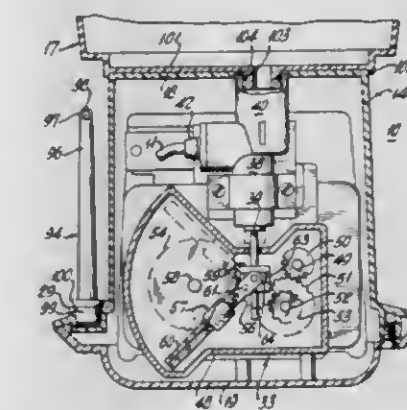
Jack W. Kalbfeld, 4 Lesley Lane,

Old Bethpage, N.Y. 11804

Filed Nov. 17, 1966, Ser. No. 595,195

U.S. Cl. 128-66 9 Claims

Int. Cl. A61h 9/00; A61c 17/02



1. A dental treating device comprising a nozzle, a source of liquid, and pump means connected between said nozzle and said source of liquid for periodically delivering said liquid under pressure to said nozzle for predetermined intervals separated by dormant intervals, the period of said dormant interval being at least twice that of said delivery interval whereby exposure of a gum area to the intermittent liquid jets from said nozzle provides an interval between successive jets allowing gum rebound at least twice the interval during which said gum area is under jet pressure.

3,420,229 OSTEOPATHIC DEVICE

John W. Miller, 7406 Holly Hill,

Dallas, Tex. 75231

Filed Oct. 6, 1966, Ser. No. 584,796

U.S. Cl. 128-71 6 Claims

Int. Cl. A61h 1/02



An osteopathic table having pads for supporting the upper and lower trunk regions of a patient, the two pads being rotatable synchronously in opposite directions to twist the vertebral column in one direction and then the other; and having harnesses for the feet and head of the patient, which harnesses may be moved away from, and

towards, each other periodically during such rotation of the pads.

3,420,230

BACK BRACE

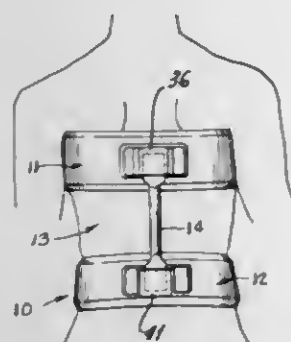
Louis M. Ballard, Arcadia, Calif., assignor to Ballard & Associates, Inc., Pasadena, Calif., a corporation of California

Filed Dec. 6, 1965, Ser. No. 511,776

U.S. Cl. 128-75

Int. Cl. A61f 5/02

9 Claims



A back brace including upper and lower C-shaped girdle sections conforming to upper and lower portions of the human body, the sections including relatively rigid C-shaped cores interconnected by a torsion bar of simple construction and attachment to the cores. Provision is made for adjustment of the torsion bar at a confined end thereof.

3,420,231

THERMOPLASTIC CAST FORMING MATERIAL INCLUDING AN INVERSELY WATER SOLUBLE RESIN

Martin I. Edenbaum, Somerset, N.J., assignor to Johnson & Johnson, a corporation of New Jersey

No Drawing. Filed July 18, 1966, Ser. No. 565,705

U.S. Cl. 128-90

Int. Cl. A61f 13/00

10 Claims

1. A thermoplastic cast forming sheet material wound on itself in roll form comprising a base thermoplastic resin which is normally relatively hard, rigid and non-cohesive at room temperature and at temperatures up to about 100° F. but which becomes soft, moldable and cohesive at a temperature above about 100° F. and below about 165° F.; and an inversely water soluble resin which when heated in water becomes relatively insoluble at a temperature below about 165° F. and which when thereafter cooled in water becomes relatively soluble at a temperature above the temperature at which the base thermoplastic resin rehardens, at least a portion of said inversely soluble resin being interposed between adjacent roll convolutions to separate portions of said base resin in said adjacent roll convolutions.

3,420,232

ANESTHETIC VAPORIZER

Allan M. Bickford, Huntington Station, N.Y., assignor to The Foregger Company, Inc., Roslyn Heights, N.Y., a corporation of New York

Filed July 20, 1965, Ser. No. 473,300

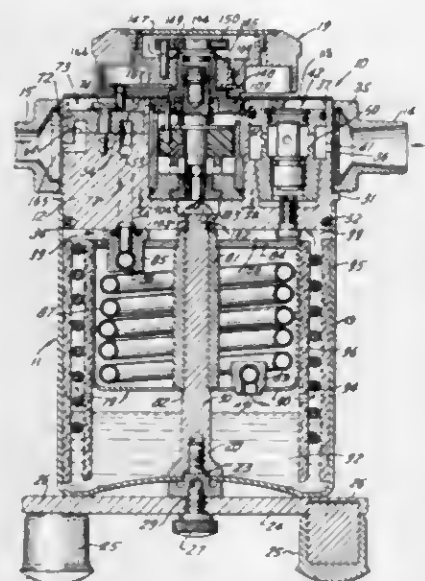
U.S. Cl. 128-188

Int. Cl. A61m 17/00

10 Claims

The anesthesia apparatus has a gas inlet and means to divide the gas to pass one stream through the anesthesia chamber to another and bypass another stream directly to the outlet. Valve means responsive to excessive gas pressure at the dividing position acts to increase the flow through the bypass in response to such pressure. A

main control valve to control the one gas stream carrying entrained anesthetic material is operatively related to the shut-off valves to and from the anesthesia chamber



to open those shut-off valves during part of its opening range and shut those valves on closing through that part of the range.

3,420,233

METHOD AND THERAPEUTIC DEVICE FOR STIMULATING VASCULAR ACTIVITY, PRODUCTION OF GRANULATION TISSUE, AND EPITHELIALIZATION IN A CUTANEOUS REGION

Naomi M. Kanof, 2120 Bancroft Place NW., Washington, D.C. 20008

No Drawing. Filed Nov. 24, 1965, Ser. No. 510,161

U.S. Cl. 128-260

Int. Cl. A61m 35/00

1 Claim

A method of treating a cutaneous ulcer by the application of porous gold leaf, establishing an electrostatic differential between the ulcer and the gold leaf by applying ethyl alcohol to the site of the ulcer, and then applying the porous gold leaf thereto.

3,420,234

COMBINED SANITARY PAD AND CATAMENIAL TAMPON

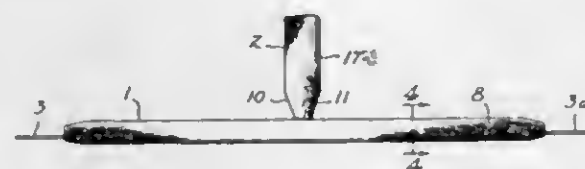
John T. Phelps, 310 Caxton Bldg., Cleveland, Ohio 44115

Filed Oct. 23, 1965, Ser. No. 503,311

U.S. Cl. 128-285

Int. Cl. A61f 13/20

3 Claims



A sanitary pad adapted to be positioned over the vaginal canal of a woman during menstruation and a catamenial tampon extending from the central portion thereof which consists of cylindrical portion which is adapted to be positioned upwardly within the vaginal canal of a woman during menstruation and has a lower frusto-conical shaped portion with its larger end being merged with the cylindrical portion of the tampon and its lower portion being

connected to the sanitary pad. The frusto-conical portion of the tampon is adapted to draw excess menstrual fluid from the cylindrical portion of the tampon to the sanitary pad to be absorbed thereby. Because of the comparatively small diameter of the frusto-conical portion of the tampon which is connected to the sanitary pad, it does not bear with excessive pressure against the sphincter muscles when the device is applied to a woman during her menstrual period.

3,420,235

INTERLABIAL PAD

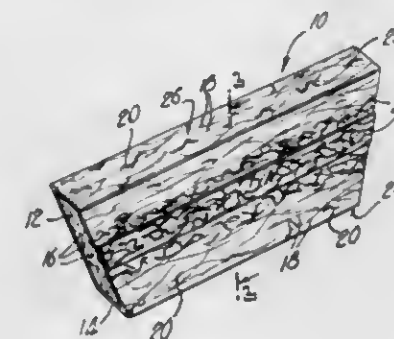
Carlyle Harmon, Scotch Plains, N.J., assignor to Johnson & Johnson, a corporation of New Jersey

Filed July 13, 1966, Ser. No. 564,892

U.S. Cl. 128-290

Int. Cl. A61l 15/00; D04h 1/04

5 Claims



1. An interlabial catamenial pad comprising an elongated, trapezoidally shaped core of cellulose fibers and a non-woven fabric cover around the sides, top and bottom of said core, said fabric cover comprising from about 25% to 75% by weight of the fabric of cellulose fibers and from about 75% to 25% by weight of the fabric of polypropylene fibers uniformly distributed throughout the cellulose fibers and in partial bonding relationship therewith and with the cellulose fibers in said core, said cover having from about 30% to 70% of its total area free of partially fused polypropylene fibers.

3,420,236

SANITARY GARMENT

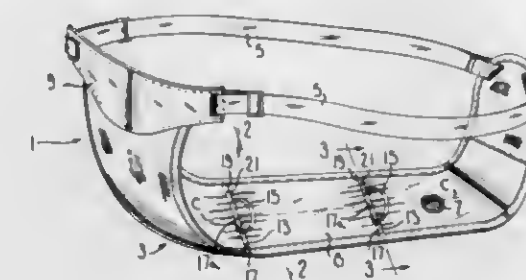
Irvin S. De Woskin, St. Louis, Mo., assignor to Beltz Corporation, St. Louis, Mo., a corporation of Missouri

Filed May 27, 1966, Ser. No. 553,356

U.S. Cl. 128-291

Int. Cl. A61f 13/16

3 Claims



A sanitary garment having a pair of loops stitched to the crotch section of the garment for holding a sanitary napkin in place in the crotch section. The loops are constituted by central portions of bands which extend across the crotch section from one side thereof to the other and which are stitched to the crotch section.

3,420,237

PROCESS AND ARTICLE FOR THE TREATMENT OF SEVERE EPISTAXIS

Steven O. Fortay, Woodbridge, N.J.; Martha K. Fortay, executrix of the estate of said Steven O. Fortay, deceased; assignor to Martha K. Fortay (widow of Steven O. Fortay), Woodbridge Township, N.J.

Filed Sept. 2, 1966, Ser. No. 576,944

U.S. Cl. 128-325

Int. Cl. A61b 17/12

10 Claims



1. An article for the treatment of severe epistaxis which comprises a flexible thin tape of rubberized material surrounded by a sleeve of gauze-like material.

4. A method of treating severe epistaxis which comprises (1) inserting a flexible thin tape of rubberized material surrounded by a sleeve of gauze-like material through the nasal passages by means of a nasal catheter, said tape and sleeve, after insertion, having an end thereof extending from each nostril, said tape and surrounding sleeve forming a firm wall across the posterior chamber of the nasal passages, (2) packing the nostrils by feeding in gauze in increments, and (3) closing off the nostrils by means of the ends of said tape and surrounding sleeve extending therefrom.

3,420,238

STRAW WALKER

Shelley A. Bulin, Davenport, Iowa, assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin

Filed Dec. 9, 1965, Ser. No. 512,621

U.S. Cl. 130-26

Int. Cl. A01f 12/22

9 Claims



A straw walker having a planar plate portion with a plurality of openings extending therethrough for passage of the grain. Upstanding tangs or portions extend from the plate portion to a free end thereof, and there are upright surfaces on the upstanding tangs for advancing the stalks along the plate portion when the latter is reciprocated. Also, there are tangs or portions extending across the openings but in positions offset from the plate portion.

3,420,239

SEPARATOR FOR TOMATO HARVESTER

Coby Lorenzen, Davis, Calif., assignor to The Regents of The University of California, Berkeley, Calif.

Filed June 13, 1966, Ser. No. 557,158

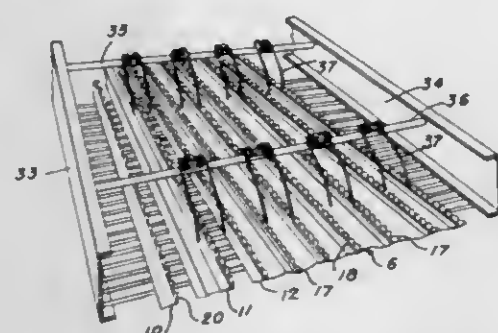
U.S. Cl. 130-30

Int. Cl. A01d 45/00

9 Claims

1. In a tomato harvester, a separator for separating the fruit from the vines, including in combination: a plurality of parallel horizontal arms,

means for oscillating said arms lengthwise of their longitudinal axis along a horizontal plane, with adjacent arms having a position 180° out of phase to provide movement in opposite directions, and

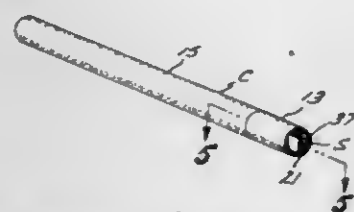


an endless chain device having crop engaging means and mounted on each said arm and having a forwardly moving bottom run and a rearwardly moving top run.

3,420,240
SELF-IGNITING CIGARETTE
Ian Blackburn, 16081 Gold Circle,
Huntington Beach, Calif. 92647
Filed Oct. 26, 1967, Ser. No. 678,363

U.S. Cl. 131—7
Int. Cl. A24d 1/08

4 Claims



A self-igniting cigarette which includes an elongated cylinder of tobacco covered by a wrapper paper. An inflammable sleeve is telescopically arranged relative to the paper and projects from one end of the tobacco. A pyrophoric material is included on the projecting extremity of the sleeve and is spaced from the tobacco. A striker is arranged telescopically relative to the sleeve and includes a striker material for slidingly engaging said pyrophoric material when the striker is pulled from the sleeve. A finger grasp tab projects from the striker for being grasped to pull the striker from the sleeve. Thus, the striker can be pulled from the sleeve and the resultant flame allowed to consume the pyrophoric material before the smoker inhales to draw the flame against the tobacco.

3,420,241
METHOD OF PREPARING A RECONSTITUTED TOBACCO SHEET EMPLOYING A PECTIN ADHESIVE

John D. Hind and Robert B. Seligman, Richmond, Va., assignors to Philip Morris Incorporated, New York, N.Y., a corporation of Virginia
No Drawing. Application June 16, 1966, Ser. No. 557,903, which is a continuation-in-part of application Ser. No. 336,009, Jan. 6, 1964. Divided and this application Apr. 28, 1967, Ser. No. 647,277
U.S. Cl. 131—140
Int. Cl. A24b 3/14

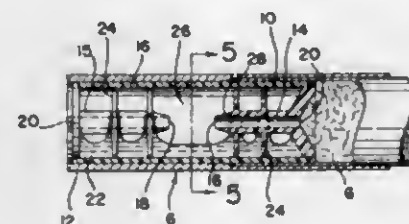
1 Claim

This disclosure relates to a process for producing a binder composition for use in the manufacture of reconstituted tobacco. The binder is made from tobacco plant parts and involves the use of the naturally occurring tobacco pectins, which are obtained by a process in which ammonium orthophosphate is employed to treat the tobacco plant parts. The treatment involves the destruction of the alkaline earth metal cross-links of the tobacco pectins, the release of the resulting tobacco pectins by a washing action and the depositing of the released tobacco pectins on the treated plant parts.

3,420,242
LIQUID-CONTAINING FILTER
Moe N. Boukair, 20650 Fairmont Blvd.,
Shaker Heights, Ohio 44120
Filed July 26, 1966, Ser. No. 567,988

U.S. Cl. 131—261
Int. Cl. A24f 7/04

4 Claims

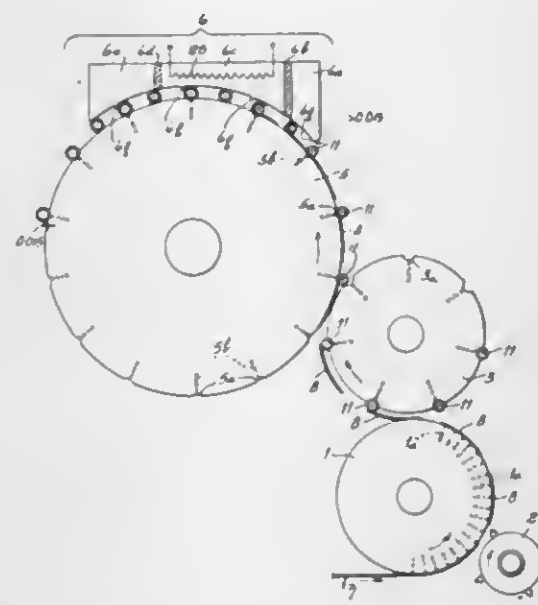


A liquid-containing filter for tobacco burning articles having a smoke purifying cavity defined by a cartridge. The cavity is partially filled with a smoke absorbent liquid. The cartridge has tubular inlet and outlet means which direct smoke from the burning tobacco, into the cavity for purification, and then into the smoker's mouth. Each of the tubular members has discs extending from its outer surface to increase the surface area upon which smoke may be absorbed.

3,420,243
APPARATUS FOR MAKING FILTER TIP CIGARETTES

Colin Shaw McArthur, Winston-Salem, N.C., assignor to R. J. Reynolds Tobacco Company, Winston-Salem, N.C., a corporation of New Jersey
Filed Jan. 5, 1967, Ser. No. 607,539
U.S. Cl. 131—94
Int. Cl. A24c 5/52

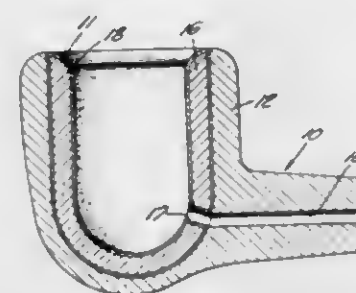
13 Claims



Apparatus and method for covering assembled cigarette units (each comprising at least one cigarette rod section and at least one filter section) with patches of tipping material coated with heat-activatable adhesive. The patch is first heated, then its leading edge is applied to the assembled cool unit so as to span abutting ends of rod and filter sections. Local cooling of the adhesive completes the bond. The unit with the attached patch is then cooled, rolled for a partial revolution while cool, then rolled for plural revolutions on a heated shoe which reactivates the adhesive, and finally rolled for plural revolutions on an unheated shoe to freeze the adhesive.

3,420,244
LINER FOR SMOKING PIPE
John T. Rodgers, Long Beach, Richard M. Williams, Montclair, and Richard J. Larsen, Alhambra, Calif., assignors, by mesne assignments, to Ducommun Incorporated, Vernon, Calif., a corporation of California
Filed June 23, 1966, Ser. No. 559,780
U.S. Cl. 131—194
Int. Cl. A24f 1/18

1 Claim

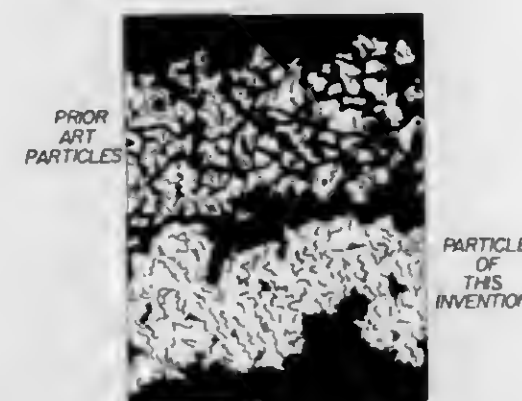


A tobacco receiving liner for a smoking pipe consists of a liner insert of porous material, such as porous graphite, capable of withstanding temperatures of not less than 1900° C. and having the pores thereof exposed to the surface. Covering and bonded to the surface of the exposed pores is a coating of pyrolytic graphite, which enters into the pores and forms a primed surface on which a coating of pure pyrolytic graphite is applied. The layer of pure pyrolytic graphite is of a thickness of between about .5 mil and 15 mils.

3,420,245
PARTICULATE CELLULOSE ACETATE TOBACCO SMOKE FILTER

John E. Klefer and George P. Touey, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Feb. 5, 1965, Ser. No. 430,615
U.S. Cl. 131—261
Int. Cl. A24f 7/04; A24f 13/04

2 Claims



Flake acetate which is packed into aerosol filter and in particular filters for cigarette smoke. The particules have a mesh size of 20-60 and are characterized by hair-like protrusions in substantially all directions with a characteristic occurrence in clusters.

3,420,246
METHOD FOR CURLING HAIR
Sterling O. Stageberg, 18210 Sunset Blvd.,
Redington Shores, Fla.

No Drawing. Filed Apr. 26, 1965, Ser. No. 451,013
U.S. Cl. 132—7
Int. Cl. A45d 7/00

5 Claims

Hair is curled by encasing each strand of hair in a water repellent material, then placing the hair strands

between complementary pressure applying members, one of which is formed of resilient material and the other of which comprises a nonyielding blade edge curved on a radius of about .010 inch, forcing the blade against hair strands by bending thereof to drive the edge of the blade and the segments of the hairs engaged thereby to a depth in the resilient member of the order of .015 inch to bend, stretch and distort the hair beyond its recovery point.

3,420,247
RADIANT ENERGY HAIR PROCESSING MACHINE
Leslie Seagrave, 7949 Langdon St.,
Philadelphia, Pa. 19111
Filed Dec. 12, 1966, Ser. No. 600,989
U.S. Cl. 132—9
Int. Cl. A45d 20/08; A45d 20/26; A45d 20/34

7 Claims

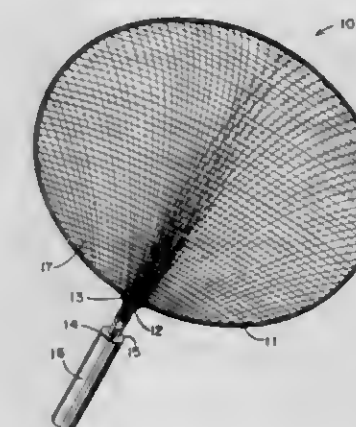


A radiant energy machine used for optically changing the color of a person's hair is provided with a ring-shaped thermoelectric cooling means for reducing the heating effect of the radiant energy on the person's head.

3,420,248
HAIR STYLING NET
Hubert Sam, 806 Commonwealth, Venice,
Calif. 90291

Filed Sept. 27, 1965, Ser. No. 490,539
U.S. Cl. 132—49
Int. Cl. A45d 8/40

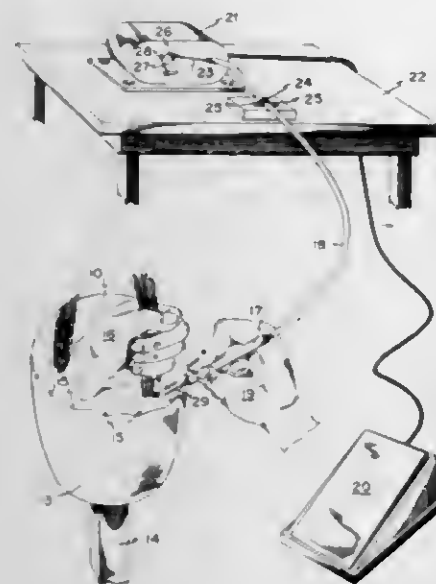
1 Claim



A hair styling net is provided in the form of a circular frame having a handle secured to a peripheral portion of the frame and a light-gauge net stretched over the frame so that the surface of the net lies substantially in the plane of the frame. This surface portion of the net may then be held against a portion of a person's hairdo and spray or other treatment supplied directly through the net and then removed from the portion of the hair without disturbing the remaining hair style.

3,420,249 HAIRPIECE

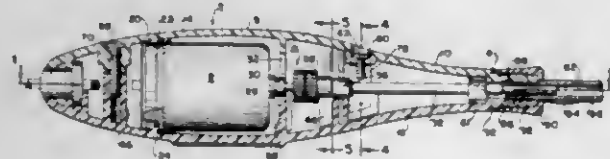
David C. Bonham, 974 Simpson Ave., Salt Lake City, Utah 84106
Filed Jan. 31, 1967, Ser. No. 612,851
U.S. Cl. 132-53 2 Claims
Int. Cl. A41g 3/00



A hairpiece having a silicone rubber covered scalp base into and through which hairs are individually inserted to be secured in place.

3,420,250

ELECTRIC MANICURIST POWER HANDLE
Robert G. Holmes, Westboro, Mass., assignor to General Electric Company, a corporation of New York
Filed Apr. 25, 1966, Ser. No. 544,922
U.S. Cl. 132-73.6 6 Claims
Int. Cl. A45d 29/04



This invention discloses an electric manicurist, particularly the details of a power handle which may be held in an operator's hand in the same manner as a pencil and may be readily manipulated by minute finger forces for driving buffing pads, cuticle tools, nail files and other manicuring implements.

3,420,251

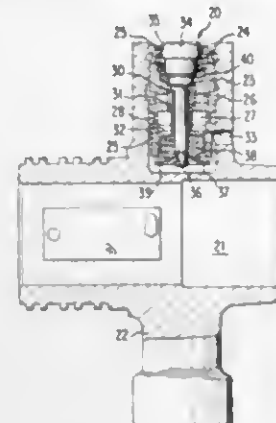
CENTRIFUGAL REGULATOR FOR PRODUCING A PRESSURE IN DEPENDENCE ON THE ROTATIONAL SPEED, ESPECIALLY FOR AUTOMATIC MOTOR VEHICLE CHANGE-SPEED TRANSMISSIONS

Hans-Joachim M. Forster and Ulrich Eltze, Stuttgart-Riedenberg, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Dec. 6, 1966, Ser. No. 599,618
Claims priority, application Germany, Dec. 7, 1965, D 48,845

U.S. Cl. 137-54 10 Claims
Int. Cl. G05d 13/08

A centrifugal regulator for producing a pressure increasing with increasing rotational speed, in particular for automatically shifted motor vehicle change-speed trans-

missions, which comprises several concentrically arranged flyweights constructed in a slide valve-like manner and provided with control edges for controlling the pressure

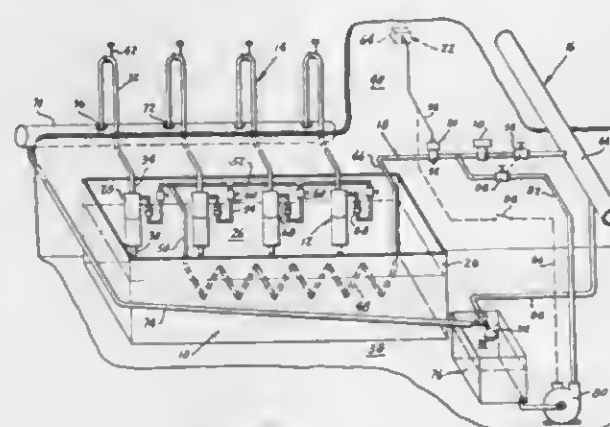


medium, the flyweights being slidably arranged within a common sleeve member provided with control apertures which, in turn, is adapted to be displaced within the regulator housing against a spring force.

3,420,252

WINTERIZING SYSTEM FOR CAR WASH AND THE LIKE

Charles H. Stroble, Harrisonburg, Va., assignor of fifty percent to Glen Berkshire & Wendell Berkshire, both of Harrisonburg, Va.
Filed Mar. 29, 1966, Ser. No. 538,376
U.S. Cl. 137-59 9 Claims
Int. Cl. B60s 3/04; B05b 1/24



A system for winterizing a self-service car wash which includes a primary liquid supply and a secondary liquid supply arranged so that the primary liquid supply is used in the car washing operation. When cars are not being washed and the ambient temperature is generally above freezing, the secondary liquid supply is cut off. When the temperature drops below a pre-selected level, usually freezing, the secondary liquid supply passes heated liquid to the hose means which direct the liquid for the car washing operation, thereby preventing a freezing condition in the hose means and the lines connecting them with other portions of the system. When cars are being washed, the liquid is supplied from the primary supply means through pump means which deliver the same at a high pressure, the high pressure automatically activating flow control means to prevent back flow into the secondary liquid supply. In one embodiment the flow circuit means between the secondary liquid supply and the hose means includes a portion immersed within the primary liquid supply in heat exchange relationship. In another embodiment the heated water passing through the hose means is collected in a collection tank and passed to an auxiliary tank from which it can be recycled.

3,420,253

FLUID JET AMPLIFIER

William S. Griffio, Lakewood, Ohio, assignor to the United States of America as represented by the administrator of the National Aeronautics and Space Administration
Filed June 9, 1965, Ser. No. 462,762
U.S. Cl. 137-81.5 5 Claims
Int. Cl. F15c 1/14

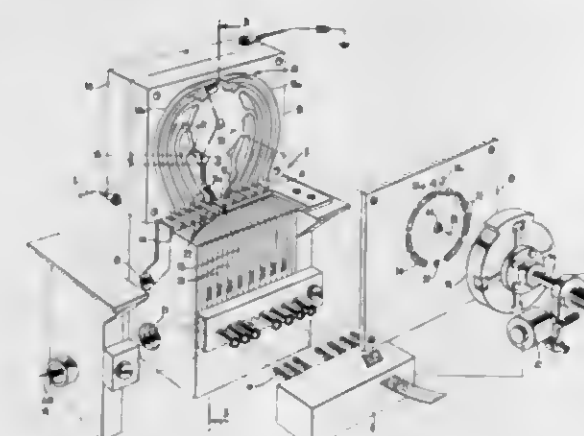


A fluid amplifier including a jet, an interaction region and a receiver. Vent means are provided for the interaction region. Receiver outlets are connected to the interaction region through a receiver intermediate passageway and a receiver inlet passageway which are out of alignment with one another. A vent passageway which is in alignment with the receiver intermediate passageway is provided to receive reverse fluid flow from the receiver.

3,420,254

PNEUMATICALLY SAMPLED SERIALIZER

James A. Machmer, Lexington, Ky., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed June 30, 1965, Ser. No. 468,217
U.S. Cl. 137-81.5 10 Claims
Int. Cl. F15c 3/04



Pneumatic signalling pulses are reliably converted into electrical pulses by a diaphragm operated switch provided with a combination of fluid damping and a dual spring rate support for an electrical contact. The fluid signal pulses are derived from a mechanical distributor that sequentially samples the output of a plurality of pure fluid latches to provide for serial transmission of data having parallel significance.

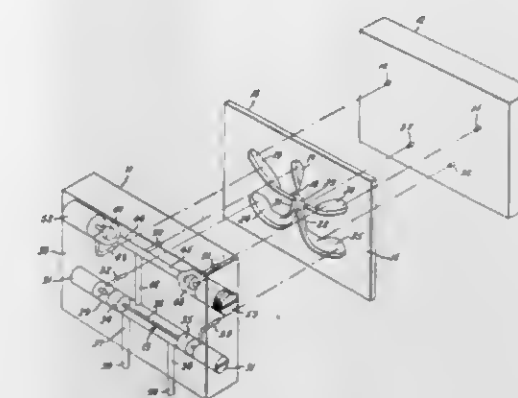
3,420,255

FLUID CONTROL DEVICES

Robert B. Wilkerson, Bloomington, Ill., assignor to General Electric Company, a corporation of New York
Original application Jan. 9, 1963, Ser. No. 250,448.
Divided and this application Sept. 1, 1965, Ser. No. 493,604
U.S. Cl. 137-81.5 8 Claims
Int. Cl. F15c 1/00

1. In a fluid control device, a fluid amplifier section having a nozzle for generating a jet of fluid, fluid receiving jet deflection control chambers, and jet receiving load

passages; a valve section on one side of said amplifier section having a valve cylinder and having a plurality of passages including a first passage connecting the cylinder in communication with said load passages, and



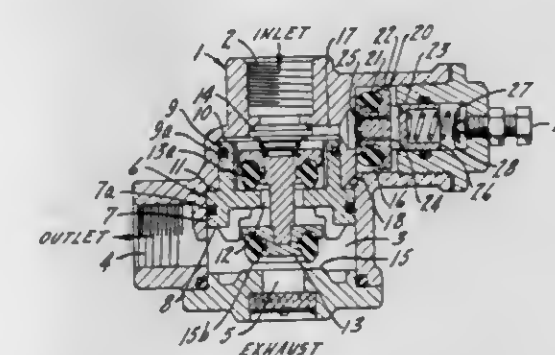
supply and output passages leading to and from said cylinder; and a cover section on the other side of said amplifier section having control passages connecting said control chambers in communication with atmosphere.

3,420,256

REDUCING VALVE FOR FRONT AXLE BRAKE CYLINDERS

Werner Kobnick, Heidelberg, Germany, assignor to Ber Mfg. & Sales Co., a corporation of Illinois
Filed Jan. 16, 1967, Ser. No. 609,663
Claims priority, application Germany, Feb. 21, 1966, B 85,891

U.S. Cl. 137-102 6 Claims
Int. Cl. G05d 11/03



A valve assembly including a first differential piston carrying a valve element and having a smaller surface exposed to inlet pressure and a larger surface exposed to outlet pressure and a second differential piston controlling communication between the inlet and a third surface of the first differential piston. Inlet pressure below a first predetermined level is reduced at the outlet by the first piston. As inlet pressure rises above the first predetermined level it is reduced a gradually lessening amount by the action of the second piston until a second predetermined pressure level is reached, after which the second piston remains unseated and the inlet and outlet pressures are equal.

3,420,257

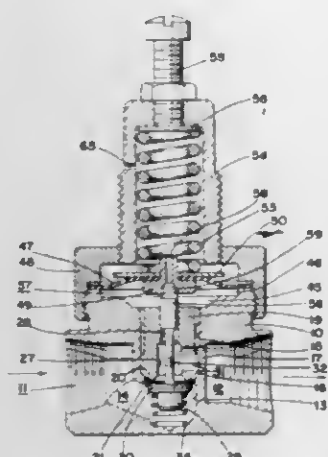
PRESSURE REGULATING VALVE

Zdenek J. Lansky, Winnetka, and Kurt W. Leibfritz, Norridge, Ill., assignors to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Sept. 4, 1964, Ser. No. 394,503
U.S. Cl. 137-116.5 15 Claims
Int. Cl. F16k 17/04; G05d 16/02

A pressure regulating valve in which fluid at two different pressures from two locations on the outlet side is

mixed in a mixing chamber and is then directed to a fluid pressure operated means for opening and closing the valve, there also being a constantly open bleed passage connecting

within the head and moves in response to changes in gas pressure within the passageway head space.



the outlet port to atmosphere and a relief valve for venting the outlet port when the pressure therein exceeds a predetermined value.

3,420,258 APPARATUS FOR CONTROL OF LIQUID FLOW

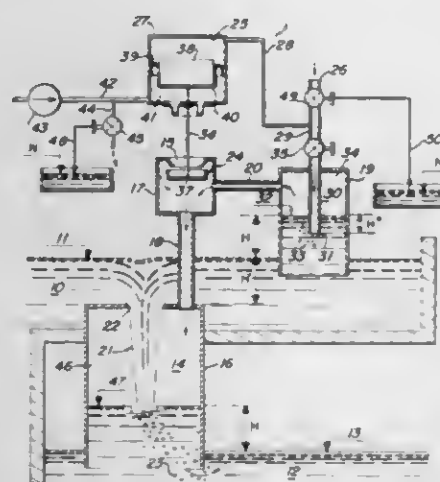
Yves M. Ponsar, 6 Ave. Marcellin Berthelot,
93 Villemomble, France

Filed May 19, 1966, Ser. No. 551,346

Claims priority, application France, May 22, 1965,
18,056; May 4, 1966, 60,190

U.S. Cl. 137-209
Int. Cl. B67d 5/54

10 Claims



The apparatus is adapted to control flow of liquid between elevationally spaced liquid bodies. The preferred embodiment comprises a passageway such as that in a siphon or ejector wherein the flow of liquid extracts air from the passage and creates a vacuum. The liquid flow through this passageway is controlled to provide constant flow or to provide a constant liquid level for either the elevationally higher or lower of the spaced liquid bodies. The passageway is provided with valve means associated with the head space thereof adapted to admit atmospheric air to said space under predetermined conditions and thereby to change the total hydraulic head operating to cause liquid flow through the passageway by reducing the vacuum portion thereof which is induced by liquid flow through the passageway. The valve opens and shuts in response to movement of a piston which is in balance at present pressure conditions acting downwardly in opposition to upwardly acting gas pressure

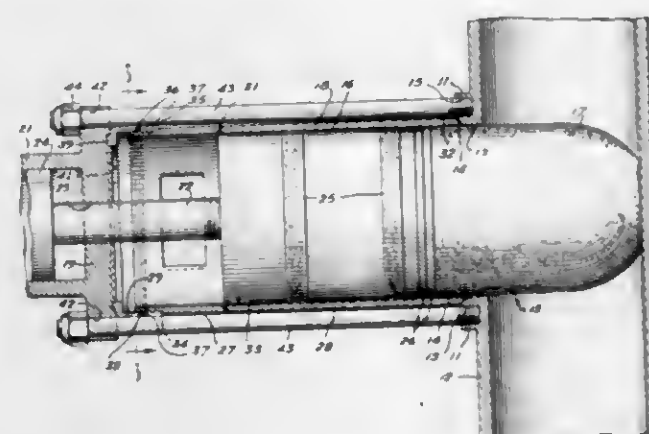
3,420,259 REVERSIBLE ADJUSTABLE SLEEVE ASSEMBLY FOR A PLUG VALVE

Harvey J. Dargitz, Leaf River, Ill., assignor to J. I. Case
Company, a corporation of Wisconsin

Filed Sept. 12, 1966, Ser. No. 578,645

U.S. Cl. 137-270
Int. Cl. F16k 3/28

5 Claims



1. An adjustable sleeve assembly for a plug valve, said sleeve assembly comprising a plurality of axially aligned tubular sections, the adjoining ends of two adjacent sections being in telescoping relationship, interlocking means for holding said telescoping sections against relative axial movement, means on one of said telescoping sections for receiving said interlocking means in a plurality of axially spaced positions, abutment means on said other telescoping section engageable with said interlocking means, and means urging said abutment means against said interlocking means whereby the length of said sleeve assembly may be varied and said telescoping sections are held against relative axial movement.

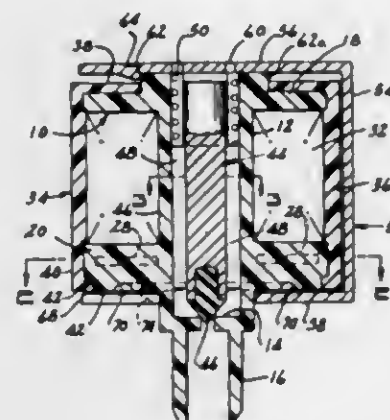
3,420,260 SOLENOID VALVE WITH INTEGRAL PLASTIC BOBBIN AND SEAT

Arthur J. Wisniewski, Southfield, Mich., assignor to
American Standard Inc., a corporation of Delaware

Filed Dec. 2, 1966, Ser. No. 598,749

U.S. Cl. 137-315
Int. Cl. F16k 31/06

8 Claims



1. A solenoid valve comprising a molded plastic bobbin having a hollow tubular central portion and integral outwardly radiating end flanges; an electrical winding surrounding the bobbin tubular portion in the space between the end flanges; said tubular portion of the bobbin hav-

ing an internal shoulder formed integrally therewith, said shoulder constituting a valve seat for controlling fluid flowing through the bobbin tubular portion; an armature floatably disposed within the bobbin for movement toward and away from the valve seat; a spring within the bobbin biasing the armature in one direction; and a magnetic field means operable in conjunction with the electrical winding to bias the plunger in the other direction.

3,420,261 PIPE DRILL CLAMP AND ATTACHMENT

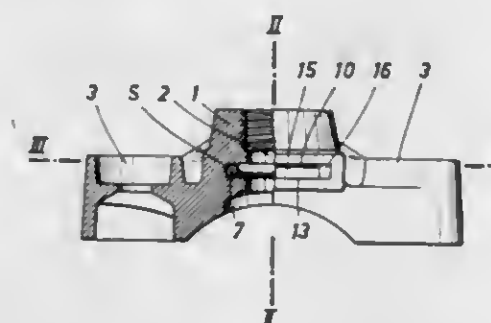
Erwin Hawle, Wagreinerstrasse 13,
Vocklabruck, Austria

Filed Dec. 28, 1966, Ser. No. 605,372

U.S. Cl. 137-317

Int. Cl. F16k 43/00, 51/00

23 Claims



This disclosure relates to a novel pipe drill clamp and to a novel attachment which can be applied to known pipe drill clamps to form the novel pipe drill clamp. The pipe drill clamp comprises a saddle member having a central through bore, which is formed with an enlarged portion. The saddle member is formed with a narrow lateral slit adjacent to said enlarged portion. A resilient annular gasket is seated in said enlarged portion. A gate member consisting of a thin blade removably extends through said slit and cooperates with said gasket to shut off said bore.

3,420,262 CORROSION-RESISTANT VALVE

William G. O'Neill, Jr., Pleasant Hill, Calif., assignor to
Chevron Research Company, San Francisco, Calif., a
corporation of Delaware

Continuation of application Ser. No. 538,844, Mar. 30,
1966. This application Jan. 16, 1968, Ser. No. 698,355

U.S. Cl. 137-375
Int. Cl. F16k 27/00

6 Claims

A corrosion-resistant valve for use in handling corrosive fluids of high temperature and pressure and including:

(1) a flanged T valve chamber having first and second arms adapted to join sections of pipe to pass corrosive fluids through the chamber, a third arm aligned with second arm and an interior resilient protective plastic lining connected to the interior of the chamber to protect the chamber from hostile chemical action due to contact with the corrosive fluid, the lining including terminal flanges connected to the flanged ends of the arms of the chamber,

(2) a yoke assembly attached to a support base and including a central opening aligned with the third arm of the valve chamber,

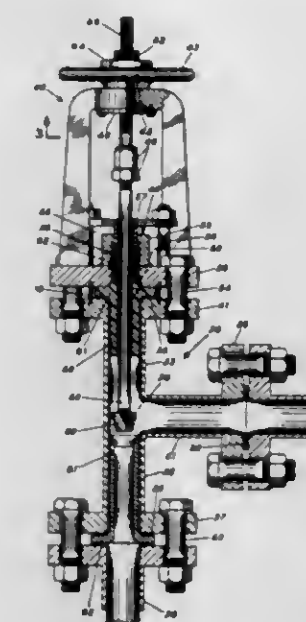
(3) a stuffing box means attached at the third of the arms of the valve chamber and including a stuffing box liner of resilient plastic material at least partially housed in the third arm and extending through the central opening of the support base of the yoke assembly, and having

(i) a central opening through which a valve stem extends,

(ii) a stepped outer surface larger in size than the third arm thereby defining a circumferential protrusion positioned in contact with a terminal flange of the protective lining at the third arm of the chamber, and

(iii) an interior recess adjacent to the valve stem into which is placed resilient packing means adapted to provide sealing contact with the valve stem, and

(4) fastening means mounted between the support base



of the yoke assembly and the flanged end of the third arm of the valve chamber adapted to apply pressure to the resilient circumferential protrusions of the stuffing box liner and the resilient terminal flange of the protective lining of the valve chamber to form a fluid-tight seal therebetween to thereby prevent leakage of said fluid from the chamber at the third arm. The protective lining of the valve chamber as well as the stuffing box liner are preferably formed of Teflon.

3,420,263 APPARATUS FOR CONTROLLING PHYSICAL QUANTITIES

Olof Werner Ohlsson, Jonkoping, Sweden, assignor to In-

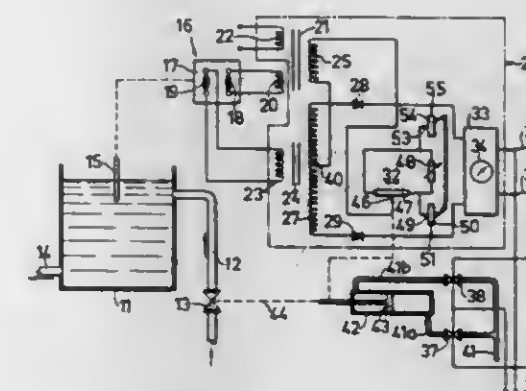
dustriellaboratoriet Aktiebolag, Jonkoping, Sweden

Filed Feb. 14, 1966, Ser. No. 527,252

Claims priority, application Sweden, Feb. 23, 1965,
2,304/65

U.S. Cl. 137-392
Int. Cl. F17d 3/00

9 Claims



Apparatus for controlling physical quantities including a phase-sensitive detector, the output of which governs a control means for controlling the controlled quantity and the reference signal of which detector is applied to the movable contact of a feedback potentiometer having its movable contact connected to the control means. The movable contact is also interconnected between, and in series with, adjustable resistors, the two opposite ends of which are connected to opposite points of the detector.

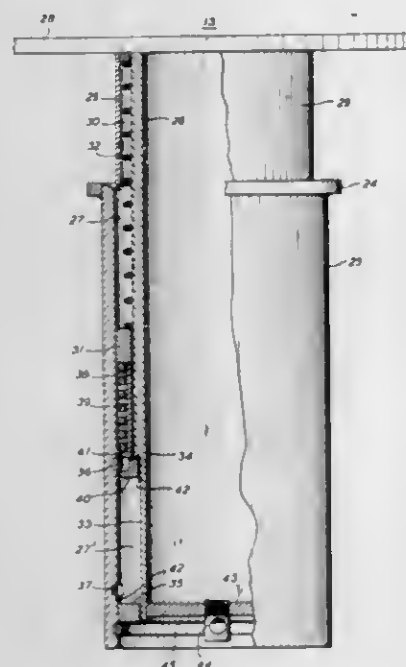
3,420,264 AIR VALVE

Jens C. Dolling, Morris Plains, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Jan. 12, 1966, Ser. No. 520,234

U.S. Cl. 137—463
Int. Cl. F16k 17/04

12 Claims



A blast-resistant, shock-operated poppet valve includes an energy absorbing compression chamber with spring members housed therein which provide opposing forces for opening or shutting the valve.

3,420,265

HYDRAULIC FLOW LIMITING DEVICE

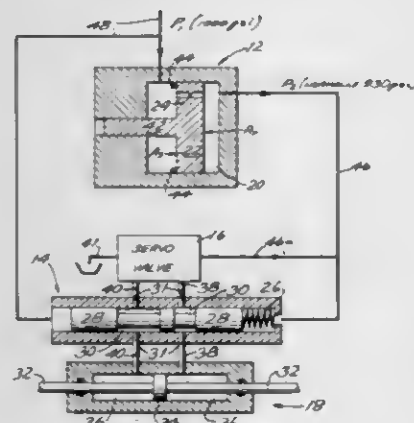
Francis E. De Pauw, Fort Worth, Tex., assignor to Bell Aerospace Corporation, Wheatfield, N.Y., a corporation of Delaware

Filed Jan. 13, 1967, Ser. No. 609,104

U.S. Cl. 137—501

Int. Cl. F15b 11/02; F16k 31/143

5 Claims



The following application discloses a two stage hydraulic device that responds to excessive fluid flow demands by a hydraulic servo-valve in order to reduce the fluid flow output of the servo-valve. The servo-valve output is typically applied to a hydraulic actuator. This two-stage hydraulic device is a safety device which after a short time delay causes the stroke of the actuator in response to excessive fluid flow from the servo-valve to be slowed down. The first stage of this hydraulic velocity limiter safety device includes a floating differential piston in a chamber with a restrictor through the piston so as to provide a pressure drop across the piston. Fluid to the

servo-valve first passes through this chamber and through the restrictor in the piston. When fluid flow increases substantially the drop across the restrictor increases and the piston is caused to move through the chamber to push an additional quantity of fluid into the servo-valve thereby maintaining pressure until the piston bottoms out. Once the piston bottoms out the pressure drop across the restrictor increases and becomes sufficiently great to actuate a valve in the second stage. The valve imposes a restriction in the fluid flow path between servo-valve and actuator. In this fashion, after the time delay caused by the piston moving from retracted to bottomed out position, the rate of fluid flow from the servo-valve to the actuator is reduced, thereby reducing the velocity of the stroke of the actuator.

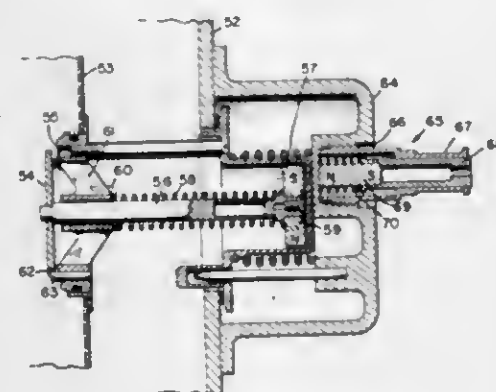
3,420,266 COMBINATION MAGNETIC BYPASS VALVE AND INDICATOR

George T. Downey, Corry, Pa., assignor to Aero-Flow Dynamics, Inc., Corry, Pa.

Filed Sept. 20, 1963, Ser. No. 310,239

U.S. Cl. 137—553
Int. Cl. F16k 37/00

2 Claims



1. In combination: a housing; valve means including a valve seat within said housing and a movable valve member mounted for closing and opening movement relative to said valve seat; magnetic field responsive indicator means for indicating the position of said valve member relative to said valve seat; first magnetic means having poles of opposite polarity closely adjacent to said indicator means and drivingly connected to said movable valve member for movement proportional to the opening movement of said valve member; said indicator means including second magnetic means having at least one pole closely adjacent to the pole of opposite polarity of said first magnetic means in its normal position corresponding to the closed position of said movable valve member and being mounted for movement relative to said first magnetic means to a second valve movement indicating position for actuation of said indicator means; said first magnetic means being movable during the opening movement of said movable valve member to position its other pole closely adjacent to said at least one pole of said second magnetic means for repelling said second magnetic means from its normal position to its second position for actuating said indicator means.

3,420,267

FLUID MIXING DEVICE

Thomas M. Veazey, Decatur, Ala., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed July 30, 1965, Ser. No. 476,081

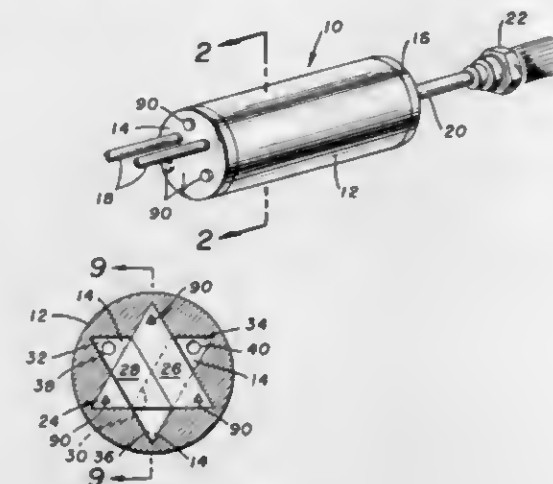
U.S. Cl. 137—604

Int. Cl. D01d 3/00; 5/00

3 Claims

An apparatus for combining two or more spinning compositions for forming bi-component filaments wherein a tubular housing is provided with a plurality of inserts to

form passageways. The housing is provided with two inlet lines and one outlet line, the passageways in the housing



serving to feed the two spinning compositions into the outlet line in alternating layers.

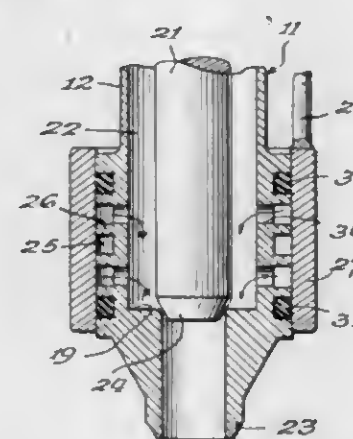
3,420,268 APPARATUS FOR FLOWING PRESSURE- FLOWABLE FOOD PRODUCTS INTO A CONTAINER

Martin Mueller, Chicago, Ill., assignor, by mesne assignments, to Lily-Tulip Cup Corporation, New York, N.Y., a corporation of Delaware

Filed Jan. 10, 1967, Ser. No. 608,374

U.S. Cl. 137—604
Int. Cl. F16k 19/00

7 Claims



An apparatus for flowing a plurality of pressure-flowable food products into a container comprising a tubular member forming a first flow path for one of the food products and a sleeve encircling a portion of the tubular member. A plurality of axially spaced circular grooves between the tubular member and the sleeve form separate second flow paths for the other food products. Each of the second flow paths communicates with the first flow path through apertures defined by the tubular member. A valve mounted in the tubular member between the apertures and the container controls the flow of all the food products through the first flow path.

3,420,269

PROGRAM MEMBER OR THE LIKE AND METHOD OF MAKING THE SAME

Reed A. Palmer, Greensburg, Pa., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

Filed Nov. 8, 1966, Ser. No. 592,871

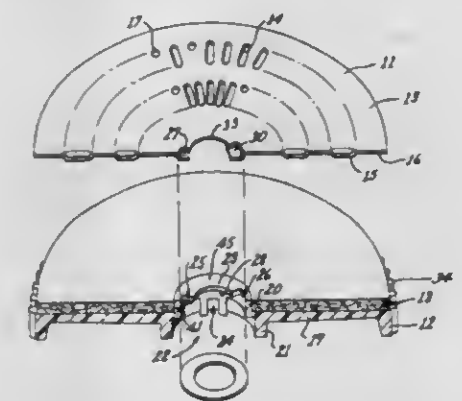
U.S. Cl. 137—624.11

Int. Cl. E03b; B21d 53/00

6 Claims

1. A program member or the like comprising a rigid back-up means, and a flexible reading sheet having a portion thereof disposed against a portion of said back-up

means, said portions of said back-up means and said reading sheet being ultrasonically welded together whereby said back-up means and said reading sheet move in unison when either one is moved, said portion of said back-up means has an aperture passing therethrough and defining an annular flange means of said back-up means that projects radially into said aperture, said flange means having a plurality of slot means passing therethrough, said portion of said back-up means including a washer-like element disposed against one side of said flange means and



having parts thereof exposed at said slot means thereof, said portion of said reading sheet including a plurality of projecting blister-like members disposed within said slot means and being ultrasonically welded to said exposed parts of said washer-like element whereby said reading sheet is held to the other side of said flange means by said washer-like element and has said projecting blister-like members disposed in splined relation with said slot means to cause said reading sheet and back-up means to move in unison.

3,420,270

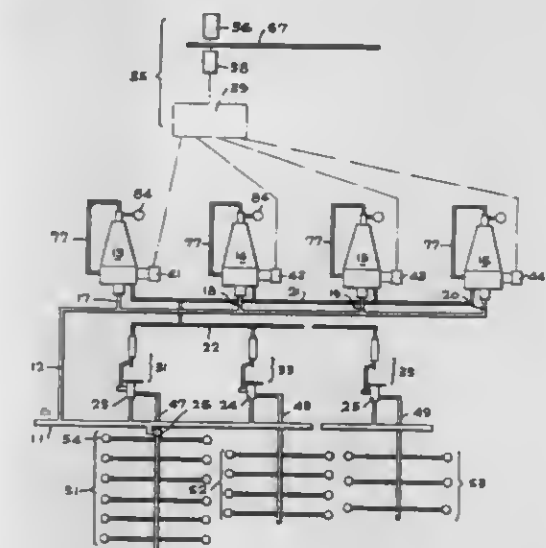
AUTOMATIC VARIABLE SEQUENCE VALVE CONTROL SYSTEM

Stanley A. Neyer, 2373 E. Morley St.,
Simi, Calif. 93065

Filed Feb. 16, 1966, Ser. No. 527,803

U.S. Cl. 137—624.18
Int. Cl. A01g 25/00

7 Claims

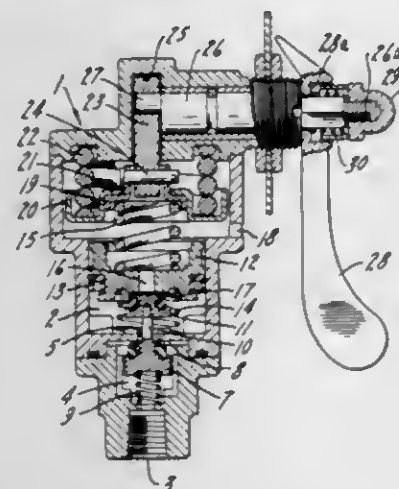


A system for actuating a plurality of valves in variable sequence employing gating means associated with a pressure operated valve actuator at each valve adapted to open only upon the receipt of a predetermined number of pressure pulse signals through a common pressure conduit and to permit its associated valve actuator to respond to the actuating pressure pulse only when the gate is in its open position.

3,420,271
HAND CONTROL MODULATION VALVE
 Harold L. Dobrkin, 2765 Summit Ave.,
 Highland Park, Ill. 60035

Filed Aug. 29, 1966, Ser. No. 575,874
 U.S. Cl. 137—627.5
 Int. Cl. F16k 17/168

7 Claims

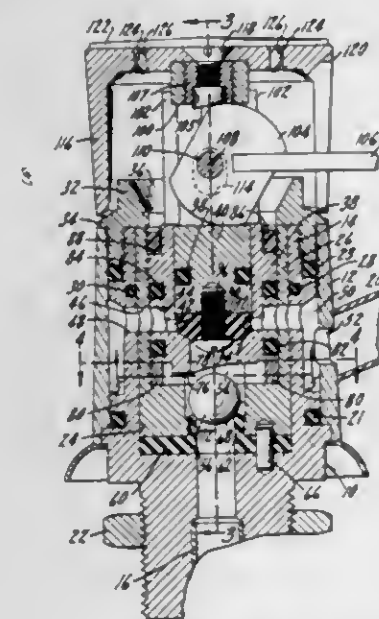


1. A control valve for spring-applied, fluid pressure-released brake actuators, said valve including a housing, a pressure inlet in said housing, a pressure outlet in said housing, a valve member controlling communication between said inlet and outlet, an exhaust valve element connected to said valve member, an operating piston reciprocal in said housing, an exhaust passage through said piston and said housing, said piston being movable in one direction against said exhaust valve element to close said exhaust passage and open said valve member, and means for moving said piston in said direction including a cap element, a spring between said cap and said piston, a link movable in said housing and pivotally connected to said cap, a handle eccentrically engaging said link and rotatably mounted on said housing and a power spring in said housing, said power spring engaging said cap and said housing to urge said cap toward said piston.

3,420,272
MIXING VALVE

Webster D. Corlett, River Forest, Ill., assignor to Standard Screw Company, Bellwood, Ill., a corporation of New Jersey
 Continuation-in-part of application Ser. No. 497,151, Oct. 18, 1965. This application Dec. 5, 1966, Ser. No. 599,230
 U.S. Cl. 137—636.3
 Int. Cl. F16k 11/14

18 Claims



1. For use in a single handle mixing faucet having hot and cold water inlets and a water discharge, a valve

for controlling the volume and temperature of the water supplied to the discharge, including a valve member having hot and cold water inlets and at least one discharge port, a rotatable temperature control member associated with the valve member and having means thereon for use in regulating the amount of water passing from said valve member hot and cold water inlets toward said discharge, a reciprocal volume control member within said valve member and having means thereon for controlling the volume of water passing from said temperature control member to said discharge, and a single handle operatively connected to and for manipulating said temperature control member and said volume control member.

3,420,273
PRESSURE ACCUMULATOR
 Edward M. Greer, Beverly Hills, Calif., assignor to Greer Hydraulics, Inc., Los Angeles, Calif., a corporation of New York
 Filed Nov. 30, 1965, Ser. No. 510,564
 U.S. Cl. 138—30
 Int. Cl. F16l 55/04; A01b 71/02

2 Claims



This invention relates to the art of pressure accumulators and particularly relates to an accumulator which has valve means in the liquid port thereof which provides for rapid flow of liquid into the accumulator for charging thereof and restricted flow of liquid out of the accumulator.

3,420,274
TUBE END FITTING
 Roger A. Battery, Ferring, and Thomas Turnbull, Carterton, England, assignors to Quickfit & Quartz Limited, Stone, Staffordshire, England, a corporation of Great Britain

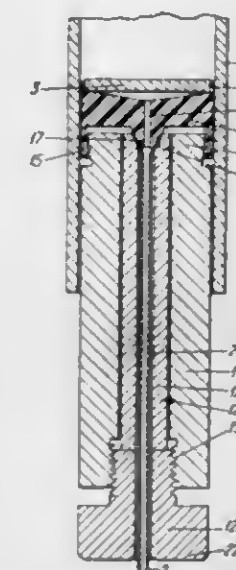
Filed Sept. 6, 1966, Ser. No. 577,455
 Claims priority, application Great Britain, July 22, 1966, 33,157/66

U.S. Cl. 138—90
 Int. Cl. F16l 55/10; B65d 39/12

6 Claims

1. A tube end fitting comprising a sealing element having a main body portion and a deformable wall defining a recess in said element, said deformable wall being dimensioned to fit closely but slidably within a cylindrical tube in the undeformed state and being of increasing thickness towards its free edge, an axially bored expander sleeve having an outwardly flared extension adapted to fit within said recess, a locking member in the bore of said sleeve and extending into said recess of said sealing element, and interengaging means coupling said expander sleeve with said locking member to enable the locking

member to be temporarily secured in the sleeve in an operative position, said interengaging means causing separating axial movement between said sealing element and said expander sleeve whereby said deformable wall slides

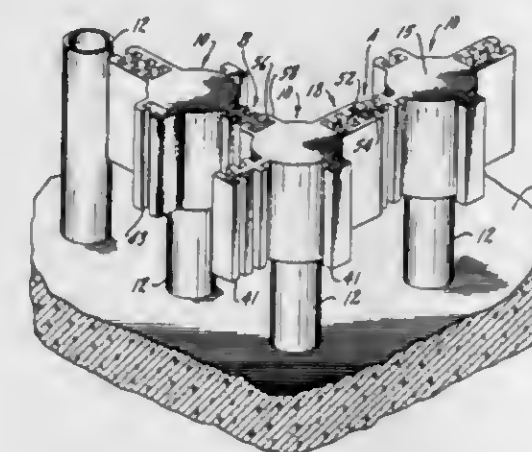


axially relative to said flared extension and is expanded radially, thereby pressing said deformable wall of said sealing element in sealing relationship with the wall of the cylindrical tube.

3,420,275
CONDUIT CLOSER AND POSITIONER
 Michael H. Glen and Juergen Niemann, Sycamore, Ill., assignors to Ideal Industries, Inc., Sycamore, Ill., a corporation of Delaware

Filed Mar. 10, 1965, Ser. No. 438,658
 U.S. Cl. 138—96
 Int. Cl. B65d 59/00

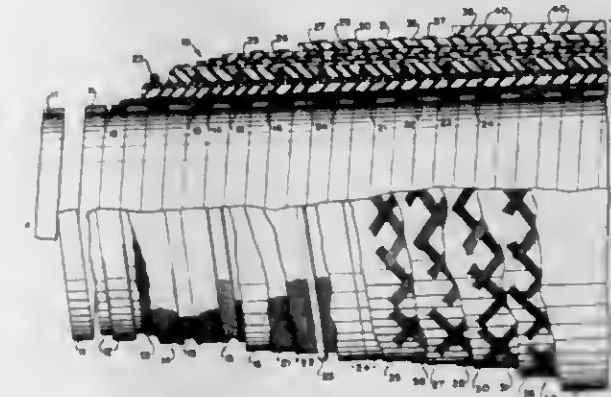
1 Claim



1. A unit adapted to position conduits by being mounted over the end thereof which includes a body section with a passageway in it to receive an end of the conduit, a first set of external locking configurations on the body section to permit the unit to be interconnected to a like unit on an adjacent conduit, the said first set including two configurations approximately 180° apart on opposite sides of the body section, one of the configurations having a repeating pattern of locking slots, the other having a repeating pattern of locking slides dimensioned to register with locking slots on an adjacent unit, a second set of external locking configurations disposed about 90° from the first set and including a single slide on one side and a single matching slot on the other side, all of the external locking configurations being integrally formed on the body section and arranged so that one unit may be locked to at least two adjacent units which are about 90° apart,

3,420,276
GAS PERMEABLE FLEXIBLE HOSE
 Clayton H. Skinner, Kenmore, and Paul J. Sick, Buffalo, N.Y., assignors to Hewitt-Robins Incorporated, Stamford, Conn.
 Filed July 22, 1965, Ser. No. 473,952
 U.S. Cl. 138—127
 Int. Cl. F16l 11/08

14 Claims

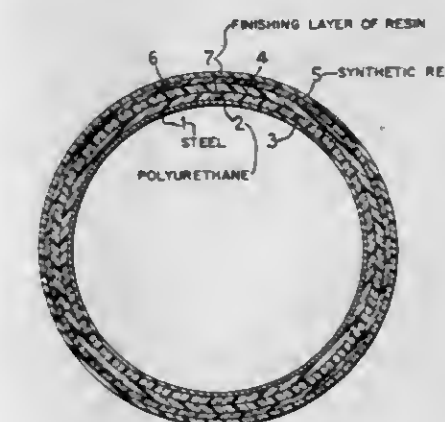


The invention is directed to a flexible hose, useful, for example, for the transportation of liquids, which are easily volatile, and which are under pressure while being transported to maintain them in liquid state. The hose comprises a plurality of concentric annular sections in embracing relationship made up of reinforcing superposed annular layers of elastomeric material consolidated into a unit. The hose is gas permeable and its different annular sections are constructed so as to increase in permeability progressively from section to section radially outwardly.

3,420,277
HEAT-INSULATED CONDUIT OF UTILITY IN THE TRANSPORT OF FUELS OVER LONG DISTANCES
 Marcel Ceintrey, Marly-le-Rol, France, assignor to Societe Chimique, Routiere et d'Entreprise Generale, Paris, France, a corporation of France
 Filed Oct. 28, 1965, Ser. No. 505,491
 Claims priority, application France, Nov. 4, 1964, 993,725

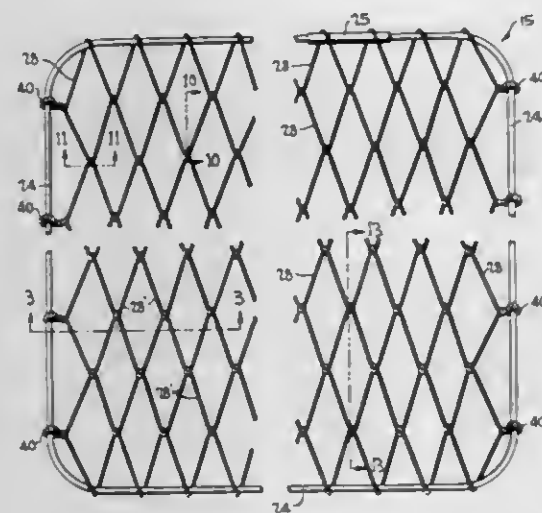
U.S. Cl. 138—143
 Int. Cl. F16l 9/14

7 Claims



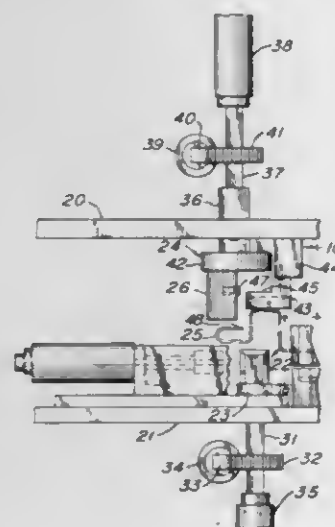
Heat-insulated pipe of utility in the transport over a long distance of viscous products and in particular fuels, comprising a metal tube, a lagging of rigid foam polyurethane adhering to the tube and a resinous coating encompassing the lagging.

3,420,278
METHOD OF MAKING WOVEN METALLIC WEB STRUCTURES
 John E. Heckethorn, Dyersburg, Tenn., assignor to Heckethorn Manufacturing Co., Dyersburg, Tenn., a corporation of Colorado
 Original application Aug. 3, 1965, Ser. No. 476,866, now Patent No. 3,372,406, dated Mar. 12, 1968. Divided and this application Mar. 30, 1967, Ser. No. 627,151
 U.S. Cl. 140—24 5 Claims
 Int. Cl. B21f 27/02; B21f 7/00; B23p 15/12



Intertwisting the projecting ends of adjacent interwound component coils of a low-to-medium carbon hard-drawn steel mesh structure; the intertwisting being applied at first with a long pitch resulting in a gentle working of the metal and with progressively reduced pitch until at the end of the twisting operation the turns of the wire ends are fully tightened and ready for bending about a stiff marginal frame without crystallizing or over-stressing the wires.

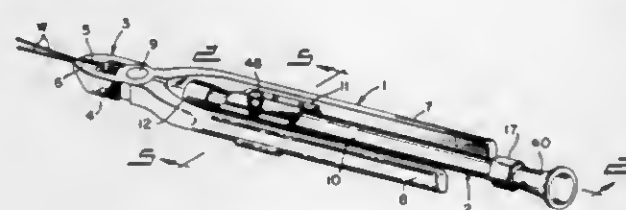
3,420,279
SECONDARY WIRE-BENDING MACHINE
 John Tuit, Grand Rapids, Mich., assignor to McInerney Spring & Wire Company, Grand Rapids, Mich., a corporation of Michigan
 Filed July 5, 1966, Ser. No. 562,716 4 Claims
 U.S. Cl. 140—71
 Int. Cl. B21f 45/00



A wire-bending machine having rotatable jaws for holding and twisting wire workpieces, and also having bending arms adapted to bend workpieces held in the jaws around portions of the jaws at a selected rotary position

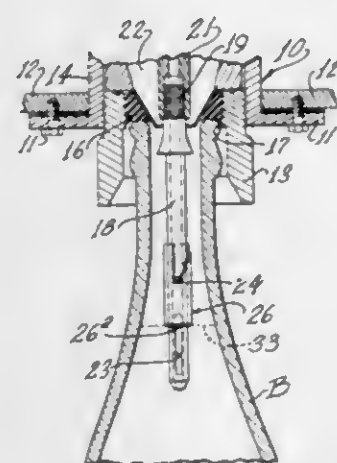
of the jaws to conform the workpiece to a forming configuration on the side of the jaws.

3,420,280
WIRE TWISTING DEVICE
 Anderson A. Allyn, Chardon, Ohio, assignor to Chardon Metal Products Company, Chardon, Ohio, a corporation of Ohio
 Filed June 4, 1965, Ser. No. 461,398 21 Claims
 U.S. Cl. 140—149
 Int. Cl. B21f 7/00



A wire twisting device on which is mounted an elongated tube having a spirally grooved spindle therein for effecting rotational movement of said tube and wire twisting device during axial movement of said spindle.

3,420,281
LIQUID HEIGHT DETERMINING DEVICE
 Joseph S. Tiddwell, P.O. Box 2613, Birmingham, Ala. 35202
 Filed July 7, 1966, Ser. No. 563,489 1 Claim
 U.S. Cl. 141—40
 Int. Cl. B67c 3/20



Apparatus for filling bottles to a given liquid height comprising a hollow vent tube together with a slot in the same, in combination with a separate sleeve surrounding the tube, there being a slot in the sleeve and a plurality of stepped notches in one side wall of the sleeve, whereby the height of the opening in the vent tube may be adjusted by engaging the notches of the sleeve on a pin projecting outwardly from the sides of the tube.

3,420,282
LIQUID FILLING MACHINE
 William Henry Marlow, Pearl River, Matthew Henry Maroney, Cornwall, and Samuel Reld Stevenson, Pearl River, N.Y., assignors to American Cyanamid Company, Stamford Conn., a corporation of Maine
 Filed June 2, 1966, Ser. No. 554,885 9 Claims
 U.S. Cl. 141—157
 Int. Cl. B65b 21/08

A liquid filling machine for vials or other containers is provided with a reservoir which is mounted on a rotating table, the reservoir being connected to a source of

sterile air. From the reservoir a conduit leads to a filling valve of the elastomer tube pinched type. Liquid is fed from the bottom of the container and the pressure at the filling nozzles is sensed and controls the supply of compressed sterile air to the container. This results in maintaining constant the pressure at the filling nozzles regardless of changes in level of liquid in the reservoir and hence changes in hydrostatic pressure. As the table turns, vials or other containers which are loaded on the

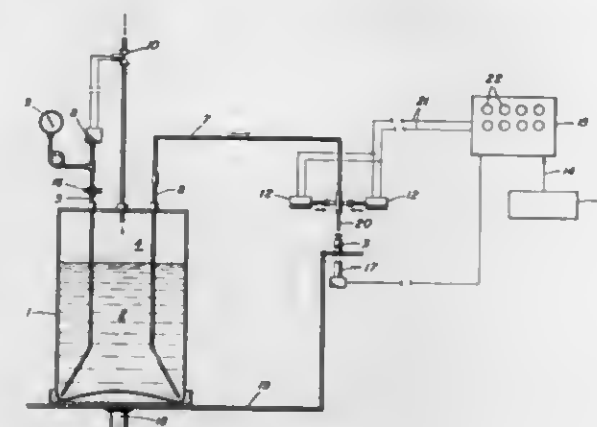
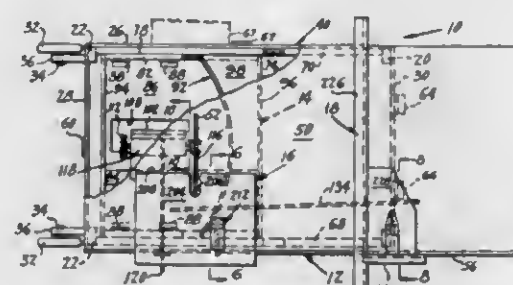


table at one point pass successively below the filling nozzles. Their position is sensed by radiations so there is no contact with the container and no danger of knocking it over. When a container is properly located, an electric counting device is started which opens the pinch on the filling nozzle tube and counts a certain predetermined period of time which determines the amount of liquid filled into each vial. At the end of the time the tube at the filling nozzle is pinched closed and the table moves to bring another container into position.

3,420,283
COMBINATION SAW
 Evender A. Carroll, 1530 Mission Ave., Carmichael, Calif. 95608
 Filed June 27, 1966, Ser. No. 560,568 10 Claims
 U.S. Cl. 143—46
 Int. Cl. B27b 5/00

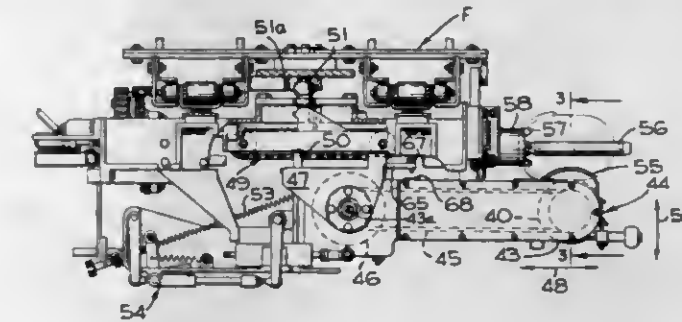


An undertable saw is disclosed which can move laterally through the work held stationary on the table and additionally the saw blade may be angularly adjusted to permit a double cut.

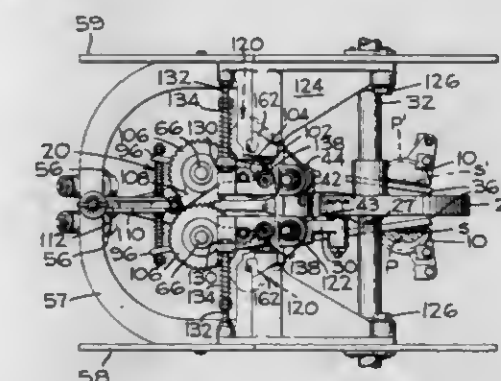
3,420,284
APPARATUS FOR CONTOUR PEELING PINEAPPLE
 Leslie Vadas, Los Gatos, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
 Filed June 20, 1966, Ser. No. 558,815 2 Claims
 U.S. Cl. 146—6
 Int. Cl. A23n 7/00

A contour pineapple peeler is provided wherein a rotary cutter and depth gauge are mounted at the end of an elongate housing. The housing is pivoted on a carriage

that moves the housing and cutter parallel to the pineapple axis, and an auxiliary depth gauge is disposed between the cutter housing and the carriage to limit depth of cut at the ends of the pineapple.

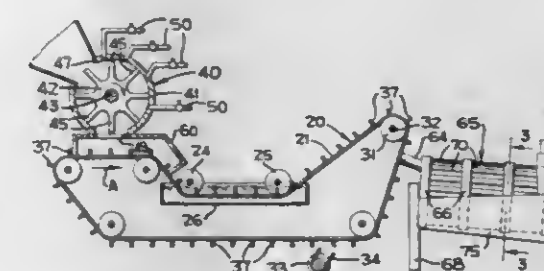


3,420,285
SELF-CONTOURING DRUPE PITTING HEAD
 Gerald R. Anderson, Campbell, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
 Filed Jan. 23, 1967, Ser. No. 610,962 5 Claims
 U.S. Cl. 146—28
 Int. Cl. A23n 3/08



Peach halves are conveyed across a pitting head plate while the pitting head is moved with the peach. Head motion causes a loop knife to rotate for traversing the pit half and a control cam bodily advances the knife carrier for cutting. Thereafter contour cutting is accomplished by spring loading the knife with a contouring spring against the pit. The control cam is relieved so that after initial advance of the knife by the cam, the peach pit itself cams the knife out further, against the force of the contouring spring. A spring loaded pit restrainer always engages the pit cavity, even when the pits are quite thin.

3,420,286
METHOD AND APPARATUS FOR PEELING FRUIT
 Raoul Vanhoegaerden, Belsele-Waas, Belgium, assignor to International Machinery Corporation S.A., St. Niklaas-Waas, Belgium, a corporation of Belgium
 Filed Nov. 23, 1965, Ser. No. 509,357 9 Claims
 U.S. Cl. 146—231
 Int. Cl. A23n 7/00; B02c 11/08



A method and apparatus for peeling fruit by first heating a thin layer of the fruit for about four to six seconds

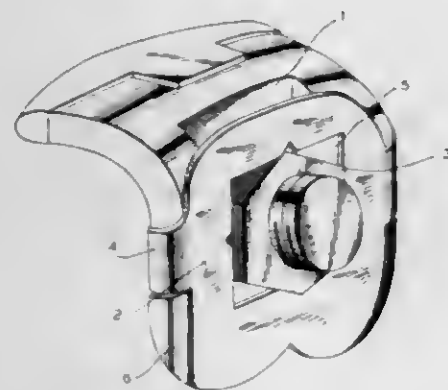
by steam under pressure, then subjecting the fruit to a caustic solution at about 150° F. for about four to six minutes, and finally removing the loosened skin from the fruit by application of high pressure jets of liquid to the fruit while tumbling the fruit.

3,420,287

RESILIENT LOCKING CLIP

James F. McCormick, 90 Green St., Newark, N.J. 07102
Filed June 14, 1967, Ser. No. 646,131
U.S. Cl. 151—60
Int. Cl. F16b 39/02

1 Claim



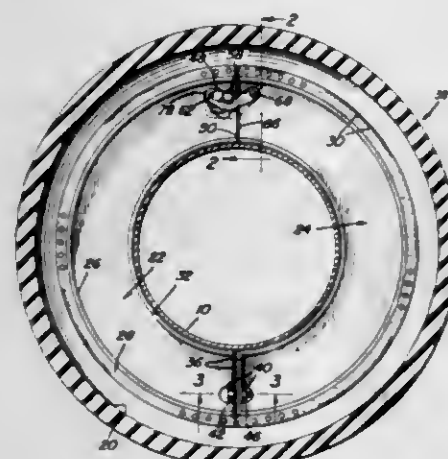
A unitary member for preventing loosening of the retainer clamp for holding the rims and tires on truck wheels comprising a body member conforming to the curvature of the clamp and having an opening to fit over the nut, a pair of integral inwardly directed wings on the sides of the body member for engaging the sides of the clamp, and a pair of integrally formed U-shaped spring arms spaced from the wings and passing about the opposite sides of the clamp and engaging the rear side of the clamp.

3,420,288

INTERNAL SAFETY WHEEL FOR PNEUMATIC TIRES

Ernest A. Unruh, 2021 N. Main, Newton, Kans. 67114
Filed Apr. 8, 1966, Ser. No. 541,378
U.S. Cl. 152—158
Int. Cl. B60c 17/04

5 Claims



The built-in safety wheel shown will function only on a drop-center vehicle wheel rim equipped with a tubeless tire and wherein the web of the rim is imperforate. It is such in construction that it will allow a vehicle with tire trouble to continue movement at a reasonably safe speed for a distance of 50 miles, more or less. It will minimize, even eliminate, roadside tire changing, will re-

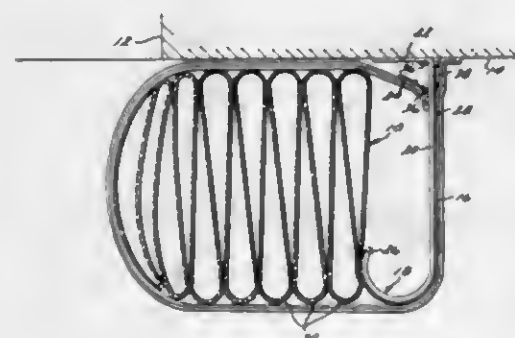
duce hazards and accidents to an acceptable minimum and overcome the likelihood of being assaulted on a lonely highway. In fact, this invention is resourceful, feasible and possessed of the capability of doing away with the prevailing practice of having to carry a spare wheel.

3,420,289

CONCEALED TIE BACK AND RETURN HOLDER FOR DRAPERY

Alexander V. Bejarano, 17732 Wrightwood Lane, Huntington Beach, Calif. 92647
Filed July 1, 1966, Ser. No. 562,350
U.S. Cl. 160—349
Int. Cl. A47h 19/00

4 Claims



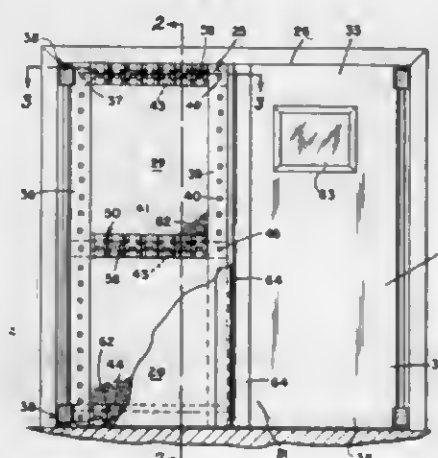
A concealed tie back support and return holder for a drapery, attached at the side of the opening being draped, located beneath the tie back and the return of the drape, and projecting the fold of the return away from the adjacent structure approximately the same distance as the other folds of the drape.

3,420,290

FLEXIBLE DOOR WITH SPACED LEAF SPRINGS

Angelo Dirubbo, North Chelmsford, Mass., assignor to A & D Fabricating Company, Inc., Lowell, Mass., a corporation of Massachusetts
Filed Feb. 3, 1967, Ser. No. 613,816
U.S. Cl. 160—354
Int. Cl. E06b 5/00

9 Claims



A flexible door consists of a rectangular frame having stiff, non-resilient supports forming the vertical frame members and having flat, rectangular, metal strip springs forming the horizontal frame members, the frame being sandwiched between two rectangular panels of flexible sheet material. One stiff support is hinge-pivoted so that the spring strips and panels may flex to pass an individual but the entire door may hinge open and flex to pass a vehicle.

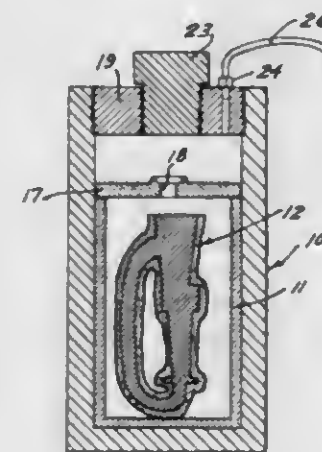
3,420,291

METHOD FOR REDUCING METAL CASTING POROSITY

George D. Chandley, Alliance, and Stuart Z. Uram, Canton, Ohio, assignors to TRW Inc., Cleveland, Ohio, a corporation of Ohio
Filed Dec. 29, 1965, Ser. No. 517,400
U.S. Cl. 164—66
Int. Cl. B22d 23/00

7 Claims

Casting process wherein molten metal is cast into a pre-heated, gas permeable mold and thereafter a substantial positive gas pressure is applied to the material in the mold to effect a condition of pneumatic forging, thereby sub-



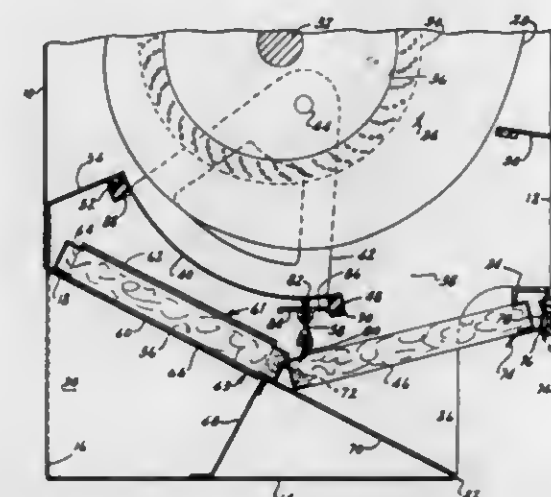
stantially reducing the amount of microporosity in the casting produced.

3,420,292

UNIT VENTILATOR WITH INCLINED RAMP FOR SUPPORTING AIR FILTER

Edward Robert Merklin and Donald Ray Schuster, Columbus, Ohio, assignors to American Standard Inc., a corporation of Delaware
Filed Apr. 17, 1967, Ser. No. 631,444
U.S. Cl. 165—38
Int. Cl. B01d 35/02

10 Claims



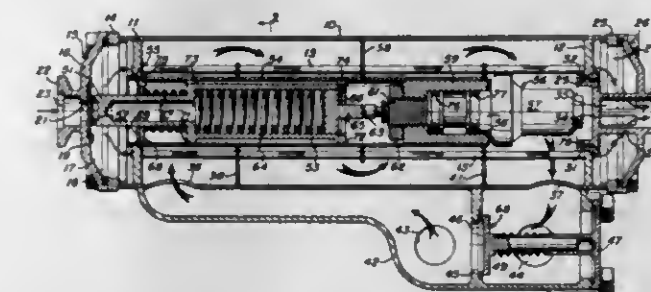
A unit ventilator having a ramp-type support means in its lower portion for removably supporting a fresh air filter and return air filter. The ramp is inclined from front to rear so that two filters can be slid into the air conditioning unit in train-like fashion, after which the front-most filter can be hinged upwardly about its connection with the rear filter whereby the front filter has its media presented to the air stream coming into the conditioner from the room. The rear portion of the ramp is opened or cut out so that the media in the rear filter is presented to the fresh air stream. Installation and removal of both filters is accomplished from in front of the air conditioning unit without removal of any panels.

3,420,293

TUBULAR HEAT EXCHANGER WITH THERMOSTATIC VALVE

Robert L. Campbell, Dayton, Ohio, assignor to United Aircraft Products, Inc., Dayton, Ohio, a corporation of Ohio
Filed May 4, 1967, Ser. No. 636,187
U.S. Cl. 165—39
Int. Cl. F28f 27/00

9 Claims



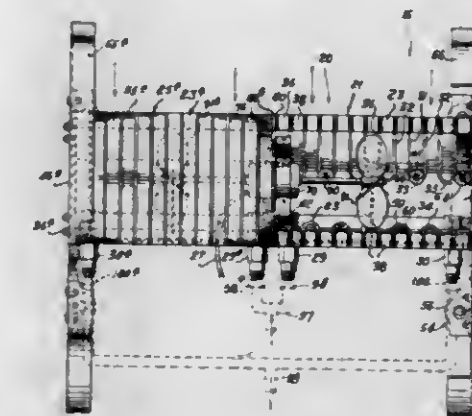
A tubular heat exchanger having a control valve assembly nested in the heat exchanger core and extensible through one end thereof to control flow of the tube side fluid. The control valve includes a thermostatic means to render the valve responsive to the shell side fluid.

3,420,294

ROOF MOUNTED AUTOMOBILE HEAT EXCHANGER

Henry O. Kirkpatrick, Dallas, Tex., assignor to Cummins Engine Company, Columbus, Ind., a corporation of Indiana
Filed Dec. 19, 1966, Ser. No. 602,994
U.S. Cl. 165—41
Int. Cl. F28b 1/06

6 Claims



A heat exchanger having a coil assembly through which a heat transfer fluid may be circulated. The coil assembly being in the form of a section of a cylinder and including a coil whose convolutions are spaced longitudinally of the cylinder and convoluted heat transfer means between adjacent spaced sections of the coil. End plates close opposite ends of the coil assembly, and air moving means are disposed in the coil for moving air inwardly through opposite end portions of the coil assembly and outwardly through a middle portion thereof.

3,420,295

HEAT-EXCHANGER, ESPECIALLY FOR HEATING AND COOLING THE LUBRICANT OF LIQUID-COOLED INTERNAL COMBUSTION ENGINE

Alfred Götz, Stuttgart, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed July 25, 1966, Ser. No. 567,421
Claims priority, application Germany, July 29, 1965, D 47,856

26 Claims

A heat exchanger, particularly for heating and cooling the lubricant of liquid-cooled internal combustion en-

gines, including a series of finned tubes adapted for conveying the cooling fluid, surrounded by a housing, which housing is composed of a plurality of axially-aligned sections conforming to the circumference of the finned tubes and thereby providing a serpentine flow path for the lubri-



cant over the exterior of the finned tubes. According to one embodiment of the invention, several rows of finned tubes are arranged within the housing and the lubricant entering the heat exchanger is divided into a plurality of substantially parallel streams.

3,420,296

FINNED TUBE PROTECTOR BAND

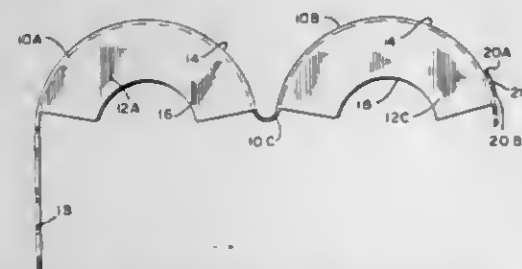
Jimmie L. Urner, Broken Arrow, Okla., assignor to The Happy Company, Tulsa, Okla., a corporation of Oklahoma

Filed Apr. 28, 1967, Ser. No. 634,718

U.S. Cl. 165-134

Int. Cl. F28f 9/00

2 Claims



A band for positioning around a finned tube to protect and/or support the tube. The finned tube band includes a back portion formed into two semi-circular portions connected by an intermediate portion adaptable to be hingeably bent and two pairs of spaced apart flat side portions each of a segmented ring configuration, the exterior diameter thereof being slightly greater than the diameter of the tube fins to which the band is to be applied and the interior diameter thereof being preferably equal to the diameter of the tube. The band includes means of securing the ends of the bands together after it is placed about a finned tube.

3,420,297

HEAT EXCHANGER TUBE SUPPORT AND SPACING STRUCTURE

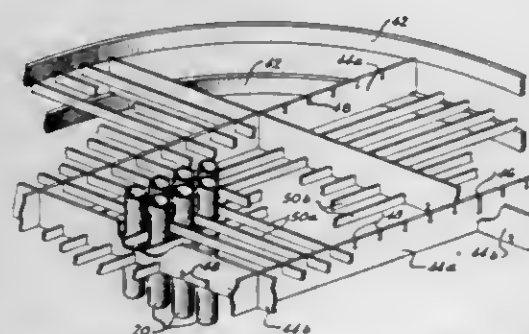
Nicholas D. Romanos, Chattanooga, Tenn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware

Filed Apr. 25, 1967, Ser. No. 633,602

U.S. Cl. 165-162

Int. Cl. F28d 1/04

4 Claims



A tube support structure for positively spacing and providing anti-vibration support for heat exchanger tubes ar-

ranged in a tube bundle. Tube spacer struts are disposed in two, axially spaced and angularly related layers extending between adjacent rows of tubes. The tube spacer strut layers are supported in axially spaced relation by means of strut support beams that are arranged in a grid-like fashion on periodic spacing through the plane of support, thereby resulting in a less expensive tube support structure that provides an increase in available fluid flow area through the plane of support.

3,420,298

AVOIDING CASING DAMAGE DURING DIRECT STEAM DRIVE OIL PRODUCTION

Archie J. Cornelius, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Aug. 4, 1967, Ser. No. 658,315

U.S. Cl. 166-11

Int. Cl. E21b 43/24

8 Claims

Oil is produced from an oil stratum by a steam drive from an injection well to one or more offset production wells by periodically substantially reducing the rate of steam injection during a soak period to allow heat transfer to the stratum oil, the steam rate being reduced to that sufficient to merely maintain established casing temperature during the primary injection phase so as to avoid contraction and expansion of the casing in the injection well with attendant "cratering" or "collapsing."

3,420,299

METHOD AND MEANS OF CEMENTING A CASING INTO A WELL STRUCTURE

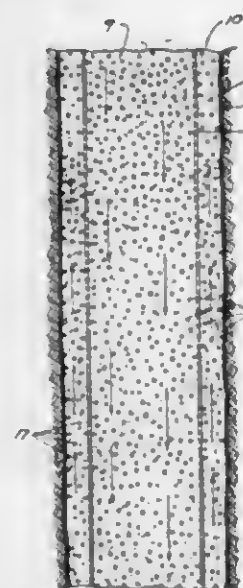
Robert E. Cloud, 306 Montclair St., Longview, Tex. 75601

Filed Oct. 7, 1965, Ser. No. 493,787

U.S. Cl. 166-29

Int. Cl. E21b 33/13

3 Claims



A method of preventing the shrinkage of a cement slurry during the setting thereof in casing operations. A plurality of encapsulated pellets are introduced into the slurry which expand at a predetermined time to compensate for the cement shrinkage.

3,420,300

METHOD AND APPARATUS FOR HEATING A SUBSURFACE FORMATION

John C. Todd, Tulsa, Okla., assignor to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

Filed Oct. 27, 1966, Ser. No. 589,897

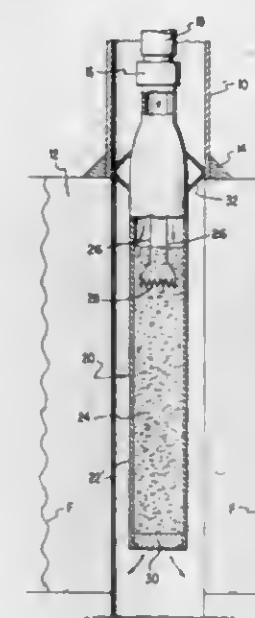
U.S. Cl. 166-38

Int. Cl. E21b 43/24

7 Claims

A method of and an apparatus for heating a formation within a borehole. A catalytic heater is lowered to the

formation, and a fuel gas and an oxidizing gas are passed therethrough. The catalytic heater is heated by an electric heater to a temperature above the temperature of ox-



idation of the fuel gas-oxidation gas mixture and below the temperature of oxidation of the heater. The borehole can be closed by a heat shield.

3,420,301

APPARATUS FOR HEATING AND RECOVERING UNDERGROUND OIL

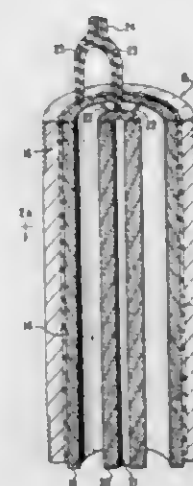
Orey L. Riley, Los Angeles, Calif., and John M. Mamoulides Metairie, La., assignors to Louisiana Hydrolec, Incorporated, Metairie, La., a corporation of Louisiana

Filed Dec. 5, 1966, Ser. No. 599,109

U.S. Cl. 166-60

Int. Cl. E21b 43/24; H05b 3/02; 3/06

6 Claims



Apparatus for heating and reducing the viscosity of of hydrocarbons in an oil well comprising a tubing string of individual sections, a pump in one of the sections, an electrical heater with a pair of concentric spaced apart carbon electrodes mounted within one of the sections, the electrodes heating the fluid in the vicinity of an oil producing formation of the well. This electrical heating, accomplished by applying a voltage across the concentric electrodes, aids recovery of highly viscous oil in underground formations, such as oil sands, oil shale or tar sands, by permitting the oil to flow more readily for recovery by known flow or pumping methods.

3,420,302

OIL PROCESSING SYSTEM

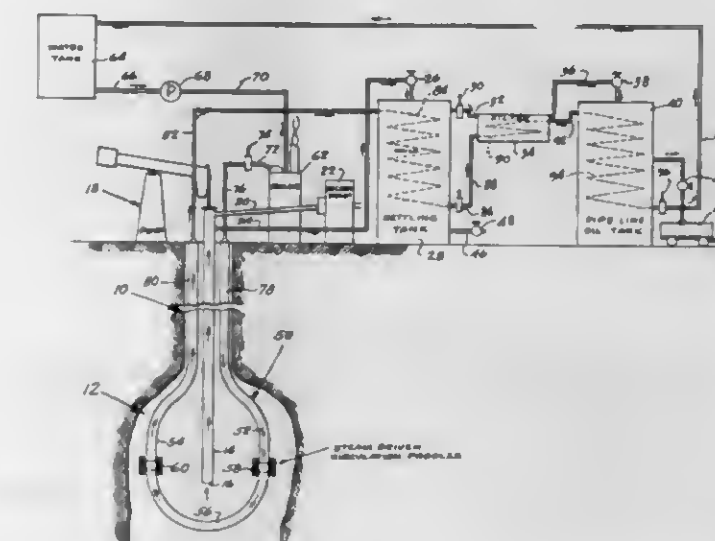
Guy G. Edwards, 4223 Bonham St., Dallas, Tex. 75229

Filed Apr. 11, 1967, Ser. No. 630,056

U.S. Cl. 166-61

Int. Cl. E21b 43/24

2 Claims



A system for circulating heated fluid into an oil well for decreasing the viscosity of petroleum products therein and the maintaining of the viscosity at a desired level in petroleum treating equipment outside the well in which a flexible heat exchanger is provided in the well and a pair of steam driven circulation channels are provided in the well for circulating the petroleum therein downwardly in opposition to normal convective circulation is disclosed.

3,420,303

WELL PIPE CONNECTOR

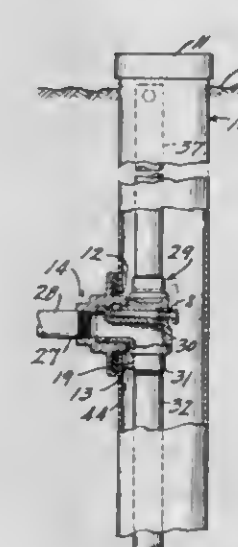
Robert Edward Stearns, Fostoria, Ohio, assignor to Dicken Manufacturing Company, Arcadia, Ohio, a corporation of Ohio

Filed Dec. 13, 1967, Ser. No. 690,198

U.S. Cl. 166-88

Int. Cl. E21b 41/00; F16l 39/00

11 Claims



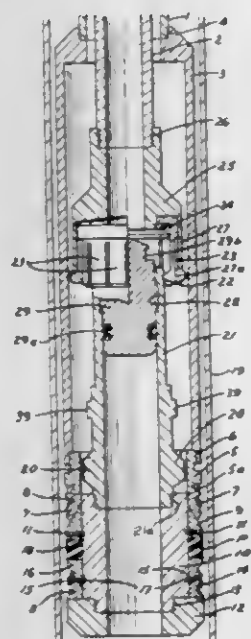
A device for coupling together a vertical well pipe within a cylindrical well casing to a discharge pipe extending laterally away from the casing. The device is positioned entirely within the well casing, may be locked in position or unlocked for removal from above the casing, and does not obstruct the passage within the casing. The device includes an external flange secured to the outer surface of the casing over an aperture in the casing. The laterally extending discharge pipe is secured to this flange. An internal adapter is positioned entirely within the casing

against the interior wall thereof. The adapter has a vertical passage from its bottom side connected to a horizontal passage which extends through a cylindrical sleeve which is inserted through the well casing aperture and is slidably received by the internal passage in the external flange. An O-ring positioned around the exterior of the cylindrical sleeve engages the internal passage in the external flange. The adapter is held in position by a lock detent which, in locking position, extends from the adapter sleeve into an opposed recess in the flange passage. The lock is released by manipulation of a pivot lever from within the well casing. An adapter utilizing the same principles can be provided for coupling a pair of vertical well pipes to a pair of lateral pipes, for use in a jet-type pump installation.

3,420,304 BRIDGING TOOL

Marion D. Kilgore, Dallas, Tex., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware

Filed Nov. 24, 1965, Ser. No. 509,478
U.S. Cl. 166—114 6 Claims
Int. Cl. E21b 33/21



A bridging tool arranged to be set in a cased well bore. The bridging tool includes an annular packer adapted to be set and held in sealing engagement with the casing and has a tubular member projecting upwardly from the packer. The tubular member is provided, near its upper interior end, with means for receiving a releasable plug. The plug is arranged to prevent the entrance of materials into the interior of the tubular member. The exterior of the tubular member is provided with means for receiving a setting tool whereby the annular packer can be set in the well casing. The tubular member is also provided with gudgeon pins adapted to engage the lower interior end of a production tubing so that the production tubing can be releasably attached to the bridging tool.

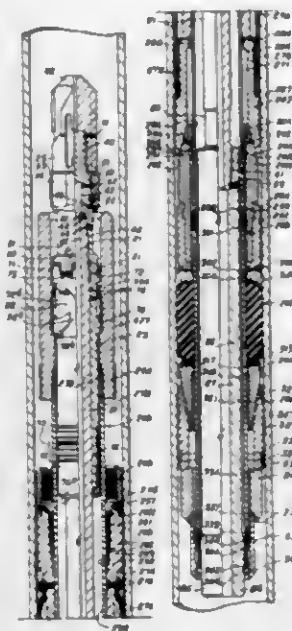
3,420,305 WELL TOOLS

Alvis H. Alexander, Odessa, and John C. Duplantis, Corpus Christi, Tex., and George T. Strong, New Orleans, La., assignors to Otis Engineering Corporation, Dallas, Tex., a corporation of Delaware

Filed Oct. 26, 1966, Ser. No. 589,712
U.S. Cl. 166—114 26 Claims
Int. Cl. E21b 33/128

1. Apparatus for sealing a flow passage of a flow conductor comprising: a packer having means for anchoring it in sealing position within the flow conductor and having a longitudinal flow passage therethrough; a closure member insertable in said flow passage of said packer and

having a flow passage therethrough closable at one end; means on said closure member sealing between said closure member and said packer closing off flow therebetween; means for releasably locking said closure member within said flow passage of said packer; valve means slidable on said closure member closing said closeable end of said member and movable to a position to open said closeable end of said flow passage of said closure member to

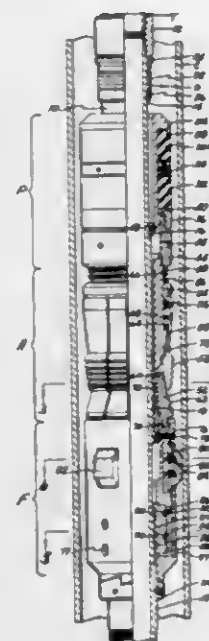


permit flow therethrough; and means for releasably coupling said closure member with means for inserting and withdrawing said closure member from said flow passage of said packer; said slidable valve means on said closure member being movable longitudinally thereon between closed and open positions to permit flow through said closure member while said closure member is releasably coupled in sealing position in said packer flow passage.

3,420,306 WELL ANCHOR OR PACKER

Cicero C. Brown, 8490 Katy Road, Houston, Tex. 77024

Filed Dec. 19, 1966, Ser. No. 602,635
U.S. Cl. 166—120 11 Claims
Int. Cl. E21b 23/00

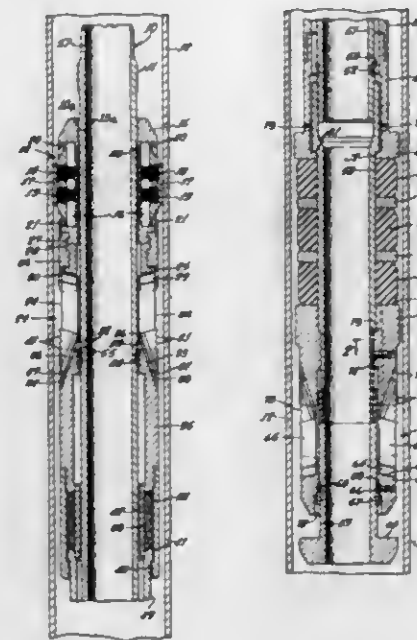


A releasable packer and anchor assembly which utilizes rotation of the tubing string for initiating the setting of the assembly and also for the release of the assembly. The assembly is locked in set position and a pressure differential on either side of the packer will act to hold the assembly in set condition.

3,420,307 RETRIEVABLE PACKER

Martin B. Conrad, Carpinteria, Calif., assignor to Baker Oil Tools, Inc., City of Commerce, Calif., a corporation of California

Filed Nov. 14, 1966, Ser. No. 593,921
U.S. Cl. 166—134 21 Claims
Int. Cl. E21b 23/00

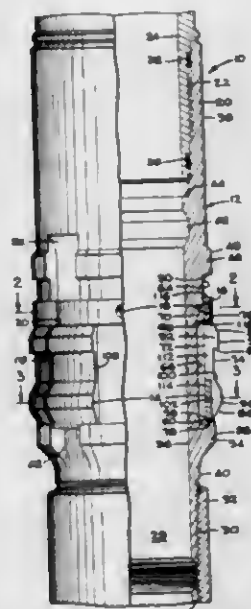


A retrievable double holding well packer, the resilient packing means of which is held in compression upon setting of the upwardly and downwardly holding slips by an assemblage defining a chamber containing a quantity of granular material, the assembly including a shiftable closure for the chamber, so that the chamber may be opened to dump the granular material and thereby relieve the compressive force on the resilient packing means.

3,420,308 WELL CASING HANGER

Samuel W. Putch, Harris County, Tex., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware

Filed Aug. 16, 1967, Ser. No. 661,039
U.S. Cl. 166—208 7 Claims
Int. Cl. E21b 17/046



A well casing hanger for suspending an inner string of well casing at a predetermined location in an outer casing string, including a resilient self-expanding annular ring that automatically engages a cooperating hanger coupling prepositioned in the outer casing, and a flow-conducting body that locks the ring in its expanded condition, the hanger thereby preventing further move-

ment of the inner casing downward and accommodating retraction of the resilient ring upon upward movement of the hanger in the outer casing.

3,420,309 METHOD OF LINING WATER WELLS AND APPARATUS THEREFOR

John R. Beylik, 11118 Luitwieler Ave., Whittier, Calif. 90604

Original application Nov. 26, 1963, Ser. No. 326,035, now Patent No. 3,275,081, dated Sept. 27, 1966. Divided and this application Aug. 17, 1966, Ser. No. 573,116
U.S. Cl. 166—242 3 Claims
Int. Cl. E21b 17/14

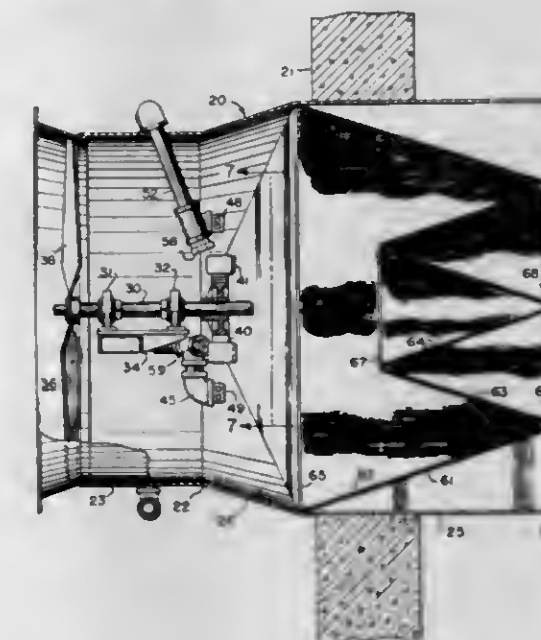


A device on which casing is supported for lowering into place in a well and thereafter supported thereon which includes a circular plate with a tool joint on its upper side surrounded by a collar to receive the casing and sharp projections depending from the underside designed to enter the ground.

3,420,310 FIREFIGHTING FOAM GENERATOR

James W. Mears, Providence, and Philip H. Merdinyan, East Greenwich, R.I., assignors to Grinnell Corporation, Providence, R.I., a corporation of Delaware

Filed Apr. 11, 1967, Ser. No. 630,025
U.S. Cl. 169—15 14 Claims
Int. Cl. A62c 35/46; B05b 1/26



Apparatus for generating firefighting foam having a wind tunnel configuration with a fan at the inlet end and a metal screen at the outlet end and nozzles between the

fan and the screen for discharging a foam making solution onto an impeller wheel which drives the fan to generate an airstream. The solution deflected from the impeller wheel is sprayed onto the screen and is formed into foam bubbles and carried out of the outlet end by the airstream.

3,420,311

BLADED ROTORS

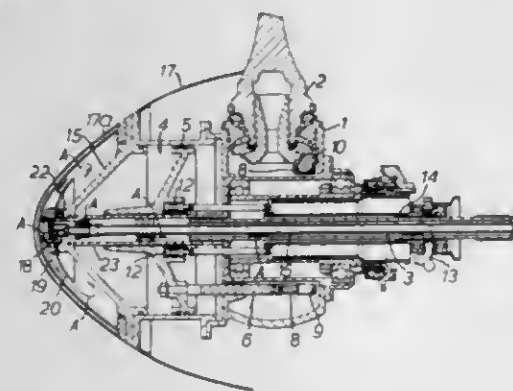
Stuart Duncan Davies and John Alfred Chilman, Painswick, England, assignors to Dowty Rotol Limited, Gloucester, England

Filed Apr. 12, 1967, Ser. No. 630,252

Claims priority, application Great Britain, Apr. 12, 1966, 16,009/66

U.S. Cl. 170—160.32
Int. Cl. B64c 11/14

16 Claims



A bladed rotor, for example an aircraft propeller, has a hollow spinner portion formed integrally with or carried upon a hub of the rotor. A conduit or the like for liquid under pressure passes through the hub, and a relief valve provided in the conduit is positioned in close proximity to an interior surface of the nose portion of the spinner so that liquid discharging from the relief valve first impinges on the spinner before passing under centrifugal force around said interior surface and thence to drain. Heat exchange between the liquid and the spinner acts to heat the latter for anti-icing purposes and cools the liquid which is conveniently utilised for operation of a pitch-change motor operative for pitch variation of the rotor blades.

3,420,312

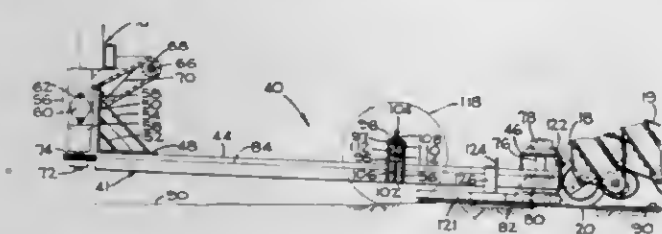
HARVESTER CUTTING MECHANISM

Edwin F. Greedy, Hoopeston, Ill., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware

Filed July 18, 1966, Ser. No. 565,813

U.S. Cl. 171—61

11 Claims



2. In combination a mobile support structure, means for moving said vehicle forwardly, a pair of oppositely-rotating laterally adjacent cutting discs, means mounting said discs on said structure, means for rotating said discs in opposite directions with their leading peripheral edges disposed below the surface of the ground and moving inwardly toward a vertical plane through the longitudinal centerline of said structure, means for sensing the height of dirt deposited by said discs rearwardly thereof during forward movement of said mobile support structure, and means operatively connected between said sensing means and said disc mounting means for adjusting the height of said discs in response to changes in the height of the deposited dirt.

3,420,313

IMPLEMENT HITCH

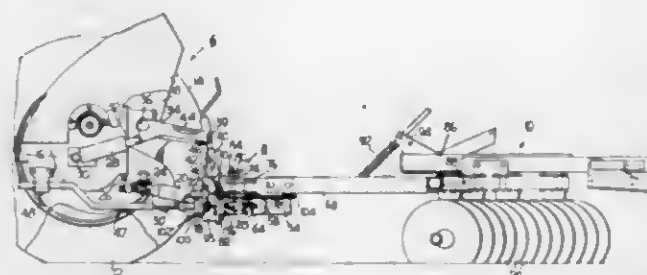
Maynard E. Walberg, Waukesha, and Richard G. Moe, New Berlin, Wis., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed Aug. 29, 1966, Ser. No. 575,760

U.S. Cl. 172—7

Int. Cl. A01b 63/112

9 Claims



1. The combination with a tractor of the type having a pair of laterally spaced rearwardly directed draft arms and lifting means for the arms responsive to the amount of draft reaction in the arms, of means bridging the space between said arms and supported thereon and having securing means between said arms for an implement tongue, said arms being connected to said bridging means intermediate the fore-and-aft ends thereof and wherein said aft end underlies said implement tongue and being positionable in supporting relation thereto and the fore end of said bridging means being pivotally connected to said tractor.

3,420,314

GROUND WORKING MACHINE

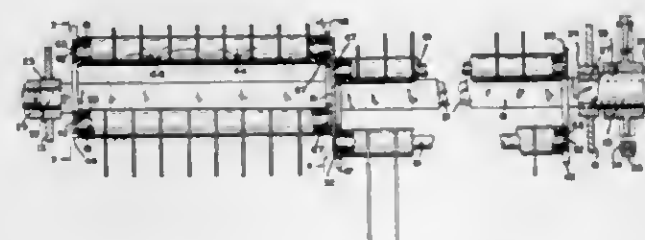
Paul F. Hastings, 1206 E. Gordon Ave., Spokane, Wash. 99207

Filed Oct. 26, 1966, Ser. No. 589,606

U.S. Cl. 172—42

Int. Cl. B21b 45/02

9 Claims



1. In a ground working machine having a wheel supported frame, the combination of:

- a rotor mounted for rotation about a substantially horizontal axis transverse to the direction of travel of the machine, said rotor comprising,
- a mandrel,
- outer hubs encircling the mandrel and disposed at the ends of the same,
- inner hubs encircling the mandrel and being disposed inwardly of the outer hubs,
- said inner hubs being spaced from one another to form an annular space therebetween,
- a rotating, locking member disposed in said annular space and rotatable about the axis of said mandrel,
- one of said inner hubs having a number of openings therein circumferentially spaced and disposed in a circle whose center lies in the axis of said mandrel,
- the other of said inner hubs having similar openings circumferentially spaced from the openings in the first inner hub,
- the outer hubs having openings registering with the openings in the inner hubs, which they face,
- the spaces between the openings of each of said inner hubs registering with and exposing the openings in the adjoining inner hub,

- said locking device having an opening therein adapted to register with any of the openings in either of said inner hubs, and when in one position having portions blocking all of the openings in said hubs,
- spindles insertable through the opening in said locking member and into the openings in said inner hubs,
- said spindles being slidable through the openings in said inner hubs and adapted to enter the corresponding openings in said outer hubs,
- shoulders on said spindles limiting continued sliding movement of said spindles,
- said locking member engaging the ends of said spindles and, when in its denoted position, restraining reverse sliding movement of said spindles,
- ground engaging wheels carried by said frame,
- bearings on said frame,
- a shaft journaled in said bearings and carrying said mandrel,
- means for driving said shaft, and
- means for driving said mandrel from said shaft.

3,420,315

ROLL-OVER TWO-WAY PLOW HAVING NOVEL SAFETY STANDARD

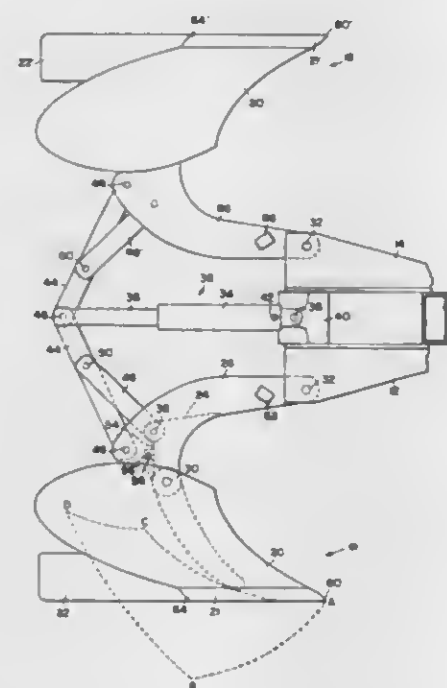
Robert Richard Roth, Rock Island, Ill., assignor to Deere & Company, Moline, Ill., a corporation of Delaware

Filed Feb. 18, 1966, Ser. No. 528,439

U.S. Cl. 172—265

Int. Cl. A01b 61/04

9 Claims



A plow bottom assembly for a roll-over two-way plow in which opposed right-hand and left-hand plow bottoms are interconnected by means of linkage to a single cylinder so that either plow bottom may trip against the force of the cylinder.

3,420,316

STEERING IMPROVEMENTS FOR DUPLEX DISK TILLER

Kenneth L. Kirkpatrick, Welland, Ontario, Canada, assignor to Deere & Company, Moline, Ill., a corporation of Delaware

Filed Oct. 7, 1965, Ser. No. 493,632

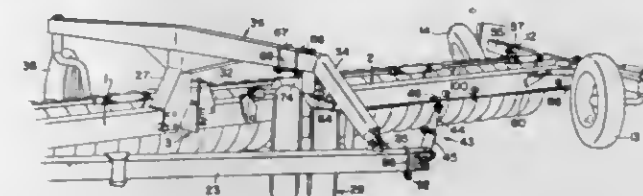
U.S. Cl. 172—288

Int. Cl. A01b 65/04; A01b 69/00

5 Claims

A control device for the rear furrow wheel of a disk tiller having an articulated frame, the control means serving to lock the rear furrow wheel in a straight ahead position when the tiller is in its normal working position

but permitting the rear furrow wheel to swing away from the frame when making a left turn. Control means are



also provided for the front dual carriage wheel to permit the wheel to be led to the left while permitting further turning to the left as when making a left-hand turn.

3,420,317

BLADE STRUCTURE FOR DITCHING AND CABLE LAYING BLADES INCLUDING A ROTATING CUTTER POINT OR POINTS

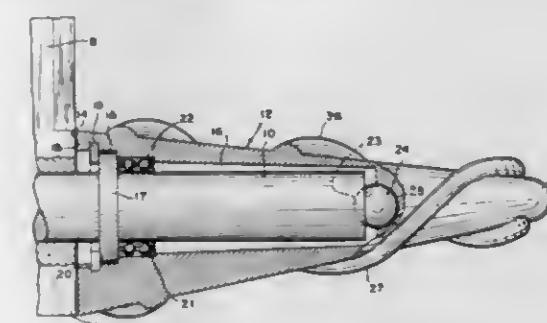
Francis B. Ryan, Chariton, Iowa, assignor to F. B. Ryan Manufacturing Company, Chariton, Iowa, a corporation of Iowa

Filed Feb. 18, 1966, Ser. No. 528,471

U.S. Cl. 172—699

Int. Cl. A01b 13/08; E02f 5/18

2 Claims



The ditching blade herein described comprises a vertical blade, sharpened on its forward edge and provided at its lower or foot extremity with an elongate, spirally ribbed, rotatable cutter point which rotates as the blade is pulled through the ground, facilitating passage of the blade through the ground and imparting vibration thereto, to implement the passage of the blade through the ground. The elongate, conical cutter point is preferably mounted over an elongate shaft affixed in the foot of the blade at right angles thereto and lying in the vertical plane of the blade, upon which the cutter point rotates due to the impingement of its spiral ribs in the ground as the blade is pulled forwardly therethrough.

3,420,318

APPARATUS FOR THE HANDLING AND ASSEMBLING OF TUBULAR RIGID ELEMENTS ON A FLOATING INSTALLATION

Jacques Delacour, Paris, and Jean Casteran, Sainte-Adresse, France, assignors to Institut Français du Pétrole, des Carburants et Lubrifiants, Rueil-Malmaison, Hauts-de-Seine, France

Filed Mar. 28, 1966, Ser. No. 537,793

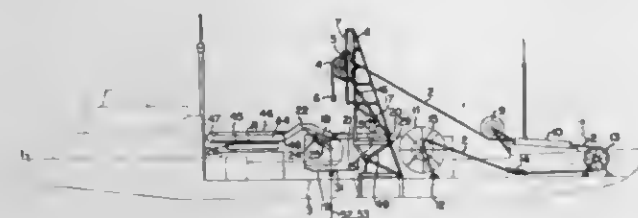
Claims priority, application France, Mar. 26, 1965, 10,966

U.S. Cl. 175—5
Int. Cl. E21c 19/00

9 Claims

A floating apparatus for assembling rigid elements has a platform provided with a passage for the column formed by the rigid elements and has means for supporting this column. The platform is supported on the floating installation by a Cardan type joint having two rectangular axes. An elongated frame is rotatably mounted on the platform around an axis having the same direction as one of the axes of the platform and is movable from an upper position substantially in alignment with the passage in the

platform to a lower position substantially in alignment with the other axis of the platform. The elongated frame



is provided with means for gripping the rigid elements in its lower position.

3,420,319

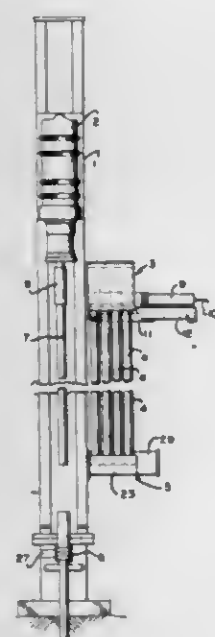
DRILL STEEL HANDLING APPARATUS

Paul A. Lincoln, Bloomsbury, N.J., and Samuel Leven, Easton, Pa., assignors to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Apr. 14, 1967, Ser. No. 630,970

U.S. Cl. 175—52

10 Claims

Int. Cl. E21b 19/14



An extension drill steel changing and storage apparatus mounted on the side of a drilling machine; the apparatus has a drill steel storage magazine which is laterally displaced by a power device to align a foremost drill steel with the drilling machine for coupling thereto.

3,420,320
PILE DRIVER

Hiro Washita, Tokyo, Japan, assignor to Marutai Doboku Company Limited, Tokyo, Japan
Filed Feb. 23, 1967, Ser. No. 617,931

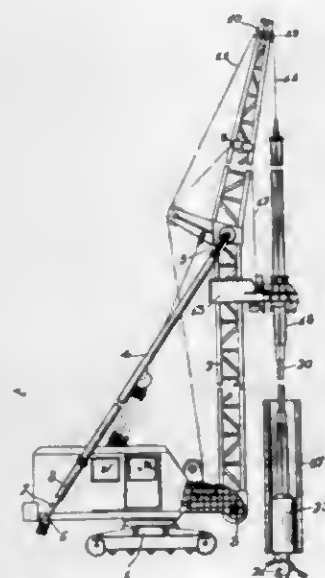
U.S. Cl. 175—161

10 Claims

Int. Cl. E02d 7/22

A pile driver which has on a first support a boom which carries a second support for longitudinal movement along the boom, this second support carrying a drive for a rotary assembly of telescoped pipes, which at its bottom end carries a rotary screw. This screw is situated at least partly within a tubular receptacle for receiving material displaced by the screw. After the receptacle is filled, it can be raised together with the screw away from the location, where the opening is formed to receive a pile. The screw itself can then be turned with respect to the re-

ceptacle to empty the latter and then the operations can be resumed. The connection of the receptacle to the rotary telescoped pipe and screw assembly is such that the receptacle need not turn so that the rotary screw and the telescoped pipe assembly which drives the latter are capable of rotating with respect to the receptacle, which, however, is constrained to move axially with the screw while receiving the material displaced thereby. The support which is carried by the boom and which in turn car-



ries the telescoped pipe assembly and the drive means therefor is longitudinally shiftable along the boom while the telescoped pipe assembly itself can be extended and retracted. In this way, the elevation of the screw, which is to say the depth to which it can extend into the ground, is adjustable not only by way of the telescoped pipe assembly, but also by way of movement of the support for the telescoped pipe assembly along the boom.

3,420,321

APPARATUS FOR DRILLING WELLS

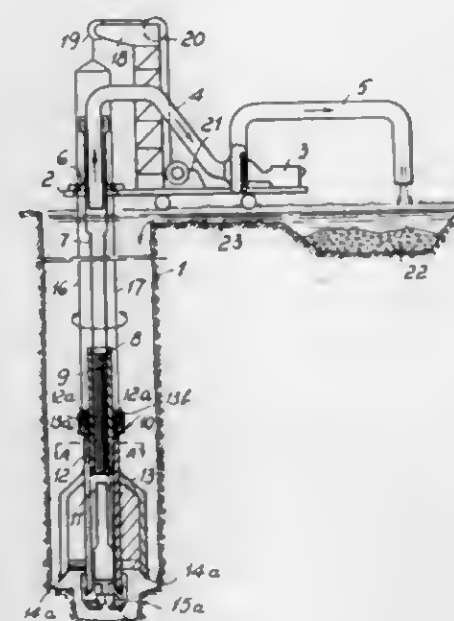
Giuseppe Botto, Via della Rovere 7, Sagrate, Italy
Filed Sept. 6, 1966, Ser. No. 577,201

Claims priority, application Italy, Mar. 26, 1966,
16,043/66

U.S. Cl. 175—173

3 Claims

Int. Cl. E21b 21/00



This disclosure relates to an apparatus for drilling wells under circulation of drilling mud, including a string

of hollow rods allowing passage of drilling mud there-through, a tubular member having drilling tools connected at the lower end thereof and in telescoping relation with respect to said string, cable means connected with said tubular member and extending along said string beyond said well, driving means for reciprocating said tubular member in a direction parallel to said string and cooperating with said cable means, a rotary table for imparting intermittent angular movement to said drilling tools about the axis of said string, a pump for circulating the drilling mud and having its suction pipe connected with said string of hollow rods.

3,420,322

CORE TAKING APPARATUS

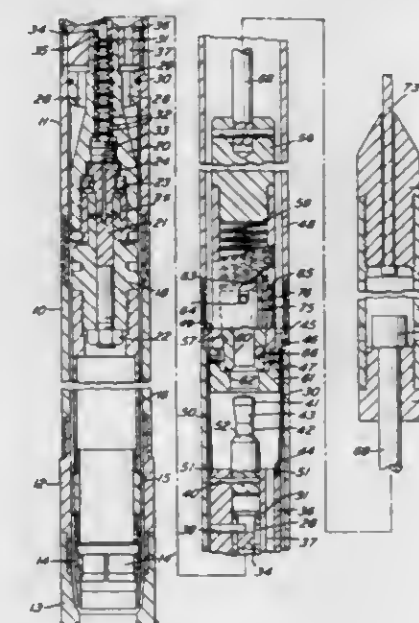
Len Mark, Nicholson, Pa., assignor to Sprague & Henwood, Incorporated, Scranton, Pa., a corporation of Pennsylvania

Filed Aug. 10, 1966, Ser. No. 571,552

U.S. Cl. 175—246

2 Claims

Int. Cl. E21b 9/20, 25/00



A core taking apparatus which has an outer rotatable and driven-core barrel with an inner core barrel assembly including a collecting core barrel mounted in the outer barrel and supported by a bearing so as to be non-rotatable with the outer barrel while drilling. The inner core barrel assembly is removable from the outer core barrel by a retrieving assembly. Latching fingers carried by the outer barrel and self-urged inwardly engage a shoulder on the inner core barrel assembly and normally retain the inner core barrel assembly from upward movement but are released by the retrieving assembly. The non-rotatable character of the collecting core barrel prevents damage to the collected core and obviates injury to the latching fingers and the shoulder which they engage.

3,420,323

DRILL STABILIZER TOOL

Dewey E. Owens, Lafayette, La., assignor to Land and Marine Rental Company, Houston, Tex., a corporation of Delaware

Continuation of application Ser. No. 588,403, Oct. 21, 1966. This application Feb. 23, 1967, Ser. No. 617,929

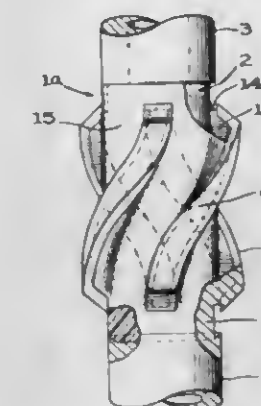
U.S. Cl. 175—323

19 Claims

Int. Cl. E21b 17/046; 17/10

A blade stabilizer suitable for interconnection in a well drilling string and having a greatly reduced tendency for balling and sticking in down hole drilling operations is provided with a nonadhering plastic covering, e.g., a tetra-

fluoroethylene polymer, covering those nonbearing portions of the stabilizer body between the blades. The plastic



covering may be in sheet form secured in undercuts at the base of the stabilizer blades.

3,420,324

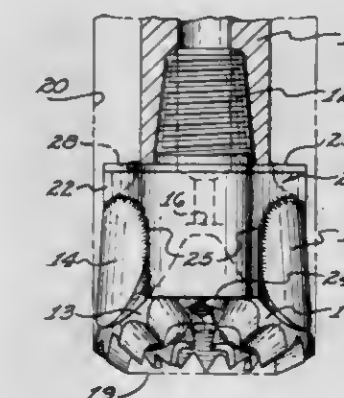
AIR ROTARY DRILL BIT

Herbert J. Vesper, 5514 Berget, Amarillo, Tex. 79106
Filed Apr. 15, 1966, Ser. No. 559,700

U.S. Cl. 175—339

3 Claims

Int. Cl. E21b 9/08



A shroud with continuous vertically disposed cylindrical surfaces is telescoped over a conventional bit body to adapt it for air drilling by controlling the size of the air passages to reduce them so the air velocity is increased.

3,420,325

VEHICLE LOAD WEIGHING DEVICE

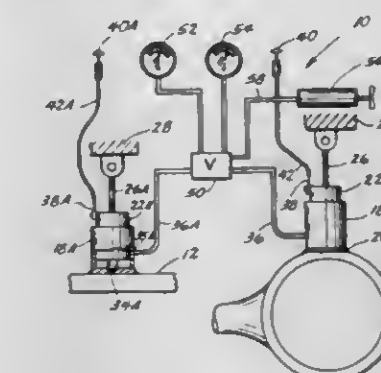
Iris J. McAlister and Jimmie D. McAlister, both of Bayard, Iowa 50029, and Merle R. Loder, Jewell, Iowa 50130

Filed Apr. 6, 1966, Ser. No. 540,538

U.S. Cl. 177—137

7 Claims

Int. Cl. G01g 19/10

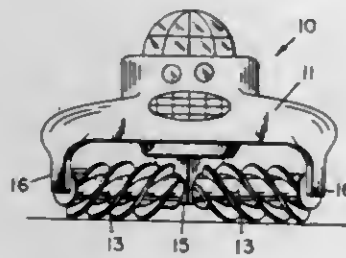


The device and method of measuring the net weight on each axle of a vehicle having a plurality of axles comprising the steps disposing a compressive pressure responsive piston and cylinder assembly with an associated pressure gauge between the frame and each axle, then

imposing pressure in each cylinder and piston assembly until the reading on the associated gauge corresponds to the dead weight of the vehicle frame on each respective axle and finally loading the vehicle until the desired weight on each axle has been reached as indicated on each of the respective gauges.

3,420,326
LAND VEHICLE PROPULSION
Kasimir C. Kusmer, Montgomery, Ill.
(1021 Cochran St., Aurora, Ill. 60506)
Filed Sept. 16, 1966, Ser. No. 580,099

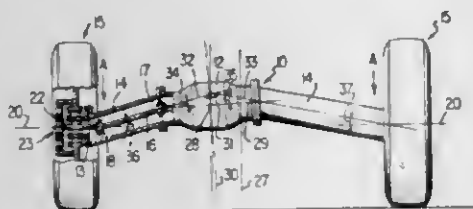
U.S. Cl. 180—6.2 7 Claims
Int. Cl. B62d 11/00; B62d 57/00; B60f 3/00



A land vehicle having propulsion means consisting of two pairs of rotatable ground engaging screws. The screws have their axes offset by an acute angle to opposite sides of the longitudinal axis of the vehicle represented by its direction of travel, with the axis of each screw intersecting the axes of two other screws. Means are provided for rotating the screws in each pair selectively in opposite directions.

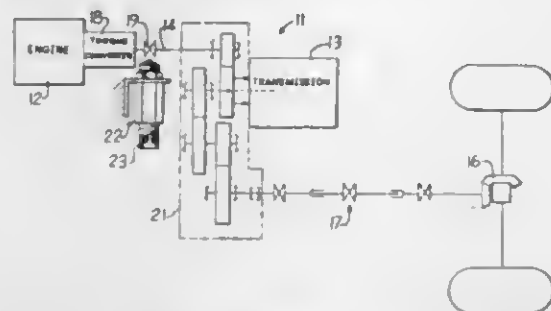
3,420,327
RIGID DRIVE AXLE FOR MOTOR VEHICLES
Friedrich K. H. Nallinger, Stuttgart, Alfred H. Müller, Waiblingen, Roland Wirlitsch, Stuttgart, and Helmut Höhn, Gaggenau, Baden, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Dec. 17, 1965, Ser. No. 514,579
Claims priority, application Germany, Dec. 18, 1964, D 46,086

U.S. Cl. 180—43 16 Claims
Int. Cl. B60k 17/24; B60b 35/14



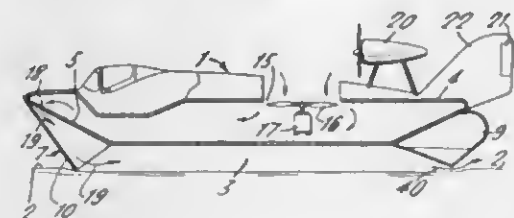
A rigid drive axle for motor vehicles, especially cross-country commercial-type vehicles or buses whereby an axle gear is operatively connected on both sides with a respective wheel by way of one drive shaft each and whereby the wheel center lines are offset with respect to the center lines of the output shafts of the axle gear and possibly are additionally inclined. Preferably, the drive shafts are carried within inclined tubular axle bearers having flanged connections with the wheel structure and axle gear housing that are at least transverse to one of the connected parts. The wheel may have an intermediate gear means to offset the adjacent end of the drive shaft with respect to the wheel center line. The axle gear may be asymmetrical, the system may be used with a steerable wheel, and an intermediate double flanged tubular piece may be used to form the connection between the bearer and its adjacent part.

3,420,328
ELECTRONIC SHIFT INDICATOR
Edward L. Johnson, Peoria Heights, and Robert G. Miller, Princeville, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Jan. 30, 1967, Ser. No. 612,430
U.S. Cl. 180—106 6 Claims
Int. Cl. B60k 23/00; G08b 21/00



Apparatus to control shifting of vehicle transmissions. An electrical circuit sensing operating speed, generating an electrical signal representative of said speed, comparing said signal with a constant signal representative of a speed permitting safe shifting of the transmission and actuating means to control shifting of said transmission.

3,420,329
GAS-CUSHION VEHICLES
Robert Granville Moore, Southampton, England, assignor to Hovercraft Development Limited, London, England, a British company
Filed June 8, 1966, Ser. No. 556,239
Claims priority, application Great Britain, June 9, 1965, 24,355/65
U.S. Cl. 180—118 8 Claims
Int. Cl. B60v 1/04; B60v 3/00; B60v 1/16

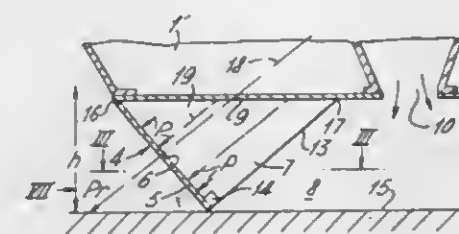


A gas-cushion vehicle having a prow portion with an upwardly sloping under surface is provided with a flexible cushion-containing wall comprising a plurality of individually deflectable loops of flexible sheet material depending from the sloping under surface and attached thereto along lines extending substantially in a fore and aft direction, each of the loops having a deep fold at its lower end reaching below the lowest part of the hull to a distance slightly less than the desired depth of the gas cushion, and tapering upwardly towards a minimum depth of fold at its upper end. Pressurised gas is delivered to the interior of the loops for discharge in a generally downward direction therebelow to at least assist in the formation and maintenance of the gas cushion.

3,420,330
MEANS FOR BOUNDING A SPACE FOR RECEIVING PRESSURISED GAS
Denys Stanley Bliss, Southampton, England, assignor to Hovercraft Development Limited, London, England, a British company
Continuation-in-part of application Ser. No. 267,695, Mar. 25, 1963. This application July 21, 1966, Ser. No. 566,948
Claims priority, application Great Britain, Mar. 27, 1962, 11,645/62
U.S. Cl. 180—128 53 Claims
Int. Cl. B60v 1/18; B60v 1/16

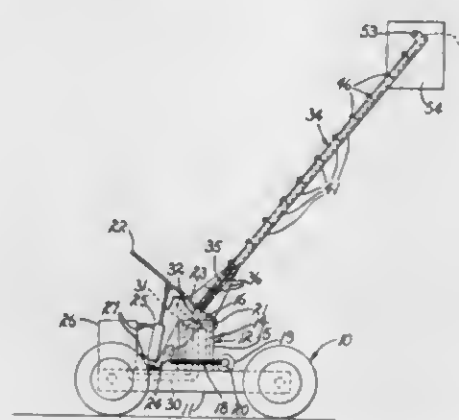
A flexible wall for containing a cushion of gas within a space, such as the cushion space of an air-cushion

vehicle, comprises a row of discrete, contiguous wall members. Each member comprises a triangular sheet folded to give the member a U-like horizontal cross section and is so attached to the vehicle that its concavity



faces the cushion and the two side portions constrain the wall member against outward deflection by cushion pressure. Cushion pressure acting on the inside surfaces of the side portions distends them so that they contact each other to provide an air seal.

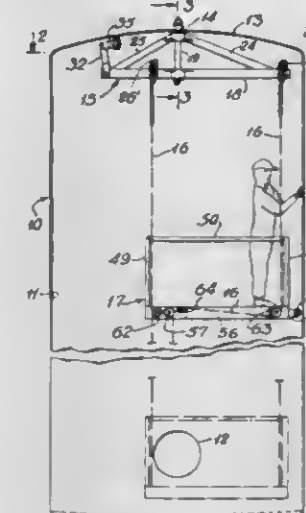
3,420,331
SEGMENTED MECHANICAL PROBOSCIS
Ralph Minnite, P.O. Box 198
Cantua Creek, Calif. 93608
Filed Dec. 12, 1966, Ser. No. 601,017
U.S. Cl. 182—41 8 Claims
Int. Cl. E06c 5/06; E01d 15/14



A segmented mechanical proboscis providing an elongated flexible fluid tight conduit which when deflated is in a coiled configuration and which is adapted to be pressurized to uncoil and subsequently to assume a substantially straightened configuration including a plurality of support elements pivotally interconnected in end-to-end relation mounted along the conduit for supporting a work platform disposable in an elevated position upon straightening of said conduit with the conduit returning to its coiled configuration upon deflation.

3,420,332
ELEVATOR FOR QUICK ASSEMBLY AND USE IN LIMITED ACCESS ENCLOSURES
Richard A. Textor, R.D., Sussex, N.J. 07461
Filed July 14, 1967, Ser. No. 653,453
U.S. Cl. 182—128 17 Claims
Int. Cl. E04g 3/10

A quickly assembled and disassembled elevator for dairy silos and other limited access enclosures comprising a plurality of detachably coupled parts providing a lift platform with power unit, guide and drive sprockets for four lift support chains, and protective railing means for said platform, a plurality of other detachably coupled parts providing an elongated suspension unit rotatable on a tubular suspension shaft, having means for mounting at the top of an enclosure, spaced transverse chain anchoring members offset in one direction with respect to said suspension shaft and a counterbalance offset in the



opposite direction, having roller engagement with the enclosure top when the suspension unit is raised, with chains folded to give the member a U-like horizontal cross section and is so attached to the vehicle that its concavity

control station for said power unit permitting raising and lowering of the assembled lift platform selectively from the base of the enclosure and from the lift platform.

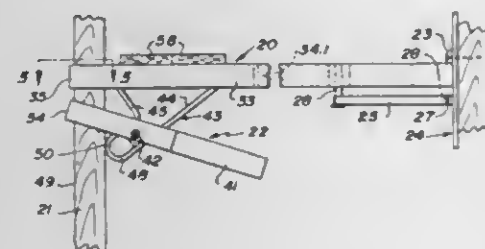
3,420,333
AUTOMATIC LATCHING EXTENSION LADDER
Albert A. Atchison, P.O. Box 22, Hercules, Calif. 94547
Filed June 19, 1967, Ser. No. 647,112
U.S. Cl. 182—211 10 Claims
Int. Cl. E06c 1/12



An extension ladder consisting of telescopic sections having a latching device which automatically latches the extendable section of the ladder in its extended position and enables retraction of the ladder into its collapsed condition in a plurality of equal increments corresponding to the distance between adjacent ladder rungs. The extendable section and bottom section of the ladder have telescopically arranged interengaging channel-shaped stiles with the bottom or lower section having rigid steps attached across the face thereof and the extendable or upper section having rungs extending between the channel-shaped stiles. The upper or extendable section of the ladder is elevated with a conventional pulley and rope arrangement with the latch mechanism being effective to prevent retraction of the extendable section until it has been elevated slightly from its normal supported position to enable the latch

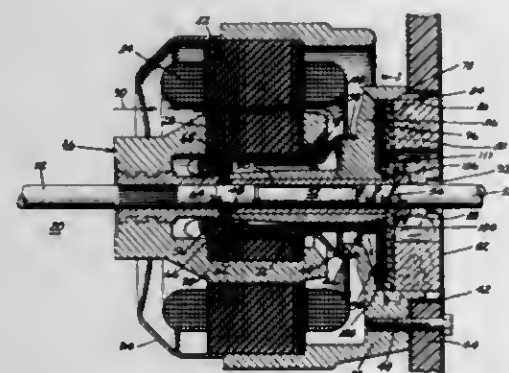
mechanism to be activated to enable the extendable section to retract the length equal to the distance between adjacent rungs and again be automatically latched in the partially retracted position after which the procedure must be repeated, for each increment of retractive movement. The lower end of each stile of the bottom section is provided with a self-levelling foot having structural features which limit its levelling movement.

3,420,334
CANTILEVER CLAMP FOR SCAFFOLD LEDGER
 Albert K. Talbot, Old Schoolhouse Road, R.R. 1,
 Cowichan Station, British Columbia, Canada
 Filed Sept. 1, 1967, Ser. No. 665,015
 U.S. Cl. 182-229 10 Claims
 Int. Cl. E04g 5/08



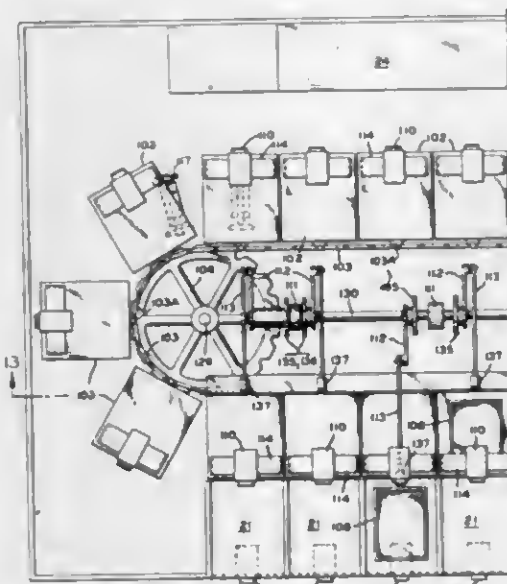
A cantilever clamp for securing a scaffold ledger to a vertical post. An outer end of the ledger extending around and bearing against an outer surface of the post, with a bracket having a bearing portion below the ledger and bearing against an inner surface of the post, defining a cantilever moment arm. A locking lever with an outer end around the post outer surface, the lever sloping downwards from the post and pivoted to the bracket, downward movement of the ledger rotating the lever so locking the post against further downward movement.

3,420,335
LUBRICATION SYSTEM FOR ELECTRIC MACHINES
 Richard W. Dochterman, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York
 Filed Feb. 28, 1967, Ser. No. 619,429
 U.S. Cl. 184-6 9 Claims
 Int. Cl. F01m 1/00



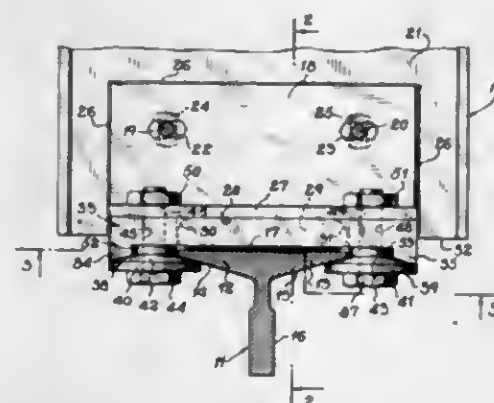
A lubrication system which serves both to lubricate bearings and to occlude the primary airflow path through a machine. The system includes a capillary seal (spaced apart plates with or without wick material therebetween) serving both as a capillary air seal and as a portion of a lubricant transfer path. This system is especially effective to support a pressure differential across an electric motor.

3,420,336
ARTICLE DELIVERY SYSTEM
 Luther G. Simjian, Laurel Lane,
 Greenwich, Conn. 06830
 Filed July 19, 1967, Ser. No. 654,610
 U.S. Cl. 186-1 10 Claims
 Int. Cl. E04h 3/04



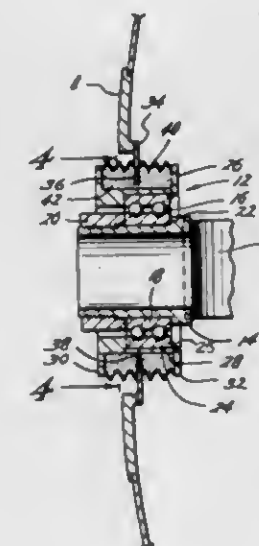
An article delivery system comprising a plurality of article receiving platforms, each adapted to receive a check means having an identifying code which, in the manual delivery mode, is displayed to an order filling side. For automatic article delivery, conveying means receive the article to be delivered together with an identifying check means. Responsive to a match between the identifying check means associated with the article and that disposed at a respective platform, the article is delivered to the particular platform. The articles are dispensed for delivery by the conveying means in accordance with an article selection code contained on the check means.

3,420,337
RAIL FASTENER
 John E. Magee, Greenburgh, N.Y.
 (191 Forest Blvd., Ardsley, N.Y. 10502)
 Filed Sept. 21, 1967, Ser. No. 669,505
 U.S. Cl. 187-95 8 Claims
 Int. Cl. B66b 7/04



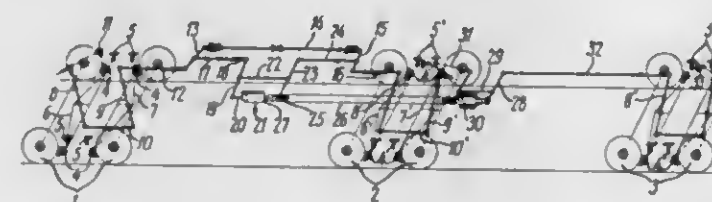
An elevator guide rail with tapered flanges is clamped under pressure between a cylindrical bearing roller moveable in the direction of the rail length and supported from the sides of an elevator shaftway and a pair of beveled, rotatable rings in engagement therewith. Rotatable spacer washers on shanks of bolts holding the rings may be used to restrict lateral movement of rail.

3,420,338
HERMETIC SEALED VIBRATION DAMPER
 James E. Webb, Administrator of the National Aeronautics and Space Administration with respect to an invention of Donald G. Wheatley, Livonia, Mich.
 Filed May 1, 1968, Ser. No. 725,719
 U.S. Cl. 188-1 7 Claims
 Int. Cl. F16d 63/00



A fluid damper for lessening axial shock and vibration between supporting gimbals of a gyroscopic device comprising an annular channel through which one gimbal is journaled for free rotation, and an annular orifice plate surrounding the channel in sliding relationship thereto to which the cooperating gimbal is attached. A flexible bellows connected between the orifice plate and the channel contains a volume of damping fluid within the channel so that any axial movement between gimbals forces the fluid to pass through the orifices in the plate and the restricted space between the plate and channel, thus providing the desired damping.

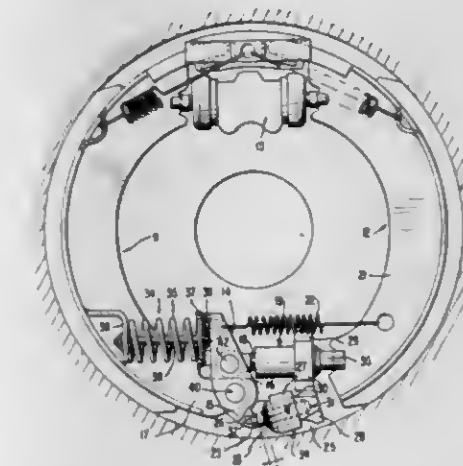
3,420,339
BRAKE RIGGING FOR A THREE-BOGIE COMPOSITE RAILWAY CAR
 Zaven Oganezovich Karakashian, ulitsa Dobroljubova 18, kv. 46; Vladimir Ivanovich Lariokhin, Malaya Naberezhnaya 15, kv. 8; and Valentin Mikhailovich Kazakov, stantsia Ozherelie Moskovskol zheleznol dorogi, ulitsa Klubnaya 3, kv. 8, all of Moscow, U.S.S.R.
 Filed June 2, 1967, Ser. No. 643,204
 U.S. Cl. 188-47 2 Claims
 Int. Cl. B61b 13/00



1. A brake rigging for a three-bogie composite railway car, preferably for a tank car, comprising: brake shoes for composite railway car bogies; an air brake cylinder; a leverage capable of transmitting the force from the rod of said air brake cylinder to said bogie brake shoes; the first horizontal lever of said leverage articulated to the rod of said brake cylinder and to the lever rod of one of said bogies; the second horizontal lever of said leverage

movably connected through a bracing member to said first horizontal lever and to the lever rod of the second bogie, said second horizontal lever being situated on the side of a rear cover of said brake cylinder; a guide bar, whose one end is articulated to said brake cylinder rear cover; a horizontal lever articulated to the other end of said guide bar and being capable of transmitting the force to brake shoes of the third bogie, which is the most removed from said brake cylinder; the second horizontal lever of said third bogie coupled through a bracing member with said first horizontal lever of said bogie; a movable lever rod articulated to said first horizontal lever of the third bogie and to said horizontal lever situated on the side of the brake cylinder rear cover.

3,420,340
SERVO DRUM BRAKE FOR COMMERCIAL-TYPE VEHICLES
 Wilhelm Hopf, Stuttgart, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
 Filed June 24, 1966, Ser. No. 560,286
 Claims priority, application Germany, June 26, 1965, D 47,605
 U.S. Cl. 188-79.5 36 Claims
 Int. Cl. F16d 51/00

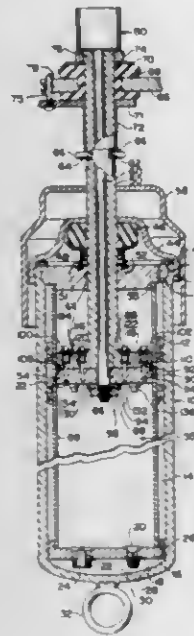


A servo drum brake arrangement, especially for commercial-type motor vehicles provided with a brake drum and a primary brake shoe and a secondary brake shoe freely supported within the brake drum, and operatively connected for the transmission of force from the primary shoe to the secondary shoe, wherein a force reduction lever is interposed between the primary brake shoe and the secondary brake shoe, which force reduction lever is bypassed at brake moments below a predetermined level by means of an elastic intermediate member.

3,420,341
VARIABLE SHOCK ABSORBER
 Jonathan N. Keehn II, 3006 Coolidge,
 Oak Brook, Ill. 60521
 Filed Oct. 16, 1967, Ser. No. 675,445
 U.S. Cl. 188-88 15 Claims
 Int. Cl. F16d 57/00

The disclosure describes a shock absorber of simple, rugged construction having variable jounce/rebound calibration ratios to accommodate both normal and severe road and driving conditions. In one embodiment the reciprocable hydraulic piston within an hydraulic cylinder is divided laterally, one piston half is rotatably mounted in relation to the other and provision is made for variation of the degree of registry of orifices, and both jounce and rebound blow-off and restriction by-pass valves through said piston halves whereby the jounce-rebound

calibrations of the shock absorber are controlled. Other embodiments are disclosed, including means to limit the



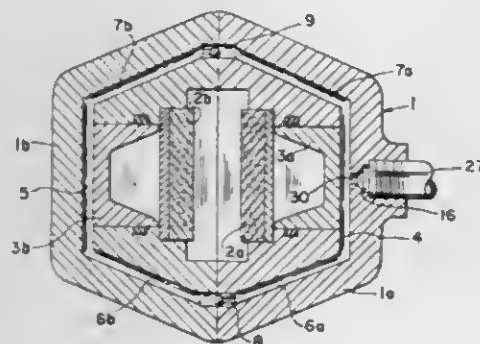
degree of registry of the piston halves and means to accomplish said relative rotation.

3,420,342 ACTUATING FLUID COOLING MEANS FOR A DISK BRAKE

John Redvers Botterill, Solihull, England, assignor to Alfred Teves Maschinen- und Armaturenfabrik KG., Frankfurt am Main, Germany, a company of Germany
Filed Mar. 10, 1967, Ser. No. 627,584
Claims priority, application Germany, Mar. 10, 1966, T 30,629

U.S. Cl. 188-264
Int. Cl. F16d 65/84

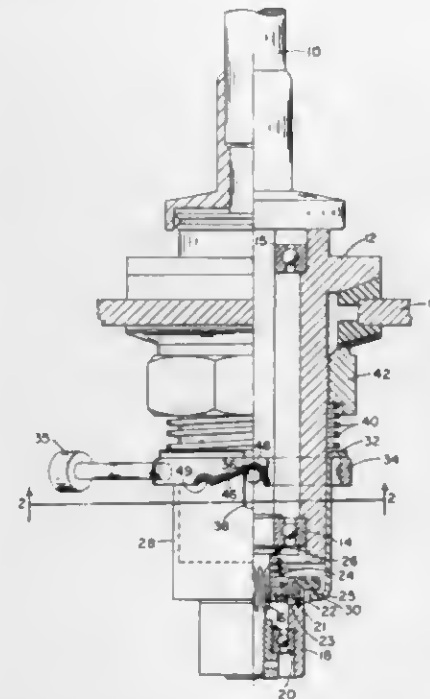
6 Claims



The invention relates to a hydraulic disk brake for automotive vehicles and the like wherein a yoke, mounted by one leg on a fixed support, straddles a rotating disk. A pair of aligned cylinders, whose pistons carry brake lining and are hydraulically movable toward and away from the intervening disk, are connected by a fluid circuit. Brake fluid is admitted in the vicinity of one cylinder near the junction of the yoke with the fixed support and passes partly into this one cylinder through a short direct passage and partly through the opposite cylinder via an internal channel system within the yoke which includes a first conduit containing a check valve for unidirectional flow toward that remote cylinder and a second conduit containing a check valve for the unidirectional return of fluid from the latter cylinder to the inlet. Such a circuit promotes the cooling of the brake fluid traveling within the yoke and prevents the formation of gas pockets due to fluid evaporation.

3,420,343
SPINDLE CLUTCH AND BRAKE MECHANISM
Erhard Edwin Stiepel, Clemson, S.C., assignor to Maremont Corporation, Chicago, Ill., a corporation of Illinois
Filed Jan. 31, 1967, Ser. No. 612,967
U.S. Cl. 192-18
Int. Cl. F16d 67/02

6 Claims



A manually controlled clutch and brake assembly for driving and stopping a spinning spindle which includes a continuously driven whirl, a rotary spindle shaft and a clutch plate mounted on the shaft to turn with and for axial movement relative to the shaft downwardly into and upwardly out of driving engagement with a driving surface on the whirl, and a manually controlled device for disengaging and braking the spindle shaft to a stop which comprises a manually rotatable actuating cam ring, a brake cup having an outwardly flanged upper end portion which overlies and is adapted to be moved upwardly by a rotational movement of the brake cam ring, and an inwardly flanged lower end portion which underlies the clutch plate, and a calibrated spring which biases the clutch plate downwardly into driving engagement with the whirl and provides a friction braking force on the clutch plate when moved upwardly from the whirl by an upward movement of the brake cup.

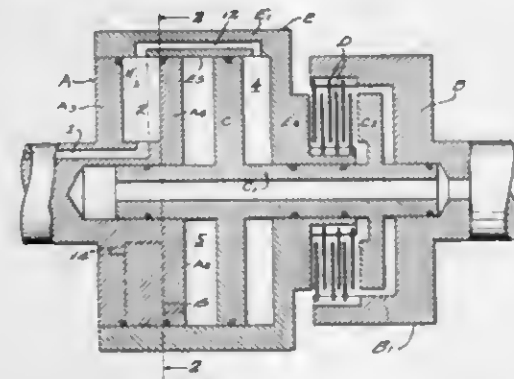
3,420,344 SELF-STABILIZING POWER TRANSMITTING DEVICE HAVING HYDRAULICALLY ACTUATED FRICTION PLATES AND TORQUE RESPONSIVE HYDRAULIC INVERSE FEEDBACK

Conrad R. Hilpert, Winnebago, and James B. Black, Roscoe, Ill., assignors to Twin Disc, Incorporated, Racine, Wis., a corporation of Wisconsin
Filed Mar. 22, 1967, Ser. No. 625,144

U.S. Cl. 192-56

Int. Cl. F16d 7/02; F16d 43/20

9 Claims



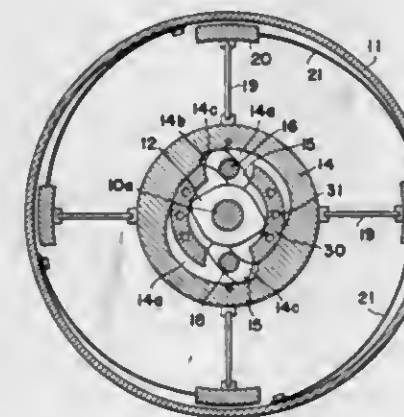
Power transmitting devices, such as clutches or brakes including disengageable friction plates, which utilize torque

responsive hydraulic means to provide inverse feedback pressure to insure a constant output torque.

3,420,345
CENTRIFUGAL TORQUE CONVERTER
Saburo Kobayashi, No. 465, 3-chome, Sekiya-Tamachi Nigata-shi, Nigata-ken, Japan
Filed Sept. 30, 1966, Ser. No. 583,325
Claims priority, application Japan, Oct. 16, 1965, 40/63,643

U.S. Cl. 192-103
Int. Cl. F16d 43/06

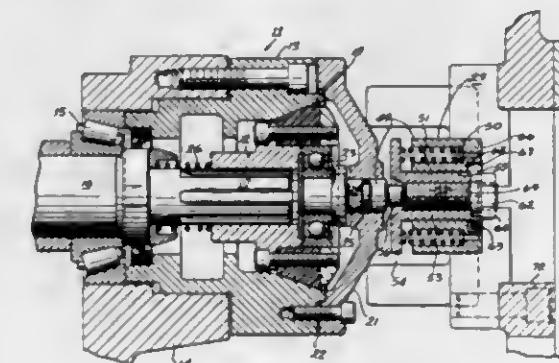
6 Claims



A centrifugal torque converter having input and output members in a direct drive and having centrifugal weight means disposed therebetween, the input torque supplied to the output member being effectively amplified by the centrifugal weight means when the speed ratio between the input member and the output member is greater than 1:1.

3,420,346
FRICTION MECHANISM ADJUSTMENT WITH WEAR INDICATOR
Arthur W. Millward, Cleveland, Ohio, assignor to The National Acme Company, a corporation of Ohio
Filed Dec. 27, 1966, Ser. No. 604,917
U.S. Cl. 192-111
Int. Cl. F16d 13/60

15 Claims



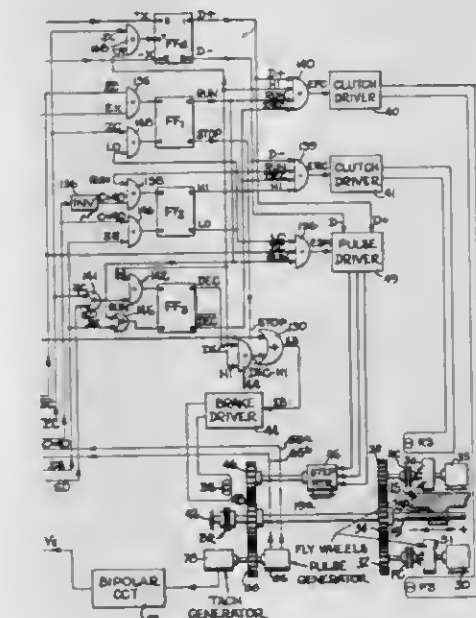
The invention relates in general to adjustment of friction mechanisms such as a brake or clutch and more particularly to the easy and precise adjustment of such a friction mechanism to compensate for wear.

The invention is shown as applied to a cone brake moved by a lever as an actuator and through linkage means. The brake may be cycled on and off thousands of times per hour as in a machine tool for example and wear inevitably results. The brake is spring applied and cam released with the spring a part of the linkage means. As wear occurs this lessens the spring force and lessens the torque absorbed by the brake. Accordingly, two gauging surfaces are incorporated in the linkage means in series with the spring and as wear occurs these two gauging surfaces or indicia become misaligned. First and second threaded parts are also included in the linkage means to

be readily adjusted to permit the gauging surfaces to be easily returned to alignment to restore the brake to its desired amount of torque absorption.

3,420,347
SYSTEM FOR RAPID AND PRECISE POSITIONING
Robert C. Bales, Rockton, Ill., assignor to Warner Electric Brake & Clutch Company, South Beloit, Ill., a corporation of Delaware
Filed Sept. 20, 1966, Ser. No. 580,730
U.S. Cl. 192-142
Int. Cl. F16d 71/00; F16p 3/00

18 Claims



The numerically controlled positioning system here disclosed utilizes a selectively engaged electric clutch to transmit driving power from a continuously running motor to traverse the movable part, and a selectively engaged brake to stop the part when the clutch is released. The system includes apparatus to signal continuously the error or difference between (a) a commanded displacement represented by a block of input data signals and (b) the executed displacement through which the controlled part has moved. When input signals are received, the electric brake and the electric clutch are respectively released and engaged, so that the latter drives the part at high speed from the continuously running motor. The velocity of the controlled part is signaled by means such as a tachometer, and this velocity signal is converted by a function generator into a signal $f(V_s)$ which is a monotonic function of the actual velocity, such function being shaped to represent the distance through which the part will travel before stopping if the brake is engaged at an instant when the part is traveling at the signaled velocity. The stopping distance represented by $f(V_s)$ is compared to the signaled displacement error and when the latter becomes substantially equal to the former, the clutch is released and the brake is engaged. This will bring the part to a stop very close to the commanded displacement. But if the error is not then zero, a slow speed stepping motor is pulsed until the signaled error is reduced exactly to zero. In this way, the part travels at near maximum average velocity from one position to the next because the slow speed stepping is required only for a very short portion of the total travel. Cycle time to translate the controlled part from one commanded position to the next is thus made nearly a minimum (for the parameters imposed by the characteristics of the motor, clutch, brake, inertia and friction of the drive train) and the efficiency of machine operation is made to approach a maximum.

The apparatus includes means for causing drive of the controlled part to reverse if it travels beyond the com-

manded displacement before stopping by action of the brake. If the part is initially stopped by the brake when the error is not reduced below a predetermined small value, then the clutch is called into play a second time and the brake used to stop the part again, before the stepping motor is actuated to move the part precisely to the commanded displacement.

3,420,348

STORAGE RACK RAIL MEMBER

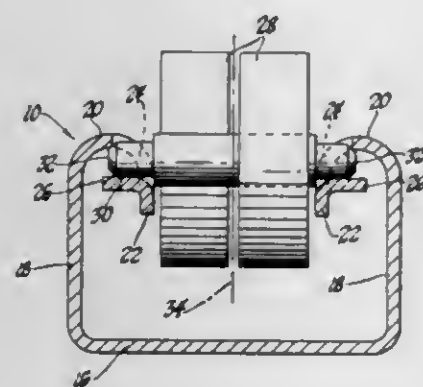
Leroy Caudell, deceased, late of Farmington, Mich., by Leona Caudell, administratrix, Farmington, Mich., and Lawrence G. Peck, Livonia, Mich., assignors, by mesne assignments, to Storage Systems, Inc., Detroit, Mich., a corporation of Michigan

Filed Feb. 13, 1967, Ser. No. 616,443

U.S. Cl. 193—35

Int. Cl. B65g 13/00

5 Claims



1. An article supporting member having a U-shaped cross section which includes a lower base portion and a pair of upstanding parallel legs extending substantially normal thereto, the extremities of said legs being formed into return portions extending inwardly toward each other and downwardly toward the base portion to provide spaced flanges disposed between said legs; a plurality of pairs of holes exceeding the transverse spacing between the lower portions thereof; a plurality of roller elements each including an axle having an end-to-end dimension slightly in excess of the transverse spacing between the upper portions of a pair of holes whereby a roller element may be pressed into engagement with a pair of holes and retained therein by an overlapping relation between the upper portions of said pair of holes and the ends of the roller element axle.

3,420,349

PRINTING MECHANISM WITH MAGNETIC SELECTION MEANS

Karl Kupfmüller, Darmstadt, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed July 28, 1967, Ser. No. 656,733

Claims priority, application Germany, July 30, 1966, K 59,922

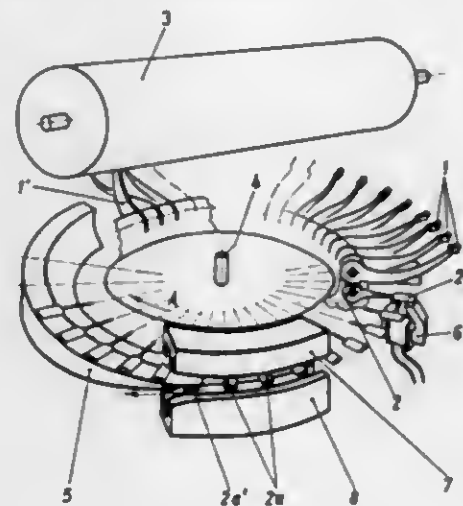
U.S. Cl. 197—14

Int. Cl. B41j 23/38

6 Claims

1. Printing mechanism comprising:
a platen located in a horizontal printing plane;
a plurality of annularly arranged type-levers which, in a normal position, are directed radially towards the outside, said type-levers constitute a plate-shaped type-lever magazine rotating below said platen and around a vertical axis;

a plurality of transfer levers, each lever being in a form-locking connection with one of said type-levers at the end normally closest said axis of rotation;
a plurality of extension pieces, each piece being magnetizable and located on the free end of one of said transfer levers;
a circular cam-shaped track having an upper and lower edge, said extension pieces positioned to move, in a normal condition on a circular track extending above the upper edge of said cam;



electro-magnet selection means for magnetically polarizing said extension pieces; and
magnetic deflection means in the path of said extension pieces for deflecting, in response to the magnetic polarization, said extension pieces from a normal track rotation into rotational engagement with the lower edge of said cam,
whereby the lower edge of said cam-shaped track effects the lifting of a selected type-lever to effect the printing by striking the platen.

3,420,350

TYPE HEAD DRIVING MEANS EMPLOYING FLEXIBLE BELT

Herbert Decker, Nuremberg, Germany, assignor to Grundig Elektro-Mechanische Versuchsanstalt, Furth, Bavaria, Germany

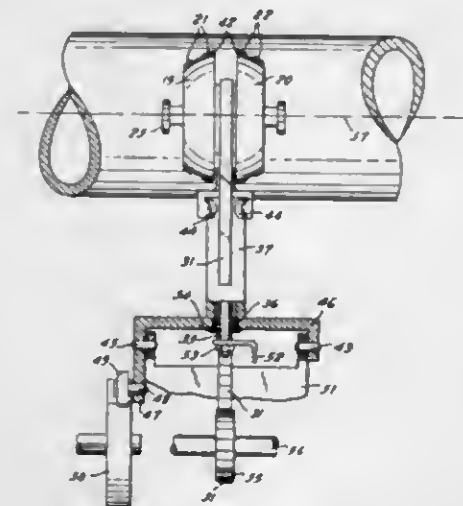
Filed Aug. 30, 1967, Ser. No. 664,557

Claims priority, application Germany, Sept. 3, 1966, G 47,817

U.S. Cl. 197—16

Int. Cl. B41j 1/32

20 Claims



The type head of a business machine is mounted for angular movement about first and second axis intersecting at right angles, and is rotated about the first axis by pulley and belt means so that angular displacement of the

type head about the second axis, and a printing movement about a third axis can be carried out while the belt means is slightly flexed whereby no universal joints are required.

3,420,351

ARRANGEMENT FOR SEPARATING A TYPEWRITER FROM A CONTROL DEVICE

Gunther Gottschalk and Dieter H. N. Krause, Frankfurt am Main-Rodelheim, Germany, assignors to Elchner Organisation GmbH, Neuenhain über Bad Soden, Taunus, Germany

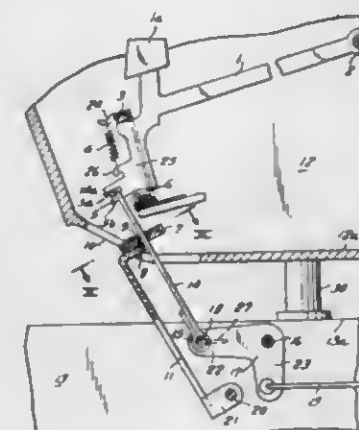
Filed Aug. 24, 1967, Ser. No. 662,982

Claims priority, application Germany, Aug. 25, 1966, E 32,360/66

U.S. Cl. 197—19

Int. Cl. B41j 5/30

11 Claims



A special typewriter is detachably attached to a control device and has key levers connected by control elements with actuating means of the control device. When separation of the typewriter from the control device is desired, all control elements are simultaneously operated to release the key levers, and when the typewriter is to be connected with the control device, all control elements are simultaneously attached to the key levers after the two devices have been secured to each other.

3,420,352

DOCUMENT PRINTER HAVING RIGIDIFIED FRAME CARRYING ADJUSTABLY-POSITIONED, DOCUMENT-ADVANCING TRACTORS

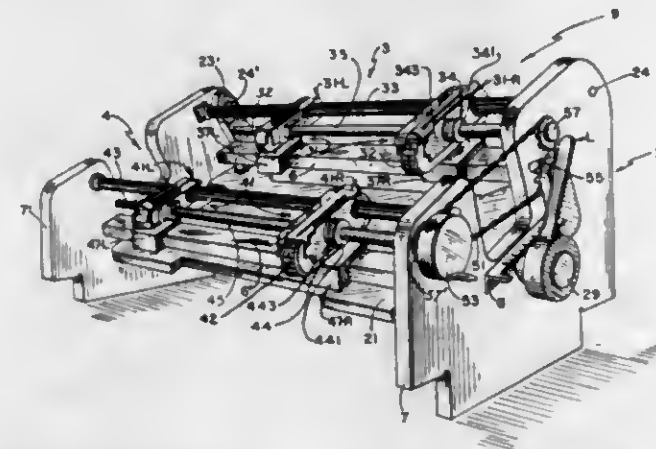
Robert J. Moran, Littleton, and Harold M. Shneider, Weston, Mass., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Oct. 21, 1965, Ser. No. 499,277

U.S. Cl. 197—133

Int. Cl. B41j 15/22

3 Claims



A printer mounting arrangement for a high speed printer which, in one embodiment, includes a tractor mounting for each tractor pair, this mounting comprising a square

support beam, a rotatable lead screw and a tractor block, mounting each tractor on this beam, slideably, to be transversely coupled to this screw through a releasable spring-nut; this arrangement also including a "swing plate" carrying the hammer block to be pivotally positioned relative the print-plane, the hammer block being laterally adjustable and "level-adjustable" on this plate.

3,420,353

CONTAINER TRANSFER APPARATUS

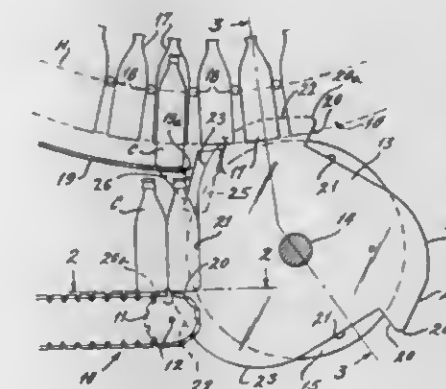
Momir Babunovic, Ballwin, Mo., assignor to Barry-Weh-miller Company, St. Louis, Mo., a corporation of Missouri

Filed Jan. 16, 1967, Ser. No. 609,420

U.S. Cl. 198—22

Int. Cl. B65g 47/00

3 Claims



Apparatus for transferring containers in substantial normal upright position between a lower conveyor and an upper conveyor in which rotary transfer means is employed for lifting the containers into successive pockets of the upper conveyor and for stabilizing the lateral position of the containers during the lifting movement so that containers may be moved rapidly into the pockets of the upper conveyor without the risk of toppling.

3,420,354

CONTAINER ORIENTING APPARATUS

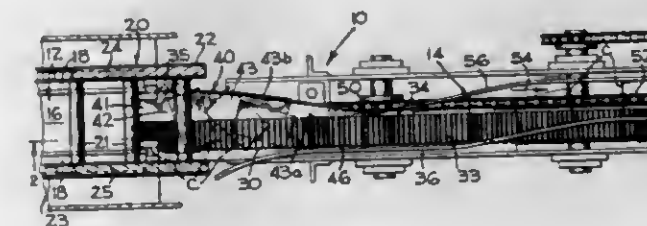
Ralph G. Gardiner, Los Gatos, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware

Filed Jan. 5, 1967, Ser. No. 607,453

U.S. Cl. 198—33

Int. Cl. B65g 47/24

1 Claim

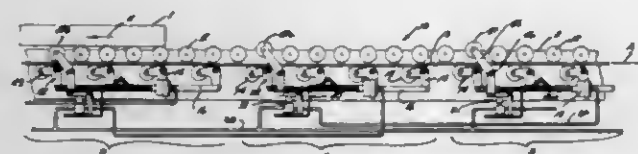


A chain advances cans one at a time with the longitudinal axis of each can disposed transversely to its direction of movement. Each can is discharged from the chain feeder in a broadside manner so that the chime at one end of the can rolls onto a dead plate while the chime at the other end rolls onto a rapidly moving rubber belt which grips this chime and pulls that end of the container forwardly while the other end is retarded by the dead plate. The dead plate has a twisted configuration adapted to guide the trailing end of the container into position behind the accelerated leading end and thus complete the re-orientation of the can.

3,420,355 ACCUMULATOR CONVEYOR WITH PNEUMATIC DELAY

Maynard J. De Good and Clyde L. Bowman, Grand Rapids, Mich., assignors to Rapistan Incorporated, a corporation of Michigan

Filed Oct. 20, 1966, Ser. No. 588,071
U.S. Cl. 198—127
Int. Cl. B65g 13/02

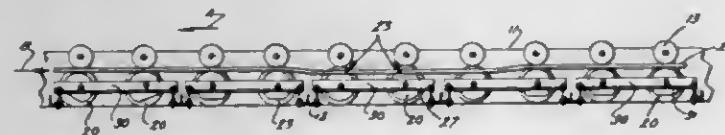


This invention discloses an accumulator conveyor of the type having a powered propelling member passing through a plurality of independent operating zones arranged in tandem along the conveyor. In each zone, the propelling member is held in article propelling position by a pneumatically powered mechanism. Each zone has a sensor which, when activated by an article, shuts off the supply of air under pressure to the mechanism in the zone immediately up stream of the article activating the sensor. A bleed port is provided between the air supply shutoff and the mechanism which delays the reaction of the mechanism to shut off the air supply a time interval sufficient to allow one article to pass over and release the sensor.

3,420,356 LOW PRESSURE ACCUMULATOR

Maynard J. De Good, Grand Rapids, Mich., assignor to Rapistan Incorporated, Grand Rapids, Mich., a corporation of Michigan

Filed July 12, 1967, Ser. No. 652,944
U.S. Cl. 198—127
Int. Cl. B65g 13/02



This is an accumulator conveyor of the type in which the application and release of the propelling force is effected through changes in the vertical position of the propelling member effected by supporting it on rollers having a flattened portion. The particular feature of this invention is the provision of a driving connection between the transport roller and the supporting roller whereby the resistance of a stationary article on the transport roller acts as a brake to hold the supporting roller stationary with the propelling member disengaged from the transport roller.

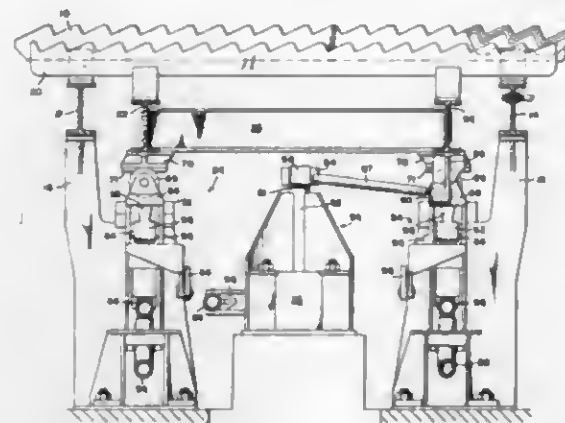
3,420,357 COOLING BED

Karl A. Eck, Reading, Pa., assignor to Des-Eng-Con Corporation, Reading, Pa.

Filed Feb. 2, 1967, Ser. No. 613,537
U.S. Cl. 198—219
Int. Cl. B65g 25/04

A cooling bed carryover bar section provided with a transfer assembly for imparting elliptical or circular periodic motion to notched transfer bar members. The transfer bar members are mounted on rollers journaled to vertical actuating members of the transfer assembly

for raising and lowering. Longitudinal actuating members are connected to the transfer bar members to move the



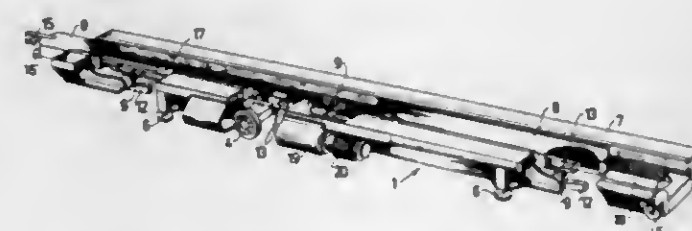
latter back and forth on the rollers simultaneously with vertical movement of the transfer bar members.

3,420,358 RECIPROCATING TYPE CONVEYOR

Per Gunnar Iversen, Drobak, Norway, assignor to Aktiebolaget Nordstroms Linbanor Corporation, Stockholm, Sweden, a Swedish corporation

Filed Feb. 14, 1967, Ser. No. 616,043
Claims priority, application Sweden, Feb. 15, 1966, 1,952/66

U.S. Cl. 198—219
Int. Cl. B65g 25/04



A movable conveyor comprised of a plurality of releasably connected carriages, each supported by wheel assemblies and including a pair of transversely spaced, longitudinally extending frame members defining carrier surfaces, said conveyor further including a plurality of releasably connected shuttles each defining a goods carrying surface and being positioned between the transversely spaced frame members of said carriage, said shuttles being vertically and longitudinally displaceable in a reciprocal manner such that goods carried on the carrier surface of the spaced frame members can be elevated periodically by the shuttles and carried longitudinally of the conveyor in an elevated position, said shuttles then being lowered to return said goods to the carrier surface of said frame members and said shuttles being returned in such a lowered position longitudinally of the conveyor to its starting point and thence repeatedly in this manner to thereby move the goods from one end of the conveyor to the other.

3,420,359 COIN HOLDER

Hugh M. Cochrane, 23 Taber Road, Rexdale, Ontario, Canada

Filed Sept. 27, 1967, Ser. No. 671,009
Claims priority, application Canada, Oct. 3, 1966, 971,944

U.S. Cl. 206—82
Int. Cl. A45c 11/00

A holder for coins which is made by moulding or forming from a resilient plastic material a receptacle in the shape of a major longitudinal segment of a cylinder. The

coins are retained in the holder in a stack by the converging side walls of the receptacle and are removed from or

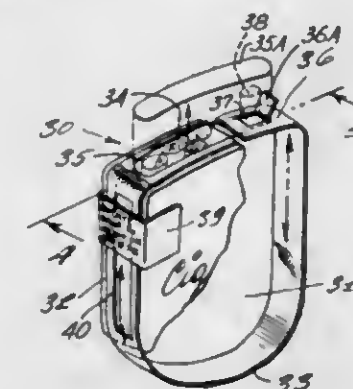


placed in the receptacle by spreading the converging side walls thereby providing a snap closure action.

3,420,360 SPLIT PACK OF CIGARETTES

Willie C. Young, 195 Glenwood Ave., Buffalo, N.Y. 14208

Filed June 30, 1967, Ser. No. 650,399
U.S. Cl. 206—41.2
Int. Cl. A24f 15/14

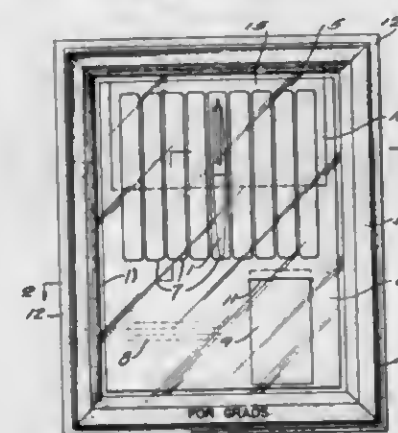


A cigarette pack formed having only one layer of cigarettes, comprising ten in number instead of the usual twenty, so as to fit more conveniently within a person's pocket due to forming a thinner package.

3,420,361 DISPLAY DEVICE

Billy R. Newberg, W155 N11666 Sunny View Ave., Germantown, Wis. 53022

Filed May 12, 1967, Ser. No. 638,057
U.S. Cl. 206—44.12
Int. Cl. B65d 75/58; B65d 73/00



A display device includes a flat semi-rigid back wall to which a plastic front wall is attached. The front wall includes a raised peripheral framing portion which is colored and an inner transparent viewing portion. The viewing portion is offset outwardly from the back wall a slight amount but substantially less than the total depth of the outer picture framing portion. The framing is so formed that it has a generally flat outer peripheral sealing edge and a generally flat inner peripheral sealing edge

immediately surrounding the inner edge of the the framing portion. The back wall is covered with a plastic adhesive. The front wall is applied in proper alignment to the back wall and connected by applying pressure and heat along the sealing edges. For article display, the back wall and the front wall are so formed as to define pockets or receptacles accommodating articles for display. The back wall is preferably formed with a flap type opening through which admittance is provided to the space between the back wall and the transparent outer wall or cover.

3,420,362

DISPLAY CARTON FOR TUBES OR BOTTLES
Alfred B. Kleingers, Jr., Middletown, Ohio, assignor to The Interstate Folding Box Company, Middletown, Ohio, a corporation of Ohio

Filed Aug. 31, 1967, Ser. No. 664,853
U.S. Cl. 206—45.14
Int. Cl. B65d 5/50; A47j 45/16; F16m 11/38



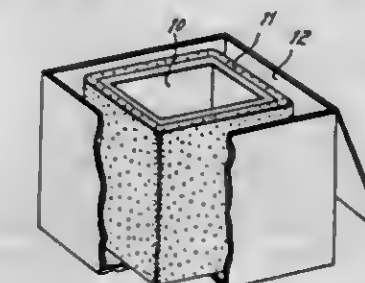
A one-piece knock-down carton structure of triangular cross-section for displaying tubes or bottles, the structure having a pair of angularly related outer body wall panels to which a pair of inner body wall panels are hingedly connected, the inner body wall panels preferably being narrower than the outer body wall panels and inclined inwardly at their opposite edges so that, when folded inwardly to overlie the outer body wall panels, there is a gap at each end of the inner wall panels which serve to engage flaps on triangular end wall panels which are articulated to the ends of the outer body walls, the end wall flaps being configured to receive the opposite ends of a tube or bottle to be displayed.

3,420,363

FOAMS DEMONSTRATING THERMAL MEMORY AND PRODUCTS MADE THEREFROM

Philip S. Blickensderfer, Hamilton, Ohio, assignor to U.S. Plywood-Champlon Papers Inc., a corporation of New York

Filed Apr. 13, 1966, Ser. No. 542,319
U.S. Cl. 206—46
Int. Cl. B65d 79/00; B29d 23/00; C08g 53/08



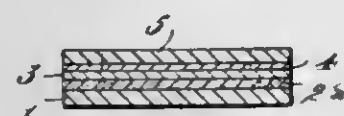
A foam selected from the group consisting of (a) the reaction product of a liquid butadiene polymer, sulfur monochloride and an activator, and (b) the reaction prod-

uct of an unsaturated alkyd, a liquid butadiene polymer and sulfur monochloride is reversibly densified by heating to an elevated temperature, applying a compacting force to reduce the volume, and cooling in the densified condition, said densified foam being subsequently heated to an elevated temperature and caused to reexpand. The composition is used to line containers for packaging fragile materials.

3,420,364

STRIP OF TAGS

Robert M. Kennedy, Jr., Ashland, Mass., assignor to Dennison Manufacturing Company, Framingham, Mass., a corporation of Nevada
Filed Sept. 14, 1967, Ser. No. 667,788
U.S. Cl. 206—56
Int. Cl. B65d 75/26



A strip of paper or the like carrying a series of tags which do not cover the entire strip, a layer of release material between the tags and strip so that the tags may be peeled off the strip, the areas of the strip not covered by the tags being non-tacky and both sides of the tags being non-tacky when peeled off.

3,420,365

METHOD OF PACKING PILE FABRIC AND PACKAGE RESULTING THEREFROM

Peter R. Bailey, 953 Orpha St., Burlington, Ontario, Canada
Filed Mar. 13, 1967, Ser. No. 622,809
Claims priority, application Canada, Mar. 21, 1966, 955,426
U.S. Cl. 206—59
Int. Cl. B65h 55/00; B65b 11/00



A process for packaging pile fabric wherein the fabric is laid, pile side up, on one side a flexible support to which an adhesive is applied. Spacers of greater thickness than the pile fabric are secured to the support on either side of the pile fabric, and the support is then rolled upon itself, with the spacers and pile directly inwardly of the roll, to produce a rolled package in which the pile is spaced from the other side of the support.

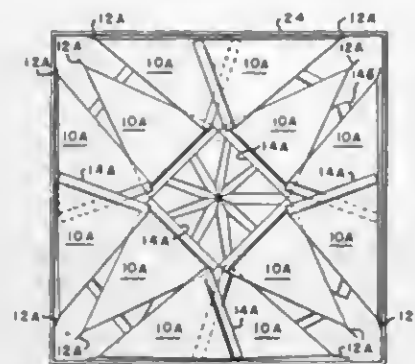
3,420,366

TETRAHEDRAL PACKAGES IN A CONTAINER

Robert P. Doyle, Brentwood, Calif., assignor to Clemson Industries, Inc., White Stone, S.C., a corporation of Delaware
Filed Nov. 28, 1966, Ser. No. 597,419
U.S. Cl. 206—65
Int. Cl. B65d 85/54

A rectangular container having at least two layers of tetrahedron shaped packages packed compactly therein.

One of the layers has the tetrahedrons fan packed in the corners of the container while the other layer is

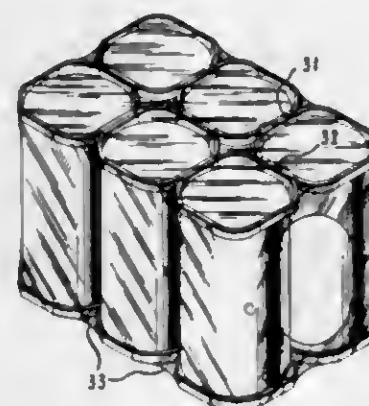


composed of tetrahedrons so positioned that one edge of each tetrahedron comes together centrally of the container.

3,420,367

MULTIPLE CONTAINER PACKAGE

Keith S. Carmichael, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed May 25, 1967, Ser. No. 641,358
U.S. Cl. 206—65
Int. Cl. B65d 71/00

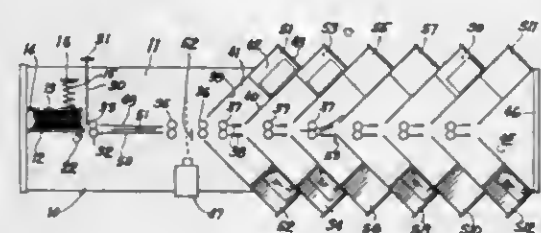


A stable package of a plurality of cans wrapped in a tightly fitting thermoplastic film wherein the stability is achieved by plane contact between flat surfaces on the chimes of adjacent cans.

3,420,368

MAIL SORTING MACHINE

Harold J. Rosenberg, John R. Sorrells, and Joseph E. Trent, Washington, D.C., assignors to B. H. Bunn Company, Chicago, Ill., a corporation of Illinois
Filed Sept. 14, 1966, Ser. No. 579,238
U.S. Cl. 209—73
Int. Cl. B07c 3/10

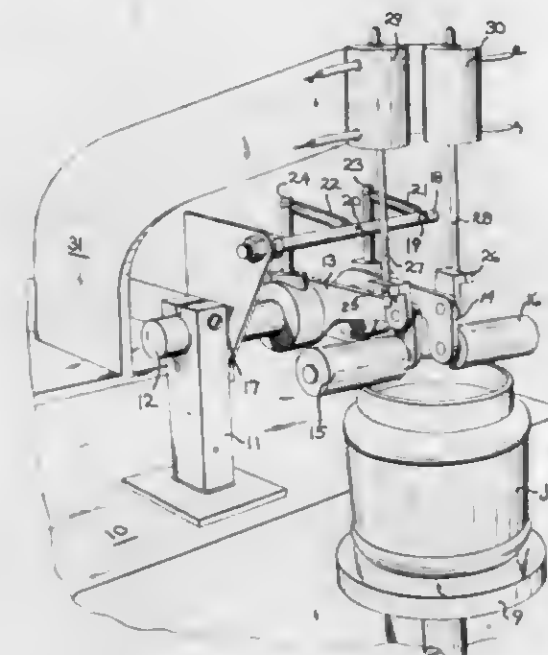


A coded envelope sorting device which comprises a reading head having a reference surface on which the envelopes are supported while they are being read, and a pick-off station ahead of the reading head, wherein means are provided for picking off an envelope from a stack,

and imparting free flight to the envelope so that it lands on its edge on the reference surface and is thereby correctly presented to the reading head.

3,420,369
BOTTLE GAUGING

Thomas B. Sorble, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed Nov. 22, 1966, Ser. No. 596,109
U.S. Cl. 209—80
Int. Cl. B07c 5/08



Apparatus for gauging the upper rim surface of glass containers for a symmetrical defect known as "warp." A container, positioned at a predetermined location, is rotated about its vertical axis. A pair of differential transformers are connected in series adding relationship, having their armatures in contacting relationship with diametrically opposed points on the container rim and provide a signal output proportioned to the mean height of the container. A reject is provided when the signal exceeds a predetermined amount.

3,420,370

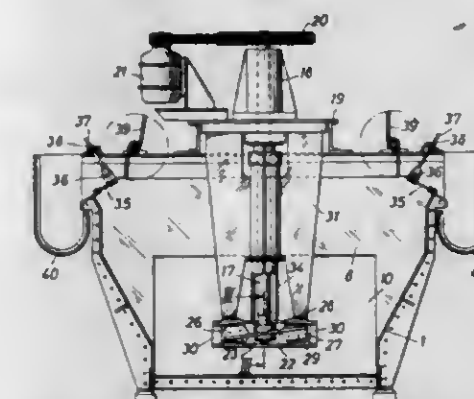
FROTH-FLotation CELL

Friedel Isenhardt, Forbach, and Franz Schlegel, Cologne-Sulz, Germany, assignors to Klückner-Humboldt-Deutz Aktiengesellschaft, Cologne-Deutz, Germany, a corporation of Germany
Continuation-in-part of application Ser. No. 232,179, Oct. 22, 1962. This application Feb. 11, 1964, Ser. No. 344,137
Claims priority, application Germany, Feb. 21, 1963, K 49,013

U.S. Cl. 209—169
Int. Cl. B03d 1/02; B01d 47/16

1. A froth-flotation cell comprising a vessel for liquid medium, a tubular air suction duct extending downward into said vessel, said air duct having an open lower end whose outlet opening is located in the bottom portion of said vessel, a drive shaft coaxially traversing said air duct and protruding downwardly out of said outlet opening, a horizontal plate structure mounted in said vessel in fixed relationship to said duct near said outlet opening, said horizontal plate structure being formed with a hole defined by an inner marginal edge of said horizontal plate structure, said hole being of greater diameter than the diameter of said outlet opening, and said inner marginal edge substantially coaxially surrounding said outlet opening so that said inner marginal edge and said open lower

end of said air duct define therebetween an annular liquid-intake opening, a stirrer disc member mounted on said shaft below said plate structure and having peripherally distributed stirrer vanes on the top side as well as on the bottom side of the disc, the interior of said vessel communicating from below with said bottom side and communicating from above through said annular liquid-intake opening with said top side, whereby rotation of said stirrer

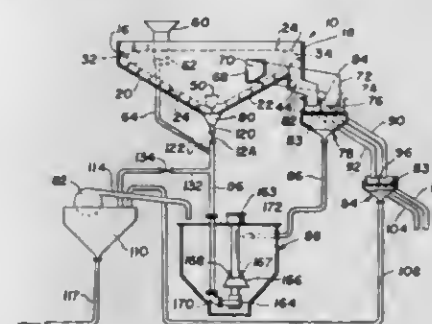


member causes liquid to flow downwardly along and around the outside of said open duct end, a second horizontal plate structure fixedly mounted below said stirrer disc and having a central opening through which the interior of said vessel communicates with said bottom side of said stirrer, and baffle structures peripherally arranged about said stirrer member and rigidly joining said two plate structures to each other.

3,420,371

HEAVY MEDIUM SEPARATOR

Wilferd L. Roller, 3854 Baytree St., Pittsburgh, Pa. 15214
Filed Apr. 26, 1965, Ser. No. 450,942
U.S. Cl. 209—172.5
Int. Cl. B03d 1/14



Heavy medium type separator has feed and medium inlets adjacent one end of separator, float and sink product outlets adjacent opposite end of separator. The floats outlet is connected to an overflow weir which establishes the level of the pool of medium. The feed inlet discharges particles at a level just above the level of the medium. The flow of all materials are in generally the same direction.

3,420,372

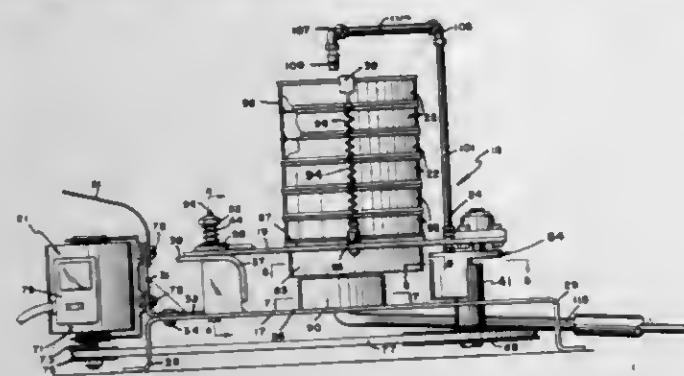
SAMPLE WASHER

Roy L. Wash, 1322 Eastmoor Drive, McPherson, Kans. 67460, and Everett E. Davidson, Box 114, Belpre, Kans. 67519
Filed Apr. 4, 1966, Ser. No. 539,850
U.S. Cl. 209—269
Int. Cl. B07b 1/28

An apparatus for cleansing soil samples having a plurality of stacked sieve members releasably connected to a platform means which is movable by motor means in an oscillatory pattern relative to a main support frame means. Additionally, this invention is a washer apparatus

having a fluid flow source operable to dispense fluid into a top one of the stacked sieve members for cleansing

having reached a predetermined value by detecting ultrasonic waves emanated upon contact of a detecting lever



materials contained therein through oscillatory movement thereof.

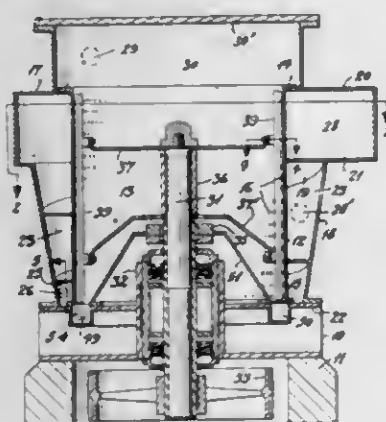
3,420,373 PULP SCREENS

Allen Bruce Hunter, 401 Quebec St.,
Sherbrooke, Quebec, Canada

Filed Apr. 1, 1966, Ser. No. 539,480

U.S. Cl. 209-273
Int. Cl. B07b 1/18

1 Claim



A pulp screen embodying an outer inversely frusto-conical jacket and an inner vertically cylindrical screen spaced therefrom and surrounded thereby, to provide a spiral jacket of downwardly diminishing cross-section due to the provision within the space between jacket and screen of a spiral floor, the velocity of pulp-flow between the upper end source and the lower end sink remaining substantially constant, and, in combination with the foregoing (a) vanes arranged to rotate adjacent the inner screen surface for momentarily and periodically interrupting the flow of a fraction of the pulp suspension which is in the immediate vicinity of the inner and outer screen-sides, to prevent blinding and stapling of the screen on the outer flow-side, and (b) a frusto-conical base plate within said screen at the base thereof, providing an oversize accepts channel surrounding the inside perimeter of said screen and communicating with an oversize accepts discharge aperture.

3,420,374

METHOD AND DEVICE FOR CONTROLLING FEED IN A CENTRIFUGAL SEPARATOR

Hideo Umeda, Kanagawa-ken, Japan, assignor to
Ajinomoto Co., Inc., Tokyo, Japan

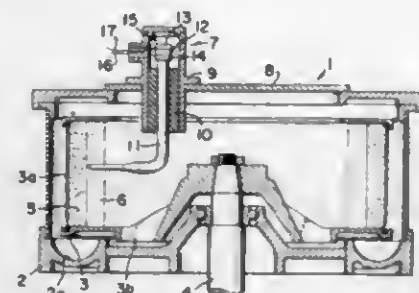
Filed Apr. 11, 1967, Ser. No. 630,044

Claims priority, application Japan, Apr. 13, 1966,
41/23,453

U.S. Cl. 210-78
Int. Cl. B04b 11/02

12 Claims

A detecting device for a centrifugal separator capable of detecting the thickness of a cake in a basket after



with the cake when the cake has grown up to a predetermined thickness.

3,420,375

FILTER WITH AUTOMATIC BYPASS SHUTOFF

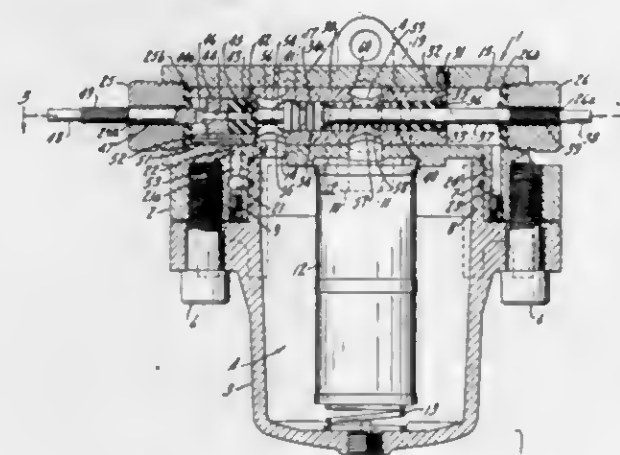
Walter J. Kudlaty, Elmhurst, and Peter Heinrich, Jr.,
Chicago, Ill., assignors to Marvel Engineering Com-
pany, Chicago, Ill., a corporation of Illinois

Filed Mar. 21, 1966, Ser. No. 538,152

U.S. Cl. 210-90

13 Claims

Int. Cl. B01d 27/10; B01d 35/14



1. A filter assembly including a housing, a filter chamber removably secured to said housing, a housing inlet for fluid pressure, a chamber inlet for fluid pressure, a housing outlet for fluid pressure, a chamber outlet for fluid pressure, a filter element within the chamber intermediate the inlet and outlet, a spool valve slidable in said housing, passage means positioned in said spool valve to communicate said housing inlet with said chamber inlet and said housing outlet with said chamber outlet when said spool valve is in one position and to communicate said housing inlet and said housing outlet when said spool valve is in another position, said spool valve having portions closing said chamber inlet and outlet when in said other position.

3,420,376

FILTER APPARATUS FOR SWIMMING POOL WATER

George L. Smith, Frontenac, Mo.
(755 S. Lindbergh Blvd., St. Louis, Mo. 63131)

Filed Feb. 7, 1966, Ser. No. 525,576

U.S. Cl. 210-95

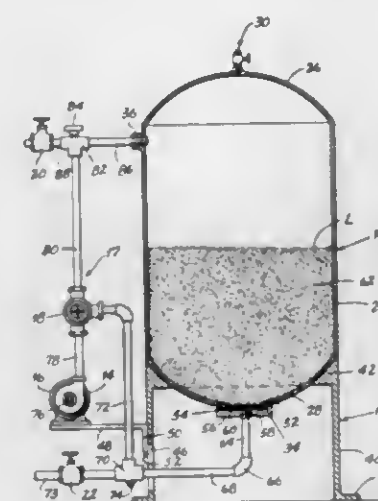
1 Claim

Int. Cl. E04h 3/20; B01d 41/00

An improved compact apparatus for filtering swimming pool water. Designed for installation adjacent to the pool, the apparatus includes: a cylindrical tank devoid inside the tank of any elements except the filtering media; means outside the tank for supporting the filtering media from below; a motor driven pump incorporated in a valve-controllable reverse-cycle piping arrangement; and appropriate means for supporting said tank in vertical position above ground level, and the therewith associated

pump and piping arrangement in operative disposition relatively thereto. The piping arrangement preferably includes means adapted to visibly indicate when a back-

other debris and to be opened to clean out the gutter. Each device comprised a gutter attachment member hinged to



wash cycle may be terminated and followed by filtering cycle. Preferably, the filtering media is comprised of a mixture of anthracite and graded sand.

3,420,377

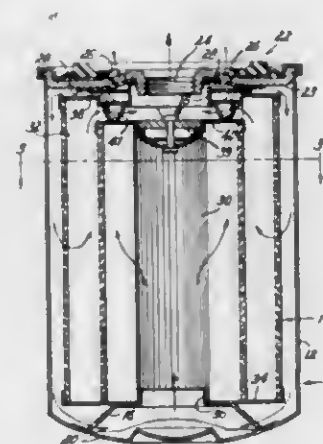
DUAL, PLEATED ELEMENT FILTER ASSEMBLY

Henry Annis Vandersip, Cranston, R.I., assignor, by
mesne assignments, to Fram Corporation, East Provi-
dence, R.I., a corporation of Delaware

Filed July 1, 1966, Ser. No. 562,333

U.S. Cl. 210-315
Int. Cl. B01d 27/06

12 Claims



A fluid filter having two elements of pleated material with opposing filter flow directions. One element surrounds the other, substantial portions of the peripheries of the two elements are in direct physical contact, and a common collection volume is provided adjacent the peripheries.

3,420,378

GUTTER GUARD HAVING REMOVABLE HINGES

Estle L. Turner, 5971 Hildebrand Drive NE.,
Atlanta, Ga. 30328

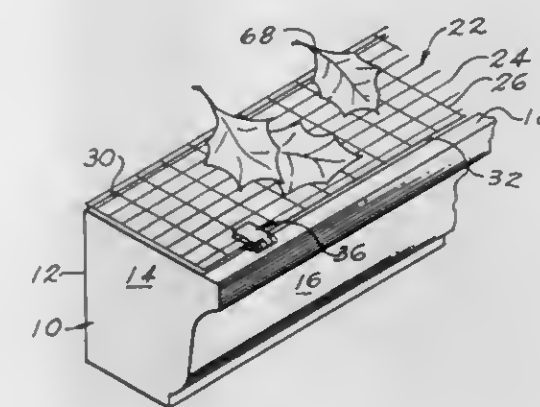
Filed Oct. 5, 1966, Ser. No. 584,521

U.S. Cl. 210-474

9 Claims

Int. Cl. E04d 13/06

A gutter guard having hinges attachable to the gutter comprising a gutter screen construction of aluminum wire or other material which is removably attached or detached from the outer lip or edge of a gutter device by means of hinged attachment members and an open gutter attachment member along the length thereof to protect the inside of the gutter from falling leaves, pine straw and



the guard attachment member both of which are initially open for quick attachment.

3,420,379

LOAD CARRYING DEVICE

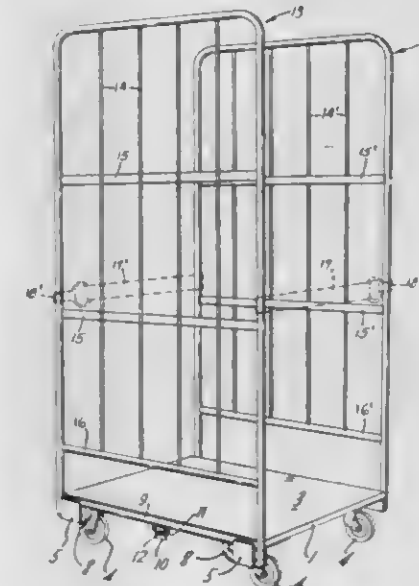
Ronald Arthur Berryman, Cheshunt, England, assignor
to Horville Engineering Company Limited, London,
England

Filed July 8, 1966, Ser. No. 563,897

U.S. Cl. 211-1

Int. Cl. B65b 3/02; B62d 25/02

14 Claims



The specification describes hand-propelled containers for holding unit loads of goods during movement to and from road transport vehicles and during transit of the goods in such vehicles. The containers have load-retaining walls which are easily detachable for convenient storage, and which couple to the load-supporting base of the container in such manner as not to encroach upon its load-supporting area.

3,420,380

FILING DEVICE HAVING POCKETS FORMED BY STEPPED SLIPS

Paul N. Jochim, 17 Rue du Neufeld, 67 Strashourg-
Neudorf, Bas-Rhin, France

Filed Sept. 9, 1966, Ser. No. 578,260

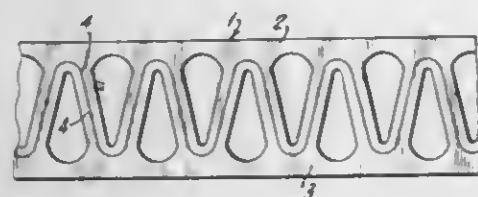
Claims priority, application France, Sept. 17, 1965,
31,708

U.S. Cl. 211-10
Int. Cl. B42f 17/04

5 Claims

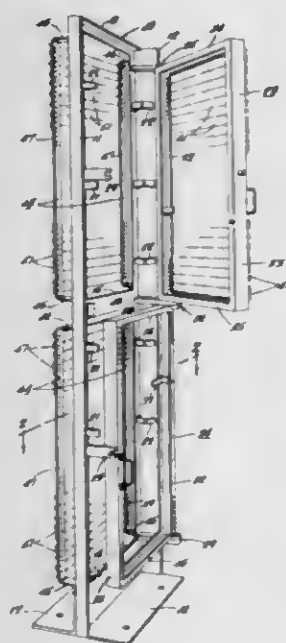
In a file or classifier of the type composed of stepped superposed slips having their lower edges secured to a

panel, to provide a multiple-pocket file for the storing of cards, sheets or the like objects, the slips are provided with spaced oblong vertical apertures being aligned in the assembled position of the slips, the spacing distances between both the upper and lower short edges of said apertures from the adjoining upper and lower edges of the slips being less than the "pitch" distance between adjacent



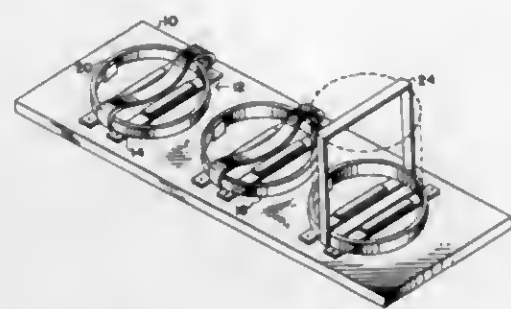
edges of the stepped slips, whereby to provide rows of freely accessible fractional areas of and adjoining the lower edges of the slips in direct contact with said panel. A main advantage of such a file is the possibility of securing all the slips to said panel, preferably by spot welding, in a single operation and by means of a multiple welding tool.

3,420,381
APPARATUS FOR ELECTRICAL COMPONENTS
William S. Bradfield, Downingtown, Pa., assignor to General Communications Products, Inc., Feasterville, Pa., a corporation of Pennsylvania
Filed Nov. 14, 1966, Ser. No. 593,865
U.S. Cl. 211-26
Int. Cl. A47f 7/00; H02b 1/06



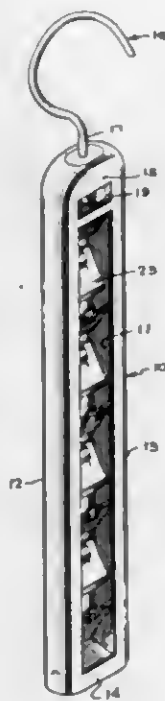
This application discloses apparatus generally known as a relay rack for mounting multiple banks of electrical components within a framework. One bank of components is mounted on a gate hinged along one side of the framework and normally spaced forwardly from the framework so that the rear portions of the components project toward the hollow interior of the framework for storage, the gate being adapted to be swung outwardly to expose the rear portions of the bank of components for initial installation and servicing. A second bank of components is mounted on mounting means supported on the rear of the framework by brackets so that the rear portions of the components in the bank likewise project toward the interior of the framework for initial installation and servicing when the gate is swung out.

3,420,382
TRANSFERABLE ELECTRIC METER HOLDER AND METHOD
Kenneth Wayne McClendon, P.O. Box 44, Abernathy, Tex. 79311
Filed Dec. 21, 1966, Ser. No. 603,532
U.S. Cl. 211-26
Int. Cl. A47f 7/00



One or more electric meters are attached securely by rubber bands to a holder which is cushioned with foam rubber. The meters on the holder are then transferable from one vehicle or carrier to another or to a shop.

3,420,383
RACK FOR CLIP ON TYPE NECKTIES
Arthur D. Raynor, 2180 E. Mann Road, Bartow, Fla. 33830
Filed Nov. 25, 1966, Ser. No. 597,027
U.S. Cl. 211-113
Int. Cl. A47f 5/08; 7/12

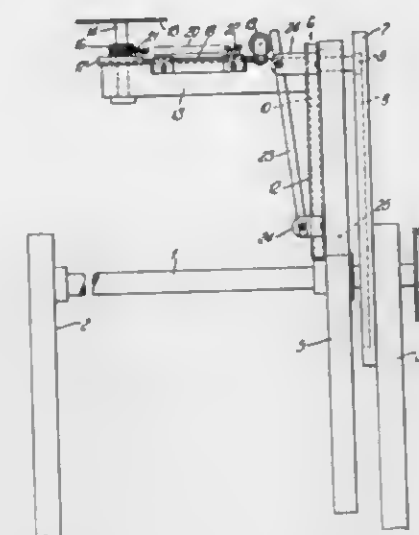


A rack for clip on type neckties generally including an elongated base member having a plurality of vertically spaced, inclined clip supporting elements on which the attaching clips of neckties are supported.

3,420,384
ARTICLE TRANSFERRING MECHANISM
Derek Henry Youngman, London, England, assignor to Molins Machine Company Limited, London, England, a corporation of Great Britain
Filed May 17, 1966, Ser. No. 550,657
Claims priority, application Great Britain, May 20, 1965, 21,406/65

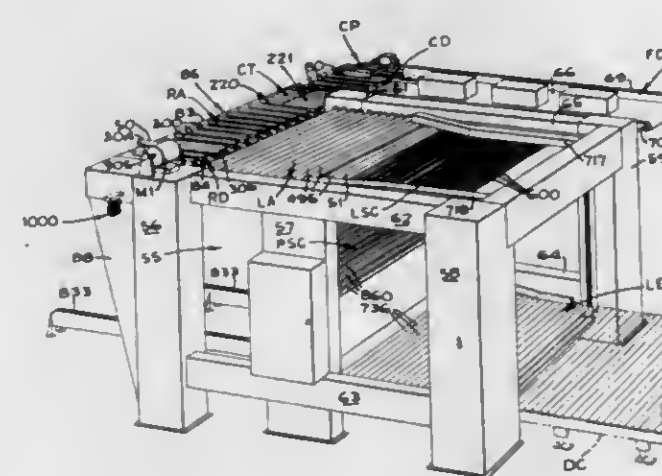
U.S. Cl. 214-1
Int. Cl. B25j 3/00; B65g 47/00
An article transfer mechanism is described comprising an arm rotatable at constant angular velocity about a

fixed axis, an article carrier slidably mounted on the arm and cam operated to move radially relative to the fixed



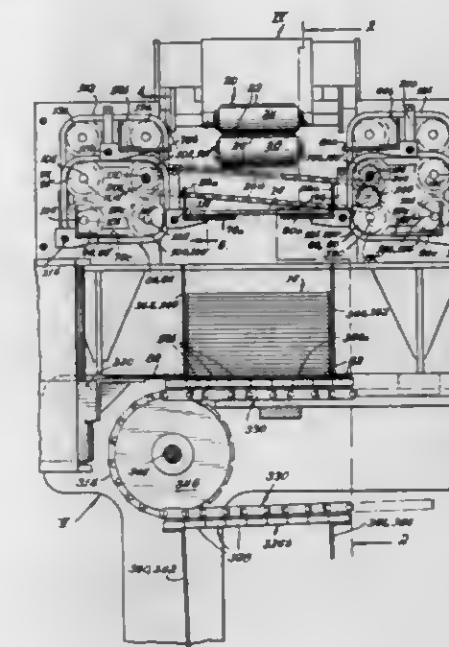
axis, thereby to alter its linear velocity, and a rack and pinion arrangement which rotates the carrier during its angular and radial movement.

3,420,385
ARTICLE HANDLING APPARATUS
Ernest A. Verrinder, Riverside, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Continuation of application Ser. No. 247,081, Dec. 26, 1962, now Patent No. 3,252,594, dated May 24, 1966.
Divided and this application Sept. 20, 1965, Ser. No. 511,000
U.S. Cl. 214-6
Int. Cl. B65g 57/00



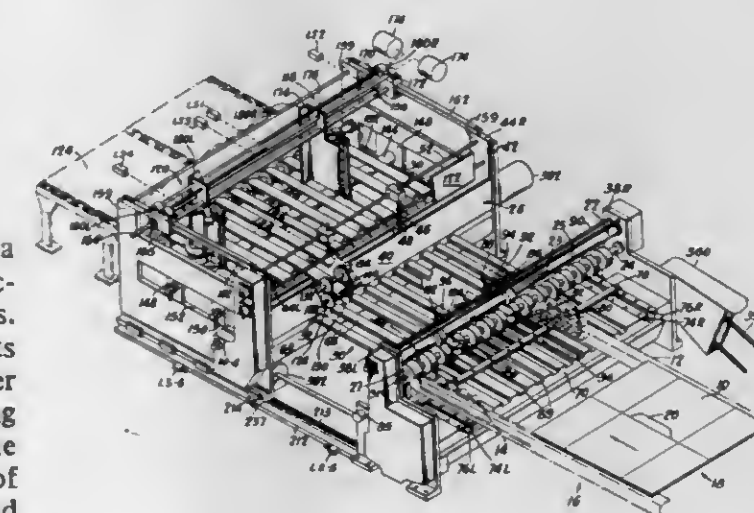
A feed conveyor deposits cases individually upon a roller conveyor which includes a mechanism for selectively turning certain of the cases through 90 degrees. At the end of the roller conveyor a stop member halts the leading case and permits the following cases to gather behind it to form a row of cases with a stop member being selectively operable for projection into the path of the cases to space certain cases in the row. A plurality of endless belts mounted between the rollers are actuated to lift the row of cases off said rollers and transport it laterally to the driven rollers of an accumulator conveyor where the cases are carried to a stop bar. Successive rows are delivered to the accumulator conveyor in like fashion to form a layer of cases thereon which layer is then delivered to a stripper carriage which is moved out from under the layer to deposit it upon a stack of cases on a pallet.

3,420,386
STACKING MACHINE
John H. Morrow, Oak Lawn, and Charles Mednick, Posen, Ill., assignors to Magnacraft Manufacturing Company, Chicago, Ill., a copartnership
Filed Apr. 15, 1966, Ser. No. 542,778
U.S. Cl. 214-6
Int. Cl. B65g 57/00



Improved stacking apparatus for receiving articles from a conveyor, particularly magazines or other flexible articles, and stacking such articles one on top of the other so as to form a plurality of large stacks of predetermined size, such stacking operation being accomplished by mechanism which receives articles one at a time from a supply conveyor or the like and which releases the articles to a vertically reciprocating elevator member after first lowering each article to a position adjacent the top of the elevator or the top of a stack of articles positioned on the elevator.

3,420,387
BLANK HANDLING APPARATUS
Theodore M. Baum, Baltimore, Md., assignor to Koppers Company, Inc., a corporation of Delaware
Filed Jan. 5, 1967, Ser. No. 607,527
U.S. Cl. 214-6
Int. Cl. B65h 29/00



Apparatus for stacking a preselected number of corrugated blanks for tying into a bundle for shipping purposes comprises a first stacker for forming the individual blanks that are fed from a folder-gluer into a stack by action of an oscillating plate acting against the trailing edges of the blanks to square the blanks and force the leading

edges against a feed gate; a reciprocating feeding mechanism for feeding the bottommost blank from the first stack to a final stacker where a second stack of blanks of predetermined number is formed on a continuously running conveyor by blanks fed to the underside of the second stack. The conveyor urges the leading edges of the blanks against a pair of stop-gates while a front guide for the trailing edges of the blanks prevent the stack from tipping over. The feeding of blanks from the first stack is interrupted upon completion of the final stack and simultaneously the stop-gates are pivoted out of engagement with the second stack to permit the removal of the stack by the conveyor.

3,420,388

BARGE HANDLING AND UNLOADING SYSTEM AND METHOD OF HANDLING AND UNLOADING BARGES

Aubrey C. Briggs, Carnegie, Pa., assignor to Dravo Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 31, 1967, Ser. No. 679,370

U.S. Cl. 214-14 8 Claims
Int. Cl. B63b 27/00



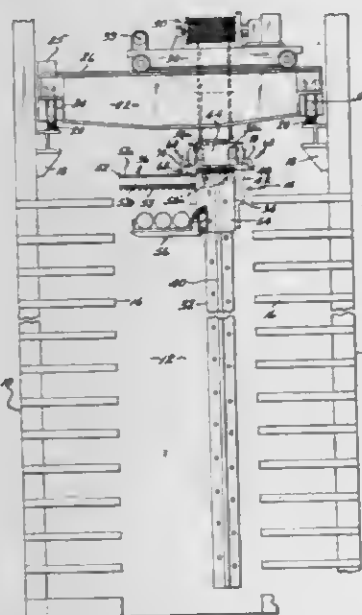
A barge handling and unloading system and method of handling and unloading barges is disclosed in which a shuttle barge is utilized to move loaded cargo barges in a fore-and-aft direction past an unloading station. A mechanical barge unloader is located at the unloading station and cargo is removed from the cargo barges by the barge unloader during the course of the fore-and-aft movements and transferred to shore.

3,420,389

AUTOMATIC LOCKING MECHANISM FOR A ROTARY LOAD CARRIER IN A STORAGE SYSTEM

Stanley J. Gustetic, Euclid, Charles B. Boytz, Garrettsville, and Henry Engel, Euclid, Ohio, assignors to The Euclid Crane and Hoist Company, Cleveland, Ohio, a corporation of Ohio

Filed Sept. 29, 1966, Ser. No. 582,997
U.S. Cl. 214-16.4 9 Claims
Int. Cl. B65g 1/00



A load carrier having an extractor mechanism rotatable about a generally vertical axis, with the extractor mechanism being adapted to insert loads into and remove

loads from an associated storage frame disposed alongside a travel zone in which the load carrier is movable, and with the extractor mechanism being adapted to move laterally into and from the storage frame, together with clamping means for locking the extractor mechanism in parallel extending relationship with respect to the direction of extension of the travel zone, so that the extractor will be properly positioned with respect to load supporting means of the storage frame.

3,420,390

TRANSFER TRAILER DRAWBAR DEVICE

Percy Royce Taggart, Alhambra, Calif., assignor to Challenge-Cook Bros., Incorporated, La Mirada, Calif., a corporation of California

Filed June 23, 1966, Ser. No. 559,821
U.S. Cl. 214-38 17 Claims
Int. Cl. B65g 67/00



A drawbar arrangement on a transfer trailer for allowing the forward transfer of the trailer body to the dump truck used in pulling the trailer, wherein an elongated drawbar is supported in a housing mounted at the front of the trailer and steers the front wheels of the trailer upon lateral pivoting of the drawbar. The drawbar is releasably locked to the housing in an extended position during transit and when released is slidable longitudinally relative to the housing to telescope the drawbar under the trailer completely clear of the trailer front for the convenient transfer of the trailer body to and from the trailer.

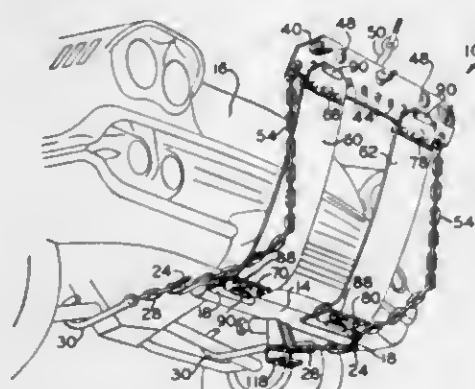
3,420,391

TOWING APPARATUS

Edward F. Wegener and Thure H. Wegener, both of South River Road, Cranbury, N.J. 08512

Continuation of application Ser. No. 575,920, Aug. 19, 1966, which is a continuation-in-part of application Ser. No. 399,222, Sept. 25, 1964. This application Nov. 15, 1967, Ser. No. 683,410

U.S. Cl. 214-86 29 Claims
Int. Cl. B66c 1/14



The disclosure is of a vehicle lift and tow bar mechanism which includes an upper metal bar and a lower metal bar between which extend a pair of flexible slings and a pair of chains, either of which pairs can be selected to cradle the end of a wreck to be towed. The chains are longer than the slings so that, with the slings in place between the bars, the chains hang loose and do not function. The slings are secured to the upper and lower bars by means of couplings which permit them either to be removed to permit the chains to function

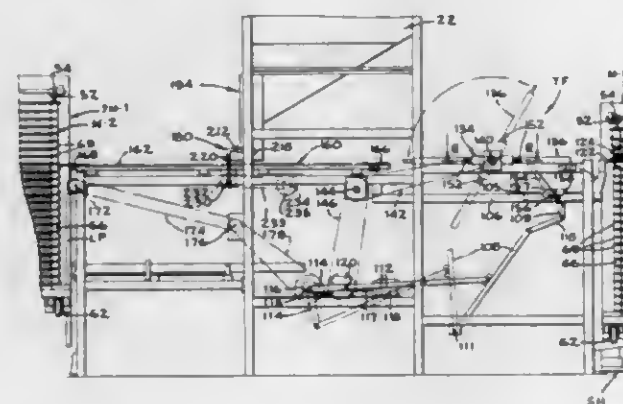
or to have their side-by-side spacing adjusted to accommodate wrecks of different sizes and shapes. Grab hooks on the lower bar and corresponding chains on the upper bar are provided for permitting the tow bar to be carried in a compact assembly while out of use. When the upper and lower bars are brought together, the hooks and chains are aligned and engaged. This provides a tight compact assembly of the two bars and their associated slings and chains.

3,420,392

TRAY FILLING AND HANDLING SYSTEM

Alan G. Flint, San Jose, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware

Filed Feb. 1, 1966, Ser. No. 524,186
U.S. Cl. 214-301 17 Claims
Int. Cl. B65g 65/30



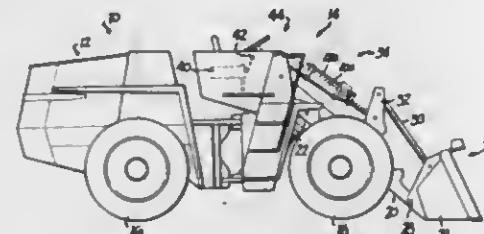
A tray filling and handling system that employs a plurality of interchangeable, modular tray racks for loading and unloading the trays at a tray washer, a tray filler, and a tray emptier. Apparatus for automatically handling trays from the receiving end of a tray filler, through the tray filler where a controlled quantity of product is deposited on the tray, and from the delivery end of the tray to a mobile shelf cart. Apparatus for filling a tray with odd-shaped particles to a substantially uniform depth comprising a hopper, a hopper mouth having a delivery opening through which the particles are fed into the tray, a reciprocating tamper to size and spread the particles and positioned adjacent the delivery opening to also act as a gate and wherein the tray moves under the delivery opening so that the tamper traverses an entire tray.

3,420,393

FLUID MOTOR POSITION CONTROL

Gene L. Omon, Wauwatosa, Wis., assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin

Filed Apr. 19, 1967, Ser. No. 631,950
U.S. Cl. 214-764 9 Claims
Int. Cl. E02f 3/74



A bucket loader having pivotally mounted lift arms and a bucket pivoted on the lift arm moved by a fluid motor with valve means selectively supplying fluid to the motor. Electrical circuitry is provided for operatively

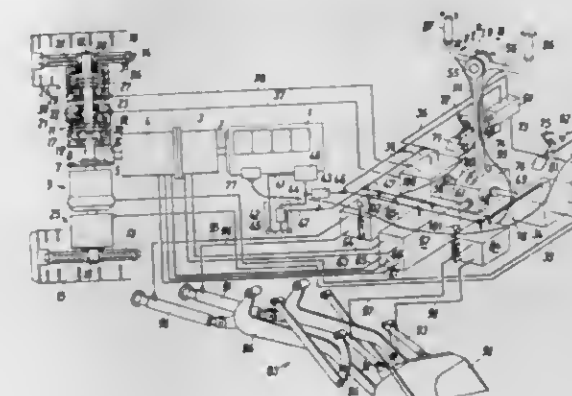
interconnecting the valve and the fluid motor to close the valve upon predetermined positioning of the bucket relative to the lift arms.

3,420,394

CONTROL DEVICE FOR A DRIVING AND STEERING TRANSMISSION FOR TRACK LAYING VEHICLES

Wilhelm Jansen and Gustav Bollmann, Bensberg-Refrath, Germany, assignors to Klockner-Humboldt-Deutz AG., Cologne-Deutz, Germany

Filed June 26, 1967, Ser. No. 648,843
Claims priority, application Germany, June 29, 1966, K 59,617; Apr. 12, 1967, K 61,976
U.S. Cl. 214-776 28 Claims
Int. Cl. B62d 11/00; B62d 57/00



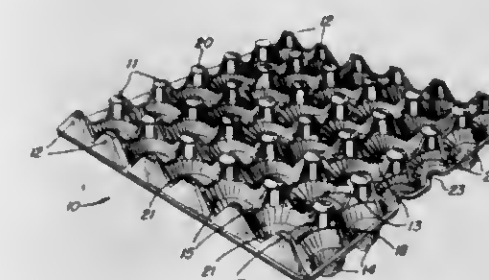
Endless track vehicle carrying a working tool in which forward and backward and turning movements of the vehicle, all under the control of a central control device rotatable to cause turning of the vehicle and reciprocable to cause forward or backward movement of the vehicle and with rotatable hand grips on the control device for controlling the movements of the working tool carried by the vehicle.

3,420,395

TRAY CONSTRUCTION

James W. Boyd, Crown Point, Ind., and Clifford H. Bessett, South Holland, Ill., assignors to Packaging Corporation of America, Evanston, Ill., a corporation of Delaware

Filed Sept. 26, 1966, Ser. No. 581,783
U.S. Cl. 217-26.5 2 Claims
Int. Cl. B65d 81/16



A tray construction for accommodating a plurality of fragile articles which comprises a plurality of rows of upwardly extending hollow posts and a plurality of rows of downwardly extending pockets. The rows of pockets and rows of posts are alternately arranged with respect to one another. Interconnecting adjacent posts in a row and corresponding posts in adjacent rows are substantially U-shaped ribs which have cross-sectional thicknesses of material greater than the cross-sectional thicknesses of the material forming the walls of the pockets and the posts.

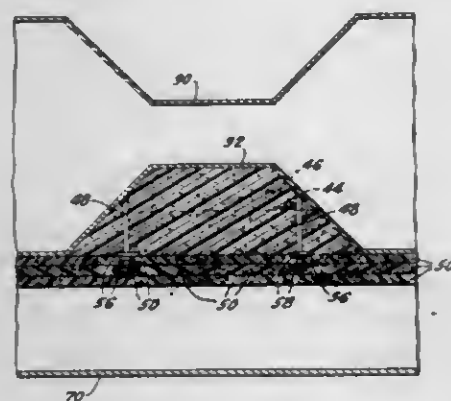
3,420,396

INSULATED TANK CONFIGURATION

Thomas Fort Bridges and George Raymond Knight, Jr.,
Port Washington, N.Y., and Norman Withers Penney,
Ridgewood, N.J., assignors to John J. McMullen,
Montclair, N.J.

Filed Apr. 1, 1966, Ser. No. 539,489
U.S. Cl. 220—9
Int. Cl. B65d 25/18

8 Claims



A novel insulated tank configuration comprising a tank having an outer vapor tight corrugated wall, insulating blocks fitted into the inwardly directed corrugations of the outer wall, first means for mounting the blocks on the outer wall, at least two layers of insulation applied to the outer face of the outer wall and blocks, the first layer being mounted to one of the outer wall and blocks, and second means for mounting the second layer on the first layer, said first and second means being spaced apart in the plane of the insulating layers to avoid heat transfer paths through the insulation.

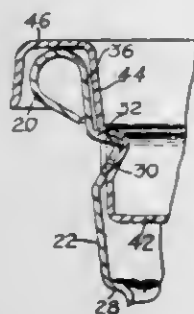
3,420,397

CONTAINER AND CLOSURE LID

William L. Miller, Skokie, Ill., assignor to Continental
Can Company, Inc., New York, N.Y., a corporation of
New York

Filed July 27, 1965, Ser. No. 475,215
U.S. Cl. 220—44
Int. Cl. B65d 43/08; 51/16

5 Claims



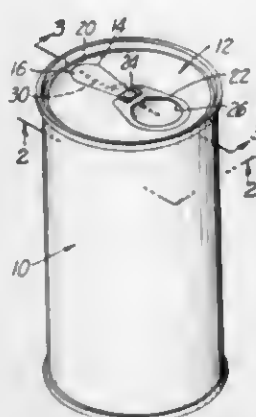
A thin walled, thermoformed plastic container having a co-operating closure lid wherein the container is characterized by an inwardly projecting nose extending around the entire periphery adjacent the mouth and the lid includes a depressed center panel adapted to telescope within the container mouth and a peripheral wall adjoining the panel which has an inwardly depressed circular groove in which the nose is adapted to be seated so as to lock the lid in position when it is telescoped into the container mouth, the nose and groove constituting part of an antineesting feature for both the container and the lid when a plurality thereof are in stacked relation, and a means incorporated in the nose for venting the container when it is used for a product which may produce excessive internal pressure which would otherwise unseat the nose and release the lid.

3,420,398
**BEVERAGE CAN TOP WITH TEAR-OUT CLOSURE
RETAINER**

Sung Woo Chun, 1136 N. Mariposa Ave.,
Los Angeles, Calif. 90029

Filed Feb. 1, 1968, Ser. No. 702,234
U.S. Cl. 220—54
Int. Cl. B65d 17/20

5 Claims



A beverage can having a top provided with a tear-out closure which is attached to the can top by an elongated retainer within the can to prevent complete detachment of the closure from the can top. The retainer is so located and is long enough that the closure can be displaced to one side of the opening formed by its removal so that such opening can be used for pouring, or for drinking directly from the can.

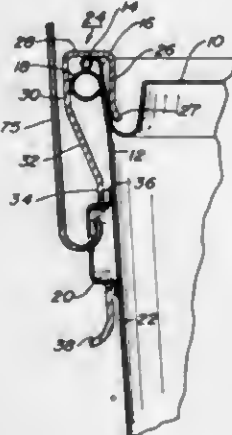
3,420,399

LID RETAINING CLIP FOR EARED CONTAINERS

Raymond A. Heisler, 657 Dakota Trail,
Franklin Lakes, N.J. 07417

Filed Sept. 20, 1967, Ser. No. 669,072
U.S. Cl. 220—55
Int. Cl. B65d 45/16

14 Claims



A lid retaining clip for use with eared containers. The clip is shaped so as to simultaneously engage a groove in the inserted lid and mating container with the clip having a depending tab having an aperture therein. The aperture is positioned so as to engage and be releasably retained on the ear of the eared container.

3,420,400

EARED LAMINATED PLASTIC CONTAINER

Raymond A. Heisler, 657 Dakota Trail,
Franklin Lakes, N.J. 07417

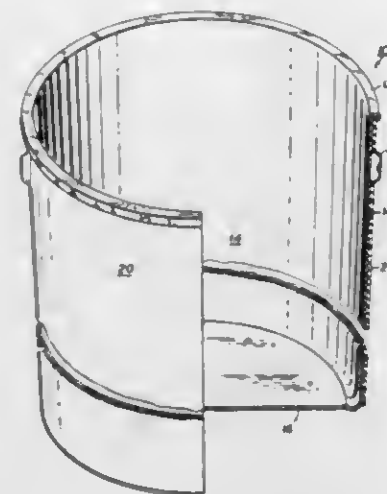
Filed Jan. 31, 1967, Ser. No. 612,961
U.S. Cl. 220—91
Int. Cl. B65d 25/20; B65d 25/14

4 Claims

An eared container is of laminated plastic construction in which the interior portion is a one-piece fluid-retaining

member. The outer member provides an additional stiffness to the wall while at the same time positioning and re-

tainer, and when the upper container is rotated, it will nest within the lower container for storage. The container of the invention includes a bottom wall, and a series of generally vertical side walls extend upwardly from the bottom wall, with opposed side walls including a plurality of spaced, vertical columns. In a stacking position, the col-



taining a pair of ears of metal and the like. The ears are of conventional shape and disposition to retain a wire bail.

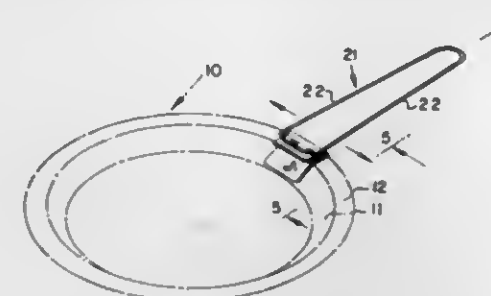
3,420,401

DETACHABLE HANDLE CONSTRUCTION FOR DISHES

Mac Maslow, 209 Mallory Ave., Jersey City, N.J. 07304

Filed Aug. 29, 1967, Ser. No. 664,065
U.S. Cl. 220—95
Int. Cl. B65d 25/28

4 Claims



The invention provides a two-part handle construction wherein a first part is a bracket clamped to an edge of the dish and the second part is a detachable yoke-shaped handle pivotally secured to the bracket. Such a dish as marketed contains prepared food adapted to be heated, baked, roasted or the like. Normally such a dish has a handle laid flat across the top or cover thereof, and when ready, for example, to be placed in an oven the handle is swung outward to extend substantially radially from the dish. However, as a consequence of the ready attachability and detachability of the instant handle, where two or more such dishes are sold as or in a single package, each dish is provided with a bracket whereas but one handle need be supplied for all the dishes.

3,420,402

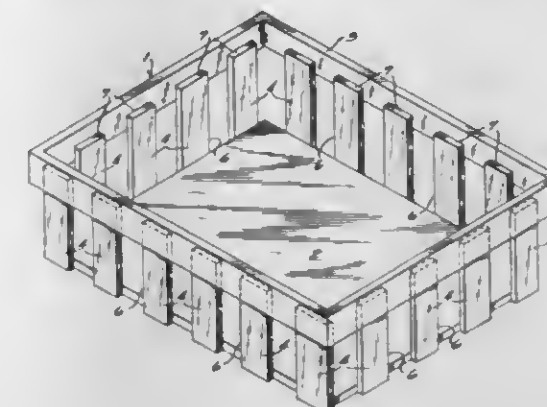
STACKABLE AND NESTABLE CONTAINER

Allen H. Frater and George G. Frater, Watertown,
Wis., assignors to Container Development Corpo-
ration, Watertown, Wis., a corporation of Delaware

Filed May 22, 1967, Ser. No. 640,209
U.S. Cl. 220—97
Int. Cl. B65d 21/00

20 Claims

This invention relates to a stackable and nestable container of a type in which an upper container will stack upon an identical and indentially oriented lower con-



umns of an upper container rest on the top of the columns of the lower container, and by rotating the upper container with respect to the lower container, the columns of the upper container are received within the spaces between the columns in the lower container to provide a nesting position.

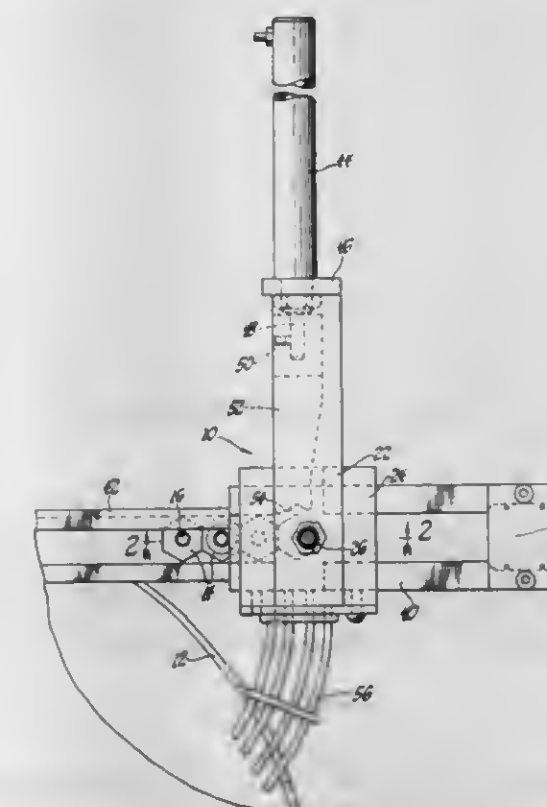
3,420,403

AIR PRESSURE DETECTION SYSTEM

William T. Elliott, Bloomfield Hills, and Kenneth H.
Harris, Oxford, Mich., assignors to Elliott Die & Tool,
Inc., Pontiac, Mich., a corporation of Michigan

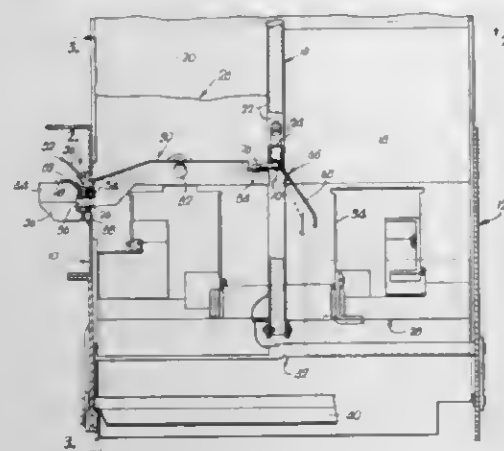
Filed July 3, 1967, Ser. No. 650,759
U.S. Cl. 221—1
Int. Cl. B65g 59/00

14 Claims



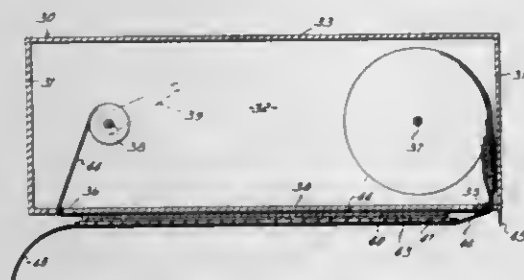
An air pressure responsive system for inspecting and sorting articles, including means for discharging air under pressure relative to the articles, sensing a change in line pressure when the discharge flow is obstructed, and activating the sorting means by a positive pressure signal impulse as a consequence thereof.

3,420,404
SOLD-OUT CONTROL MECHANISM FOR DOUBLE-DEPTH STACK ARTICLE VENDER
 Herman R. Craven, Prairie Village, Kans., and John W. Baxendale, Kansas City, Mo., assignors to The Vendo Company, Kansas City, Mo., a corporation of Missouri
 Filed Aug. 9, 1967, Ser. No. 659,360
 U.S. Cl. 221-14
 Int. Cl. G07f 9/02



Sold-out control mechanism for either staggered or single stack double-depth vending machines operable to deactivate the article release structure for respective front and rear columns using only a single switch located in an easily accessible position and actuated by mechanical article sensors associated with corresponding article stacks. The actuator button of the switch is positioned to be operated by an outturned projection on the article-sensing flap associated with the front column while the article-sensing plate on the rear column carries a J-shaped extension located to engage a crank arm in turn operably associated with a pivotal member having a lip disposed to engage the switch actuator.

3,420,405
PACKAGE FOR COPY SHEETS
 William P. Taylor, Hamilton, Ohio, assignor to U.S. Plywood-Champion Papers Inc., a corporation of New York
 Filed Aug. 4, 1966, Ser. No. 570,195
 U.S. Cl. 221-25
 Int. Cl. B65h 3/58

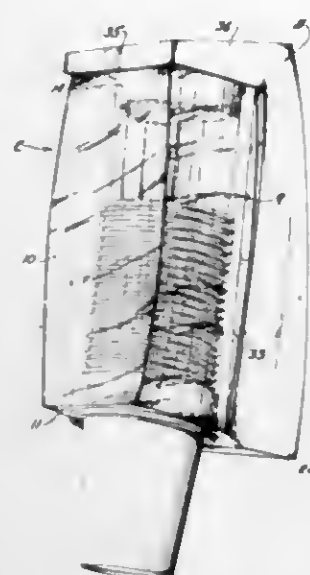


A package containing copy sheets for use in the reproduction of printed originals such as pages of a book or magazine and the like. A dispenser for copy sheets including a container for the copy sheets and a dispensing opening.

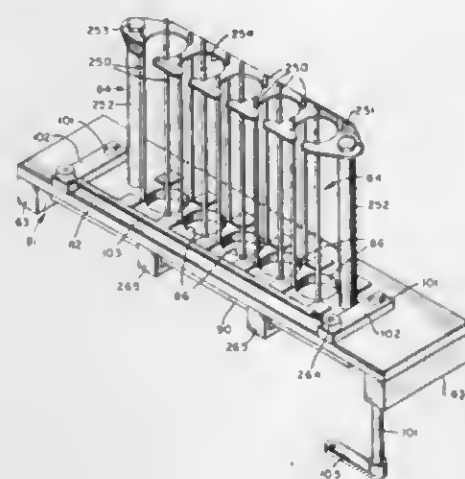
3,420,406
CUP DISPENSER INVERTIBLE TO DISPENSE CUPS OF DIFFERENT SIZES
 Andrew Stuard Graham, Jr., Wyncote, Pa., assignor to Fleck Industries, Inc., Willow Grove, Pa., a corporation of Pennsylvania
 Filed Oct. 27, 1967, Ser. No. 678,555
 U.S. Cl. 221-44
 Int. Cl. B65h 1/00

A dispenser for disposable cups, adapted alternatively to dispense cups of different sizes by inversion of the

cover of the dispenser with relation to the base and without adjustment of dispenser parts. The dispenser is inclined to facilitate removal of the cups being dispensed particularly when the dispenser is mounted on the wall between the counter shelf and upper cupboards of kitchen cabinet-work.



3,420,407
CUP DEPOSITOR ASSEMBLY
 William C. Christine, Catasauqua, and Joseph E. Pierce, Allentown, Pa., assignors to Allen Electronics, Inc., Bethlehem, Pa., a corporation of Pennsylvania
 Continuation-in-part of application Ser. No. 467,279, June 28, 1965. This application May 17, 1967, Ser. No. 639,073
 U.S. Cl. 221-221
 Int. Cl. B65h 3/28

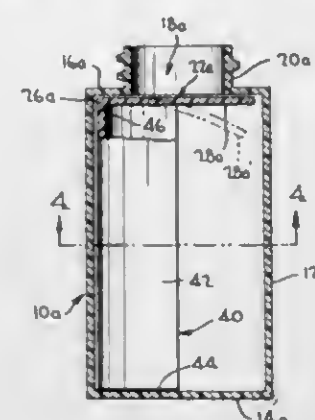


A mechanism for depositing cups one at a time from packaging machine so that the cups can be subsequently posited or placed in openings in a moving conveyor of a stack of cups, wherein the cups are adapted to be filled with a material such as a powdered food product.

3,420,408
CONTAINER FOR DISPENSING PILLS OR THE LIKE
 Frank Y. Sherbondy, P.O. Box 10236, San Antonio, Tex. 78210
 Filed Dec. 9, 1966, Ser. No. 600,611
 U.S. Cl. 221-288
 Int. Cl. B65d 83/00

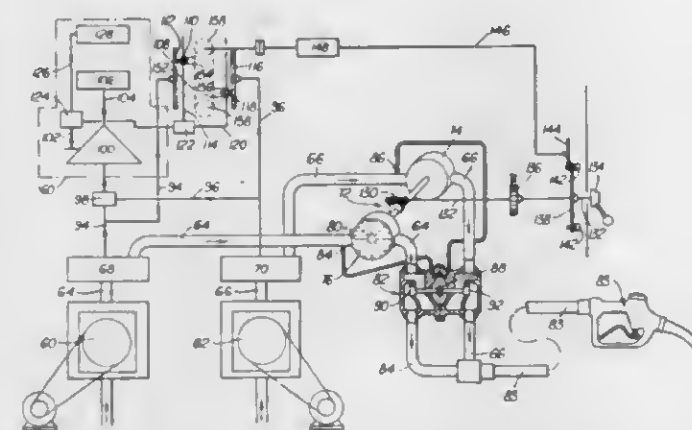
A container for dispensing a limited number of pills or other similar items wherein a safety flap means normally extends completely across and thereby blocks

the dispensing mouth through which the pills are emptied from the interior of the container. The safety flap means is formed of a single imperforate flap of resilient material and it has one end secured in position while the other end is free to be displaced through the applica-



tion of digital pressure applied through the dispensing mouth of the container. When such digital pressure is applied to displace the flap, a limited number of pills can pass between the displaced free end of the flap and the side wall of the container and can thereafter exit through the dispensing mouth of the container.

3,420,409
LIQUID DISPENSING APPARATUS
 Colin Roderick Petyt, Hillingdon, and Hugh Edmund Phillips, London, England, assignors to Avery-Hardoll Limited, Chessington, Surrey, England, a British company, and Beck & Co. (Meters) Limited, London, England, a British company
 Filed Mar. 27, 1967, Ser. No. 626,315
 Claims priority, application Great Britain, Nov. 1, 1966, 49,004/66
 U.S. Cl. 222-26
 Int. Cl. B67d 5/08; 5/56

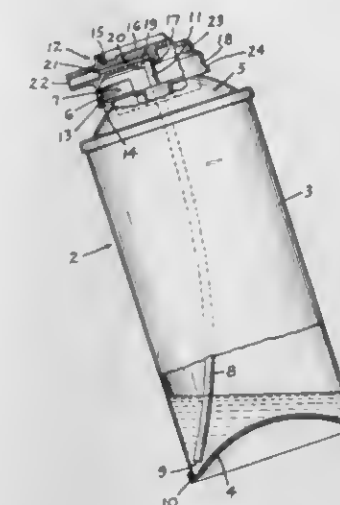


A liquid dispensing apparatus blending different liquids and having a price computing means which multiplies the volume of each of the liquids dispensed as measured by a meter in the flow line of each of the liquids respectively by the price per unit of that liquid and then adding the separate prices to give a final cost. A price incremental value can be added or subtracted to this total cost by means of a control associated with a blend selecting means for adjusting the same to give a different increment value to any one or all selected blends.

3,420,410
AEROSOL CONTAINER HAVING CAP-ACTUATOR WITH DIP-TUBE ORIENTING MEANS
 Herman L. Marder, Plainfield, N.J., assignor to American Home Products, Incorporated, New York, N.Y., a corporation of Delaware
 Filed Aug. 4, 1966, Ser. No. 570,329
 U.S. Cl. 222-48
 Int. Cl. B05b 9/04

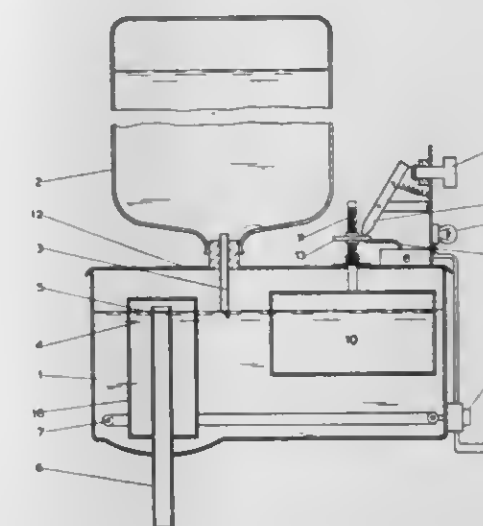
A cap-actuator for an aerosol container is provided

with dip-tube orienting means comprising a visual marking on the valve cup on which the dip-tube is mounted,



and an aperture in the cap-actuator to permit visual alignment of said cap-actuator with said marking.

3,420,411
DISPENSER FOR QUANTITIES OF HOT WATER
 Aldo Ronchese, 20 Saint John's Road, Houghton, Johannesburg, Transvaal, Republic of South Africa
 Filed July 18, 1967, Ser. No. 654,174
 Claims priority, application Republic of South Africa, Aug. 5, 1966, 66/4,636
 U.S. Cl. 222-67
 Int. Cl. G01f 13/00

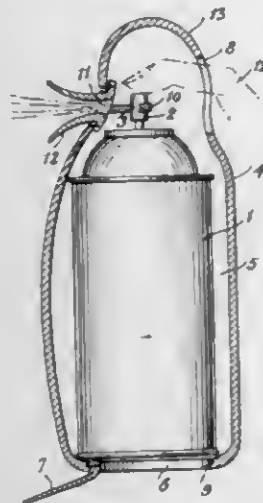


Dispensing apparatus for heating and automatically dispensing a predetermined quantity of boiling water by a siphonic action initiated by the boiling of the water.

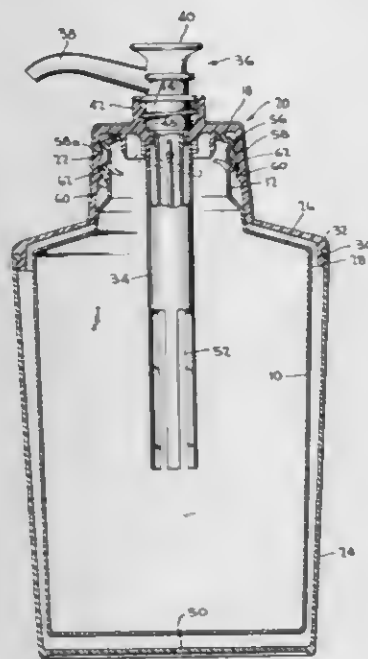
3,420,412
SPRAYING DEVICE ENCLOSURE
 Aubrey Greene, 169 E. 69th St., New York, N.Y. 10021
 Filed July 11, 1966, Ser. No. 564,269

U.S. Cl. 222-78
 Int. Cl. B67d 5/64
 The improved spraying device enclosure has an attractive hollow body simulating an animal in shape and of soft and flexible material to enclose a pressurized spray can. Said body has an adjustable opening on the bottom for introduction of the can and opposing openings at the top, one of the openings permitting projection

of the mouth of the spray can such as the bill of an animal, and the other opening permitting the introduction of the user's finger for operation of the plunger of the spray can.



3,420,413
LIQUID AND PASTE DISPENSER
Douglas F. Corsette, Los Angeles, Calif., assignor to Diamond International Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 14, 1967, Ser. No. 660,471
U.S. Cl. 222-107
Int. Cl. B67d 5/42

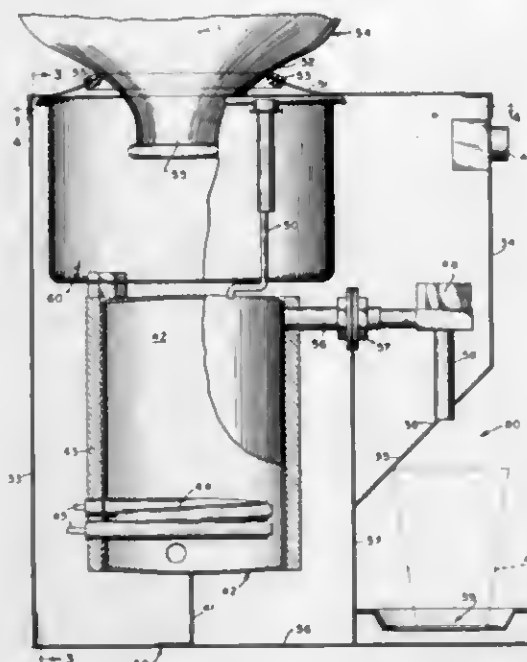


A dispenser for liquid and paste products wherein a pump withdraws the product from an air-tight container housed within a rigid casing and collapsible under atmospheric pressure incident to withdrawal of its contents. The pump is supported within the container by a closure member which is secured onto both the container and its housing by snap beads. The snap beads of the container are interlocked by threaded means which are then disengaged and separated by action of the snap beads to prevent subsequent use of the threads in removing the closure member.

3,420,414
HOT WATER HEATER AND DISPENSER
William C. Christine, Catasauqua, and Joseph E. Pierce, Allentown, Pa., assignors to Allen Electronics, Inc., Bethlehem, Pa., a corporation of Pennsylvania
Filed Apr. 24, 1967, Ser. No. 633,097
U.S. Cl. 222-146
Int. Cl. B67d 5/62

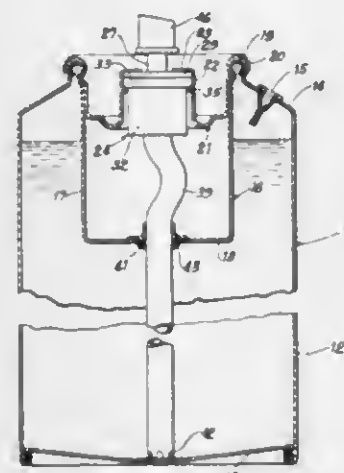
An apparatus for providing hot water to be used for dissolving powdered food products and the like, and

wherein the apparatus is constructed and operates so that it provides continuous hot water, and wherein there



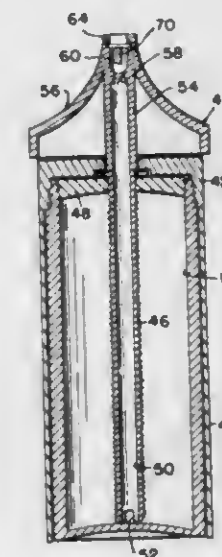
is provided a control mechanism for delivering a pre-measured portion of hot water at the touch of a button.

3,420,415
LEAKPROOF DISPENSING CONTAINER
Clarence O. Kuffer, Niles, Ill., assignor to Valve Corporation of America, a corporation of Delaware
Filed June 9, 1967, Ser. No. 644,847
U.S. Cl. 222-193
Int. Cl. B05b 7/32



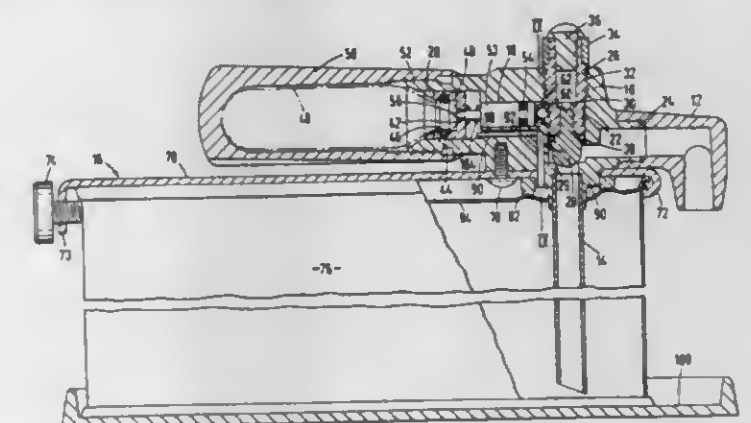
the pressure of the pressurized fluid to a delivery position wherein the valve places the chamber in communication with the atmosphere so that the pressurized entrapped air will force the fluid out of the accumulator and measuring chamber. As the fluid flows through the measuring chamber it propels the metering element along with it, and the metering element eventually seats on the valve seat, thereby terminating the delivery of a metered quantity of liquid. The metering element returns to its initial position by action of the incoming liquid when the valve is again turned to the charge position.

3,420,417
DISPENSER FOR FLUID MATERIAL
John V. Kardel, 906 St. Johns, Wyandotte, Mich. 48192
Filed Oct. 12, 1966, Ser. No. 600,298
U.S. Cl. 222-390
Int. Cl. B67d 5/42



tubular stem, a plunger threaded to said stem and movable longitudinally as a piston in said container, a manually engageable actuator fixedly connected to the stem to rotate it relative to the container, the cover having a skirt extending downwardly over the sides of the container substantially to its bottom.

3,420,418
VALVE ASSEMBLY AND MECHANISM
Rene P. Rousset, Potters Bar, and Brian S. Bennett, London, England, assignors to British Oxygen Company Limited, a British company
Filed Feb. 4, 1966, Ser. No. 525,023
Claims priority, application Great Britain, Feb. 12, 1965, 6,200/65; Nov. 22, 1965, 49,578/65
U.S. Cl. 222-399
Int. Cl. B65d 83/06; B67b 7/24; 7/26



A valve assembly suitable for attachment to a cylindrical liquid container, comprising: (A) a valve mechanism including a manually operable tap and a liquid valve member thereof adapted in cooperation to control flow of liquid from the container; (B) a tube in fluid communication with the tap and depending from the valve mechanism and adapted to extend through an aperture in one end wall of the container and terminate adjacent the opposite end wall; (C) clamping means adapted to grip the container and to position the valve mechanism so that the tube extends through said aperture; (D) annular sealing means surrounding the said aperture and compressed against the end wall of the container by the clamping means; (E) a holder for a bulb of compressed gas, such as carbon dioxide, carried by and fixed in relation to the clamping means; (F) the said valve mechanism including (a) a valve actuating member in operative relationship with the said tap and with the said liquid valve member; and (b) a gas valve member including a piercing/sealing pin adapted to pierce an end of the said bulb and capable of sealing the orifice so produced; (G) the said valve actuating member having a cam surface arranged to effect upon movement thereof by the agency of the tap movement of the said pin in a direction longitudinal of the pin to allow escape of gas into the container.

3,420,419
TANK FOR STORING AND TRANSPORTING DRY OR LIQUID MATERIAL
Gerald W. Haslett, Jr., Saginaw, Tex., assignor to J & L Tank, Inc., Saginaw, Tex., a corporation of Texas
Filed May 29, 1967, Ser. No. 642,099
U.S. Cl. 222-544
Int. Cl. B65d 47/06; B61d 7/02

A pneumatically discharged tank for transporting dry or liquid material comprising a horizontal cylindrical tank shell, one or more vertical cylindrical transition sections along the bottom of the main shell, each transition section supporting a 45° discharge cone, the ends of the main tank comprising oblique truncated cones, horizontal along

A dispensing cover and closure for throwaway containers of fluid material comprising a removable cap for the container rotatably carrying an exteriorly threaded

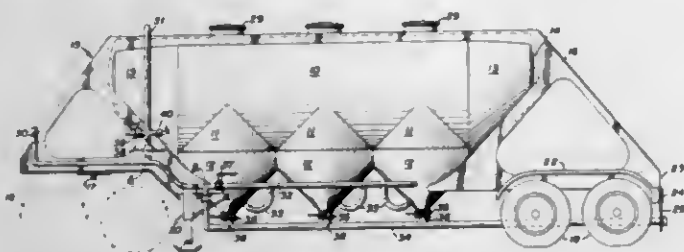
3,420,416
LIQUID DISPENSING APPARATUS
Jay Benton Brown, Bridgeton, Mo.
(93 Ford Lane, Hazelwood, Mo. 63042)
Filed June 19, 1967, Ser. No. 647,131
U.S. Cl. 222-335
Int. Cl. G01f 11/44

A liquid dispensing apparatus having a metering chamber which contains a shiftable metering element. One

8 Claims

3 Claims

the top and sloping 45° on the bottom, the bottom of said oblique cones fairing into the sides of the adjoining 45°



discharge cones, and the diameter of said cylindrical transition section being equal to the diameter of the horizontal tank shell.

3,420,420

HOLSTER FOR REVOLVER

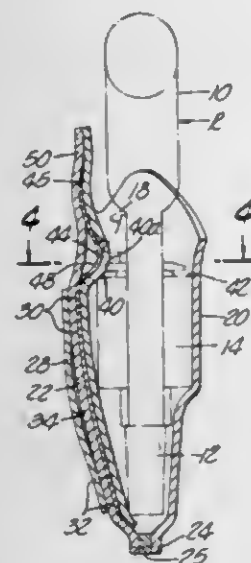
Earl J. Clark, Los Angeles, Calif., assignor to Buchelmer-Clark Leather Goods Corp., Los Angeles, Calif., a corporation of California

Filed May 31, 1967, Ser. No. 642,389

U.S. Cl. 224-2

Int. Cl. F41c 33/02

8 Claims



A holster to hold a revolver having a handle and a cylinder has an inner side wall offset to form inner shoulder means which has a normal position in engagement with the rear end of the cylinder to retain the revolver in the holster and said side wall has an extension adjacent the handle of the revolver that may be flexed outwardly by thumb pressure to shift the shoulder means out of its normal position. The shoulder means is rounded to permit cam action by the cylinder on the shoulder means once the release movement of the shoulder means is initiated by thumb pressure.

3,420,421

MACHINE FOR PERFORATION OF SHEET MATERIAL

Gustav Sigvald Hellberg, Johanneshov, Sweden, assignor to Maurice V. Wyatt, South Bend, Ind.

Continuation-in-part of application Ser. No. 464,289, June 16, 1965. This application Sept. 21, 1966, Ser. No. 580,997

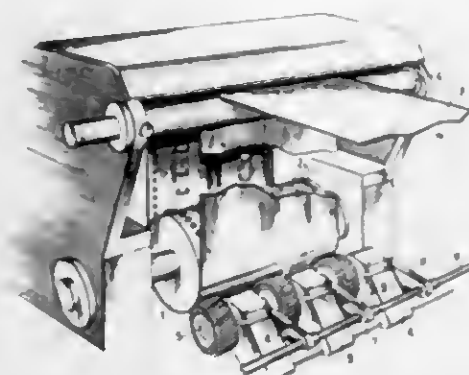
Claims priority, application Sweden, Sept. 11, 1964, 10,948/64

U.S. Cl. 225-96
Int. Cl. B65h 35/10

24 Claims

1. A perforation machine of the kind wherein sheet material in web form that is to be perforated is fed in contact with a rotatable roll provided with relief-like portions forming studs each with a shape corresponding to a perforation to be formed, the sheet material being

pressed against the end surfaces of the studs so that rupture indications are formed in the sheet material along the edges of the studs after which the sheet material is separated along said rupture indications by means of tangential frictional forces produced by press roll means,



characterized by a plurality of press rolls which are independent of each other and individually adjustable and have a small extent axially in relation to the length of the matrix roll, each of the press rolls cooperating with only some of the relief-like portions of the roll.

3,420,422

INTERMITTENT FILM MOVEMENT AND REGISTRATION

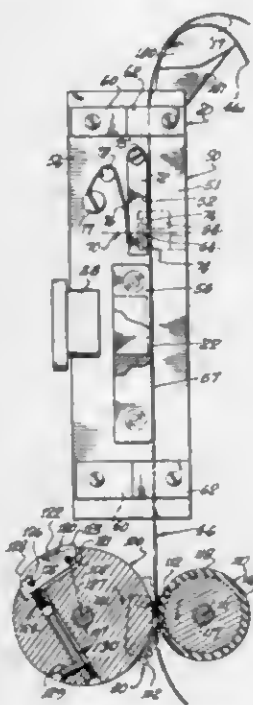
Edmund M. Di Giulio, Sherman Oaks, John Jurgens, Jr., Northridge, and Niels G. Petersen, Glendale, Calif., assignors to Mitchell Camera Corporation, Glendale, Calif., a corporation of Delaware

Filed Feb. 10, 1967, Ser. No. 615,168

U.S. Cl. 226-55

Int. Cl. G03b 1/28; B65h 17/22; B65h 17/34

26 Claims



An intermittent film movement of pinch-roll type obtains improved performance by exerting on the film an accelerating force that varies during each period of movement. Such variable force may be produced by varying the mutual spacing of the pinch rolls by electrical or other means, or by providing a cam-like contact surface on one of the rolls. Such a cam lobe is preferably formed as a separate element mounted on the roller and movable with respect thereto under resilient or positively adjustable control.

Accurate film registration is improved by yieldingly pressing the film toward a fixed registration pin. The presser element is preferably disabled as the film is kicked

off the pin at the start of each movement cycle, freeing the film from frictional resistance. Alternatively, two fixed pins are used on opposite sides of the exposure aperture, the film inertia being utilized to stretch it over the pins, on which it is held taut.

3,420,423

STAMP VENDING MACHINE

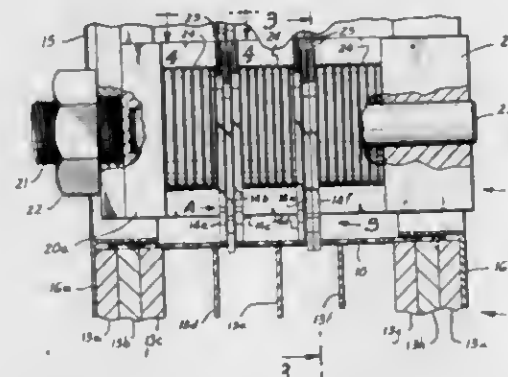
John L. Surber, Jr., 8339 San Pedro, Bldg. 108, San Antonio, Tex. 78216

Filed Aug. 5, 1966, Ser. No. 570,592

U.S. Cl. 226-68

Int. Cl. B65h 49/00

4 Claims



A stamp vending machine is disclosed that employs a group of three fingers to engage the lateral rows of perforations in the stamp web and move the web along a supporting track. The three fingers are mounted above the stamp web supporting track in adjacent side by side relationship so that at least one of the fingers will engage a perforation in the stamp web as the fingers are moved along the track.

3,420,424

CONCAVE-SURFACED VACUUM CONTROLLED AIR FILM

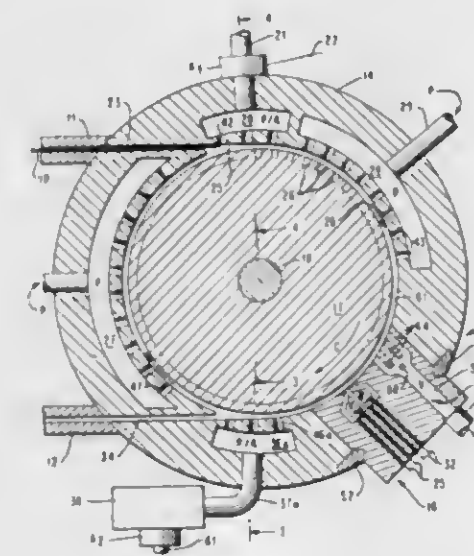
Raymond A. Barbeau, Kelly B. Day, Jr., and James A. Weldenhammer, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Jan. 10, 1966, Ser. No. 519,570

U.S. Cl. 226-97

Int. Cl. B65h 17/32

18 Claims



A precise spacing is maintained between a moving web and a smooth concave surface containing a transducer by providing a vacuum port at a leading portion of the concave surface.

3,420,425

INFORMATION STORAGE DEVICES

Alistair Peter William Haddon, David T. Gwillim, and Thomas Edward Wood, Ilford, England, assignors to The Plessey Company Limited, Ilford, England, a British company

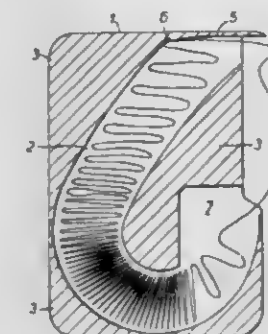
Filed Nov. 21, 1966, Ser. No. 595,887

Claims priority, application Great Britain, Nov. 24, 1965, 50,005/65

U.S. Cl. 226-196

Int. Cl. B65h 23/10; G03b 1/48; B65h 17/42

5 Claims



An information storage device comprising a chamber adapted to accommodate an endless loop of information storage tape in contiguous folds wherein the folds are compressed in their passage through the chamber, the fold-compressing pressure being relieved at the points of entry and exit of the tape.

3,420,426

STAPLING DEVICE FOR CLOSING SAMPLE BAGS OF TOUGH MATERIAL

Arthur Klaus, Frankfurt, Germany, assignor to Elastic G.m.b.H., Frankfurt, Germany

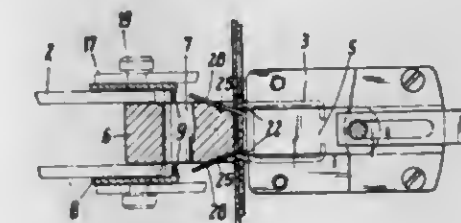
Filed Apr. 13, 1965, Ser. No. 447,830

Claims priority, application Germany, Apr. 15, 1964, E 26,839

U.S. Cl. 227-71

Int. Cl. B25c 5/02

9 Claims



The invention relates to a method and means for tacking tough materials by means of a plier-like stapling device carrying an anvil on one plier arm and a staple supplying channel with a staple driver on the other plier arm which is movable towards the anvil. The invention overcomes the shortcomings of prior art procedures and devices by pre-perforating the material to be tacked after its introduction in the tacking device and pushing the staple, or the like, through the pre-perforations for subsequent spreading and turning over of the legs of the staple.

3,420,427

APPARATUS FOR ATTACHING PRONGED ELEMENTS

Erich A. Schmidt, Lexington, Ky., assignor of one-half to Universal Button Company, Division of Talon, Inc., Lawrenceburg, Ky., a corporation of Kentucky

Filed Sept. 26, 1966, Ser. No. 582,085

U.S. Cl. 227-116

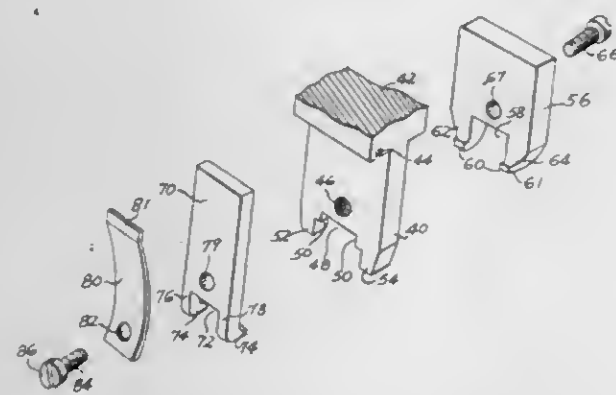
Int. Cl. B25c 5/10

14 Claims

1. Apparatus for use in attaching an eye element to a garment, said eye element having a bridging portion

curved at its opposite ends to form thereat a base portion underlying the ends of the bridging portion and spaced therefrom, with each of said base portions including a downwardly depending prong member, the combination comprising:

transport means movable in a substantially reciprocal path for moving an individual eye element from a supply to the bottom of a plunger on the attaching equipment;



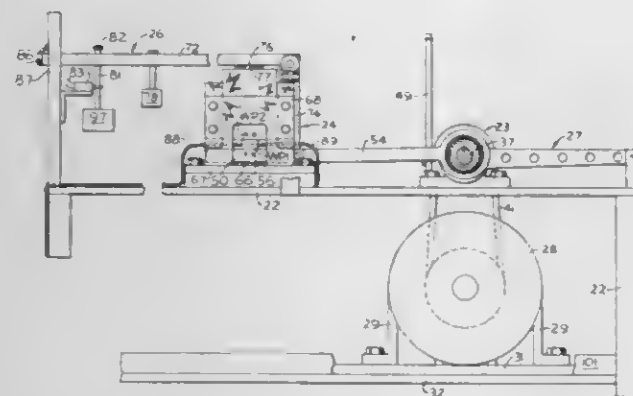
means carried by said plunger normally in a closed position for engaging that spaced portion of said eye element located intermediate said bridging member and said base portion,

said means moved first to an open position upon movement of said transport means to the remote end of said reciprocal path for receiving said eye element on said plunger, and then to its normally closed position upon retraction of said transport means for retaining said eye element on said plunger.

3,420,428 RECIPROCATING FRICTION BONDING APPARATUS

Ramamurat R. Maurya, Peoria, Ill., and James J. Kauzlarich, Charlottesville, Va., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

Filed Oct. 21, 1965, Ser. No. 499,249
U.S. Cl. 228—2 4 Claims
Int. Cl. B23k 27/00

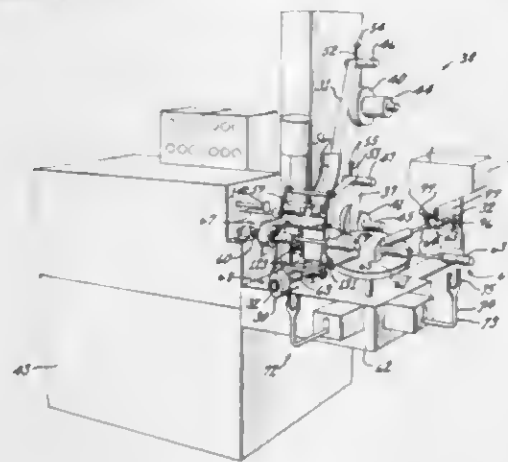


Metal parts are welded together by engaging the parts in reciprocating rubbing contact at a common interface. The frequency of reciprocation, axial load, speed and time of rubbing contact are controlled and correlated to produce a substantial zone of plastic material at the interface. The parts are driven in reciprocating rubbing contact to a condition in which the power input stabilizes as a result of the plastic condition at the interface, and the process is then stopped while the parts are pressed together with sufficient force to squeeze plastic material from the interface as external flash.

3,420,429 APPARATUS FOR MAKING STRIP CONDUCTOR COILS AND THE LIKE WITH TERMINAL LEADS ATTACHED THERETO

Thomas E. Lewis, Chesterfield County, and Robert B. Lightner, Henrico County, Va., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

Filed May 11, 1964, Ser. No. 366,497
U.S. Cl. 228—3 24 Claims
Int. Cl. H01f 41/04

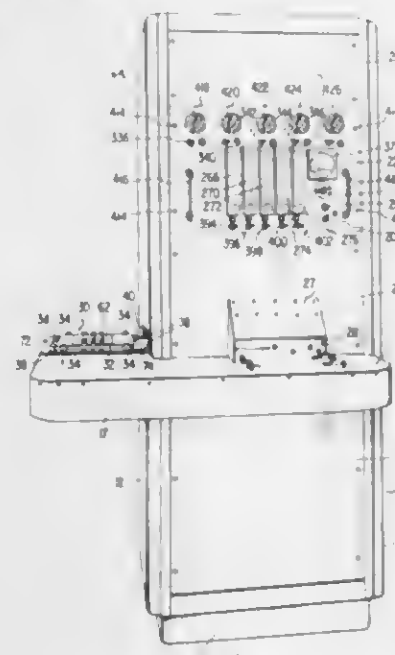


This disclosure relates to apparatus for continuously making strip conductor coils by coiling a strip of conductive material from a supply roll onto a cylindrical core being positioned at a predetermined location in the apparatus by an indexible mandrel means, the apparatus having means for attaching two leads in side-by-side relation to the strip of conductive material intermediate the supply roll therefor and the coil being wound at the predetermined location whereby subsequently the strip of conductive material is separated between the attached leads thereof so that one of the leads will form the outer lead on the strip conductor coil and the other lead will subsequently form the inner lead on a subsequently wound conductor coil.

3,420,430 AUTOMATED HOT GAS SOLDERING APPARATUS FOR ATTACHING A PLURALITY OF FLAT PACK INTEGRATED CIRCUITS TO A PRINTED CIR- CUIT SUBSTRATE

Raymond J. Goetz, Thomas W. Hawkins and Joseph F. Rose, Baltimore, Md., assignors to Martin-Marletta Corporation, New York, N.Y., a corporation of Maryland

Filed May 5, 1967, Ser. No. 636,360
U.S. Cl. 228—47 14 Claims
Int. Cl. H05k 3/34



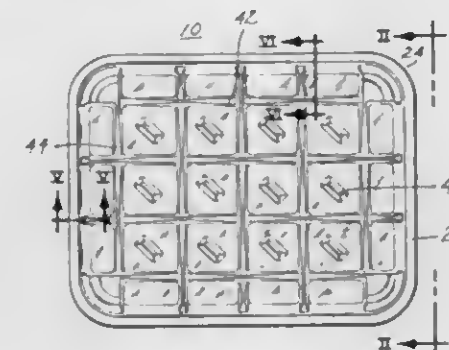
Fully automated apparatus for moving a plurality of

rows of multi-lead integrated circuit flat pack components carried by a printed circuit board past associated nozzles directing heated fluid jets locally on the component lead contact areas to effect high speed, controlled reflow soldering of the individual component leads to the printed circuit conductors.

3,420,431 TRAY STRUCTURE

Donald W. Donovan, Glastonbury, Conn., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Continuation-in-part of application Ser. No. 564,131, July 11, 1966. This application Nov. 20, 1967, Ser. No. 684,417
U.S. Cl. 229—2.5 13 Claims
Int. Cl. B65d 1/36

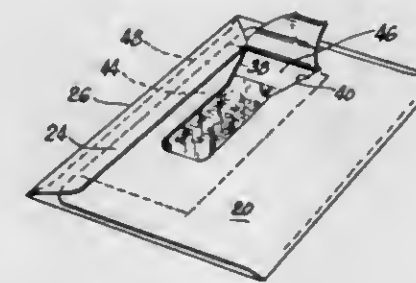


Structural improvements in plastic trays designed for meats and the like, consisting of (1) a rounded, reinforced corner having an inturred strengthening bend, (2) rib end portions formed in and terminating below the tops of flanged sides to enhance sidewall rigidity, and (3) upward projections in the base of the tray to maintain the product spaced from the base. The tray may be made of a transparent material.

3,420,432 COMPARTMENTED ENVELOPE HAVING INDE- PENDENTLY ACCESSIBLE COMPARTMENTS

George L. Cooper, Arlington Heights, Ill., assignor to Arvey Corporation, a corporation of Illinois

Filed Oct. 30, 1967, Ser. No. 678,788
U.S. Cl. 229—71 2 Claims
Int. Cl. B65d 27/04; B65d 27/08



A two-compartmented envelope made from a unitary sheet of paper folded to define a rectangular back panel, a pair of side flaps hinged on opposite edges of and folded against the back panel, a front panel hinged on a remaining edge of the back panel and folded against the side flaps, while the fourth edge of the back panel is hinged to a gummed flap which folds over into sealing contact with the front panel to seal the compartmented envelope. Adhesive strips extend across the front panel normal to its hinge line to join the side flaps and the front panel together to define a front pocket or compartment therebetween, a second or rear pocket being defined by the side

flaps and the back panel. The front panel carries means for tearing away a portion of itself to provide access to the front pocket. Each pocket of the envelope of this invention can thus be opened while leaving the other pocket in the envelope sealed.

3,420,433 FLAT BAG AND OVERFLAPPED ADHESIVE TAPE CLOSURE THEREFOR

Robert Bostwick, Somerville, N.J., assignor to Union Carbide Corporation, a corporation of New York

Filed Aug. 7, 1967, Ser. No. 658,731 4 Claims
U.S. Cl. 229—80
Int. Cl. B65d 33/20; B65d 83/00

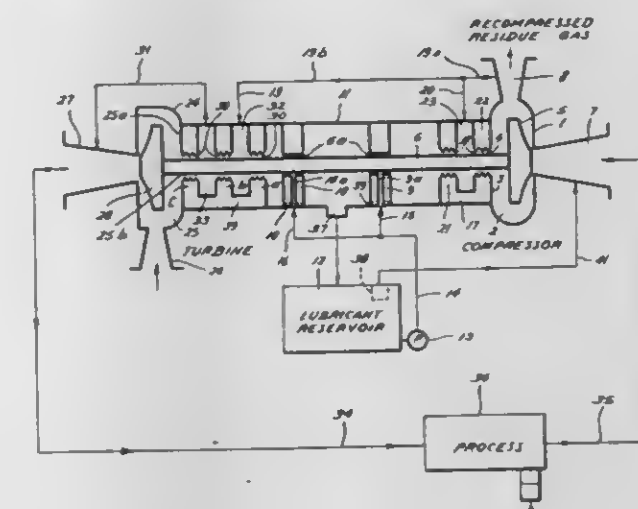


A flat bag of the type used for packaging sandwiches and the like is provided with a closure flap extending from the rear wall and having an adhesive applied thereto for sealing the flap to the front wall of the bag. The closure flap is folded or overflapped upon itself to form a protective enclosure for the adhesive prior to use of the bag. The overflapped closure prevents the adhesive from becoming inadvertently adhered to an exterior object and, in particular, adjacent bags in a dispensing carton.

3,420,434 ROTARY COMPRESSORS AND SYSTEMS EMPLOY- ING SAME USING COMPRESSOR GAS AS SEAL GAS

Judson S. Swearingen, 500 Bel Air Road, Los Angeles, Calif. 90024

Filed Dec. 30, 1966, Ser. No. 606,429
U.S. Cl. 230—116 14 Claims
Int. Cl. F04d 25/04; F04b 39/02



A rotary compressor is illustrated including a chamber with an outlet discharging gas under pressure from the chamber, and a shaft emerging from the chamber. The shaft is supported for rotation by at least one bearing disposed in a housing and lubricated by liquid injected under

pressure not greater than the pressure of the gas in the compressor outlet. The shaft is sealed between where it passes from the chamber and the bearing housing by a labyrinth seal, and further sealed by injecting compressor gas from the compressor outlet into the labyrinth seal intermediate its ends so that the pressure of the gas prevents lubricant from flowing into the compressor. A turbine may be connected to the compressor shaft on the opposite side from the bearing housing, and a second labyrinth seal extends along the shaft between the turbine and the bearing housing to seal therebetween. Additional sealing is provided by injecting gas from the compressor outlet into the second labyrinth seal intermediate its ends to prevent lubricant from passing through the second labyrinth seal, and by venting the second labyrinth seal at a point intermediate the injection of the compressor gas and turbine to the turbine outlet so that gas from the turbine chamber does not pass into the bearing housing.

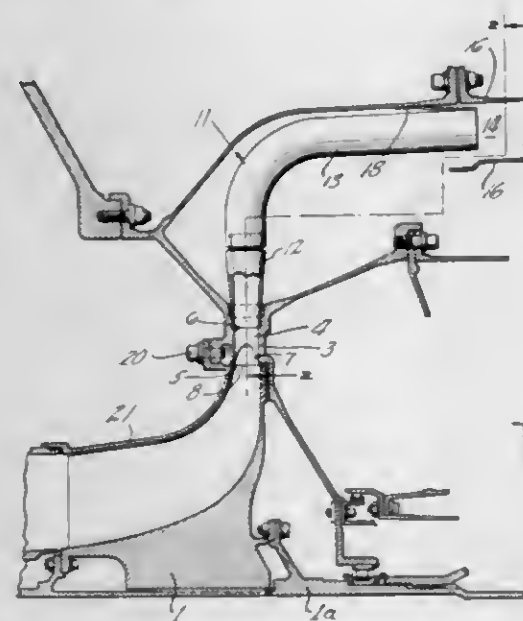
3,420,435

DIFFUSER CONSTRUCTION

Stanislas Jarosz, Mont St. Hilaire, Quebec, and David Patrick Kenny, St. Bruno, Quebec, Canada, assignors to United Aircraft of Canada Limited, Longueuil, Quebec, Canada

Filed Feb. 9, 1967, Ser. No. 629,840
U.S. Cl. 230-132
Int. Cl. F04d 17/08; F04d 29/00

8 Claims



A diffuser for a centrifugal compressor in which the air from the impeller is discharged into a plurality of passages tangential substantially to the outer periphery of the impeller with diffusing extension tubes at the outer ends of the tubes for turning the flow from a swirling radial condition to a swirling axial condition and with these extension tubes terminating in segmental-shaped outlets which together form substantially a complete annulus.

3,420,436

APPARATUS FOR FLUID TREATMENT BY UTILIZING THE CENTRIFUGAL FORCE

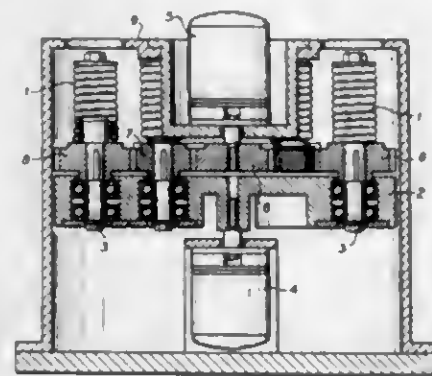
Yochiro Ito 28, 1-chome, Nishi-taka-aicho, Sumiyoshi-ku, Osaka, Japan

Filed Sept. 24, 1965, Ser. No. 489,931
U.S. Cl. 233-17
Int. Cl. B04b 5/02

3 Claims

Apparatus for fluid treatment utilizing centrifugal force comprising a turning disc and a high speed disc motor connecting to the turning disc for turning the disc. An annular container is provided for holding fluid therein and a shaft rigidly connected to the container, which shaft

is rotatably mounted on the turning disc eccentrically away from the center of the turning disc. A shaft motor is provided for rotating the shaft and the annular con-



tainer about its axis independently of the turning of the turning disc by the disc motor so that the annular container revolves while rotating with various predetermined angular velocity.

3,420,437

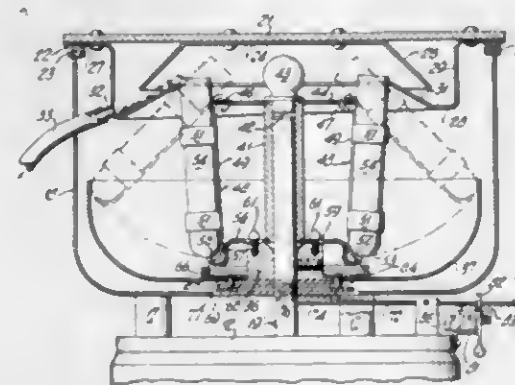
CELL WASHING CENTRIFUGE

Josef Blum, Norwalk, Conn., and Charles J. Filz, Hamilton, Mont., assignors to Ivan Sorvall, Inc., Norwalk, Conn., a corporation of Connecticut

Continuation-in-part of application Ser. No. 616,393, Feb. 15, 1967. This application Jan. 5, 1968, Ser. No. 696,038

U.S. Cl. 233-26
Int. Cl. B04b 5/04

19 Claims



A multispeed centrifuge for treating biological materials in swinging test tubes where both centrifugation and subsequent decantation take place by centrifugal force.

3,420,438

TENS TRANSFER ASSEMBLY

Gosta R. Englund, Stockholm, and Mats E. Mattsson, Sollentuna, Sweden, assignors to Svenska Dataregister AB, Stockholm, Sweden, a corporation of Sweden

Original application Mar. 14, 1962, Ser. No. 179,595, now Patent No. 3,263,915, dated Aug. 2, 1966. Divided and this application Mar. 23, 1966, Ser. No. 536,889

Claims priority, application Sweden, Mar. 17, 1961, 2,839/61

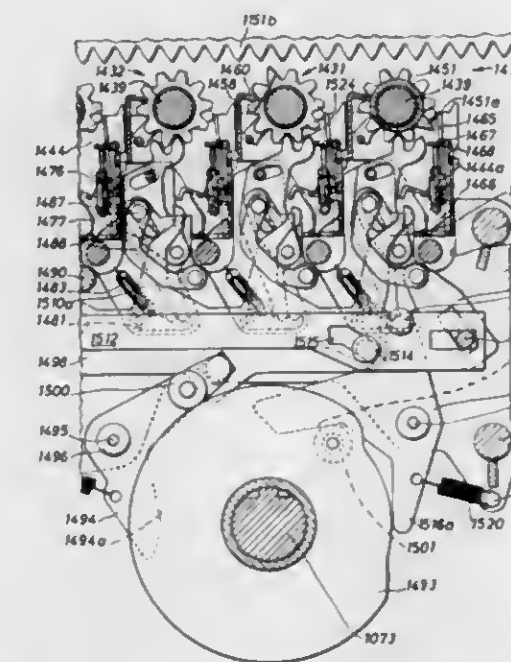
U.S. Cl. 235-137

5 Claims

Int. Cl. G06c 7/10; G06c 9/00; G06c 15/26

A tens transfer mechanism for an accounting machine includes a totalizer shaft and totalizer elements movable from a setting position coupled to setting slides to a transfer position in which each totalizer element is coupled to one of a pair of differential transfer levers provided for each order of the totalizer. A transfer indicating latch for each order which is movable with the totalizer elements is set in the setting position by the totalizer element in an adjacent order whenever a transfer is required, and this set transfer indicating latch latches the other differential transfer lever when the totalizer is moved to the transfer position so that opera-

tion of the pairs of differential levers results in movement of the levers coupled to the totalizer elements in only



those orders in which the remaining differential levers have been latched by the transfer latches.

3,420,439

COMFORT CONDITIONING SYSTEM

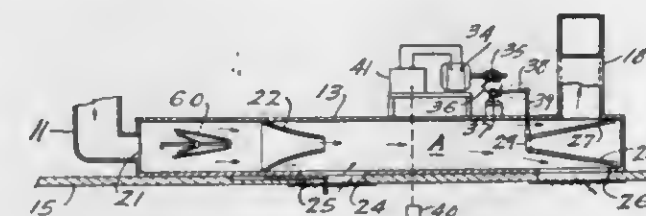
Gershon Meckler, Atlanta, Ga., assignor to Lithonia Lighting, Inc., Conyers, Ga., a corporation of Georgia

Filed Jan. 5, 1967, Ser. No. 607,508

U.S. Cl. 236-13

Int. Cl. F24f 7/04; F24f 13/06; G05d 23/275

4 Claims



A comfort conditioning system having a plurality of lighting fixture-heat exchangers in fluid communication with a fluid mixing box. Room or zone inlets and outlets are connected to the mixing box and a primary conditioned air inlet discharges into the mixing box. Control means, which respond to zone heat loads, are provided to supply a mixture of room return air and primary air directly to the room, or to first circulate the mixture to the lighting fixture-heat exchangers, or to circulate the mixture through a combination of both paths.

3,420,440

AUTOMATIC BALANCE VALVE FOR HEAT EXCHANGING FLUID

Charles G. Viner, P.O. Box 127, Old Turnpike Road, North Woodstock, Conn. 06257

Filed Mar. 10, 1965, Ser. No. 438,519

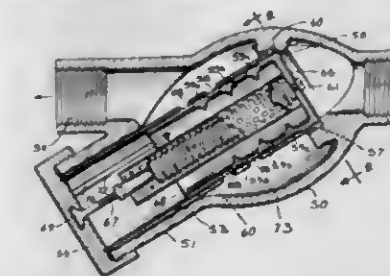
U.S. Cl. 236-93

Int. Cl. G05d 23/275

7 Claims

1. An automatic balance valve comprising a hollow housing defining a chamber and first and second ports each of which communicates with said chamber, means in said housing defining an annular seat adjacent said first port, said housing further including an opening communicating with said chamber, a first generally cylindrical internal surface extending inwardly from said opening, and a second generally cylindrical internal surface adjacent said

seat extending toward and coaxial with said first generally cylindrical surface, a cap threadably connected with said housing and closing said opening, a first tubular sleeve positioned in said housing with one end portion received by said first generally cylindrical internal surface and with its other end portion received by said second generally cylindrical internal surface, said sleeve being engageable with said annular seat and with said cap to limit its axial movement relative to said housing and having an open end adjacent said first port, said first sleeve having



a portion intermediate said end portions thereof which cooperates with said housing to define a chamber portion in communication with said second port, a second sleeve telescopically received in said first sleeve, said two sleeves including a plurality of ports in their side walls which are arranged in circumaxially spaced sets so as to be brought into and out of registration as said second sleeve is moved axially of said first sleeve, a thermostatic actuator located wholly inside of said second sleeve, means fixing one end of said actuator to said second sleeve, and means fixing the other end of said actuator to said housing.

3,420,441

APPARATUS FOR FASTENING THE JOINTS OF RAILROAD RAIL

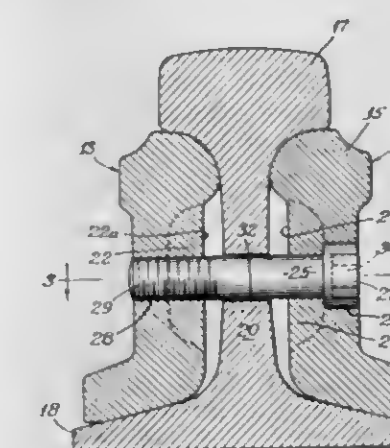
John H. Deckert, 860 De Witt Place, Chicago, Ill. 60611

Filed Apr. 27, 1967, Ser. No. 634,218

U.S. Cl. 238-243

Int. Cl. E01b 11/10

1 Claim



Standard lengths of railroad rail, e.g. 39 feet, are laid with the ends abutting when the ambient temperature is in the range of about 60° F. to about 80° F. Angle irons having at least two bolts per rail end are applied and the bolts are tightened to an extent such that the tension in the bolt exceeds about 100,000 pounds per square inch to frictionally secure the angle iron to the rails to an extent that there is no movement therebetween under ordinary conditions.

Angle bars are provided which are used in conjunction with a high strength bolt having a round head. At each point where a bolt is to be applied the two angle bars have inwardly facing, vertically extending, bosses, with the area at the boss of one bar having a cylindrical recessed opening to receive the bolt head and the same area of the opposite bar being threaded to engage the threads of the bolt. No provision is made for movement of the bolt with respect to either of the angle bars or the rails.

3,420,442

ENGINE EXHAUST CONTROLLER

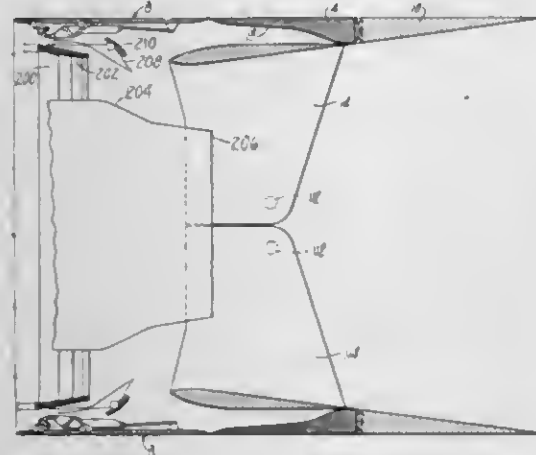
Richard E. Teagle, North Palm Beach, Fla., assignor, by mesne assignments, to the United States of America as represented by the Administrator of the Federal Aviation Administration

Filed Dec. 28, 1966, Ser. No. 605,453

U.S. Cl. 239—127.3

Int. Cl. B64d 33/04

9 Claims



An engine exhaust controller for receiving the gas flow from an engine and coordinating exhaust nozzle position for forward flight and redirection of exhaust gases for reversal thrust. A mechanical arrangement consisting of aerodynamically operated free floating blow-in doors synchronized to the "clam shell" sections such that movement of the blow-in doors repositions the "clam shell" sections to provide a maximum supersonic and subsonic aircraft performance.

3,420,443

APPARATUS FOR DIVIDING LIQUID INTO UNIFORMLY DISTRIBUTED FLOWS

Christianus W. J. Van Koppen, Sittard, and Cornelis Thomas, Hoensbroek, Netherlands, assignors to Stamcarbon N.V., Heerlen, Netherlands

Filed May 2, 1966, Ser. No. 546,966

Claims priority, application Netherlands, May 15, 1965, 6506231

U.S. Cl. 239—193

Int. Cl. B05b 1/14

7 Claims



A liquid divider and distributor apparatus has an inclined trough-shaped bottom having a feeding device at one end thereof. The bottom is formed by a series of alternately positioned transverse flat and corrugated plates which overlap so as to provide a discharge gap or gaps between the lower edge of each flat plate and the succeeding corrugated plate. Each corrugated plate forms an angle with the plane of the respective succeeding flat plate, which angle increases towards the end of the trough remote from the liquid feeding device. The trough-shaped member is inclined to allow liquid to cascade downwardly from the liquid feeding device and the angles of the

corrugated plates are set so that a substantially equal flow of spraying liquid drops through each of the said gaps during flow of liquid therein.

3,420,444

APPARATUS FOR WASHING THE CARGO TANKS OF SHIPS, PARTICULARLY OIL TANKERS

Karl Gunnar Ajnefors, Goteborg, Sweden, assignor to Salen & Wicander AB, Solna, Sweden, a corporation of Sweden

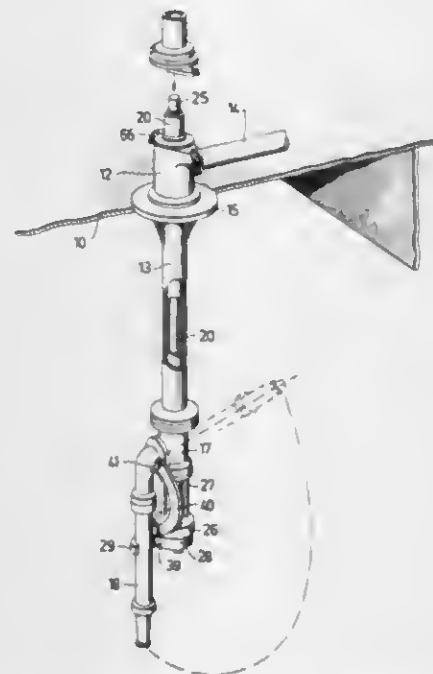
Filed June 14, 1966, Ser. No. 557,450

Claims priority, application Sweden, June 14, 1965, 7,829/65; May 12, 1966, Ser. No. 6,534/66

U.S. Cl. 239—227

Int. Cl. B05b 3/14

3 Claims



The present invention relates to an apparatus for washing the cargo tanks of ships, particularly oil tankers, which apparatus includes a jet nozzle that depends downwardly into the cargo tank and which is connected to means for both rotating the nozzle about a vertical axis and means for oscillating the nozzle about a horizontal axis between an upper and a lower annular limit position.

3,420,445

AUTOMATIC DEODORANT SPRAY DEVICE FOR BATHROOMS AND THE LIKE

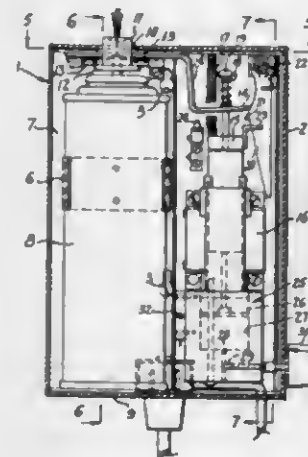
Andrew J. Inzerilli, 24 Mill St., Tobyhanna, Pa. 18466

Filed June 16, 1966, Ser. No. 558,137

U.S. Cl. 239—274

Int. Cl. B05b 7/24; E03d 9/00

11 Claims



A deodorant spraying device for bathrooms and other areas, which can be either manually or automatically op-

erated and has control means associated therewith for varying the duration of the spraying period.

3,420,446

AUTOMATIC WATERING DEVICE

Georges Marie Jacques Henry Emile Taudiere, Paris, France, assignor to La Culture Sans Terre S.A., Antes, Niort, Deux-Sevres, France, a society of France

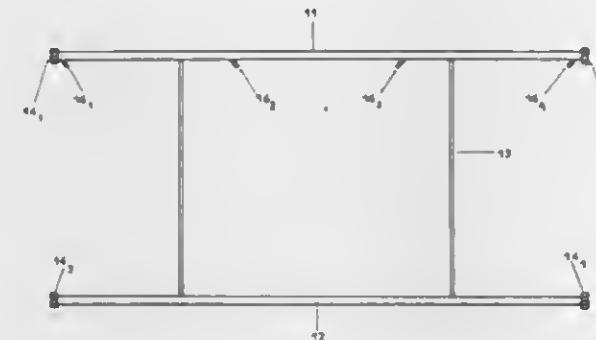
Filed Oct. 6, 1966, Ser. No. 584,839

Claims priority, application France, Oct. 13, 1965, 34,865

U.S. Cl. 239—450

Int. Cl. A01g 27/00

7 Claims



The present invention relates to an automatic watering device comprised of a framework partially tubular in nature. A certain quantity of water is permanently retained in the framework. Calculated delivery of water from the water reserve in the framework is distributed in a dosed manner to a first tank and then to a second counterbalanced tank. The filling of the counterbalanced tank controls an inlet valve for supplying water to the framework and consequent distribution of the water from inside the framework through nozzles for spraying over seeds and/or plants supported by the framework.

3,420,447

DISTRIBUTOR FOR DISTRIBUTING COOLING LIQUID

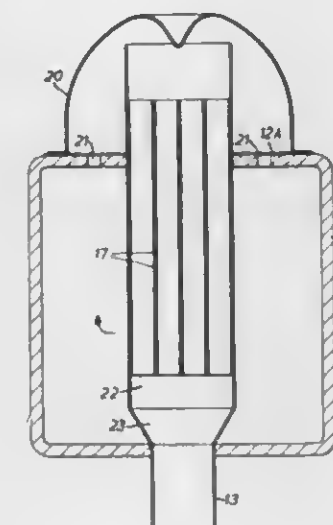
David Robert Howard, Sheffield, England, assignor to Davy and United Engineering Company Limited, Sheffield, England

Filed May 2, 1966, Ser. No. 547,967

U.S. Cl. 239—550

Int. Cl. B05h 1/14

6 Claims



The disclosure of this invention relates to a fluid cooling system of the type used to cool hot strip as it leaves the last stand of the finishing train. The disclosure includes

a header into which a controllable supply of fluid is introduced. To the header there is connected a plurality of delivery pipes mounted so that they extend in a vertical direction with their lower ends above the strip which passes beneath the pipes. Within each pipe there is provided a series of streamlining sections. Each pipe, with respect to its upper ends, terminates in a chamber disposed above the header in which the chamber communicates with the header through restricted passages.

3,420,448

NOZZLE FOR A HEATING OR VENTILATING SYSTEM

John Douglas Snow, Bedworth, England, assignor to Clear Hooters Limited, Bedworth, Warwickshire, England

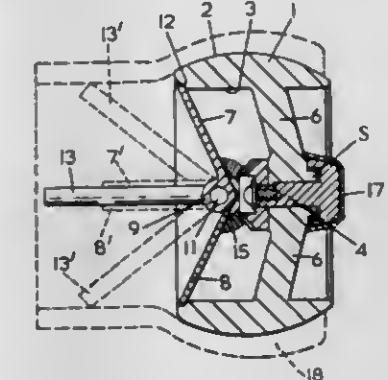
Filed May 19, 1966, Ser. No. 551,372

Claims priority, application Great Britain, May 22, 1965, 21,757/65

U.S. Cl. 239—569

Int. Cl. B05b 1/34

1 Claim



A directional nozzle for a heating or ventilating system. The nozzle is defined by a tubular deflector member having a part-spherical outer surface universally movable in a seating. The deflector member contains a pair of semi-circular flaps hinged together along their diametral edges about a common axis extending perpendicularly to the axis of a spindle extending axially of the deflector member and movable laterally of its axis to effect directional adjustment of the deflector member by universal movement of the latter in its seating. The spindle is connected by bevel gears to the flaps whereby on turning the spindle about its axis the flaps can be swung between open and closed positions to vary the area of flow through the tubular member.

3,420,449

DEVICE FOR CONTROLLING THE RATE OF FLOW OF A FLUID

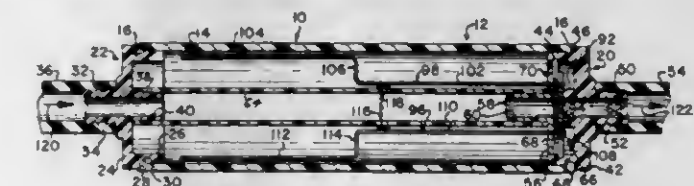
Frank J. Mincielli and Yvonne Mincielli, both of 92—13 52nd Ave., Elmhurst, N.Y. 11373

Filed Feb. 10, 1967, Ser. No. 615,106

U.S. Cl. 239—576

Int. Cl. B05b 1/30

10 Claims

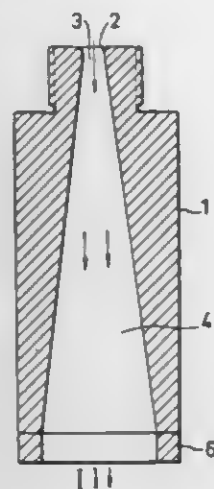


A fluid control device for varying the rate of flow of a fluid which includes a housing having a passage communicating with inlet and outlet bores to provide a path for the flow of the fluid. Movable shutters having through openings are provided in the housing. Connected to the shutters are means for shifting the shutters relative to each other to move the respective openings into and out of communication with each other and the passage to control the fluid flow rate.

3,420,450

NOZZLE MEANS FOR BREAKING FOAM
 Carl Arne Bergholm, Sundsvall, Sweden, assignor to Svenska Cellulosa Aktiebolaget, Sundsvall, Sweden
 Filed May 3, 1965, Ser. No. 452,528
 U.S. Cl. 239—601
 Int. Cl. B01d 47/04; B05b 1/10

3 Claims



1. A nozzle for apparatus for breaking foam of black liquor, comprising a sharply converging inlet duct and a slightly diverging outlet duct, the axial length of which exceeds considerably the axial length of said inlet duct, the outlet end of said inlet duct being connected to the inlet end of said outlet duct by a smoothly curved wall defining an opening having substantially the same size and shape as the smallest cross-section of each of said ducts, characterized in that the axial length of said inlet duct is less than half of the diameter of said opening and that the outlet duct has the shape of a frustum of a cone, the apex of which has an angle of less than 15°.

3,420,451

DEVICE FOR SPREADING MOIST MATERIAL ON THE GROUND

Anton Kahlbacher, 8 Aschbachstrasse, Kitzbuhel, Austria

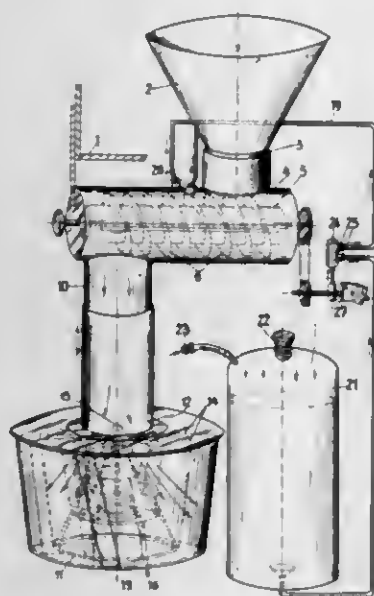
Filed Aug. 18, 1965, Ser. No. 480,671

Claims priority, application Austria, Aug. 25, 1964, A 7,338/64; Apr. 12, 1965, A 3,326/65; July 19, 1965, A 6,595/65

U.S. Cl. 239—666

Int. Cl. E01c 19/20; A01c 7/16

15 Claims



A device for spraying roadways with moist material, preferably salt, in which the material is fed to a dis-

charge pipe in the quantity desired via a casing with several angularly adjustable disks mounted thereon. A throwing rotor receives the material from the discharge pipe and regularly distributes the material onto the road surface in an adjustable amount and in a desired throwing direction.

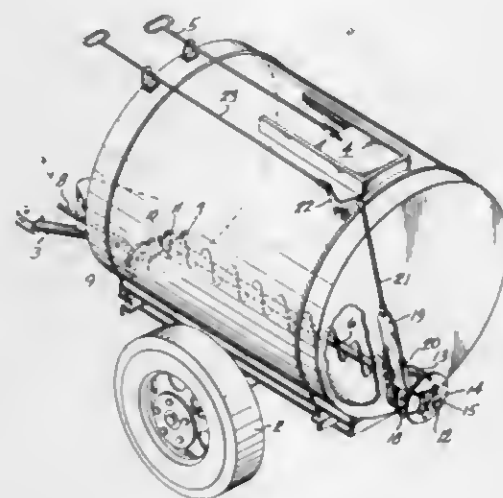
3,420,452

LIQUID MANURE SPREADER

James E. Vaughan, Elma, Wash., assignor to Vaughan Co., Inc., Montesano, Wash., a corporation of Washington
 Continuation-in-part of application Ser. No. 511,630, Dec. 6, 1965. This application Oct. 6, 1966, Ser. No. 584,861

U.S. Cl. 239—670
 Int. Cl. B05b 9/02

6 Claims



A trailer-mounted tank of cylindrical shape has a loading port in its upper side closable by a slide. A power-driven screw extending lengthwise through the lower portion of the tank has a centrifugal vane impeller attached to its rear end which rotates in an auxiliary housing. A discharge port in the side of the housing, toward which the impeller vanes turn upward, has its external side unconfined and freely open through which the impeller can fling the liquid manure. The screw extends through an aperture in the rear wall of the tank, which aperture is smaller than the cross-sectional area of the housing but extends to the bottom of the tank and housing beneath the screw. A shield extends from the bottom of the impeller housing at its discharge opening side over the upper portion of the screw to deflect liquid into the vanes at the housing side opposite the discharge opening so that liquid cannot bypass the impeller from the discharge end of the screw to the outlet port. The shield extends from the tank rear wall aft substantially to the impeller.

3,420,453

DAMP GRINDING FOR AGGLOMERATION
 Yoshinosuke Tada, Nagoya, Syoji Mizuno, Chita-machi, Chita-gun, and Syunsaku Kashima, Selichi Yasui, and Taku Sugiura, Nagoya, Japan, assignors to Yabagi Seitetsu Kabushiki Kaisha, Nagoya, Japan, a corporation of Japan

Filed Apr. 6, 1966, Ser. No. 540,559

U.S. Cl. 241—15

Int. Cl. B01f 3/00

6 Claims

A damp grinding process for the agglomeration of raw materials containing water and/or other liquids, characterized by the fact that various industrial raw materials, or their mixtures with additives, particularly iron ores, such as pyrite cinder, are mixed, ground and kneaded in a damp grinding mill provided with peripheral discharge

openings, the pulverizing medium of which is selected from such as a knife or fork, is inadvertently received in the throat, said signal being used to stop the action of the



state, and then directly agglomerated as they are, or with the addition of a small amount of water.

3,420,454

APPARATUS FOR DEFIBERING CELLULOSIC MATERIAL IN WATER

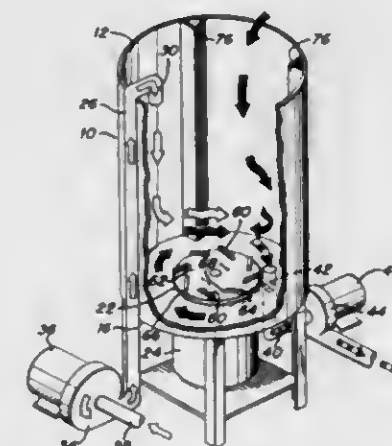
George E. Brown, Jr., Cincinnati, Ohio, assignor to Fibers Unlimited, Inc., Cincinnati, Ohio, a corporation of Ohio

Filed Jan. 4, 1965, Ser. No. 422,971

U.S. Cl. 241—46

Int. Cl. B02c 13/14; D21b 1/32

7 Claims



The breaking down or defibering of scrap or waste cellulosic sheet material wherein the sheet material and water are placed in a container, the container having in the bottom portion thereof a rotor carrying on its working face vanes of relatively small size with respect to the rotor which, when operated at high speed, will cause compressional waves in front of the vanes and voids in the rear with the material having a tendency by cavitation to enter into the voids and whereby sonic shocks are produced to break down the fibrous material.

3,420,455

WASTE DISPOSAL UNIT

Peter L. Chorney, Hoopston, Ill., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware

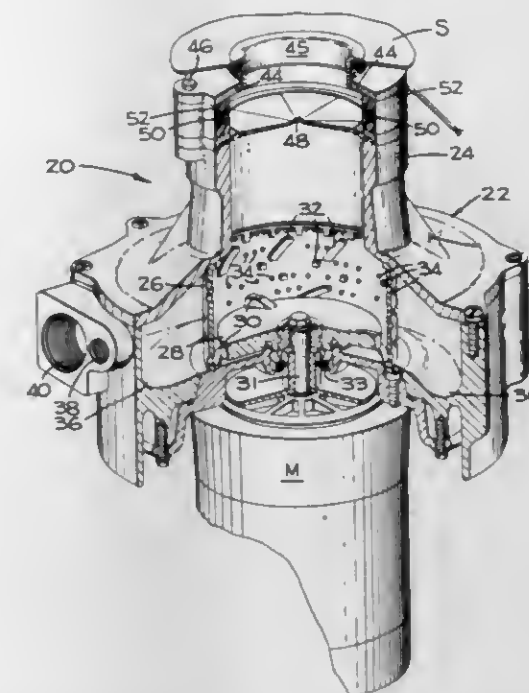
Filed May 12, 1966, Ser. No. 549,688

U.S. Cl. 241—46

Int. Cl. B02c 21/00; E03c 1/266

2 Claims

A waste disposal unit of the type found in kitchen sink drains has an induction coil placed about its entrance throat to create a detectable signal when a metallic item,



comminuting elements of the disposal unit to prevent damage thereto and to the metallic item.

3,420,456

INDUSTRIAL MIXER

Ulrich Christof von Eiff, Malintzin No. 34-B, Coyoacan, and Angel Lira Ugalde, Oruro No. 40, Col. Lindavista, both of Mexico City, Mexico

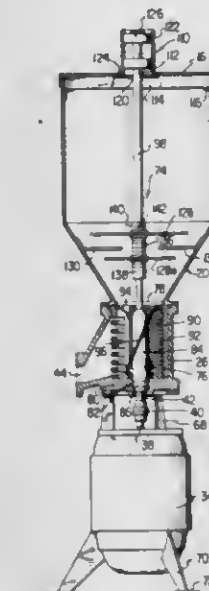
Filed May 2, 1966, Ser. No. 546,927

Claims priority, application Mexico, Apr. 30, 1965, 82,310

U.S. Cl. 241—46.04

Int. Cl. B02c 13/18

6 Claims



An industrial mixer handles liquids, slurries, pastes, solids in liquids, and solids only by the provision of a vertically disposed container having a tapered lower end discharging directly into and merging smoothly with the inlet end of a comminuting pump. A common shaft assembly drives the impeller for the pump and precutter blades which are disposed within the container and which divide the interior of the container into an upper chamber above the precutter member and a lower chamber

below the precutter member. Stationary cutter blades are fixed to the container below the precutter member in spaced relation thereto and in marginally overlapping relationship therewith. The material being discharged by the pump may be recirculated back to the container with heat exchange being provided in the recirculating portion.

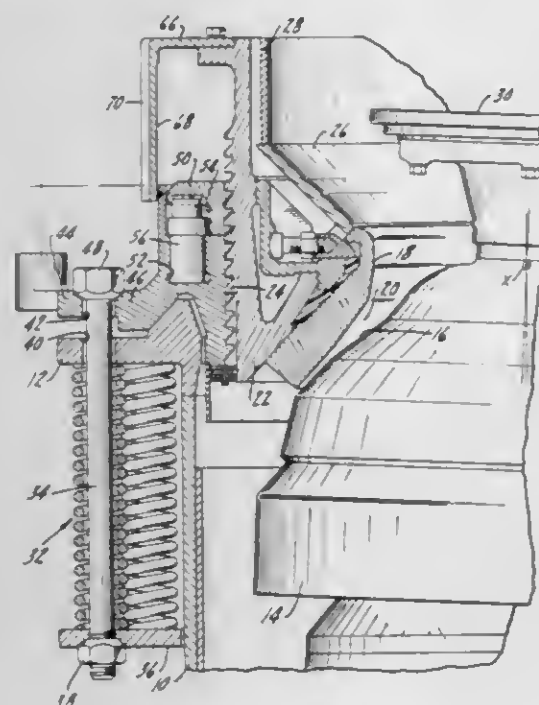
3,420,457

LOCKING AND ADJUSTING MEANS FOR CRUSHERS AND CONTROL MEANS THEREFOR

Helmut Peters, Milwaukee, and Arnold P. Szaj, Hales Corners, Wis., assignors to Nordberg Manufacturing Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Feb. 10, 1966, Ser. No. 526,595

U.S. Cl. 241-207
Int. Cl. B02c 17/08

3 Claims



1. For use with a crusher having a main frame, a bowl screwthreadedly adjustable in relation to the main frame and a head positioned within the main frame and gyrated relative to the bowl, the space between the head and bowl forming a crushing cavity, said crusher including an adjustment system including yielding locking means adapted to lock the bowl against unintended rotation in relation to the frame, and fluid operable unlocking means for releasing the bowl locking means, and further including fluid operable adjusting means for moving the bowl, a fluid actuating unitary circuit which includes pump means adapted to be put in circuit with the unlocking means and with the fluid operable adjusting means for moving the bowl, and a pressure sequence valve in said fluid circuit connected to said unlocking means and connected between the pump means and the fluid operable adjusting means, said pressure sequence valve being arranged to open and permit operation of said adjusting means at a pressure sufficient to insure prior operation of said unlocking means.

3,420,458

DEVICE FOR CONTROLLING THE REFINING LOAD OF A DISK REFINER

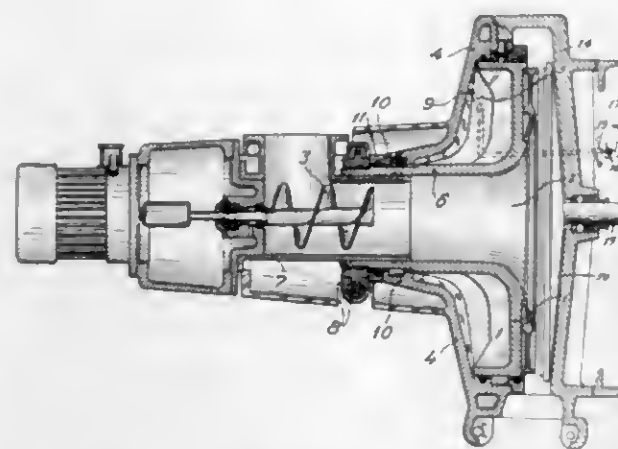
Antti J. Yli-Paavola, Tampere, Finland, assignor to Oy Tampella AB, Tampere, Finland, a corporation of Finland
Filed Dec. 14, 1965, Ser. No. 513,741

U.S. Cl. 241-290
Int. Cl. B02c 23/00

3 Claims

A device for controlling the refining load in a disk refiner wherein the material being refined is worked be-

tween closely spaced opposed disks, the control being effected by a pressure medium acting in a chamber in



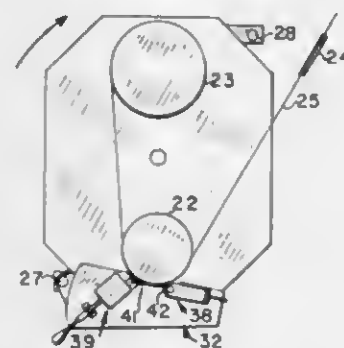
3,420,459

WIRE TAKE-UP

Vernon G. Peters, Grand Haven, Mich., assignor to Anaconda Wire and Cable Company, a corporation of Delaware
Filed July 3, 1967, Ser. No. 651,035

U.S. Cl. 242-25
Int. Cl. B65h 65/00; B65h 67/02

7 Claims



In a dual wire take-up, moving wire, being paid onto a reel that has become full, is fastened to the drum of an empty reel by means of an adhesive strip that is applied over it. At the same time the length of strand between the empty reel and the full reel is cut so that the full reel can be removed from the apparatus.

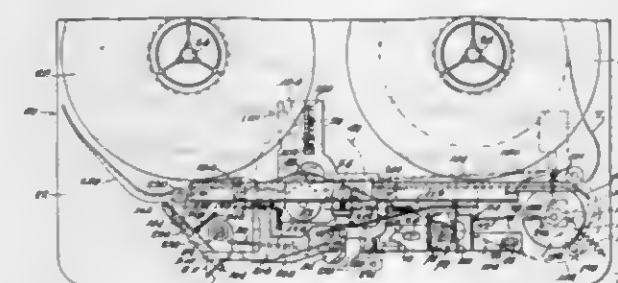
3,420,460

SELF-THREADING TAPE RECORDER

Ernest O. P. Tatter, Addison, and Phillip Vazzano, Des Plaines, Ill., assignors to Warwick Electronics Inc., a corporation of Delaware
Filed Oct. 26, 1964, Ser. No. 406,239

U.S. Cl. 242-55.12
Int. Cl. G11b 15/44

2 Claims



A tape recorder wherein a web of material of uniform width is frictionally fed along a path from a supply reel to a capstan feeding means by an initial drive means which bears directly upon the material between the edges

thereof. The capstan drive feeds the material to a take-up reel that includes means for automatically frictionally gripping the end of the material; and means, responsive to winding of the material on the take-up reel, is provided for moving the initial drive means out of the material path, for moving a member for guiding the end of material into the take-up reel to an inactive position, for shifting a backing member into engagement with a magnetic head assembly, and for shifting an end sensing member into engagement with the material.

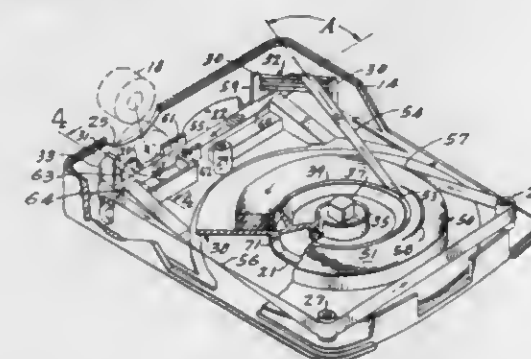
3,420,461

ENDLESS MAGNETIC TAPE CARTRIDGE

Ralph E. Cousino, Toledo, Ohio, assignor to Orrtronics, Inc., Perrysburg, Ohio, a corporation of Alabama
Filed Dec. 18, 1964, Ser. No. 422,483

U.S. Cl. 242-55.19
Int. Cl. G11b 23/04

9 Claims



A cartridge for an endless sound reproducing tape adapted to be removably received by a tape transport. The cartridge includes a rotating tape supporting platform which is normally locked against rotation and is unlocked when the cartridge is in position within the transport. The cartridge includes tape guide means positioned such that a loop of tape extending from the main coil on the supporting platform is turned to a position at right angles to the tape in the main coil such that the drive capstan and playing head of the transport contact that tape in the loop in a plane normal to the main coil axis. The cartridge further includes means for holding the main coil against movement when the tape supporting platform is in locked position.

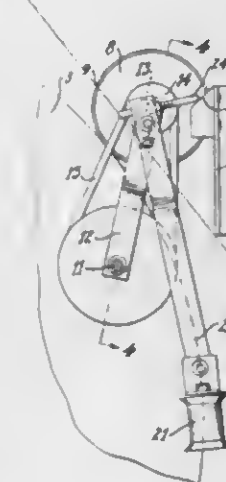
3,420,462

TENSION RESPONSIVE DRIVE FOR AN ENDLESS FILM PROJECTOR

Richard L. Stevens, Long Beach, Calif., assignor to Fannell, Inc., San Diego, Calif., a corporation of California
Filed Nov. 18, 1966, Ser. No. 595,412

U.S. Cl. 242-55.19
Int. Cl. B65h 17/48

2 Claims



A drive means for an endless film projector having a coil of film on a turntable peripherally driven by a wheel.

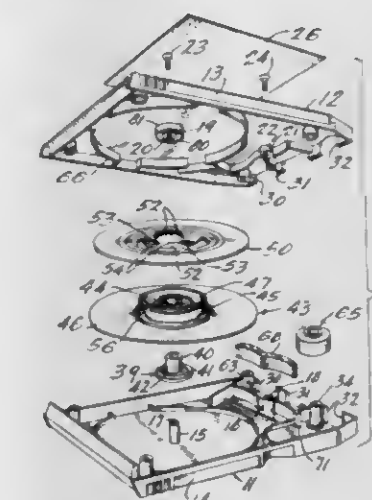
3,420,463

TAPE CARTRIDGE

Ralph E. Cousino, Toledo, Ohio, assignor to Orrtronics, Inc., Perrysburg, Ohio, a corporation of Alabama
Filed Jan. 9, 1967, Ser. No. 608,151

U.S. Cl. 242-55.19
Int. Cl. G11b 23/04

11 Claims



An endless magnetic tape cartridge playable in all positions includes a tape spool having its upper plate removably locked to its hub. A pressure roller assembly mounted within the cartridge includes a hub having a plurality of spaced openings and a resilient roller covering mounted on the hub and seated within the hub openings. A stripper bar is mounted within the cartridge in opposed relationship to a non-conforming tape entrance-way. A label is mounted over assembly screws connecting a cover and base comprising the housing, thereby providing a cartridge tamper indicator.

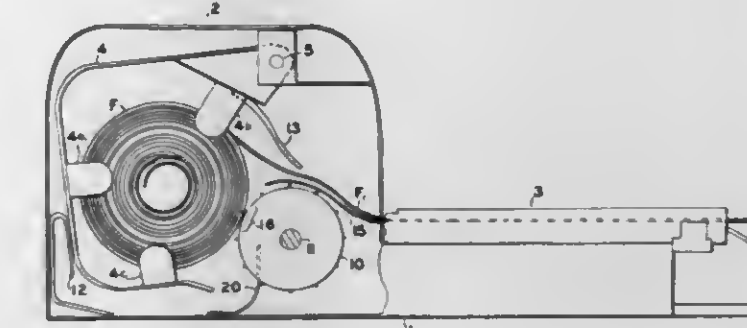
3,420,464

STRIP FILM ADAPTER

Karl Rudzitis, West Babylon, John Castellano, Commack, and Rudolph G. Wolz, Lake Ronkonkoma, N.Y., assignors to Viewlex, Inc., Holbrook, N.Y.
Filed Sept. 23, 1965, Ser. No. 489,644

U.S. Cl. 242-71.1
Int. Cl. G03h 1/04

3 Claims



A self threading film roll adapter having a body member with film viewing and film feeding portions. A film holder is pivoted within the film feeding portion and is spring loaded to press the film roll against a sprocket. The sprocket pushes the film roll, within the feeding portion, past guides and into the viewing portion.

3,420,465

CORE CARRYING MANDREL

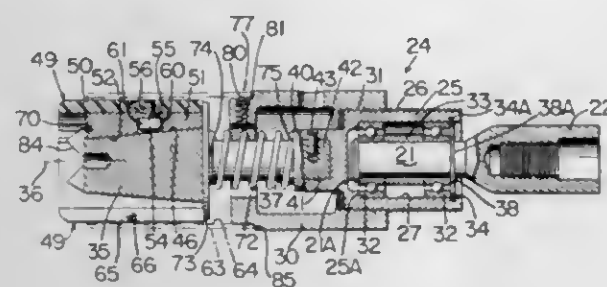
Hans A. Brunner, Hopewell, and Benton A. Whiteman, Richmond, Va., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

Filed Apr. 4, 1967, Ser. No. 628,477

U.S. Cl. 242—72.1

Int. Cl. B65h 75/18

10 Claims



This disclosure relates to an expandable mandrel for carrying a tubular core wherein such mandrel has a supporting member provided with a plurality of symmetrically arranged keyway means each having inclined planar bearing surface means and each carrying an associated tapered key which has a cylindrical core carrying segment fastened thereto. The plurality of cylindrical segments are normally held in a retracted, i.e. reduced diameter, position by yieldable urging means which acts axially along the elongated axis of such supporting member and holding means which acts radially inwardly toward such axis. Both the urging means and holding means are overridden to move the core carrying segments radially outwardly into engagement with the inside surface means of such tubular core upon driving such mandrel with a suitable drive means.

3,420,466

WATER SKI TOWROPE REEL

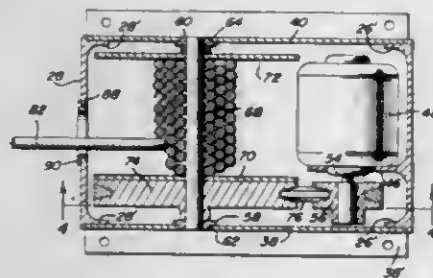
Melvin C. Sanders, Torrance, Calif., assignor of fifty-five percent to Lewis K. Uhler, San Gabriel, Calif.

Filed Dec. 12, 1966, Ser. No. 600,879

U.S. Cl. 242—86.5

Int. Cl. B65h 75/40

3 Claims



A winding reel assembly including a housing consisting of a wall structure including opposite upstanding front and rear walls interconnected at their upper ends by means of a top wall extending therebetween, the front and rear walls and top wall including opposite side inwardly offset and inwardly directed generally coplanar opposite side mounting flange portions and the housing further including upstanding side walls secured over the outer surfaces of the mounting flange portions by means of suitable fasteners removably secured through the side walls and anchoring the latter to the mounting flange portions of the wall structure. A winding member including opposite end wall structures is journaled between the opposite side walls of the housing and the front wall of the wall structure includes an opening therethrough for receiving a tension member having one end wound on the winding member. Also, the lower marginal edge portions

of the side walls include oppositely outturned mounting flange portions and the wall structure is upwardly displaceable from the side walls after removal of the fasteners securing the side walls to the mounting flange portions of the wall structure.

3,420,467

BOBBIN

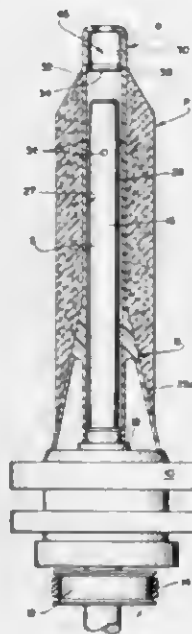
Charles C. Bell, Warwick, R.I., assignor to Leeson Corporation, Warwick, R.I., a corporation of Massachusetts

Filed Aug. 28, 1967, Ser. No. 663,657

U.S. Cl. 242—118.3

Int. Cl. B65h 75/10

10 Claims



A bobbin intended primarily for use with automatic textile machinery. Said bobbin having a compartment adjacent its tip adapted to receive and hold a length of the outermost end of the yarn wound thereon. One wall of said compartment is perforated so that the end of yarn can be deposited in said compartment, or removed therefrom by a stream of fluid, preferably air.

3,420,468

CROCHET CADDY

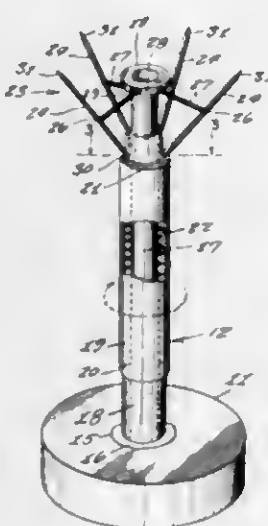
James Paul Rhoades, 8647 N. 37th Ave., Phoenix, Ariz. 85021

Filed May 10, 1967, Ser. No. 637,531

U.S. Cl. 242—134

Int. Cl. B65h 49/18

3 Claims



A holder for crochet thread or yarn which is carried upon a spool supported rotatably free upon the holder, the holder including a base, a rotatable post upon said base

and a plurality of outwardly pivotable arms which are fitted into the central opening of a spool for retaining the same thereupon.

3,420,469

PASSIVE COMMUNICATIONS SATELLITE OR SIMILAR ARTICLE

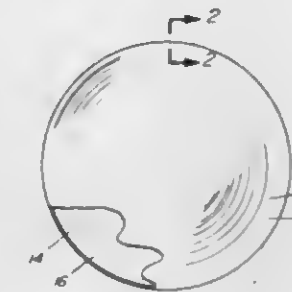
John S. Johnson and Edward E. McCullough, Brigham City, Utah, assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

Filed July 22, 1966, Ser. No. 567,101

U.S. Cl. 244—1

Int. Cl. H01f 10/04; B64g 9/00

5 Claims



A hollow body of thin, flexible material having force-field sources therein, so that the surface thereof is maintained smooth by mutual repulsion of adjacent fields of similar polarity.

3,420,470

BAND RETAINER FOR SATELLITE SEPARATION SYSTEM

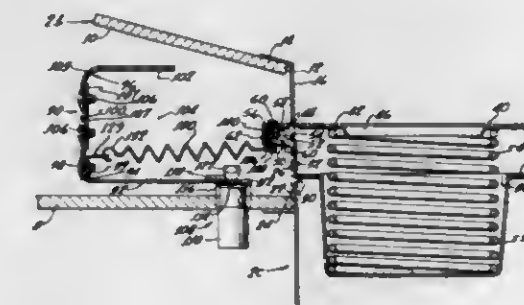
James G. Meyer, Beverly Hills, Calif., assignor to TRW Inc., Redondo Beach, Calif., a corporation of Ohio

Filed Nov. 18, 1966, Ser. No. 595,427

U.S. Cl. 244—1

Int. Cl. B64g 1/00

9 Claims



1. In a satellite system in which at least two satellites are stacked end-to-end and connected by means including a tensioned band extending around at least a portion of the periphery of their mating ends which band is released by remote control to permit the separation of the stacked satellites in space, means for retaining the released band comprising:

a toroidal housing member disposed outboard of the tensioned band for catching the released band; means connecting the housing member to one of the satellites; and, spring means connected to the band urging it interior of the housing.

3,420,471

JET SHOES

John D. Bird, Hampton, Howell D. Garner, Newport News, and Ernest D. Lounsbury and David F. Thomas, Jr., Hampton, Va., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Feb. 24, 1967, Ser. No. 619,520

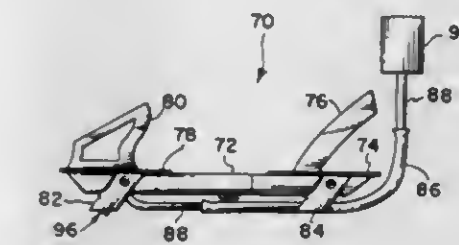
U.S. Cl. 244—4

Int. Cl. B64c 39/00; F03h 5/00; A43b 5/00

11 Claims

An apparatus for attachment to the feet of a person desiring extravehicular space locomotion having a fluid

thruster controlled by the toes of the person. Toe end heel attachment elements are utilized for securing a base that supports the thruster and a control circuit therefor to each foot. The control circuit is either electric, having



a switch for energizing a solenoid valve permitting fluid to flow through a nozzle, or fluidic, having a syringe connected to a relay that operates a valve permitting fluid to flow through the nozzle.

3,420,472

HELICOPTER HAVING IN HORIZONTAL FLIGHT THE CHARACTERISTICS OF AN AIRPLANE

Jacques Boudes, 132 Blvd. de la Liberation, 13 Marseille 4, France

Filed Feb. 20, 1967, Ser. No. 617,141

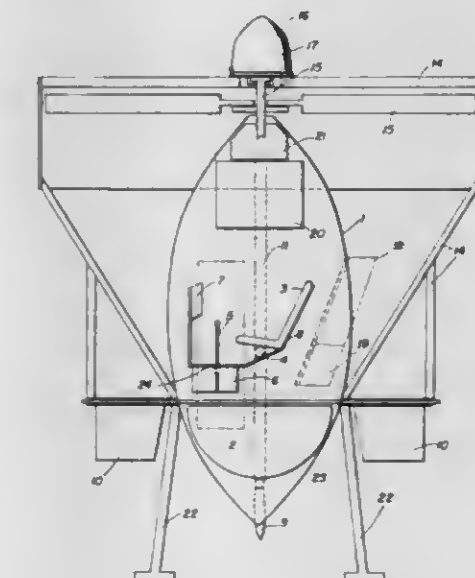
Claims priority, application France, Feb. 21, 1966,

21,322

U.S. Cl. 244—7

Int. Cl. B64c 27/22; B64c 27/82

6 Claims



This invention has to do with an aircraft and, more particularly, to apparatus permitting vertical takeoff and landing and, alternatively, horizontal flight.

3,420,473

POWERED AND STEERABLE LIGHTER-THAN-AIR VEHICLE

Frederick G. Kraft, 2975 Fox Hollow Road, Springfield, Ohio 45502

Filed Apr. 11, 1966, Ser. No. 541,718

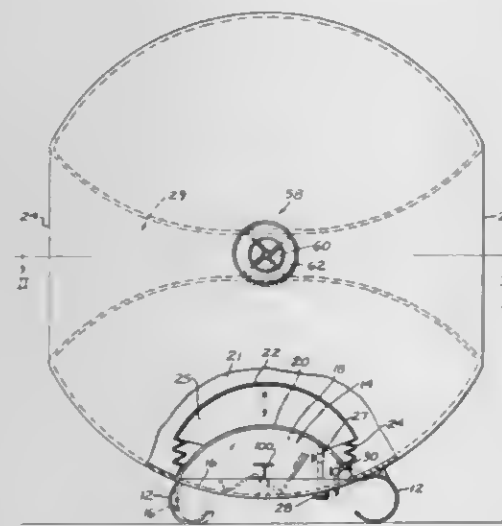
U.S. Cl. 244—30

Int. Cl. B64h 1/62; B64h 1/26; B64b 1/36

5 Claims

1. An aircraft comprising: a rigid thin walled sealed hollow shell of substantially spherical shape defining a main chamber, said aircraft being buoyant in the atmosphere when said chamber is partially evacuated, a passage-way extending through said shell in the fore and aft direction and open to the atmosphere at its opposite ends and having flared out entrance and exit ends, propelling means

in said passageway for propelling a jet of gas through said passageway toward and out of the rear end thereof to exert a forward thrust on said aircraft, first and second means carried on said shell at respectively opposite sides thereof and operable for developing directional jets of gas directed substantially tangential to said shell for control of said aircraft, control means connected to said first and second means for control thereof in unison for controlling the direction of discharge of said directional jets from said first and second means, means recessed into the bot-



tom of said shell forming a passenger compartment for the aircraft, an auxiliary chamber in said main chamber and sealed off therefrom and expansible and contractable for varying the effective size of said main chamber to vary the buoyancy of the aircraft in the atmosphere, said control means including control elements in said passenger compartment for control by an operator therein, and means in said passenger compartment for selectively controlling the expansion and contraction of said auxiliary chamber.

3,420,474

METHOD FOR COLLAPSING AN AERODYNAMIC DECELERATING VEHICLE

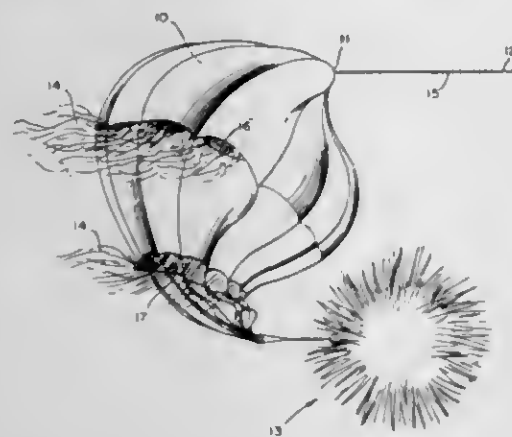
Ronald C. Noles and Jimmie M. Craig, China Lake, Calif., assignors to the United States of America as represented by the Secretary of the Navy

Filed Aug. 25, 1967, Ser. No. 663,453

U.S. Cl. 244—31

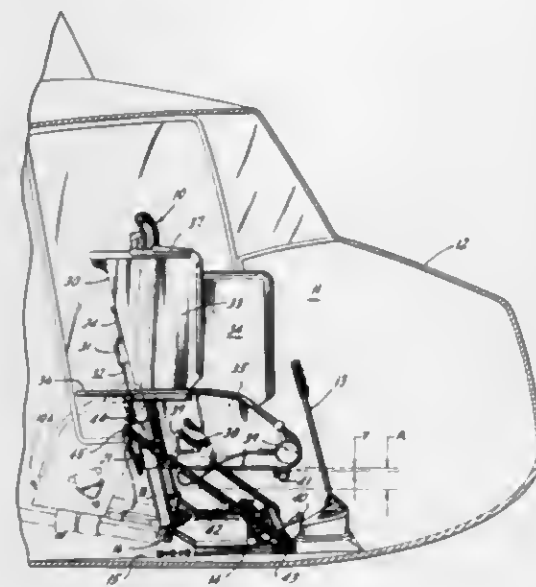
Int. Cl. B64b 1/58; B64d 17/14; F41j 9/00

1 Claim



A method for collapsing an aerodynamic decelerating vehicle, such as a balloon or parachute adapted to carry a payload, which comprises securing by suitable means to the apex of the vehicle a line or streamer of predetermined weight so that it hangs loosely over the outside of the vehicle. When the payload is delivered and the holder carrying the payload becomes less than the weight of the line, the vehicle tips over causing evacuation of the supporting air or gas and subsequent descent of the vehicle.

3,420,475
PILOT'S CHAIR FOR COMBAT AIRCRAFT
Tomas R. Castillo, Garden Grove, and Fred M. Roberts, Dana Point, Calif., assignors to Philco-Ford Corporation, a corporation of Delaware
Filed Sept. 6, 1966, Ser. No. 577,379
U.S. Cl. 244—122 5 Claims
Int. Cl. B64d 25/06; B60r 21/10



This invention relates to a chair for use in military aircraft, and particularly to a chair which is armored, in order to protect the pilot or other occupant from gunfire. A unitary, impact and vibration absorbing structure is provided. It is specially, although not exclusively, adapted to utilization in combat helicopters, which often make very hard landings, sometimes deliberately.

3,420,476

AIRCRAFT DE-ICING SYSTEM

Wolfgang Volkner, Wedel, Arno Sonksen, Hamburg-Altuna, and Herbert Schultz, Buxtehude, Germany, assignors to Licentia Patent-Verwaltungs-G.m.b.H., Frankfurt am Main, and Hamburger Flugzeugbau G.m.b.H., Kreetzlag, Hamburg-Finkenwerder, Germany

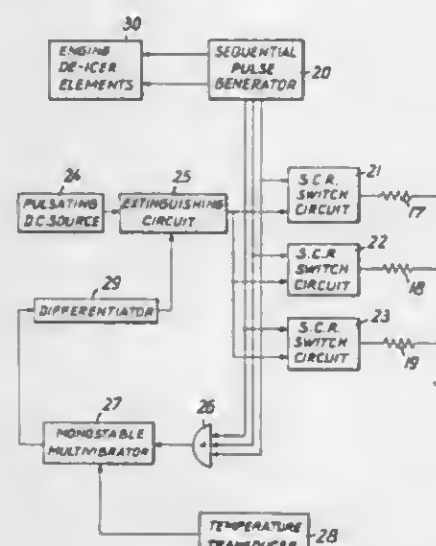
Filed May 1, 1967, Ser. No. 635,209

Claims priority, application Germany, May 4, 1966, L 53,497

U.S. Cl. 244—134

Int. Cl. B64d 15/12

3 Claims



Two groups of de-icer heating elements are provided in an aircraft, one group being energized continuously when the de-icer is operating, and the other group being energized periodically for short periods of time by a pulse generator. A temperature transducer is mounted adjacent to one of the continuously energized heating

elements, and the time period during which the periodically energized heating elements are energized is varied in accordance with the output of the temperature transducer to regulate the temperature of the heating elements in accordance with environmental conditions and to prevent the heating elements from becoming overheated. This is done by energizing the periodically energized heating elements in sequence at predetermined fixed times with a first pulse generator, and de-energizing the heating elements with a second pulse generator which is coupled to the temperature transducer and which varies the time of de-energization in accordance with the output of the temperature transducer.

3,420,477

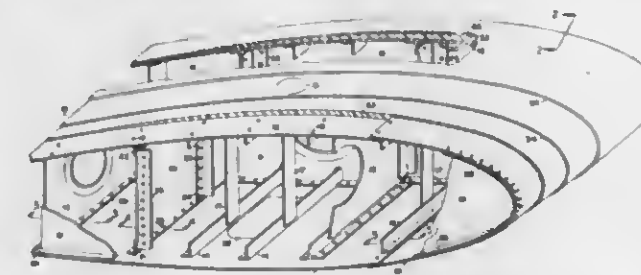
INTEGRAL FUEL TANK

Durrell U. Howard, 306 Krameria Drive, San Antonio, Tex. 78213

Continuation of application Ser. No. 486,801, Sept. 13, 1965. This application June 5, 1967, Ser. No. 652,367

U.S. Cl. 244—135 5 Claims

Int. Cl. B64d 37/04; B64c 3/34



An integral fuel tank for aircraft comprising a tank of desired configuration and capacity constructed in the wing of the said aircraft utilizing the supporting structure thereof; the inboard, outboard, and rear closure members are secured to the said supporting structure and sealed inside the wing; at least one sheet of flexible material is laminated to the outer surface of the skin of the wing panel and extends outwardly of the limits of the fuel tank thus formed, not only effectively sealing the fuel tank but also improving the aerodynamic performance of the wing.

3,420,478

PARACHUTE

Otis B. Ferguson, Alamogordo, N. Mex., assignor to Recovery Systems Research, Inc., Alamogordo, N. Mex., a corporation of New Mexico

Filed Apr. 26, 1967, Ser. No. 633,810

U.S. Cl. 244—142 13 Claims

Int. Cl. B64d 17/02; B64d 17/14; B64d 17/18



Parachute apparatus including one air confining member or a plurality of suitably spaced air confining members

carried by the canopy which are open at both ends and of decreasing section toward the apex for directing a restricted flow of air from an outward portion of the canopy toward the apex with its release at an increased velocity adjacent the central portion of the canopy.

3,420,479

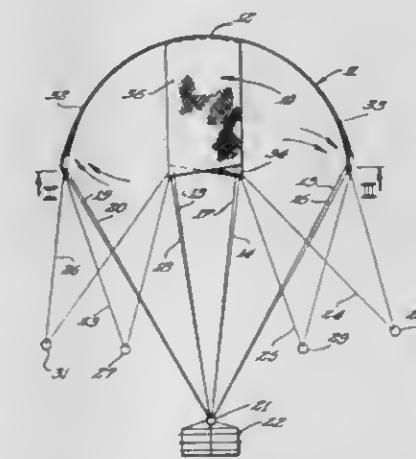
TREE SNAGGING PARACHUTE

Keith D. Odney, Sioux Falls, S. Dak., assignor to Raven Industries, Inc., Sioux Falls, S. Dak., a corporation of South Dakota

Filed Dec. 14, 1967, Ser. No. 690,641

U.S. Cl. 244—152 11 Claims

Int. Cl. B64d 17/14; B64d 17/18; B64d 17/24



A parachute which carries flying lines with weights that are slung out due to rotation of the parachute to catch in trees or other items so as to be easily visible on the ground.

3,420,480

UNIVERSAL VIBRATOR MOUNT

Carl G. Matson, 401 E. Central Blvd., Kewanee, Ill. 61443

Filed Feb. 27, 1967, Ser. No. 618,780

U.S. Cl. 248—14 10 Claims

Int. Cl. F16m 13/02; B65g 67/24



A universal vibrator mount for rigid, preferably permanent attachment to an object to be vibrated in connection with the unloading, settling, flowing, etc. of fluent, particulate etc. material, the mount being of substantial size as compared with the area of the container etc. wall to which it is attached and having one or more pairs of divergent clamp surfaces to which various types of vibrators or vibrator clamps may be attached.

3,420,481

TRANSMISSION SADDLE FOR LIFT

Lyle L. Arnes, Racine, Wis., assignor to Walker Manufacturing Company, Racine, Wis., a corporation of Delaware

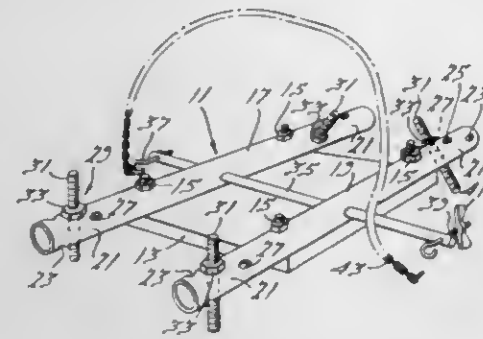
Filed Oct. 6, 1967, Ser. No. 673,411

U.S. Cl. 248—25 2 Claims

Int. Cl. A47b 57/20

A saddle for holding irregularly shaped objects such as truck transmissions comprises a pair of parallel tubes

having a plurality of adjustable transmission engaging supports that may be placed at different locations and a



flexible strap that may be placed over the transmission to hold it securely on the supports.

3,420,482

ARTICLE FASTENER

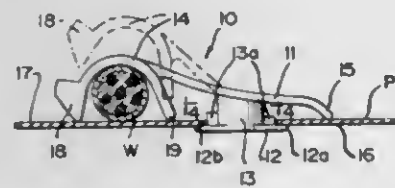
Raymood F. Taylor, Stevensville, Mich., assignor to Whirlpool Corporation, a corporation of Delaware

Filed July 21, 1967, Ser. No. 655,153

U.S. Cl. 248-71

11 Claims

Int. Cl. F16b 19/00; F16b 45/00



A fastener having means for retaining an article such as a wire to one surface of a thin panel, with the fastener having integral means for resiliently retaining the fastener in place on the panel.

3,420,483

WALL MOUNTED WASTEBASKET

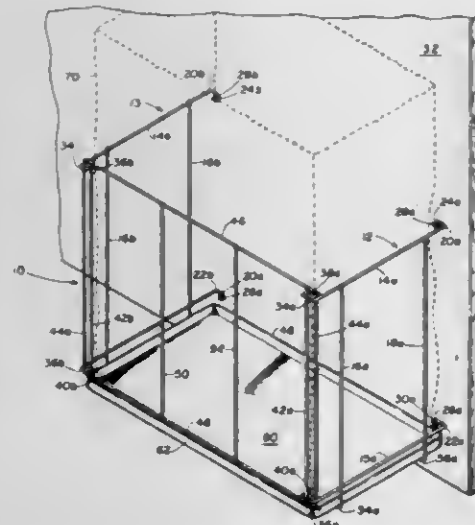
James E. Stalker, Richardson, Tex., assignor to Home Metal Products Company, Plano, Tex., a corporation of Texas

Filed Nov. 20, 1967, Ser. No. 684,391

U.S. Cl. 248-95

9 Claims

Int. Cl. A47j 45/02



A pair of rectangular wire frame sides are vertically attached to a wall in a spaced relationship to support a rectangular front portion parallel to the wall. A tray is supported by hooks depending from the lower sides such that the tray is removable. A disposable refuse sack is

3,420,484 CORNER CONSTRUCTION FOR KNOCK-DOWN TABLES

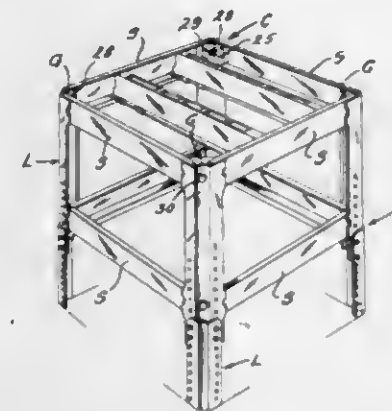
Ralph Mattick, Frontenac, Mo., assignor to General Metal Products Company, St. Louis, Mo., a corporation of Missouri

Filed Mar. 6, 1967, Ser. No. 620,765

U.S. Cl. 248-188

Int. Cl. F16m 11/16

14 Claims



A corner construction for a table with an upright leg and two angularly positioned side members, a corner gusset having an oblique wall positioned between said side members, said side members having connectors thereon, a bolt extending through said connectors and said gusset, said leg having tabs thereon extending into an opening in said side members in contact with said gusset to provide a sturdy corner construction.

3,420,485

SUPPORT FOR ROOM HEATER

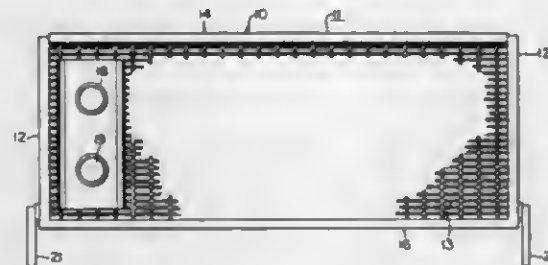
David B. Price, Mansfield, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed July 22, 1966, Ser. No. 567,262

U.S. Cl. 248-188.3

Int. Cl. F16m 11/10

2 Claims



Combination tilting and self-leveling support structure for an appliance such as a space heater. The support structure is characterized by the provision of a pair of legs which are pivotally connected to the appliance casing for independent movement, there being bias means interposed between the casing and each of the legs to provide a friction coupling therebetween.

3,420,486

LADDER BRACKET

Charles E. Baker, Lansing, Mich., assignor to one-half to Dwane L. Davis, Lansing, Mich.

Filed Dec. 8, 1966, Ser. No. 600,184

U.S. Cl. 248-210

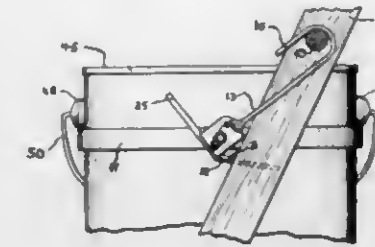
Int. Cl. E06c 7/14

3 Claims

An apparatus for supporting a paint bucket on a ladder. The device provides a horizontal arm canti-

levered to either side of a ladder, and supported thereon by positive engagement with both a rung and a rail thereof. On the horizontal arm is journaled a ring which

sliding movement in vertical slideway channels formed in the base, to the rear of and below the pivotal axis at the upper end of such base.



circumscribes the bucket and swivels to keep the bucket vertically disposed, in compensation for tilt or lean of the ladder.

3,420,487

SUPPORT BRACKET FOR OVERLAPPING WINDOW SHADES

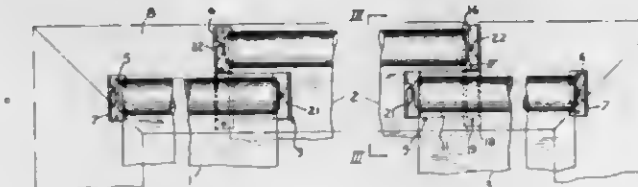
Henry A. Larsen, 220 S. Home Ave., Pittsburgh, Pa. 15202

Filed Oct. 12, 1967, Ser. No. 674,948

U.S. Cl. 248-266

Int. Cl. A47h 1/142

2 Claims



A support for a window shade roller projects forward from one end of a vertical metal plate, the opposite end portion of which is bent backwardly and then parallel to the rest of the plate for a short distance. This back portion of the plate has an upwardly extending extension, from which a support projects forward for one end of another window shade roller above the first roller. The extension also is provided with a hole to receive a fastener for connecting the bracket to a vertical surface. The rollers supported by the bracket will overlap each other so that the shades hanging from the rollers will overlap.

3,420,488

FOLD-AWAY WALL MOUNTED SUPPORT

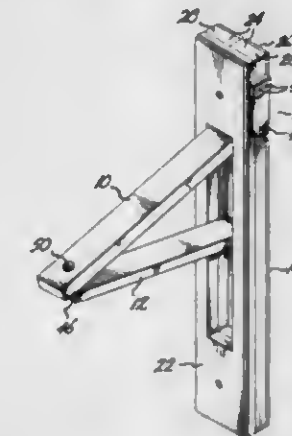
Robert L. Sisler, 16404 Kirkland Way, Bothell, Wash. 98011

Filed Aug. 1, 1966, Ser. No. 569,496

U.S. Cl. 248-291

Int. Cl. A47f 5/00; A47i 23/16

4 Claims



A rigid foot supporting member is pivotally connected at its upper end to an upper portion of a wall mounted base. The opposite end of the support is pivotally connected to an end of a rigid brace member. The opposite end of the brace member is mounted for up-and-down

3,420,489

ADJUSTABLE BOLT ASSEMBLY FOR BATTERY SUPPORTING BRACKET

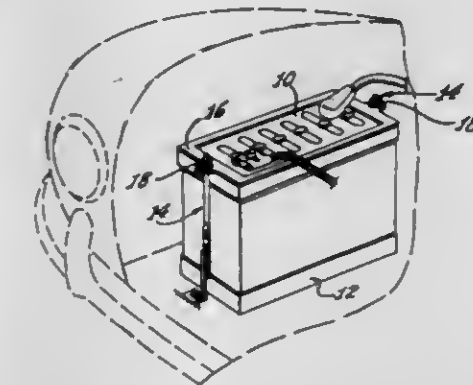
James J. Doggett and George Meletios Raptis, Pacific Palisades, Calif., assignors to James J. Doggett & George M. Raptis, Pacific Palisades, Calif., a partnership

Filed June 5, 1967, Ser. No. 643,634

U.S. Cl. 248-361

Int. Cl. B60r 11/00

4 Claims



An improved non-corrosive bolt assembly for use in a storage battery supporting bracket is described herein; for mounting storage batteries in motor vehicles, and the like; the bolt assembly being adjustable to receive a wide variety of battery sizes.

3,420,490

REAR VIEW MIRROR SUPPORT BRACKET

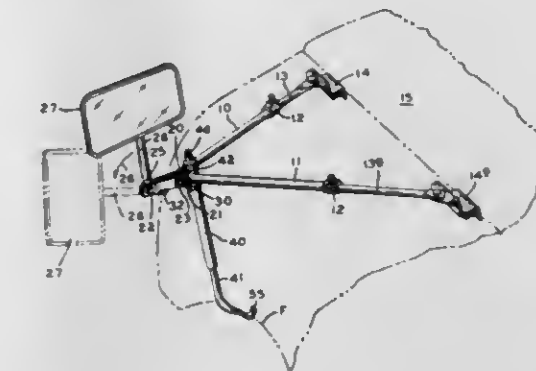
Handry J. Malachowski, Wilton, Conn., assignor to Yankee Metal Products Corp., Norwalk, Conn., a corporation of New York

Filed Apr. 12, 1967, Ser. No. 630,263

U.S. Cl. 248-486

Int. Cl. A47g 1/24; A47i 5/00

9 Claims



An outside rear view mirror support bracket having a pair of arms and a leg which when applied to the fender and the hood and drawn together, apply stresses that hold the bracket fixed to the automobile entirely through the stresses.

3,420,491

TIE ROD ASSEMBLY ADAPTED FOR USE IN A CONCRETE WALL FORM AND INCLUDING NOVEL ELASTOMERIC SPACER MEMBERS

George F. Bowden, Northbrook, and John R. Gilbert, Chicago, Ill., assignors to Symons Mfg. Company, Des Plaines, Ill., a corporation of Delaware

Filed Oct. 9, 1967, Ser. No. 673,709

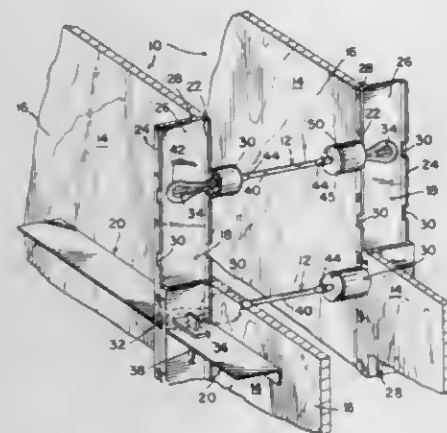
U.S. Cl. 249-216

Int. Cl. E04g 17/06

4 Claims

A tie rod assembly for concrete wall forms in which the tie rod has looped ends for connection to the form

panels, breakbacks by means of which the rod is fractured to remove the looped ends from the hardened concrete wall, and elastomeric spacer members of special construction which are easily removed from the formed concrete wall. The spacer members are each of cylindrical configuration and include a central hollow cylindrical hub

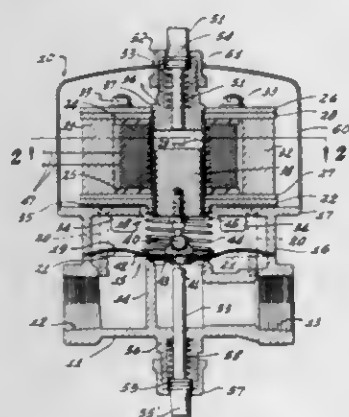


and an outer hollow cylindrical wall connected together by radial fins which resemble the spokes of a wheel. By inserting a screwdriver into the hub of each spacer member and twisting the same, the fins are placed in tension so as to shrink the outer wall and thus free the spacer member from its position of embedment.

3,420,492

BISTABLE VALVE MECHANISM OR THE LIKE
William A. Ray, North Hollywood, Calif., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
Filed Oct. 6, 1965, Ser. No. 493,510

U.S. Cl. 251-68 6 Claims
Int. Cl. F16k 31/08



A valve device for fluids in which the valve or control member is normally resiliently retained in a valve-closed position and moved to a valve-open position by electromagnetic means aided by permanent magnets. When the control member reaches valve-open position, it is retained in the position by the permanent magnets. Return to a valve-closed position is effected by the electromagnetic means working in opposition to the permanent magnets and in concert with a spring.

3,420,493

COMBINATION METERING, CHECK AND SHUT-OFF VALVE

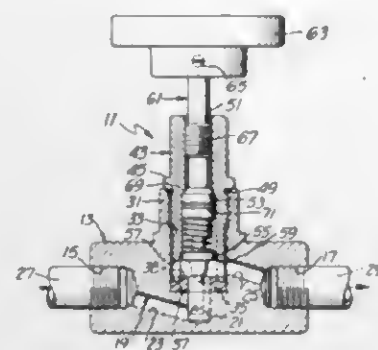
Wilbur P. Kraft, 431 Lomita St.,
El Segundo, Calif. 90245

Filed Dec. 13, 1965, Ser. No. 513,332

U.S. Cl. 251-82 1 Claim
Int. Cl. F16k 15/18

A combination valve capable of metering flow in one

direction, capable of acting as a check valve preventing flow in the opposite direction, and capable of being set



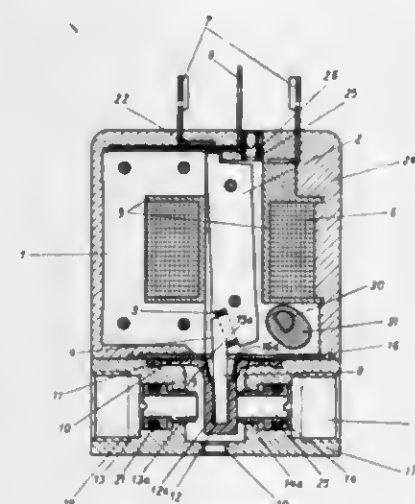
in fully closed or fully open positions to prevent flow or to permit free flow, respectively.

3,420,494

ELECTROMAGNETIC VALVE

Otto Egner, Crlesbach, Germany, assignor to Nostorog AG, Zug, Switzerland, a corporation of Switzerland
Filed May 13, 1965, Ser. No. 455,490

U.S. Cl. 251-130 8 Claims
Int. Cl. F16k 11/02; 31/06



An electromagnetic valve capable of operating with alternating current and constructed as a compact unit. The electromagnetic valve comprises a housing member including an armature having a projecting portion. A magnetic coil surrounds the armature and effects movement thereof. A valve unit is provided including a valve housing connected with the housing member. A diaphragm is disposed at the region of the interface between the housing member and the valve housing, the diaphragm including an integral extended sleeve portion located within the valve housing and providing a pocket-like compartment into which the projecting portion of the armature extends. At least one valve seat is arranged in the valve housing, the valve seat being capable of being closed directly by the integral extended sleeve portion of the diaphragm as moved by the projecting portion of the armature.

3,420,495

TANK VALVE APPARATUS

Herman D. Muehl, 10851 Drury Lane,
Lynwood, Calif. 90262

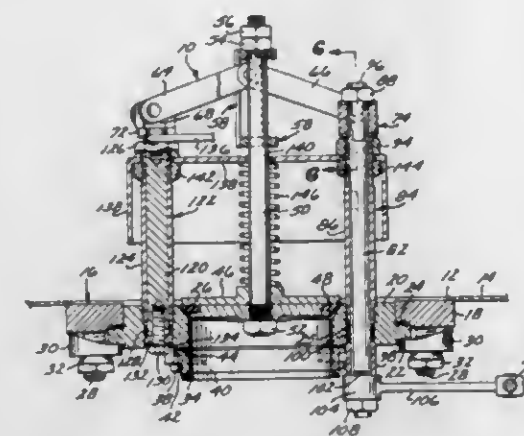
Filed Apr. 3, 1967, Ser. No. 627,845

U.S. Cl. 251-144 6 Claims
Int. Cl. F16k 1/00

A tank valve apparatus particularly adapted for effecting rapid discharge of the liquid contents of a tanker truck or the like by reason of its location substantially

out of the path of liquid flow, the valve being oriented interiorly of the tank and movable inwardly to a dis-

charge position by toggle arms actuatable by levers which are pivotable from the exterior of the tank.



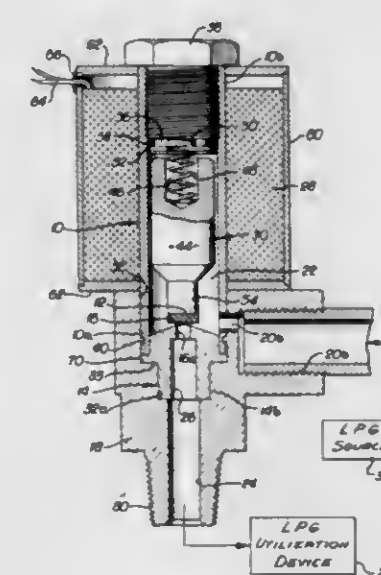
3,420,496

SOLENOID VALVE ASSEMBLY

John E. Hallberg, Rosemead, Calif., assignor to MacBee Engineering Corporation, South El Monte, Calif., a corporation of California

Filed Jan. 9, 1967, Ser. No. 608,113

U.S. Cl. 251-141 7 Claims
Int. Cl. F16k 31/06; F16k 51/00



A solenoid valve assembly is provided in which the conventional solenoid coil operated plunger is employed but in which, novelly, the body portion of the valve is individually formed by molding, casting or otherwise shaping material around a plunger guiding sleeve having a valve seat insert therein, to form the body and to retain the valve seat insert within the sleeve.

3,420,497

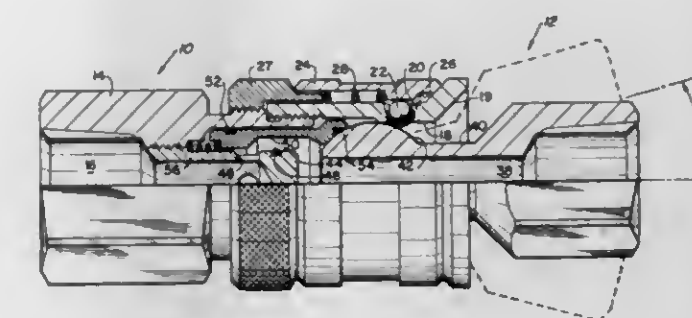
MISALIGNABLE FLUID-TIGHT COUPLING

Wayne E. Wilcox, McKees Rocks, Pa., assignor, by mesne assignments, to SRM Company, a corporation of Pennsylvania

Filed July 28, 1966, Ser. No. 568,502

U.S. Cl. 251-149.6 6 Claims
Int. Cl. F16l 27/04

A positive lock coupling is disclosed in which radially reciprocable locking balls are moved radially inwardly to contact the nipple portion of the coupling and retain the nipple within the housing or are moved radially outwardly to release the nipple portion of the coupling. The nipple of



dially of the cylindrical portion of the nipple so that the nipple can misalign itself with respect to the housing. The housing has a funnel-like end portion which extends into close proximity to the locking balls to further facilitate misalignment.

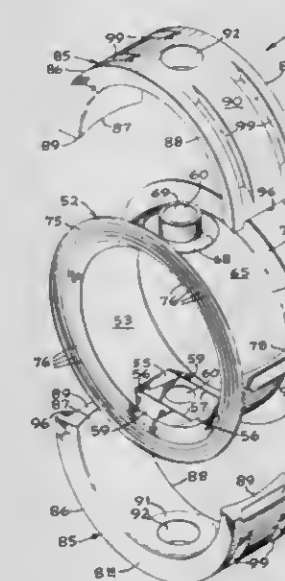
3,420,498

BUTTERFLY VALVE SEAT

Gordon C. Housworth, Houston, Tex., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware

Continuation-in-part of application Ser. No. 354,684, Mar. 25, 1964. This application Jan. 31, 1967, Ser. No. 612,892

U.S. Cl. 251-151 27 Claims
Int. Cl. F16k 1/22; 1/32



A butterfly valve having a replaceable unitized seat assembly of resilient sealing material bonded to a firm arcuate backup, the assembly providing a substantially smooth and undistorted flow passage when the valve is installed in a flow line and the sealing material compressed to establish a fluid-tight seal.

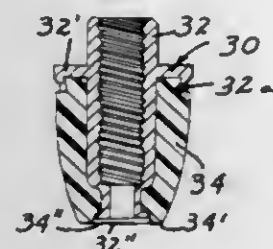
3,420,499 VALVE

Donald L. Pletcher, Bristol, and John D. Stalter, Elkhart, Ind., assignors to Nibco, Inc., Elkhart, Ind., a corporation of Indiana

Filed Feb. 28, 1966, Ser. No. 530,609

U.S. Cl. 251-266
Int. Cl. F16k 3/28

9 Claims



A valve having a rotational, threaded, axially fixed valve stem extending through a bonnet, with a valve plunger threadably engaged on the stem to move into and out of the valve seat region; the plunger having a polymeric jacket crimped onto a threaded core and symmetrically curved to match special, protruding, annular or ring shaped arcuate valve seats spaced by recesses around the inlet and outlet passages, each seat defining a limited area contact surface concave over its narrow width to match the plunger jacket, so that the resilient jacket protrudes into the recesses and passages and seals on the ring shaped seats.

3,420,500 OPERATING MECHANISM FOR BUTTERFLY VALVE

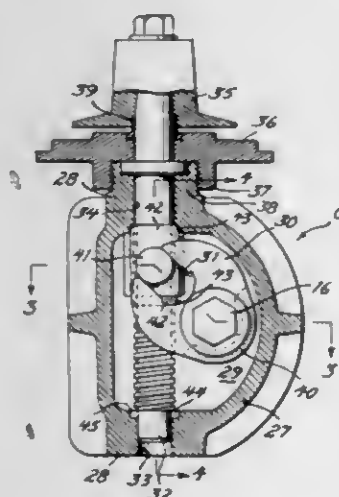
Donald L. Geiselman, Bradford, Pa., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware

Continuation-in-part of application Ser. No. 513,772, Dec. 14, 1965. This application Oct. 31, 1966, Ser. No. 604,090

U.S. Cl. 251-288

Int. Cl. F16k 51/00; F16d 11/00; F16h 29/20

8 Claims



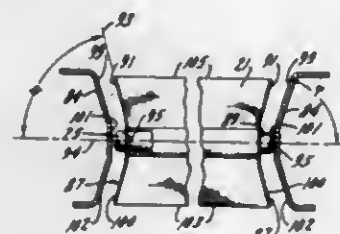
An operating mechanism for connection to a rotatable valve shaft which operates the valve between open and close positions. The mechanism includes a housing containing an externally driven lead screw threadably supporting a follower which travels in response to driven screw rotation. The follower is operably connected to rotate the valve shaft during the course of its lead screw travel, while ends of the follower interlock with housing sockets at the end of travel to prevent over-torque being transmitted to the valve.

3,420,501 VALVE

William E. Fritz, Hinsdale, Ill., assignor to Union Tank Car Company, a corporation of New Jersey
Original application Aug. 26, 1963, Ser. No. 304,445, now Patent No. 3,296,980, dated Jan. 10, 1967. Divided and this application Sept. 13, 1965, Ser. No. 486,961

U.S. Cl. 251-305
Int. Cl. F16k 1/22

8 Claims



A valve closure member has a concave sealing surface that closes against a convex seat by binding engagement.

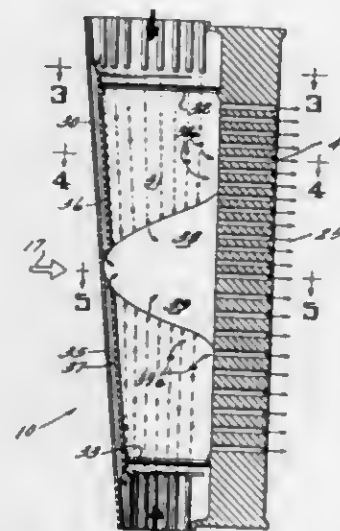
3,420,502 FLUID-COOLED AIRFOIL

Werner E. Howald, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York

Filed Sept. 4, 1962, Ser. No. 221,660

U.S. Cl. 253-39.1
Int. Cl. F01d 25/12

3 Claims



1. In an axial-flow turbomachine: an airfoil having a solid outer wall of substantial thickness, said wall thickness varying from a maximum at the radially spaced airfoil ends to a minimum adjacent the longitudinal center of said airfoil, said wall having leading and trailing edge portions and defining a central airfoil cavity therewithin;
- a plurality of longitudinally extending cooling fluid passages in the leading edge portion of said wall, the outer ends of said passages being open to the outside of said airfoil at the outer ends thereof to receive a cooling fluid from the outside of said airfoil, the inner ends of said passages opening into said cavity adjacent the longitudinal midpoint of said airfoil with at least one pair of ends of said passages extending from each of the ends of said airfoil being spaced in a directly opposed relationship, wherein the cooling fluid streams from each airfoil end cool said leading edge wall portion and interact to create a turbulent flow in said cavity;
- and a plurality of generally axially extending, radially spaced trailing edge passages extending from said cavity through the trailing edge wall portion to discharge the cooling fluid stream in said cavity therefrom.

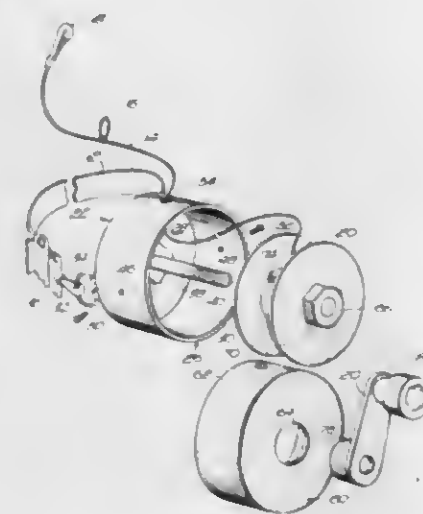
3,420,503 DEVICE FOR MAKING A CONTROLLED DESCENT

Anton Stangl, 27 Egramont Road, Brighton, Mass. 02135

Filed Aug. 22, 1967, Ser. No. 662,333

U.S. Cl. 254-154
Int. Cl. A62b 1/08

1 Claim



A reel of flexible wire or the like is rotatably mounted within a housing strapped to the body. A hand-operated clutch is employed to control the reel and the rate of descent of the wearer when the wire is secured to a fixed object. The device is useful whenever there is a need for a person to lower himself from a height as in mountain climbing or the like.

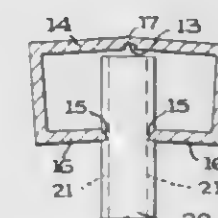
3,420,504 RAILINGS, LADDERS, TRUSSES AND SIMILAR TYPE ARTICLES

Earl Mulltz, Chevy Chase, Md., assignor to Pico Safe Stairs Co., Hyattsville, Md.

Filed Aug. 18, 1966, Ser. No. 573,297

U.S. Cl. 256-22
Int. Cl. E04f 11/18

10 Claims



Construction for use in railings, ladders, etc., using rails connected by pickets with inwardly beveled edges on the rails which are pressed into the pickets and with elongated portions at these edges which close the spaces between rail edges, between the pickets. The end posts are interlocking quarter sections for a variety of connection combinations of sections.

3,420,505 HANDRAIL AND POST ASSEMBLY

Henry J. Jefferys, Manakin-Sabot, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

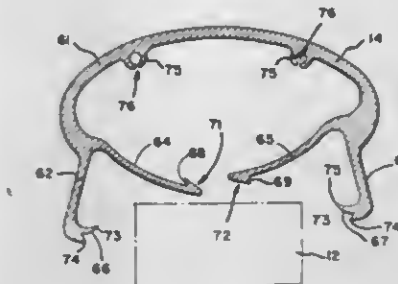
Filed June 1, 1967, Ser. No. 642,802

U.S. Cl. 256-22
Int. Cl. E04f 11/18

11 Claims

This invention discloses hollow rail and post structures which may be united to form railings, fences and the like. The hollow rail is of generally inverted U-shape in transverse section and of novel internal structure; and the post is formed by uniting several longitudinal sections,

each of substantially the same cross-section providing novel internal interlocking and reinforcing structure. A railing may be formed with these elements by placing the



hollow rail over the end of several pickets or posts and then applying inwardly directed pressure to the side walls of the rails, and the assembled railing is secured to a structural element which may be a pillar or post.

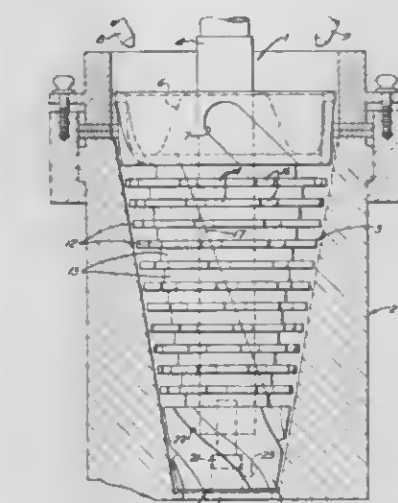
3,420,506 MIXING APPARATUS

Jesse Fred Gurley, Jr., Pittsburgh, Pa., assignor to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware

Continuation of application Ser. No. 401,819, Oct. 6, 1964. This application Apr. 3, 1967, Ser. No. 628,159

U.S. Cl. 259-7
Int. Cl. B01f 7/24

5 Claims



A mixing apparatus comprises a frusto-conically shaped chamber with an agitator of substantially the same shape disposed therewithin, said chamber having inlet means and a discharge opening and being only slightly larger than the agitator, whereby substantially instantaneous mixing may be accomplished with resultant increase in pump-out capability due to the relatively small capacity for the material to be mixed, said agitator having a shaft and a stirrer, said shaft extending longitudinally through the center of said stirrer, said stirrer having a receiving portion adjacent said inlet means, a body mixing portion, and securing means adjacent said discharge opening, said receiving portion being substantially bowl-shaped and having an axially aligned bore therethrough adapted to receive said shaft, said bowl-shaped receiving portion having a side wall and a base, said side wall having a plurality of slot-like openings therein whereby liquid components of said mixing apparatus may be channeled to said body mixing portion, said stirrer being comprised of a plurality of discs with spacers therebetween, said discs adapted to be moveable and said discs and spacers having a bore through the center thereof to receive said shaft, each of

said discs having a diameter greater than that of the spacers adjacent thereto and having a plurality of tooth-like projections, said securing means being attached to said shaft and having a plurality of obliquely extending grooves therein adapted to communicate with said discharge opening of said chamber.

3,420,507

MIXING APPARATUS

Wilhelm Eirich, Bahnhofstr. 19, and Gustav Eirich, Waldurner Str. 46, both of Hardheim, Nordbaden, Germany

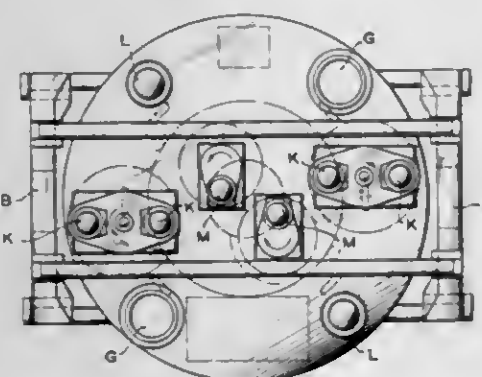
Filed Feb. 14, 1967, Ser. No. 615,941

Claims priority, application Germany, Feb. 19, 1966, E 31,074

U.S. Cl. 259-84

Int. Cl. B01f 9/08; B28c 5/14

13 Claims



Invention relates to mixing apparatus having a rotary bowl and a system of implements driven in a direction opposite the direction of the bowl in which at least one other system of implements is provided substantially diametrically opposite the first system and driven in the same direction as the bowl itself and preferably at a higher peripheral speed than the first system.

3,420,508

HOT GAS QUENCHER

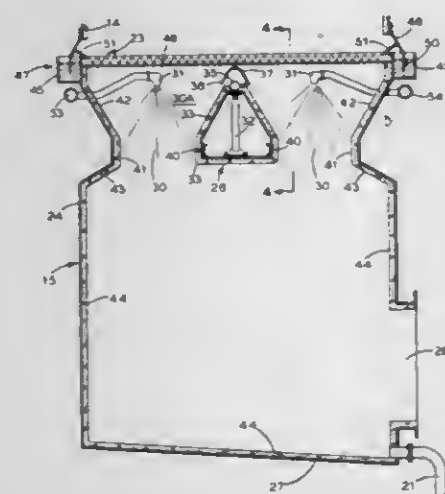
Thomas B. Hurst, Akron, and Edward P. Darlinger, Barberton, Ohio, assignors to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey

Filed Aug. 15, 1966, Ser. No. 574,275

U.S. Cl. 261-116

Int. Cl. B01d 51/00

7 Claims



A hot gas quencher wherein the gases are accelerated in passing between converging walls and contacted by

sprays of cooling water during acceleration. The converging walls are washed by films of wash water to remove solids deposited on the walls thereof. Leaving the gas acceleration and spray contact portion of the quencher, the gases are decelerated and turned in its flow direction to encourage the separation of coarse solids from the cooled gases.

3,420,509

HUMIDIFIER

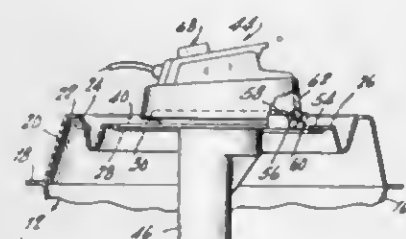
Lawrence Katzman, New York, and Edward Briggan, Brooklyn, N.Y., assignors to Kaz Manufacturing Co., Inc., New York, N.Y., a corporation of New York

Filed Feb. 1, 1966, Ser. No. 536,204

U.S. Cl. 261-142

Int. Cl. A61m 11/00; H05b 3/60

2 Claims



A humidifier comprising a bowl-shaped container having an integral upper wall. A substantially horizontal top is integral with the upper wall, a U-shaped portion integral with the top and forms in conjunction with the top and the upper wall a wind tunnel space. An inwardly extending horizontal peripheral flange inwardly of the top and below the top is integrally connected to the U-shaped portion and defines a main central opening for the container. A vapor-producing head is adapted to be disposed on either an adapter plate or on the flange itself. The container also has a second opening therein above the first opening and extends through the top.

3,420,510

METHOD OF AND APPARATUS FOR HEATING MATERIAL

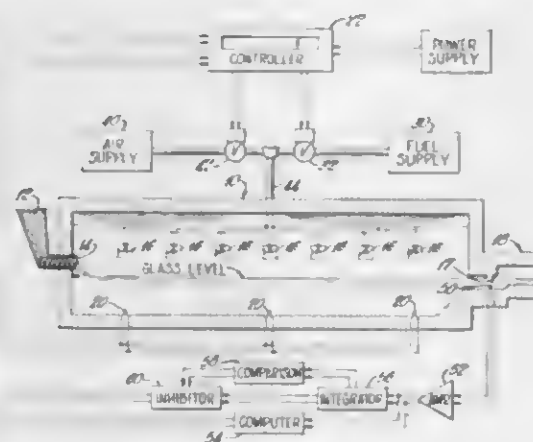
Paul D. Griem, Jr., Newark, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware

Filed Mar. 31, 1967, Ser. No. 627,406

U.S. Cl. 263-11

Int. Cl. C03b 5/24

20 Claims



Shutdown and startup of molten glass output from a forehearth section of a glass processing furnace is indicated by a gradual change in temperature sensed by a thermocouple located either in the exit throat of a melting tank or in the forehearth. This change is sensed and a signal

derived therefrom to modify the control for the burners located in the melting tank during a startup or shutdown.

3,420,511

AGITATING A BATCH OF ARTICLES DURING HEAT TREATMENT TO PREVENT THERMAL BONDING OF THE ARTICLES

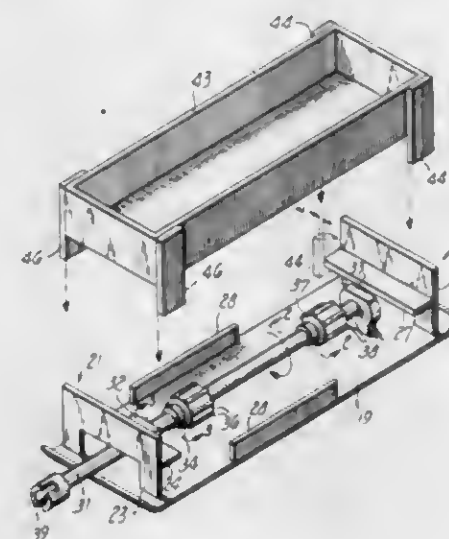
Ford J. Brown, Kutztown, Robert W. Davies, Hellertown, and George D. Kellner, Tamaqua, Pa., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed July 10, 1967, Ser. No. 652,082

U.S. Cl. 263-21

Int. Cl. F27b 21/00

10 Claims



A batch of articles, such as contacts for a sealed contact switch, is heat treated by subjecting the articles to an elevated temperature and agitating the articles to prevent the articles from thermally bonding together. A vibrator having a container movably mounted for limited horizontal motion and unrestrained vertical motion and a pair of camming rollers mounted on a rotatable shaft beneath the container are used to agitate the articles during the heat treatment.

3,420,512

GRATE BAR FOR TRAVELING GRATE CONVEYOR

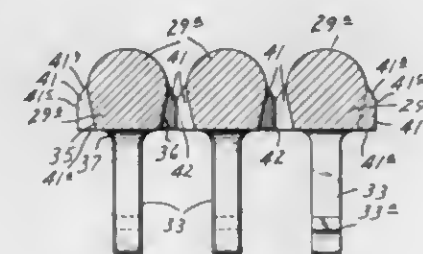
Boyd W. Irvine, Jr., and Kenneth R. Judkins, Silver Bay, Minn., assignors to Reserve Mining Company, Silver Bay, Minn., a corporation of Minnesota

Filed June 14, 1967, Ser. No. 645,997

U.S. Cl. 266-21

Int. Cl. F27b 21/02

6 Claims



A grate bar for use in a traveling grate conveyor wherein a succession of pallets are moved in end-to-end contact through an indurating furnace, each of the pallets being adapted to support a plurality of grate bars in a side-by-side relationship to provide a material conveying surface. The grate bars herein are provided with a rounded upper surface and with spacing lugs attached to a bottom portion of the bar, so that the symmetrical top portion of the bar will have less tendency to crack from thermal fatigue.

3,420,513

MOLTEN METAL SPOUT

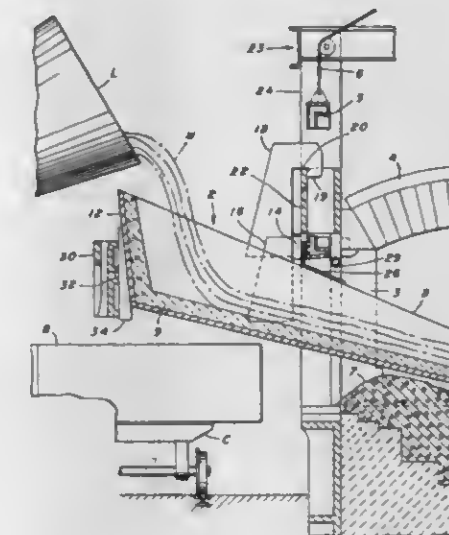
Reuben Miller, Chicago, Ill., assignor to United States Steel Corporation, a corporation of Delaware

Filed Jan. 10, 1967, Ser. No. 608,408

U.S. Cl. 266-38

Int. Cl. C21b 7/14; F27d 3/00

1 Claim



A spout for introducing molten metal into a furnace, such as an open hearth furnace. The spout is mounted in the charging opening of the furnace by means of hanger arms which are attached to the sides of the spout and hook on to structural members of the furnace adjacent the charging opening.

3,420,514

APPARATUS FOR MAKING ROOF TRUSSES

Grayson Hunter Bowers, Jr., 231 E. Patrick St., Frederick, Md. 21701

Filed Sept. 16, 1966, Ser. No. 580,057

U.S. Cl. 269-156

Int. Cl. B25b 1/02

3 Claims



1. Apparatus for making roof trusses comprising, a frame including a plurality of horizontally spaced upright members, a front face on each upright member with all of said front faces in a substantially common vertical plane, a bar mounted at its lower end portion for pivoting about a horizontal axis on an intermediate one of said upright members and inclined upwardly therefrom along the front faces of other of said upright members, one of said upright members near the upper end of said bar having vertically spaced openings therein for receiving removable means supporting the upper end of the bar in different hinged positions, a second bar mounted at its lower end for pivoting movement about a horizontal axis on another intermediate one of said upright members and inclined upwardly therefrom along the front faces of other of said upright members, one of said upright members near the upper end of said second bar having vertically spaced openings therein for receiving removable means supporting the upper end of said second bar in different hinged positions, a substantially horizontal rail extending along rear faces of said upright members, means carried by said upright members for supporting said rail in different vertical positions of the rail, means adjustable along the first bar for engaging a free end of a rafter

thereon, means carried by the second bar for engaging a free end of a rafter supported thereon, stop means carried by said rail engaging an end of a bottom chord of a truss where it engages a rafter while it is supported on said bar, and stop means carried by said rail for engaging the other end of a bottom chord of the truss where it engages a rafter while it is supported on the second bar.

3,420,515

MACHINE FOR AUTOMATICALLY LOADING AND UNLOADING FABRIC CREASERS

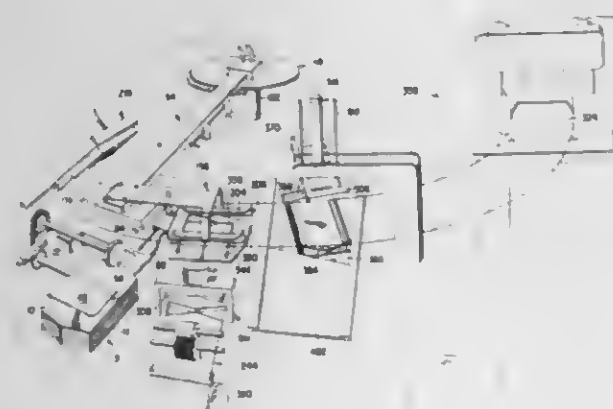
Joseph W. A. Off, Succasunna, Kenneth D. Adams, Long Valley, and John A. Raudonis, Jr., Elizabeth, N.J., assignors to The Singer Company, New York, N.Y., a corporation of New Jersey

Filed July 16, 1965, Ser. No. 472,462

U.S. Cl. 270-45

Int. Cl. B42c 1/00

19 Claims



Apparatus for first picking up a piece of precut fabric material and then a piece of paper backing and then conveying them together to a creasing machine for creasing, and finally conveying the creased together fabric and paper backing pieces to a stacking mechanism. The apparatus utilizes mechanism for producing vacuum and low pressure to position, hold and discharge the pieces of fabric material and paper backing.

3,420,516

METHOD OF AND APPARATUS FOR STUFFING PRINTED MATTER WITH INSERTS

Ernst Guggisberg, Flüh, Bern, Oberbalm, Switzerland, assignor to "Graphicart" Internationale Ausstattungs-gesellschaft für graphische Kunst AG, Bern, Switzerland, a corporation of Switzerland

Filed Sept. 24, 1965, Ser. No. 489,847

Claims priority, application Switzerland, Sept. 30, 1964, 12,677/64

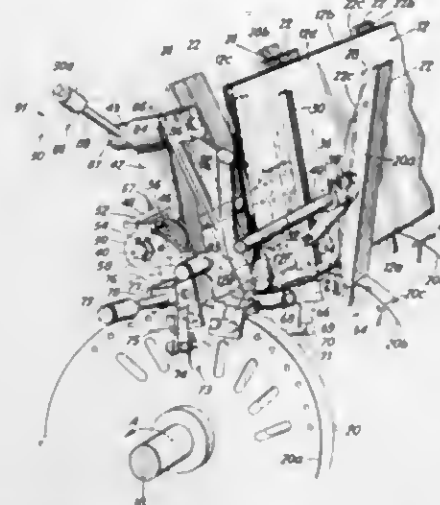
U.S. Cl. 270-55

Int. Cl. B65h 5/30; 39/00

18 Claims

A method of, and apparatus for, stuffing printed material such as newspapers with at least one insert or supplement. The method contemplates forming a loop at one lateral open edge of the newspaper jacket section adjacent its transverse fold line, engaging the loop and continually enlarging the same until both jacket halves are completely separated from one another, thus resulting in the formation of a substantially V-shaped opening into which at least one supplement is inserted. The jacket halves are then closed about the inserted supplement(s) and the completed newspaper is passed on for other handling. The apparatus comprises means mounted for movement along a predetermined path of travel and which provide a plurality of compartments. Additionally, there is provided means for depositing a newspaper jacket section

into each compartment, means for forming a loop at the newspaper jacket section within each compartment, means for engaging the loop in order to open the newspaper



3,420,517

COLLATOR RECEIVER BIN SHIFT MECHANISM

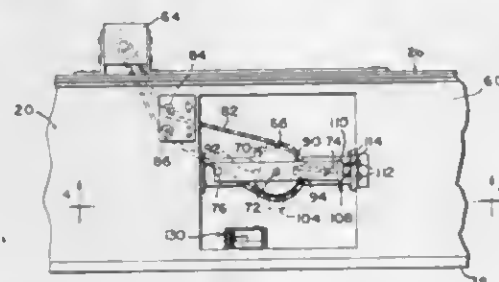
Donald L. Snellman and Jack Daniel Keeler, Seattle, Wash., assignors to Norfin, Inc., Seattle, Wash., a corporation of Washington

Filed Jan. 6, 1966, Ser. No. 519,073

U.S. Cl. 270-58

Int. Cl. B65h 39/02; F16h 27/04; G09f 11/30

10 Claims



Mechanism for shifting a receiver bin along a base structure so as to align a selected column of shelves with a collator distributor. A motorized crank arm is mounted on the base and is provided with cams which engage the cam followers on the bottom of the bin so that rotation of the crank arm by means of a reversible electric motor serves to move the bin in one direction or the other. A motor stop switch is provided for halting the operation of the crank arm once the bin reaches a given position so as to align the bin in each position of the bin and is provided with presettable switch operators for conditioning the electrical circuit of the motor so as to drive the motor in either direction. In this manner, the bin may be programmed so as to run through a series of positions and then reverse as desired.

3,420,518

TRANSPORT ARRANGEMENT

Baisel L. Eveland, Medfield, Joseph C. Hart, Quincy, and Earl E. Masterson, Newtonville, Mass., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Dec. 23, 1965, Ser. No. 515,995

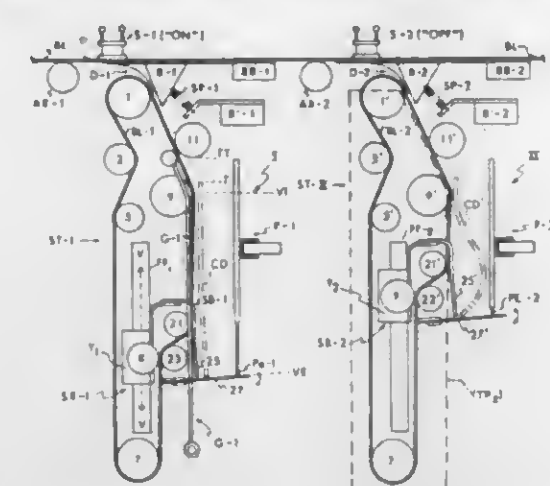
U.S. Cl. 271-68

Int. Cl. B65h 29/68

11 Claims

A sort pocket transport embodiment in a card handling sorting apparatus adapted to transport cards having one of a number of prescribed, selectable lengths along a primary path, to be diverted, selectably, into one of sev-

eral "sort-pockets"; the stacking transport arrangement for each "sort pocket" being characterized by a driven-web stacking drive, a cooperating card-stop and a cooperating stack "pusher," the pusher as well as the stacking



drive and associated stop, all including movable portions so as to be "length-adjustable" for accommodating various pocket (effective) widths, corresponding to a prescribed selected card length.

3,420,519

CARD-STACKING MECHANISM

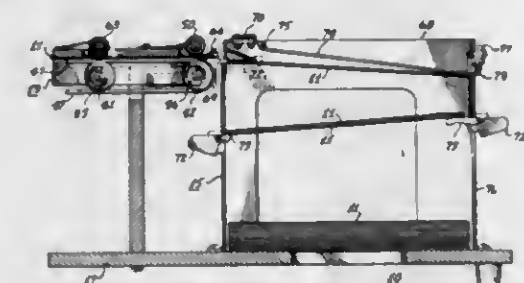
William J. Edwards, Phoenix, Ariz., assignor to General Electric Company, a corporation of New York

Filed Dec. 23, 1966, Ser. No. 604,445

U.S. Cl. 271-68

Int. Cl. B65h 29/68

1 Claim



A stacking and collecting mechanism for punched cards wherein each card enroute to a collecting receptacle is bowed so as to bias a resilient means which drives the trailing end of the card downwardly into the receptacle to prevent card shuffling and rotatable means within the receptacle for causing the cards to always fall to the bottom of the receptacle from a given card end.

3,420,520

SHEET RESPONSIVE CONTROL DEVICE

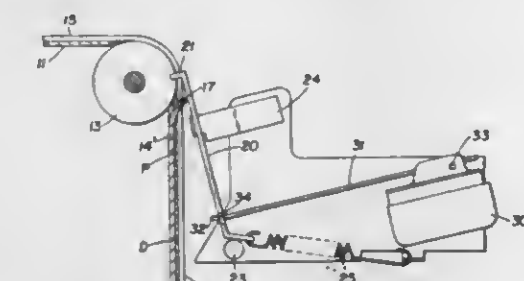
Albert Carl Wiegert and Louis John Cook, Jr., Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Jan. 17, 1966, Ser. No. 520,963

U.S. Cl. 271-75

Int. Cl. B65h 29/16

7 Claims



A control device is disclosed for actuating or initiating functions relating to an apparatus in response to the move-

ment of individual sheets along the path associated with the apparatus. The apparatus has a sheet deflecting portion for deflecting the leading end of each sheet into positive engagement with a sheet engaging member of the control device.

3,420,521

RETURN MECHANISM

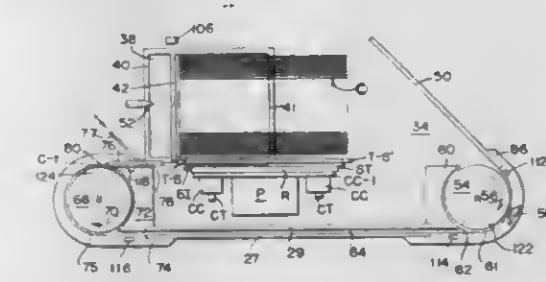
Michael S. Shebanow, Medfield, Mass., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed May 29, 1967, Ser. No. 641,829

U.S. Cl. 271-84

Int. Cl. B68h 29/46

14 Claims



A record return mechanism for returning Mass Memory record strips to a storage file, this mechanism including, in the described embodiment, a vacuumatic deceleration plate adapted to vacuumatically decelerate returning strips sliding therealong and thereafter thrust them into the file, the plate being operatively associated with a reciprocating actuator, a vacuum supply chamber, a "snap-in" throat closure at the "return" end of the file and a reciprocable lifter for lifting a decelerated strip into alignment prior to injecting it through the throat and into the file.

3,420,522

SWINGING SEESAW GYM SET

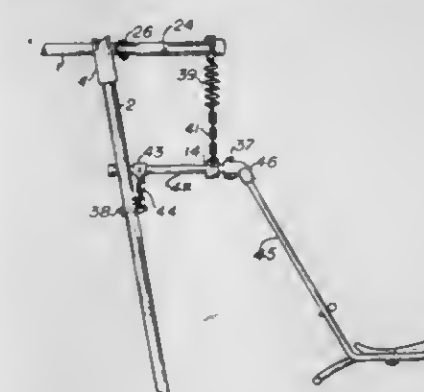
William E. Elliott, Oakton, Va.
(111 Wm. Classen Drive, San Antonio, Tex. 78232)

Filed July 2, 1964, Ser. No. 379,850

U.S. Cl. 272-55

Int. Cl. A63g 11/00; A63g 9/00

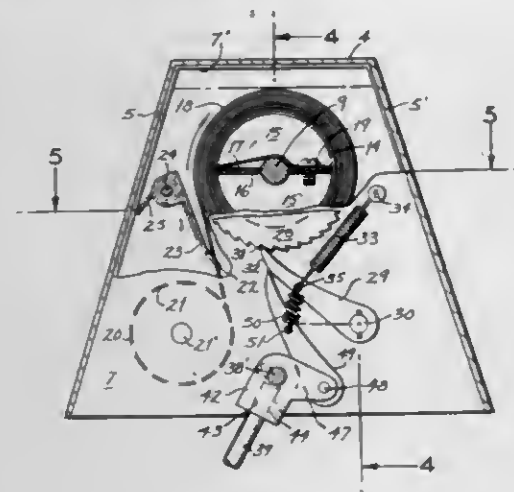
18 Claims



1. A swinging seesaw gym set comprising a frame having an elevated, horizontal bar, a pair of downwardly and outwardly diverging posts rigidly connected to each end of said bar to support the same above the ground, an elongated, swinging seesaw having a portion intermediate its ends connected by first connection means to a point on said frame lying in a vertical plane bisecting the angle between said diverging posts and a terminal portion thereof connected by second connection means to a point in said plane which is fixed with respect to said frame and is horizontally spaced from said first point, one of said connection means including spring means for counterbalancing a rider-carrying seat mounted on the opposite terminal portion of said seesaw and both said connection means permitting vertical movement and horizontal banking movement of said seat in a path of travel which lies entirely beyond the proximate end of said horizontal bar.

3,420,523
SPRING POWERED SWING
Edwin E. Foster, 1801 Camp Craft Road,
Austin, Tex. 78746

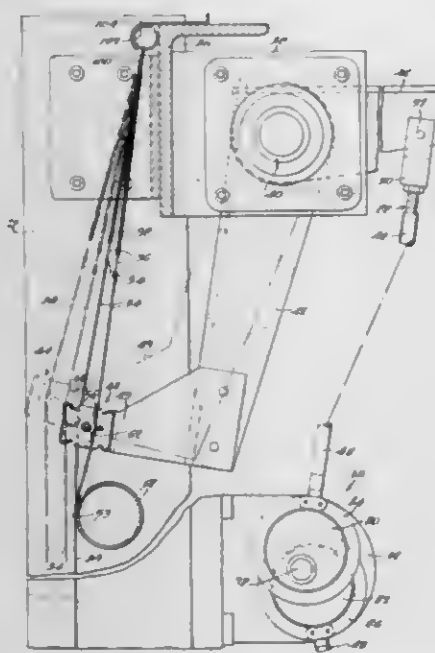
Filed July 28, 1965, Ser. No. 475,336
U.S. Cl. 272-86
Int. Cl. A63g 9/16; F03g 1/00
3 Claims



A swing incorporating a spring motor and an escapement. One end of a spring is attached to a storage drum. The other end is backwound on a shaft having a toothed wheel at one end. Rewinding of the spring onto the storage drum causes the shaft to rotate alternately. Engaging the toothed wheel are two pawls. The first pawl is pivotally attached to a housing and is spring biased to engage the wheel in one position and to be disengaged in a second. The second pawl is pivotally attached to one end of a bell crank arm and is spring biased to engage the first pawl in one position and the toothed wheel in a second. The other arm of the bell crank supports a swing. As the swing oscillates the pawls are alternately caused to engage the toothed wheel.

3,420,524
STRAND TYPE TARGET HAVING REALIGNING MEANS

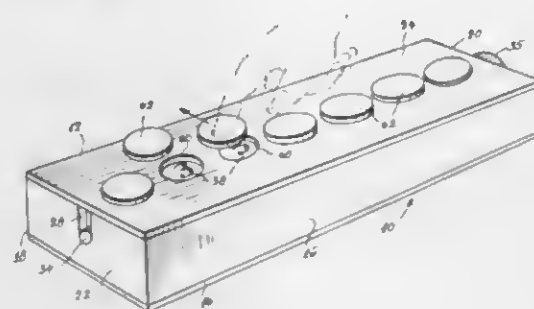
William D. Cornell, Grand Haven, and Donald F. Uecker, Spring Lake, Mich., assignors to Brunswick Corporation, a corporation of Delaware
Filed Apr. 7, 1966, Ser. No. 540,917
U.S. Cl. 273-105.1
Int. Cl. A63b 71/00
10 Claims



A self-healing target formed of a plurality of elongated strands adapted to receive target indicia, particularly pro-

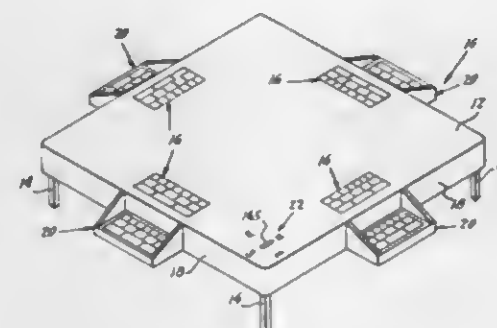
jected pictures, and supported in a substantially parallel relation with respect to the others of the strands, the strands are normally maintained in a single plane, the strands are received in a rotatable comb-like element disposed on an edge of the target to temporarily move alternate ones of the strands out of the plane so that adjacent strands that have become tangled due to the passage of a missile therebetween are untangled.

3,420,525
GAME APPARATUS
Ralph Waders, 24-30 41st St., Astoria, N.Y. 11103
Filed June 20, 1966, Ser. No. 558,690
U.S. Cl. 273-135
Int. Cl. A63f 3/00
10 Claims



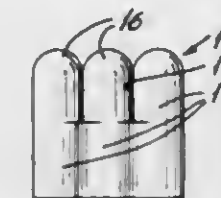
A game device comprising a multisided roller having the same series of numbers on each side, with the numbers being in different order on successive sides. The roller is enclosed in a housing having a cover provided with a separate window for each number in the series, each window having a removable cover. The game is played by first removing any one of the covers, noting the number thus exposed, counting this number of covers from either end of the series, and removing the cover thus selected. This procedure is continued until an exposed number does not designate a closed window, the player's score being then computed by adding the numbers below the windows which remain closed.

3,420,526
BIDDING DEVICE FOR BRIDGE
Louis S. Berger, P.O. Box 28374, University Park Station,
San Antonio, Tex. 78228
Filed June 21, 1965, Ser. No. 465,401
U.S. Cl. 273-148
Int. Cl. A63f 1/16
11 Claims



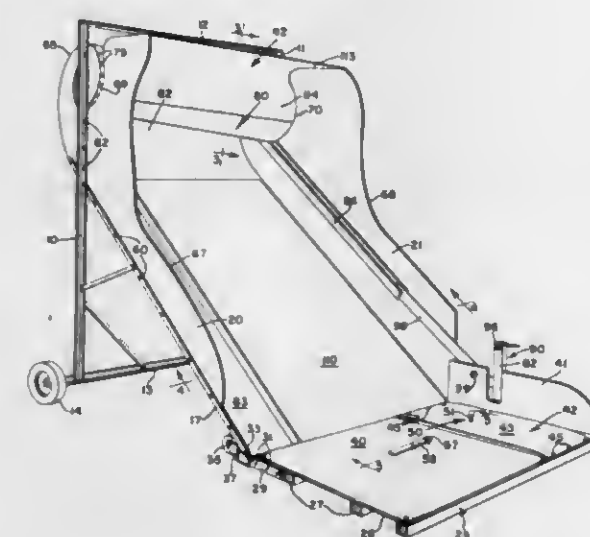
A bridge bidding device including a separate display board for each player for indicating each player's individual bid, and an electrical circuit including an operating console for permitting each player to actuate the respective display board, the circuit including a switch for preventing the players from bidding out of proper sequence, is disclosed.

3,420,527
MOSAIC-LIKE ARRANGEMENT
Gilles Morin, 30 St. Charles St., St. John, Quebec, Canada
Filed Jan. 13, 1966, Ser. No. 520,519
U.S. Cl. 273-157
Int. Cl. A63f 9/10
1 Claim



This invention concerns a mosaic-like arrangement in which a plurality of separate pieces are adapted to fill a frame, each piece having at least two elemental components of similar shape and having a cross-section defining ribs at the side faces of the piece alternating with grooves at the junction of the elemental components, each piece having a base forming a continuation of the elemental components and defined by flat side faces which are recessed with respect to the ribs of the elemental components and which protrude with respect to the grooves; thus, the base forms downwardly facing shoulders with the ribs and upwardly facing shoulders with the grooves, whereby pieces of adjacent rows will interlock with respect to each other.

3,420,528
GOLF PRACTICE DEVICE
Herbert T. Day, Moline, Ill., assignor to Johnson & Day
Golf Enterprises, Moline, Ill.
Filed Dec. 18, 1964, Ser. No. 419,491
U.S. Cl. 273-176
Int. Cl. AG3b 69/36
23 Claims



A golf practicing device comprising a fore and aft extending main frame supported on wheels, a laterally disposed member supported on the frame with a front inclined portion and a rear upper rolled portion, the latter including an upwardly opening and transversely inclined trough section and a section extending from the front side of the trough above and rearwardly of the trough to a downwardly inclined section spacedly under the trough and joining with the front inclined portion, a foldable player supporting platform supported on wheels and including ball teeing means immediately adjacent the inclined portion, and a ball return passage extending between the trough and the platform.

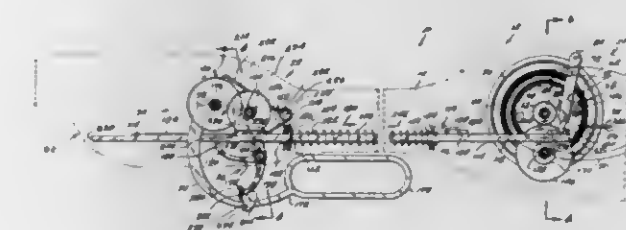
3,420,529
GOLF BALL INCLUDING STANCE DIAGRAM
Charles D. Goranson, 4513 N. Rockwell Ave., Chicago, Ill. 60625, and Edward A. Hennigan, 201 N. Wells, Chicago, Ill. 60606
Filed Sept. 1, 1965, Ser. No. 484,216
U.S. Cl. 273-213
Int. Cl. A63b 69/36
2 Claims



A golf ball having markings which show the proper positions of a golfer's feet for the various clubs used by golfers.

3,420,530
GUN TOY HAVING SOUND PRODUCING MEANS

John W. Ryan, Bel Air, Richard Shih-Teng Chang, Gardena, and Robert Rosen, Los Angeles, Calif., assignors to Mattel, Inc., Hawthorne, Calif., a corporation of California
Filed Dec. 28, 1965, Ser. No. 516,927
U.S. Cl. 274-1
Int. Cl. G11b 17/06; A63b 5/04
6 Claims

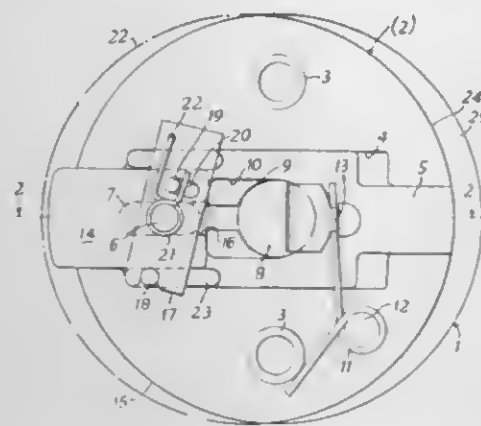


A toy gun with a recording of a gun shot sound cut into a rotatable record, the cutting being of amplified depth, and a spring-loaded rack for rotating the record. A manually operable gear cocks the rack and a trigger releases the same. The rack acts to retract and release a tone arm having a needle for reproducing the recorded sound. Integral resilient means on the record serve to bias weights of a centrifugal governor.

3,420,531
MAGAZINE-SPINDLE ADAPTORS FOR GRAMOPHONE RECORD CHANGERS
Peter Raymond Fussell, Wroughton, Swindon, England, assignor to Garrard Engineering Limited, Swindon, England, a British company
Filed Sept. 13, 1966, Ser. No. 579,024
Claims priority, application Great Britain, Sept. 20, 1965, 40,091/65
U.S. Cl. 274-10
Int. Cl. G11b 17/08
4 Claims

The plane slide of a large-hole centre-spindle adaptor which slides between the relatively offset top and bottom portions of the adaptor, drives a plane, somewhat nar-

rower separator blade located above it through a lever movable about a vertical pivot which extends through a longitudinal slot of the slide and separator, the lever being driven by a pin projecting from the slide at one



side beyond the lateral edge of the separator blade, and being coupled to the separator blade by a pin arranged at the other side of the plane containing the axes of the changer spindle and the lever pivot.

3,420,532

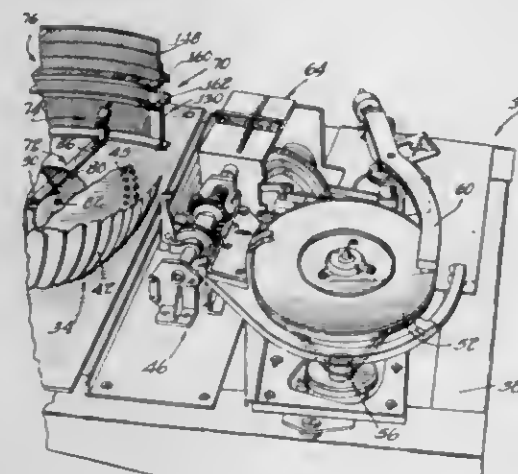
RECORD POPULARITY INDICATOR

Fred H. Osborne, Williamsville, and Michael J. Corbett, North Tonawanda, N.Y., assignors to The Wurlitzer Company, Chicago, Ill., a corporation of Ohio
Filed May 18, 1967, Ser. No. 639,513

U.S. Cl. 274-10

Int. Cl. G11b 15/00; G11b 17/08

15 Claims



This invention relates to an automatic phonograph assembly including a magazine for holding a plurality of records and an indicator assembly for indicating the relative popularity of each record of said plurality of records.

3,420,533

TONE ARM DRIVE MECHANISM

George Kolomayets, Chicago, and Allen J. Bury, Prospect Heights, Ill., assignors to Admiral Corporation, Chicago, Ill., a corporation of Delaware

Filed Oct. 22, 1965, Ser. No. 502,132

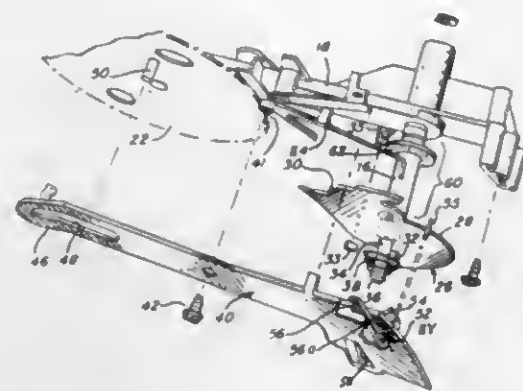
U.S. Cl. 274-15

Int. Cl. G11b 17/00; G11b 17/06

7 Claims

A tone arm drive mechanism incorporating a centrally mounted, rigidly connected, tone arm plate having a circular edge frictionally driven by a resilient drive finger torsionally secured to a pivotably movable control plate. The drive finger is carried along an arcuate unobstructed

path which intersects the tone arm plate causing the drive finger to frictionally engage the circular edge. The fric-



tional force developed is sufficient to carry the tone arm between its preselected movement limits, beyond which the drive finger slips along the circular edge.

3,420,534

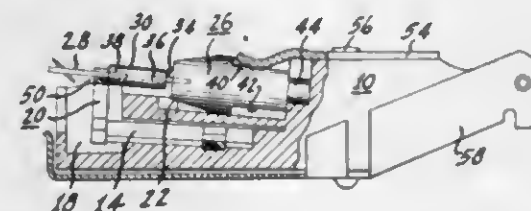
PHONOGRAPH PICKUP

Michael E. Miller, Indianapolis, Ind., assignor to Radio Corporation of America, a corporation of Delaware
Filed June 7, 1967, Ser. No. 644,333

U.S. Cl. 274-37

Int. Cl. G11b 3/02

10 Claims



In a phonograph pick-up, the yoke member and stylus beam carrying damping member are positioned such that a surface of the reentrant beam engaging portion of the yoke member abuts the forward end surface of the damping block, thereby to provide a fixed and predetermined L_1/L_2 ratio.

3,420,535

FLOATING FACE SEALING RING

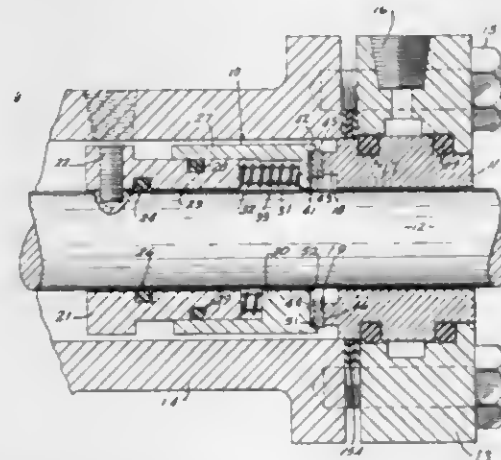
Lowell E. Hershey, Portage, Mich., assignor to Dura-metallic Corporation, Kalamazoo, Mich., a corporation of Michigan

Filed Jan. 12, 1966, Ser. No. 521,761

U.S. Cl. 277-92

Int. Cl. F16j 15/38

6 Claims



A mechanical seal construction wherein a seal ring and a face ring have a thin, flat gasket therebetween having a

thickness of between .001 and .025 inch. The unit pressure applied to the gasket is substantially higher than the unit pressure applied against the seal face of the face ring.

3,420,536

SPLIT RING PACKING WITH ELASTOMERIC SUPPORT FOR ROTATIVE AND RECIPROCABLE PARTS

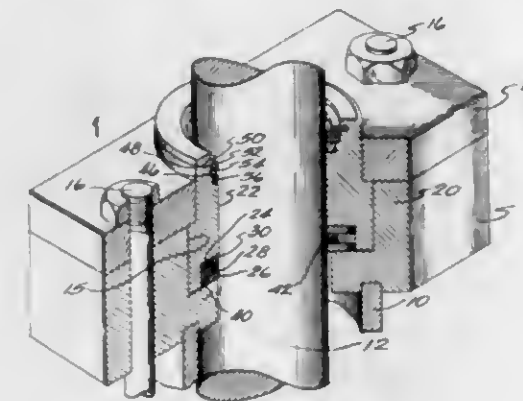
Richard T. Grover, 3337 S. New York Ave., Milwaukee, Wis. 53207

Filed June 1, 1966, Ser. No. 554,481

U.S. Cl. 277-165

Int. Cl. F16j 9/06; 15/16; F16k 41/00

3 Claims



The invention contemplates the cooperative association in a packing groove of one or more split rings preferably of metal and of such dimensions as to have inherent bias inwardly or outwardly against a relatively movable surface, such bias being supplemented by the bias of an associated elastomeric ring which, in addition to providing supplemental bias, also provides supplemental packing in an axial as well as a radial direction. The supplemental axial packing is very advantageous in preferred constructions wherein a stack of split ring and elastomeric ring assemblies is preferably used between two relatively reciprocable parts. One of these has a channel to receive the rings, at least one ring being biased inwardly upon one of said parts and the other being biased outwardly into engagement with the other of said parts so that the rings are radially staggered. The elastomeric rings may have other than circular cross section and are not necessarily O-rings. Preferably, however, both of said split rings have elastomeric O-rings supplementing their inherent bias and providing axial seal as well as radial seal substantially to close the channel against leakage.

As a separate feature of the invention, each split ring used in my improved packing is preferably made by fracturing a prefabricated somewhat resilient ring (usually metallic) in a generally radial direction at one point only, the resulting integral split ring having its severed ends adapted for interlocking engagement due to the fracture and being of such dimensions, according to the desired position of use in the staggered assembly, that either its inner periphery or its outer periphery will accurately fit an associated cylindrical surface when the free ends of the ring are closed upon each other.

3,420,537

WORKHOLDER AND EXPANSIBLE COLLET THEREFOR

Derek M. Walters, Rochester, N.Y., assignor to The Gleason Works, Rochester, N.Y., a corporation of New York

Filed Oct. 22, 1965, Ser. No. 500,770

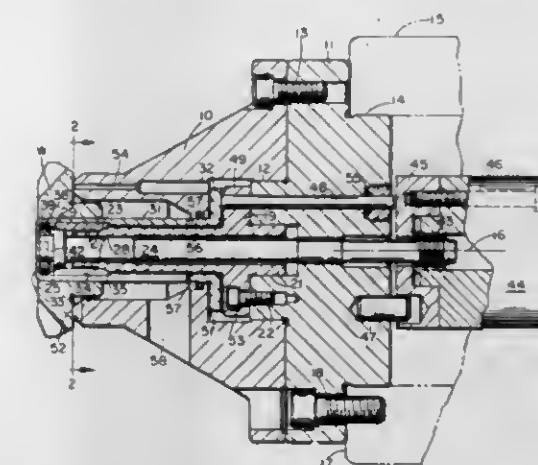
U.S. Cl. 279-2

Int. Cl. B23b 31/12

6 Claims

A workholder having a radially expansible tubular collet which enters into and grips the bore of a work gear.

The collet extends around a stationary conical expander and an axially movable conical expander. When the latter is moved toward the stationary expander they act with radially expanding action against mating internal conical surfaces of the collet. The collet has a number of slits



extending axially from the end which enters the bore of the gear, these slits all terminating short of the opposite end of the collet and being substantially longer than the portion of the collet between the two expanders. The slitted end of the collet thus consists of a number of slender and relatively flexible fingers.

3,420,538

SWIVEL FINGER CHUCK

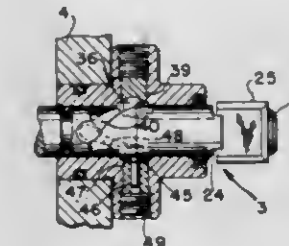
Milton L. Benjamin and David D. Walker, Chagrin Falls, Ohio, assignors to Erickson Tool Company, Solon, Ohio, a corporation of Ohio

Filed Jan. 21, 1966, Ser. No. 522,066

U.S. Cl. 279-4

Int. Cl. B23b 5/22; 31/12; B25g 3/22

6 Claims



A chuck including a plurality of swivel clamping fingers having jaw portions with shank portions operatively connected to an actuating piston for axial movement therewith while permitting relative rotation therebetween, and means in the form of cam ball followers and/or tapered cam followers carried by the chuck housing which engage spiral cam grooves in the shank portions of the clamping fingers for causing radial swinging movement of the jaw portions during such axial movement. Adjusting screws permit adjustment of the followers to compensate for play and wear of the mating parts.

3,420,539

MANUALLY OPERABLE CHUCK FOR LATHES AND OTHER MACHINE TOOLS

Gotthold Pablitzsch and Waldemar Hellwig, Braunschweig, Germany, assignors to Paul Forkardt K.G., Dusseldorf, Germany

Filed Nov. 9, 1966, Ser. No. 593,116

Claims priority, application Germany, Nov. 11, 1965, F 47,657

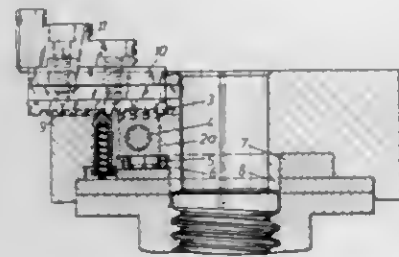
U.S. Cl. 279-112

Int. Cl. B23b 31/12

7 Claims

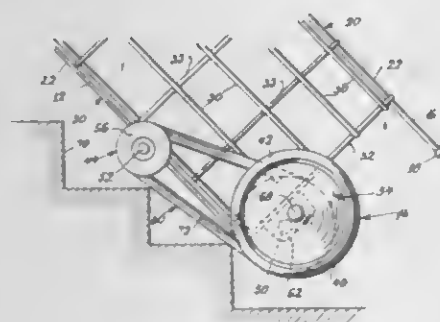
1. A manually operable chuck, especially for lathes and similar machine tools, which includes: a plurality of basic jaws radially movable in said chuck body, a plurality

of wedge bars tangentially movable in said chuck body and respectively operatively engaging said basic jaws for adjusting the same in response to a movement of said wedge bars, a threaded spindle directly drivingly connected to one of said wedge bars for directly moving said one wedge bar, and drive ring means rotatably journaled in said chuck body and operatively connected to all of said



wedge bars whereby in response to being actuated by said directly spindle driven wedge bar said drive ring means will actuate the other wedge bars for displacement of the basic jaws pertaining thereto, the stiffness between said directly spindle driven wedge bar and the basic jaw operatively engaged thereby being less than the stiffness between the ring means actuated wedge bars and the basic jaws operatively engaged thereby.

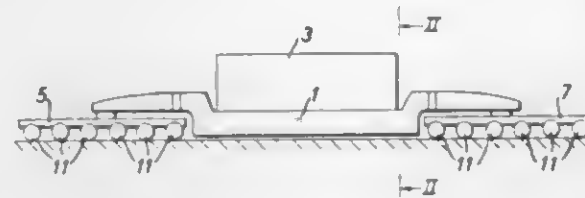
3,420,540
SHOPPING CART WITH ENDLESS BELT STAIR CLIMBING MEANS
William Bird, 19 Cummings St., New York, N.Y. 10034
Filed Oct. 6, 1966, Ser. No. 584,741
U.S. Cl. 280—5.22 8 Claims
Int. Cl. B62b 5/00; B62b 1/00



A shopping cart having track type treads to facilitate use of the cart on stairways and the like. The treads allow for free movement of the cart body with respect to stair treads and cooperate with cart wheels to enable the user to easily and expeditiously handle a loaded cart in ascending and descending the stairs. The cart is provided with a pair of traction wheels at the bottom thereof for movement along a horizontal supporting surface and with track type treads for movement at an angle to the horizontal, such as movement up and down stairs.

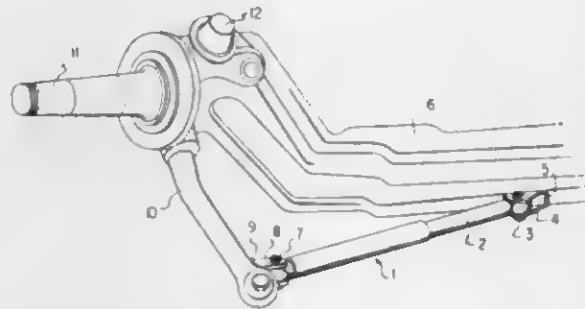
3,420,541
TRANSPORTERS
Cedric Harald Flurscheim, Hale, England, assignor to Associated Electrical Industries Limited, London, England, a British company
Filed Sept. 26, 1966, Ser. No. 581,831
U.S. Cl. 280—43.23 10 Claims
Int. Cl. B62d 61/12; B62b 1/04; B62b 3/02
A transporter having, in addition to its main wheels, groups of small auxiliary wheels which can be lowered

into operative positions by fluid pressure actuators when it is desired to distribute the transporter load more even-



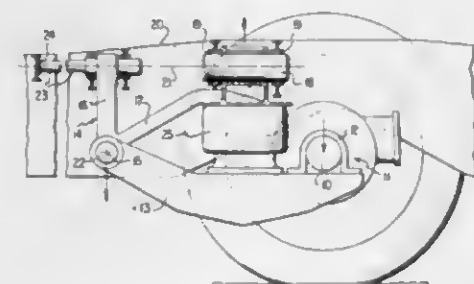
ly than the main wheels allow. When lowered, the groups of auxiliary wheels are capable of limited castoring action.

3,420,542
VEHICLE STEERING DAMPER
Leonard R. Jordan, Jr., P.O. Box 427
Toccoa, Ga. 30577
Filed Apr. 6, 1966, Ser. No. 540,548
U.S. Cl. 280—90 10 Claims
Int. Cl. B62d 15/00



A steering damper for dampening and absorbing shocks and vibrations that tend to rotate the wheel of a vehicle about a generally vertical axis, and the method of installing such a damper. More particularly, the present invention relates to a steering damper mounted by welding between a relatively horizontally stationary portion of a vehicle and a portion of the vehicle that would pivot with a wheel of the vehicle about a generally vertical axis, and the method of welding such a steering damper to a vehicle.

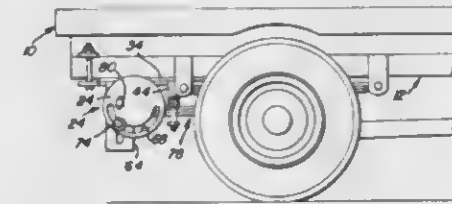
3,420,543
SPRING SYSTEM FOR RIGID AXLES OF VEHICLES
Paul E. Striffler, Dettlingen, Teck, and Diether Scarpatetti, Stuttgart, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Apr. 20, 1966, Ser. No. 543,998
Claims priority, application Germany, Apr. 23, 1965, D 47,101
U.S. Cl. 280—112 16 Claims
Int. Cl. B60g 15/02; B60g 11/64



A vehicle spring suspension universally spring supporting a rigid axle about a central longitudinal axis spaced above a transverse axis at the height of the wheel centers, and employing separate springs for pivotal movement

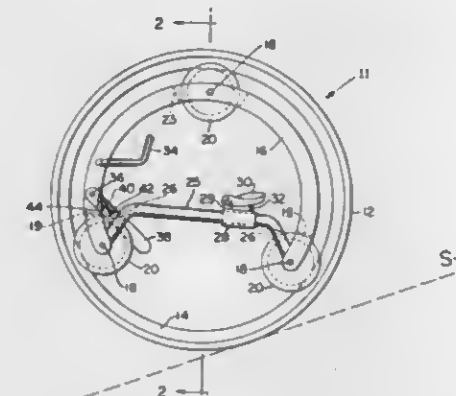
about each of the axes. A joint body is pivotally mounted to the vehicle frame about a longitudinal axis with roll springs therebetween. A guide member is pivotally mounted to the joint body about a transverse axis with rocking springs therebetween, and the rigid axle being carried by the guide member.

3,420,544
VEHICLE OVERLOAD SPRING WITH CAM-TYPE ADJUSTING MEANS
Lehi A. Draves, Rte. 2, Lookaba, Okla. 73053
Filed Nov. 21, 1966, Ser. No. 595,848
U.S. Cl. 280—124 7 Claims
Int. Cl. B60g 9/00; B60g 11/10



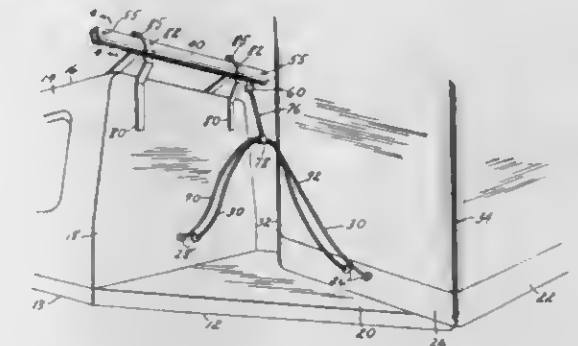
An attachment for a vehicle including a frame and a wheel support portion supported from the frame for guided up-and-down movement relative to the frame, the attachment comprising an elongated leaf spring construction with one end portion supported for oscillation relative to the frame and the other end portion engaging the wheel support portion. The attachment includes shiftable abutment means for adjustably pre-bowing the leaf spring construction whereby the biasing action of the leaf spring construction on the wheel support portion of the vehicle may be varied.

3,420,545
MONOCYCLE
Paul E. Dittman, 161 Tobey Road,
Plattsford, N.Y. 14534
Filed Oct. 26, 1966, Ser. No. 589,648
U.S. Cl. 280—207 6 Claims
Int. Cl. B62k 1/00; A63g 29/02



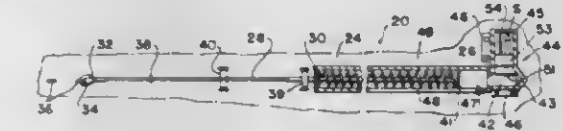
This monocycle comprises a large wheel formed with an internal circular track on which roll three small wheels that are carried by an arcuate frame, which carries two of the small wheels at its opposite ends. A bar is pivoted to the frame at opposite ends on the axes of rotation of these two small wheels so that it will remain horizontal as the large wheel revolves. A seat is slidably mounted on the bar to enable the operator to shift the center of gravity of the vehicle thereby to control its speed. Two foot rests, pivoted to the frame, carry a brake that can be engaged with one of the small wheels to brake the vehicle. Handle-bars are also carried by the frame.

3,420,546
TRACTOR-TRAILER HOSE INTERCONNECTION
Joseph F. Jasovsky, Bayonne, N.J., assignor to Ardmaer Trucking Co., Inc., Bayonne, N.J., a corporation of New Jersey
Filed Mar. 31, 1967, Ser. No. 627,527
U.S. Cl. 280—421 6 Claims
Int. Cl. B60d 1/08; F16l 3/00



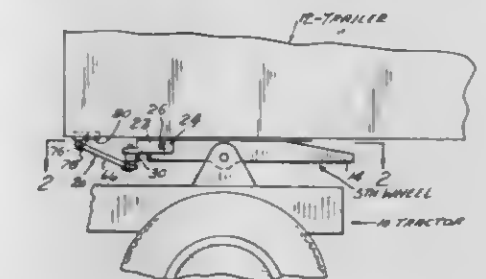
Tractor and trailer hose interconnection in which the hoses are upwardly looped and connected by resilient means to a carrier movable along a track supported by the tractor cab.

3,420,547
ANTI-JACKKNIFE DEVICE FOR TRACTOR-TRAILER VEHICLES
William H. Strausser, 5082 Parker, Apt. 9,
Detroit, Mich. 48213
Filed Aug. 22, 1966, Ser. No. 574,209
U.S. Cl. 280—432 5 Claims
Int. Cl. B62d 53/06



Apparatus for preventing jackknifing between a towing vehicle and a towed vehicle upon application of the brakes comprising a flexible linear member along each side of the vehicles and connected at their ends to the two vehicles, with means for selectively releasing one of the linear members or the other to enable the vehicles to negotiate a turn.

3,420,548
CONTROL DEVICE FOR STABILIZING ARTICULATED VEHICLES
Clifford M. Wakeman, Flint, Mich., assignor to The Mather Company, Toledo, Ohio, a corporation of Ohio
Filed Oct. 7, 1966, Ser. No. 585,033
U.S. Cl. 280—432 9 Claims
Int. Cl. B62d 53/06; B62d 53/08; B62d 63/08



A vane type hydraulic damping device between articulated vehicles which may be separated, such as being mounted on the fifth wheel of a tractor and connected to a trailer by a releasable lever means for rotating a vane in a cylindrical chamber of a rotary damping device as the vehicles articulate, and providing a fluid communica-

tion duct, such as through a fixed vane, between the chambers formed on the opposite side of it and the movable vane in the damping device, and means for controlling the flow of this fluid between said chambers by a pre-set and locked, or by an operator controlled solenoid, valve means in this duct vane.

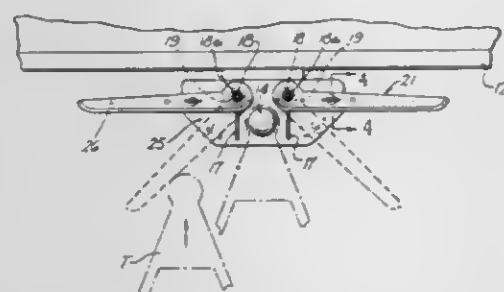
3,420,549

TRAILER HITCH-GUIDE AND GUARD

Orvat L. Robinson, 5285 Pointe Tremble S., Algonac, Mich. 48001

Filed Jan. 11, 1967, Ser. No. 608,603

U.S. Cl. 280-477 8 Claims
Int. Cl. B60d 1/06; B60d 1/12



A trailer hitch mounted at the rear of a vehicle including a pivot member and a pair of movable guard and guide members that are mounted for movement and locking at a first position wherein a portion of each member extends at an angle to the rear of the vehicle and provides a guiding surface for guiding the tongue of a trailer toward the pivot member and a second position wherein the guiding surfaces extend in a direction generally parallel to the rear of the vehicle.

3,420,550

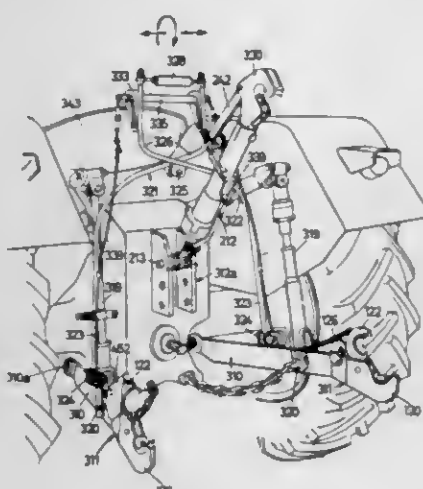
REMOTELY CONTROLLED COUPLING MEANS

Willy Rau, Kirchheim (Teck), Germany, assignor to Maschinenfabrik Rau oHG, Kirchheim (Teck), Germany

Filed July 18, 1966, Ser. No. 566,127

Claims priority, application Germany, Aug. 19, 1965, M 66,376; Oct. 22, 1965, M 67,015; Dec. 15, 1965, M 67,636

U.S. Cl. 280-461 16 Claims
Int. Cl. A01b 59/043; A01b 63/02; B60d 1/04



Coupling means for coupling an implement to a tractor having a driver's seat and including a three-point linkage with two lower draw bars linked at one of the ends thereof to the tractor and having coupling devices at the free ends thereof for respectively receiving towing members of the implement to be towed, means for adjusting the

means for operating the coupling devices, both of said means being arranged to be operated from the driver's seat.

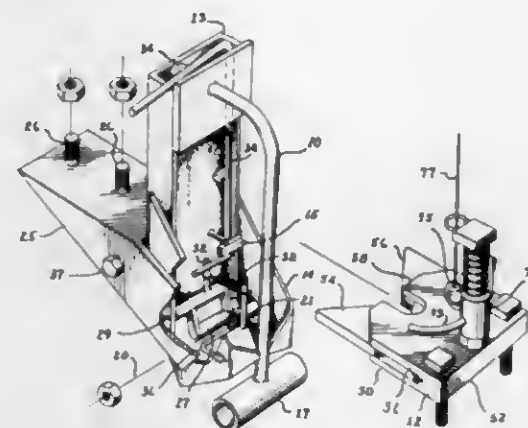
3,420,551

HITCHING SYSTEM

Buford F. McMillan II, 16 E. Broadway, Phoenix, Ariz. 85040

Filed Apr. 10, 1967, Ser. No. 629,554

U.S. Cl. 280-509 4 Claims
Int. Cl. B60d 1/02



A hitch bar is automatically coupled to a coupler and is pivoted into a towing position. The hitch bar is locked in the towing position until a hitch release mechanism is tripped. The coupler is locked in the coupled position until a coupler latch is tripped. A trigger member includes a coupler trigger and a hitch trigger for sequentially tripping the hitch latch and the coupler latch.

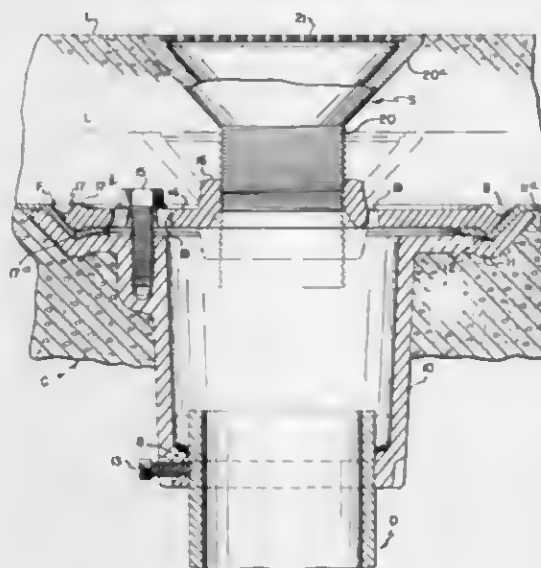
3,420,552

REVERSIBLE STRUCTURE FOR SURFACE DRAIN

John W. Mork, Beverly Shores, Ind., assignor to Josam Manufacturing Co., a corporation of Delaware

Filed Nov. 10, 1966, Ser. No. 593,549

U.S. Cl. 285-42 4 Claims
Int. Cl. E03c 1/12; E03c 1/26



A height-adjustable strainer type drain having a body bowl and a top plate. The top plate is bossed on one face and is internally threaded to vertically adjustably receive a male-threaded portion on a strainer; the plate also has a circumferential rim rib on each face to cooperate with a corresponding groove in a body bowl flange to clamp flashing therebetween. The plate is reversible to

increase the effective adjustment range. Key-hole slots are arcuately positioned in the plate for engagement by clamping bolts threaded into the body bowl.

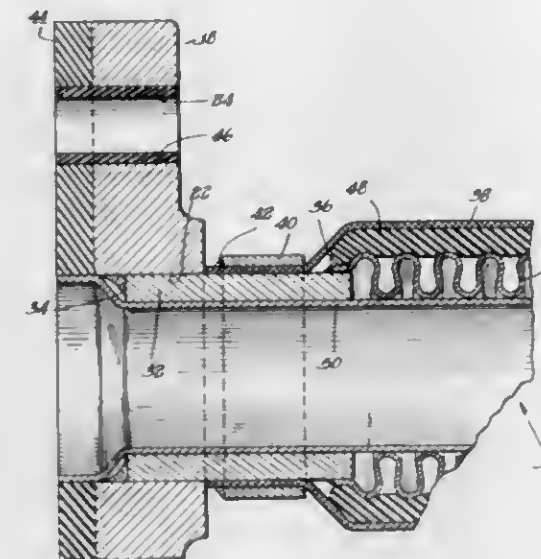
3,420,553

APPARATUS FOR ABSORBING SOUND AND VIBRATION IN A PIPING SYSTEM

Alan Poxon, Oakville, Ontario, and James W. Taylor, Inglewood, Ontario, Canada, assignors to Calumet & Hecla, Inc., Chicago, Ill., a corporation of Michigan

Filed Feb. 9, 1966, Ser. No. 526,265

U.S. Cl. 285-49 3 Claims
Int. Cl. F16l 51/02



The structure herein disclosed comprises the composite expansion joint and vibration absorbing unit, for pipelines, the joint including an inner liner, a section of annularly corrugated flexible metal tubing encompassing the liner, a sleeve of soft resilient material encompassing the corrugated tubing, and an outer encompassing metal braid sheath; whereby to provide a fluid-tight unit which will absorb sound and vibration.

3,420,554

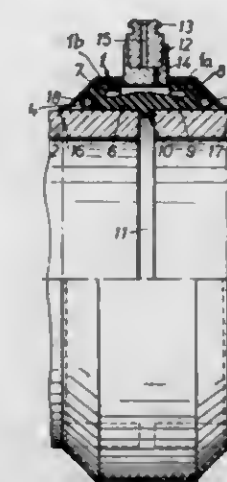
COUPLING HAVING INFLATABLE CLAMPING MEANS

Immanuel Straub, Wangs, Saint Gall, Switzerland

Filed Nov. 22, 1965, Ser. No. 508,981

Claims priority, application Austria, Nov. 24, 1964, A 9,935/64

U.S. Cl. 285-97 9 Claims
Int. Cl. F16l 17/00; F16l 33/16



A pipe coupling for mechanically joining in sealing relation two ends of a pipe or rod which coupling includes

a housing defining a continuous channel opening toward and bridging spaced ends of the pipes or rods to be joined; said channel containing an inflatable clamp means, said clamp means defining spaced apart lips sealably engaging the interior of said channel.

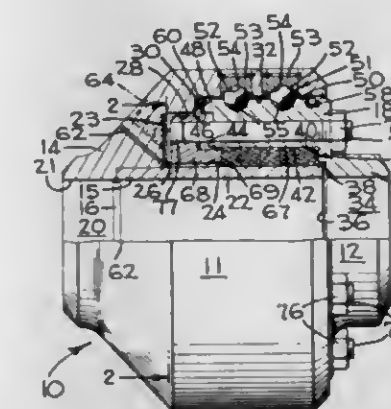
3,420,555

SWIVEL JOINT WITH ADJUSTABLE PACKING

Armand L. Faccou, Santa Ana, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware

Filed Sept. 7, 1966, Ser. No. 577,656

U.S. Cl. 285-276 3 Claims
Int. Cl. F16l 27/06



A pipe swivel joint especially adapted for handling corrosive and high temperature fluids, with a packing that can be adjusted for maintaining a fluid-tight seal while the joint is fully assembled and in service, and with bearings arranged to minimize any adverse loading that might be exerted on the packing.

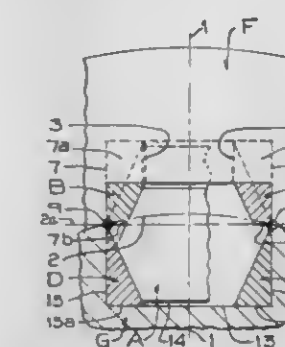
3,420,556

MACHINE KEY ADAPTATION

Robert R. Downie, 3328 College Ave., Beaver Falls, Pa. 15010

Continuation of application Ser. No. 388,456, Aug. 10, 1964. This application Oct. 17, 1966, Ser. No. 587,340

U.S. Cl. 287-52.05 3 Claims
Int. Cl. F16d 1/06



1. In combination, two machine members having mutually contacting surfaces, two co-operative channel-shaped keyways formed in said surfaces, each keyway having two sidewalls in parallel planes; a hexagonal and laterally expandable key having two convergent pressure faces extending into each keyway; and two triangular adapter pieces within the confines of each keyway each having one face parallel with one of said key pressure faces and one face parallel with one of said keyway walls, whereby expansive force of said key may be transmitted and ratably maintained between said key and all four of the walls of said keyways.

3,420,557

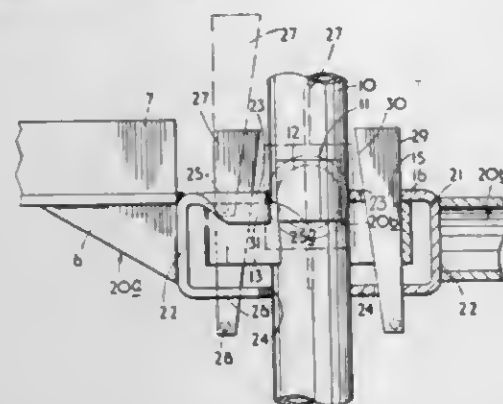
BUILDER'S SCAFFOLDING

Leslie Walter Francis, Birmingham, and Peter Eric Gostling, Coldfield, England, assignors to Kwikform Limited, Birmingham, England, a British company
Filed Apr. 25, 1967, Ser. No. 633,594
Claims priority, application Great Britain, Apr. 29, 1966, 18,830/66

U.S. Cl. 287—54

Int. Cl. E04g 7/00; F16b 7/00

2 Claims



This invention relates to means for connecting together cross members and upright members of builder's scaffolding. An upright member is provided with at least one socket and the end of a cross member is provided with connector means comprising two spaced apart limbs each having an opening mounting a wedge clamping member. In the operative connecting position the two limbs extend respectively above and below the socket with the wedge clamping member in pressure engagement with both the openings and an internal clamping face of the socket extending parallel to the upright member, also the outer free ends of the limbs which constitute abutment faces are in pressure engagement with the side of the upright member. The upper limb of the connector means may be provided with dependent lips to locate the connector means in relation to the socket and to prevent angular movement of the associated cross member. The connector means can be pivoted to the end of a cross member.

3,420,558

MOUNTING AND GROUNDING DEVICE FOR SWIMMING POOL EQUIPMENT

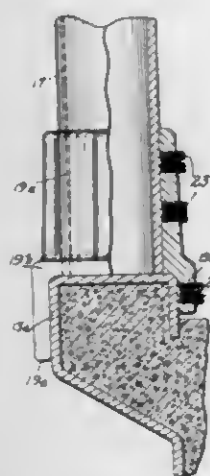
George R. Whitten, Jr., 400 Center St.,
Bellingham, Mass. 02019

Filed Apr. 15, 1966, Ser. No. 542,888

U.S. Cl. 287—119

Int. Cl. E04f 11/00

1 Claim



A mounting and grounding device for mounting accessories such as ladders and stanchions on a swimming pool of the type having a grounded metal gutter assembly or channel shaped rim. The mounting device is a socket made of conductive metal, with a tubular upper portion to receive posts or other accessories made of tubing, and a pair of depending legs which grip inner and outer surface of the gutter or rim.

3,420,559

DOWEL LOCKS

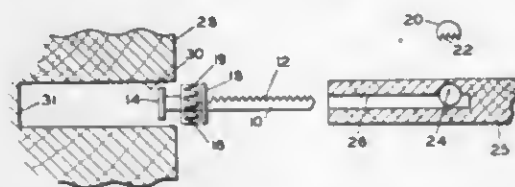
George William Schaefer, deceased, late of Franklin County, Ohio, by Gladys Schaefer, executrix, Columbus, Ohio, assignor, by mesne assignments to William A. Schaefer, Gahanna, Ohio

Filed Sept. 29, 1966, Ser. No. 583,149

U.S. Cl. 287—127

Int. Cl. F16b 13/04; E04b 1/48; E04c 1/10

26 Claims



This invention relates to improvements in a dowel lock. More particularly, the invention concerns a lock for securing a dowel in a corresponding bottomed hole in a piece of material. The lock is so constructed that two such locks may be used in connection with a relatively short dowel pin so as to fasten securely and permanently two abutting pieces of material.

3,420,560

MASONRY WALL JOIST HANGER

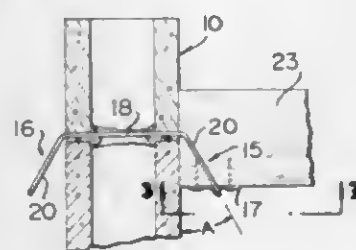
Jerome E. Pfahnlng, 3600 N. Roosevelt Blvd.,
Key West, Fla. 33040

Filed May 23, 1966, Ser. No. 552,286

U.S. Cl. 287—20.94

Int. Cl. E04c 5/16

4 Claims



A joist hanger which is particularly adapted for hanging joints from a masonry wall. The joist hanger has two important features. First, the joist supporting portion thereof is vertically adjustable by a simple bending operation so as to permit the vertical adjustment of joists notwithstanding the vertical position of the anchoring portion of the hanger. Secondly, the hanger has associated therewith components which extend longitudinally of the wall so as to greatly increase the stress area of the wall and thereby prevent the accidental pulling out of the hanger from the wall.

3,420,561

LATCH BOLT HOLD-BACK IN LOCK

Fred J. Russell, 8635 Otis St., South Gate, Calif. 90280,
and Richard L. Armstrong, Santa Fe Springs, and Fred L. Jennie, Buena Park, Calif., said Armstrong and Jennie, assignors to said Fred J. Russell

Filed Sept. 20, 1966, Ser. No. 580,645

U.S. Cl. 292—165

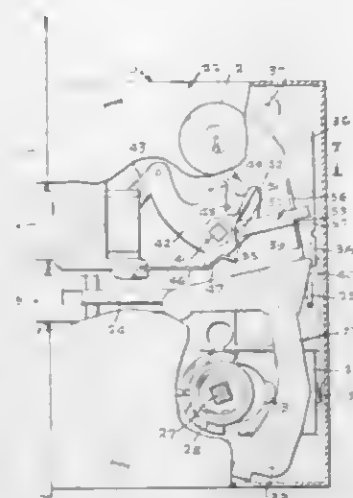
Int. Cl. E05c 1/12; E05b 55/14

5 Claims

The disclosure involves addition of a hold-back arm pivotally mounted upon a somewhat composite cam, the primary purpose of the cam being to extend and withdraw a dead bolt. There is an intermittently acting camming engagement between the hold-back arm and the cam such that the hold-back arm is normally held in an elevated position out of engagement with mechanism which shifts back and forth with movement of the latch bolt. In order to hold the latch bolt in withdrawn position, which is the aim of the mechanism disclosed, the latch bolt is temporarily held in withdrawn position and, while it is in withdrawn position, the dead bolt actuating cam

is manipulated in a direction first extending the dead bolt outwardly, during which motion the hold-back arm is shifted out of a raised position, which shifting is followed by a slight dropping of the position of the hold-back arm

pulled substantially out of the handle to grip a fish and are telescoped completely into the handle for storage, and



when the dead bolt actuating cam is withdrawn, so that in the dropped position, the hold-back arm will engage mechanism for holding the latch bolt temporarily in a withdrawn position.

3,420,562

MAGNET HOLDER FOR DOOR CLOSURES AND THE LIKE

Peter Simon, Schramberg, Germany, assignor to
Karl Simon, Schramberg, Germany

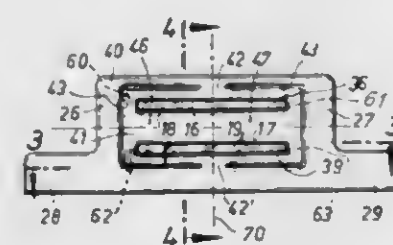
Filed Aug. 25, 1967, Ser. No. 663,308

Claims priority, application Germany, Aug. 31, 1966,
S 105,614; Apr. 13, 1967, S 109,310

U.S. Cl. 292—251.5

Int. Cl. E05c 17/56; E05c 19/16

31 Claims



Magnet holder for door closures and the like which comprises in combination a housing; a magnet assembly disposed in said housing; an armature plate forming part of said magnet assembly; at least one pole piece arranged for contacting said armature plate under the action of the coercive power of the magnet; an abutment plate for bracing the magnet during its action, the said abutment plate being deflectably disposed in said housing opposite said armature plate so as to permit the base line of the abutment plate to shift in a plane about parallel to the direction of the coercive action of the magnet; abutment surfaces provided on said abutment plate, at least one of said abutment surfaces thus being adapted, upon deflection of said abutment plate, for limited movement relative to said housing; and stop means on said magnet assembly for cooperating with said abutment surfaces.

3,420,563

FISH HOLDER

Fred H. Witt, 3400 NW. 24, Oklahoma City,
Okla. 73107

Filed Jan. 3, 1967, Ser. No. 606,949

U.S. Cl. 294—16

Int. Cl. A22b 25/08; B65g 7/12

5 Claims

A device for holding a fish being cleaned utilizing tongs extending into a hollow handle, wherein the tongs are



wherein the tongs are held in both their storage and operative positions by the frictional engagement between the tongs and the interior of the handle.

3,420,564

HAY BALE LOADER AND STACKER ATTACHMENT

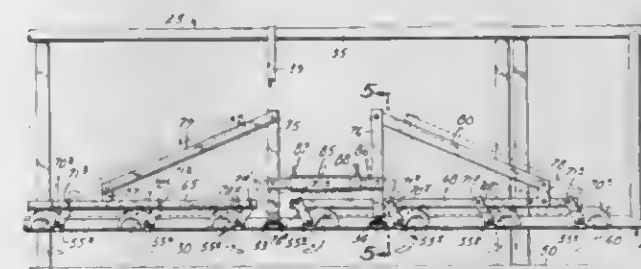
Doyne A. Jensen, Frederick, S. Dak. 57441

Filed Aug. 12, 1966, Ser. No. 572,068

U.S. Cl. 294—67

Int. Cl. B66c 3/04; B66c 1/10

4 Claims



A hay bale loader and stacker capable of picking up a large number of bales and compressing them in four directions so that they may be tightly stacked. A frame is mounted longitudinally to the direction of motion of a supporting tractor and has a bumper bar so that the tractor may compress the bales in a first two directions, and a plurality of transverse members with tines mounted on the frame, and those at each end rotated toward each other to grab and compress the bales in a second two directions.

3,420,565

ROLL CLAMP FOR LIFT TRUCK AND METHOD

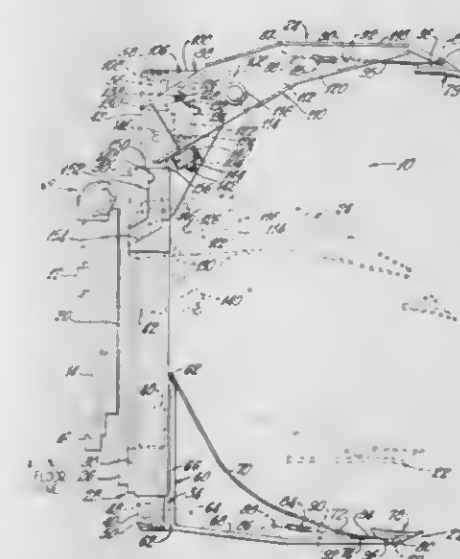
Robert L. Messinger, Langhorne, Pa., assignor to Eaton
Yale & Towne Inc., Cleveland, Ohio, a corporation of
Ohio

Filed Feb. 10, 1967, Ser. No. 615,259

U.S. Cl. 294—86

Int. Cl. B66f 9/18; B66c 1/10

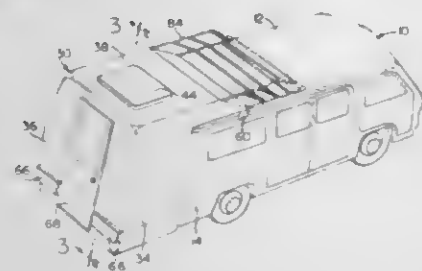
9 Claims



A roll clamp having linearly movable arms. One of the arms is pivoted and can be positively locked in either of two positions for manipulating rolls as by pushing, as well as for lifting rolls of different diameters.

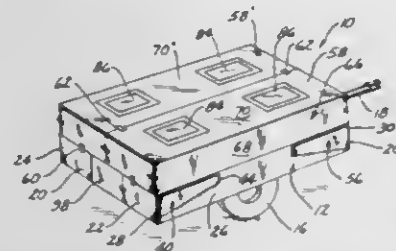
3,420,566
VEHICLE CONVERSION
 Bart R. Obra, 22611 Detour, St. Clair
 Shores, Mich. 48082
 Filed Oct. 20, 1965, Ser. No. 498,853

U.S. Cl. 296—23
 Int. Cl. B60p 3/34



A van type motor vehicle is enlarged to provide a camping vehicle having a kitchen by an attachment secured over the rear doorway by fastening to the standard door hinges of the vehicle. The attachment extends below the floor of the vehicle to provide full headroom. It is also attached to bumper brackets. The weight of the attachment is supported wholly by the hinges and bumper brackets, but the attachments may be steadied by a portion overhanging the roof and tied down to the gutter rails. The front wall of the attachment has an opening corresponding to the vehicle doorway, and is sealed to the doorway, by a sealing ring.

3,420,567
COLLAPSIBLE DWELLING UNIT
 Weston W. Christensen, Lohrville, Iowa 51453
 Filed Mar. 20, 1967, Ser. No. 624,289
 U.S. Cl. 296—27
 Int. Cl. B60p 3/34; E04b 1/344

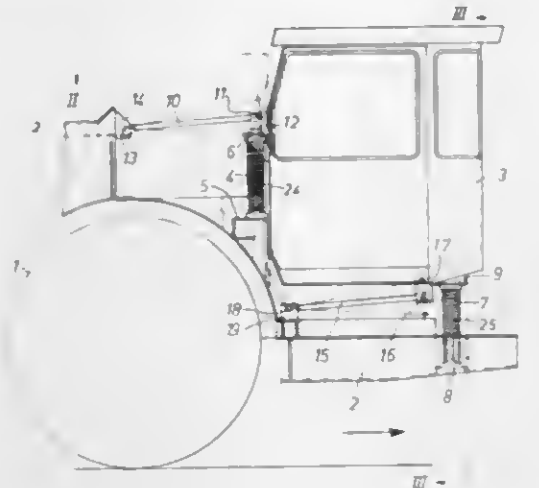


A collapsible dwelling unit comprising, a rectangular base box having brace extensions movably secured to the corners thereof, a pair of box members selectively slidable on the top of the base box, each of the box members having an L-shaped cover member covering the top and outer side thereof and being adapted to be pivoted so that the outer side rests on the brace extensions and said top extends vertically upwardly therefrom, end members pivotally secured to the ends of the base box and adapted to pivot from a horizontal position in said base box to a vertical position on the ends of said base box, wing members on the sides of said end members which are adapted to pivot outwardly to join at their outer ends the vertical sides of the cover member on the box members and a roof means detachably supported by said end members and said wings.

3,420,568
DEVICES FOR RESILIENT SUPPORT OF DRIVER'S COMPARTMENTS IN VEHICLES
 Sune Torsten Henriksson, Liagonstigen 2, and Ragnar Ludvig Muotka, Kyrkogatan 46, both of Kiruna, Sweden
 Filed Oct. 21, 1966, Ser. No. 588,363
 Claims priority, application Sweden, Oct. 22, 1965, 13,704/65

U.S. Cl. 296—35
 Int. Cl. B62d 23/00; B62d 21/00; B62d 27/04
 A vehicle with a driver's compartment mounted upon the vehicle frame with resilient support means, e.g. springs,

to provide vertical movement to cushion the driver against shocks absorbed by the vehicle from the earth or road.



and pairs of pivotable links connected to the compartment and to the frame for guiding the compartment in its vertical movement.

3,420,569
CATTLE END GATE
 Charles Waldrop, Star Rte. 1, Box 16,
 Deming, N. Mex. 88030
 Filed Jan. 29, 1968, Ser. No. 701,216
 U.S. Cl. 296—50
 Int. Cl. B62d 25/02; B62d 33/00; E05d 13/02

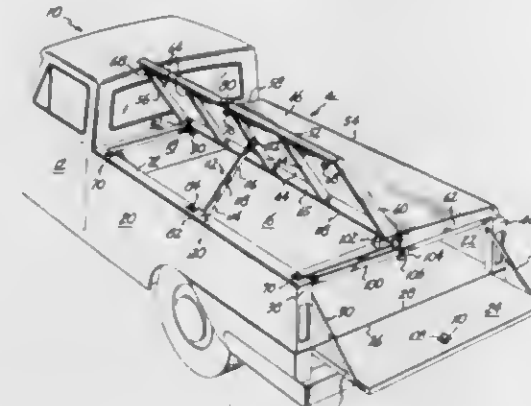


An end gate having a rigid, metallic outer frame fastenable between the sides of a truck body. A vertical support member which is welded rigidly to the top and bottom of the frame, is located intermediate the frame side members. A number of vertically spaced, pairs of bushings are welded in horizontal, axial alignment to the support member and to one of the sides of the frame. The gate closure is formed of parallel metallic tubes which slide in the pairs of bushings and the closure is made rigid by vertical end members welded to the inner and outer ends of the tubes.

3,420,570
LOCKABLE AND REMOVABLE TRUCK BED COVER ASSEMBLY
 Raymond S. Kunz, 17915 50th Ave. South,
 Seattle, Wash. 98118
 Filed May 24, 1966, Ser. No. 552,529

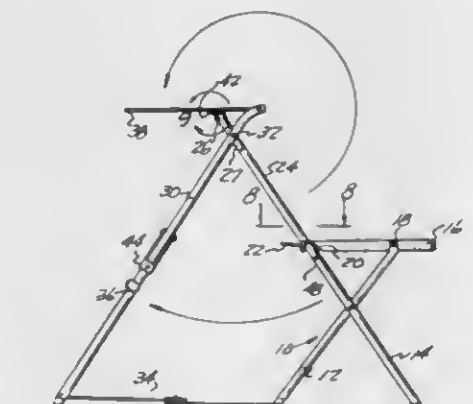
U.S. Cl. 296—100
 Int. Cl. B60p 7/02; B65d 51/18; B65d 43/24
 A vehicle body and cover member comprising two longitudinally extending cover panels, each having front, rear, inside and outside edges, said cover panels being pivotally connected to one another along the inside edges, tabs and hook-type fasteners mounted on the outside edges of the cover panels for securing the panels to the side walls of a pickup truck, hook-type fasteners mounted on said cover panels adjacent said front edges thereon for securing the cover panels to the front wall of the pickup

truck, a cross bar having opposite ends secured to upper rear corners of the truck bed side walls and extending transversely therebetween, hook-type fasteners mounted on said cover panels adjacent said rear edges thereof for securing the rear edges to said cross bar, collapsible links pivotally mounting the tail gate of said truck to the floor



surface of the truck bed, a latch on the inside surface of the tail gate and when the tail gate is closed the latch to be inside of the hook-type fastener on the rear edge of the cover panel, and a collapsible telescopic support brace disposed between at least one of said truck bed side walls and an associated cover panel.

3,420,571
COLLAPSIBLE COMBINATION CHAIR AND TABLE
 James C. Moore, 1011 Lawndale, Detroit, Mich. 48209
 Filed June 12, 1967, Ser. No. 645,324
 U.S. Cl. 297—124
 Int. Cl. A47b 85/04; A47b 85/02

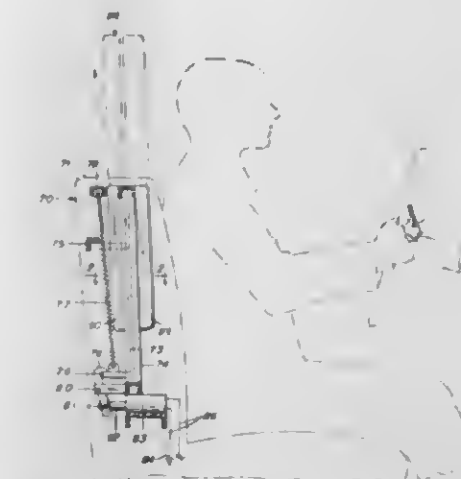


A collapsible combination chair and table, that is readily convertible to a chair only, which is foldable to facilitate convenient storage and handling.

3,420,572
AUTOMATIC HEADREST AND NECK PROTECTOR
 Theodore Bisland, 3707 Gaston Ave.,
 Dallas, Tex. 75210
 Filed Jan. 20, 1964, Ser. No. 338,683
 U.S. Cl. 297—216
 Int. Cl. B60r 21/10

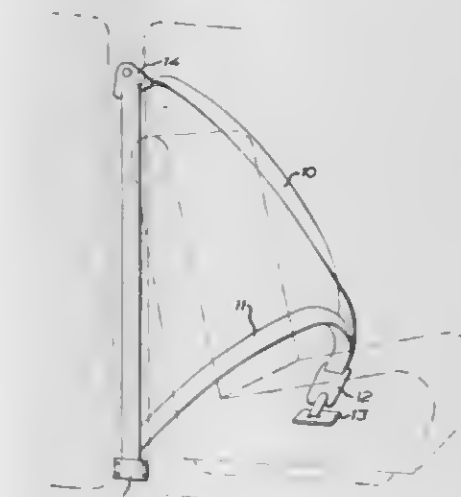
1. In an automatic head and neck protector for vehicle seats having a substantially vertical back portion, the combination including, a rigid plate having a curvature in the horizontally transverse direction corresponding generally to the curvature of the back of a human body, means for mounting said plate on a vehicle seat for vertical sliding movement, the top of said plate being nor-

mally positioned below the level of the occupant's neck, actuating means for raising said plate vertically behind the head and neck of the occupant, and electronic means for initiating operation of said actuator, said electronic



means including means for sensing the movement of a vehicle toward the rear of a vehicle carrying the protector and for instantaneously and continuously calculating the imminence of a collision.

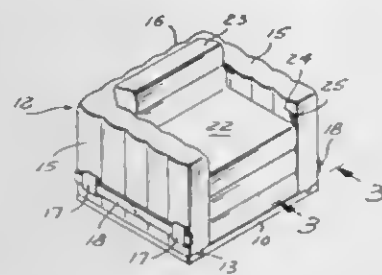
3,420,573
THREE-POINT SAFETY SEAT BELT FOR MOTOR CARS
 Gote Eskil Yngve Holmberg, Anderstorp, Sweden, assignor to G.E.Y.-Patenter Aktiebolag, Anderstorp, Sweden
 Filed May 23, 1967, Ser. No. 640,613
 Claims priority, application Sweden, May 27, 1966, 7,288/66
 U.S. Cl. 297—389
 Int. Cl. A62b 35/00; 35/02; B60r 21/10



A three-point safety belt having a chest strap and a hip strap anchored in a motor car is provided with a retractor mounted at an anchorage point of one of the straps to retract such strap and with a latch which is operatively connected to the other strap and is engageable with the retractor by a pull in said other strap to prevent withdrawal of said one strap from the retractor.

3,420,574
COLLAPSIBLE ARTICLE OF FURNITURE INCLUDING AN INFLATABLE MEMBER
 Ving Smith, 2 Agar Ave., New Rochelle, N.Y. 10801
 Filed July 20, 1967, Ser. No. 654,819
 U.S. Cl. 297—456
 Int. Cl. A47c 4/54
 Flat base has a channel in its upper face adapted to engage track carried by inflatable member, so as to join

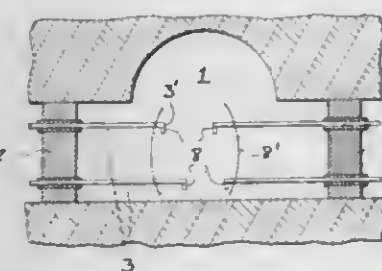
the two. Channel may be U-shaped, and inflatable member may be an "air mattress" with track on one of its



long edges. Inflatable seat cushion may have wire stiffeners extending through pockets secured along edges of cushion.

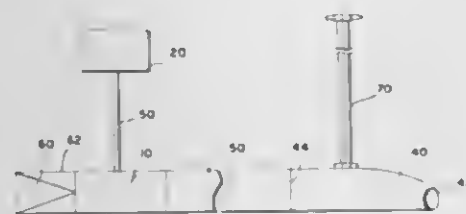
3,420,575
METHOD OF AND DEVICE FOR FOLLOWING COMBUSTION IN MINES AND THE LIKE
Rolf Hübner, Westfalendamm 267, Dortmund, Germany
Filed Sept. 23, 1966, Ser. No. 581,615
Claims priority, application Germany, Sept. 30, 1965, H 57,298

U.S. Cl. 299—1 11 Claims
Int. Cl. E21c 41/00; G08b 21/00; G01n 1/22



Method of and device for following the movement of a flame front through a mine or other subterranean structure wherein a sampling tube of thermally destructible material is inserted through a fire wall into the mine tunnel and is provided with conductors which short-circuit in step with the advance of the flame front to indicate the location thereof, while the tube decomposes so that gases withdrawn therethrough at the receding mouth of the tube are known to be at the location of the flame front.

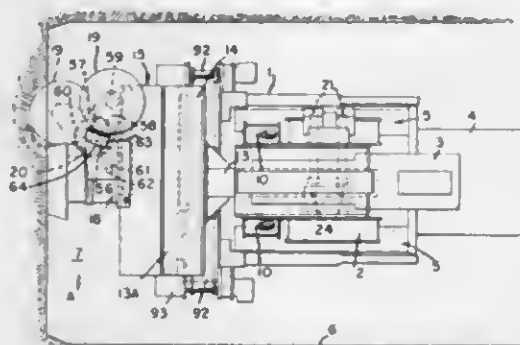
3,420,576
UNDERWATER PLACER MINING METHOD AND APPARATUS
Charles H. Butler, 6326 Waterway Drive, Falls Church, Va. 22044
Filed Oct. 11, 1966, Ser. No. 585,963
U.S. Cl. 299—8 10 Claims
Int. Cl. E02f 7/00



A process and apparatus for underwater placer mining in which water is pumped through a fixed position separating tube to effect gravity separation and collection of heavy particles in the tube. The device comprises an inlet and exhaust end and is divided into a plurality of separable sections. A probe comprises the intake end and is followed in serial order by the separating section, pump section and exhaust section. The probe section includes a handle for manipulating the device, the separating section may be composed of several parts and includes means to alter

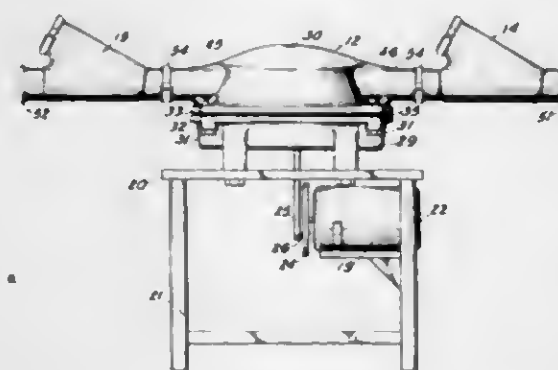
the direction of flow and a removable, serrated gold trap and the exhaust section comprises flow deflection means to restrict movement of the device.

3,420,577
TUNNELLING MACHINE HAVING INDEPENDENTLY OPERABLE CUTTING HEAD AND CIRCULAR SAW
Gerald R. O. Pentith, Aycliffe Industrial Estate, near Darlington, England, assignor, by mesne assignments, to Mining Progress Inc., Highland Mills, N.Y., a corporation of New York
Filed Oct. 12, 1966, Ser. No. 586,237
Claims priority, application Great Britain, Dec. 10, 1965, 52,453/65
U.S. Cl. 299—31 9 Claims
Int. Cl. F21c 29/00



Tunnelling machine including a frame normally having a horizontal longitudinal axis, a beam mounted transversely at the front of the frame and rotatable about such longitudinal axis, a pick-mounting cutting head rotatable about an axis parallel to the axis of rotation of the beam, an assembly of at least one rock-cutting circular saw rotatable about an axis transverse to the length of the beam, the cutting head and the saw assembly being slidably mounted on and movable lengthwise of the beam, and means for rotating the beam about its axis, for moving the cutting head and saw assembly along the beam, for rotating the cutting head and the saw assembly about their respective axes and for advancing and retracting the cutting head and the saw assembly in the lengthwise direction of said horizontal longitudinal axis.

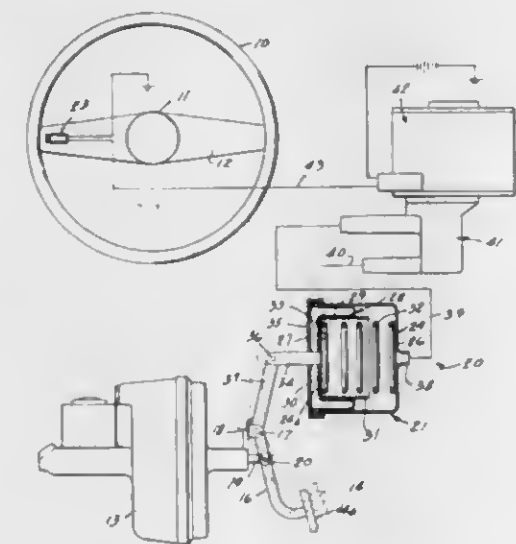
3,420,578
GIBLET PUMPING APPARATUS
Ernest E. Lewis, Flowery Branch, Ga., assignor to Gainesville Machine Company, Inc., Gainesville, Ga., a corporation of Georgia
Filed June 23, 1967, Ser. No. 648,296
U.S. Cl. 302—14 7 Claims
Int. Cl. B65g 51/00



Gilet pumping method and apparatus comprising a diaphragm pump including inlet and outlet ball check valves wherein the ball of each valve is retractable from the line of flow of the pumped substance. Water is added to a mass of gilets to form a slurry, and as the slurry is

pumped it is free to flow past the inlet valve without restriction or obstruction, into the pumping chamber of the diaphragm pump, and on the pumping stroke, the substance being pumped is urged past the outlet check valve, without encountering any restriction or obstruction. The balls of the check valves are retractable completely beyond the flow path of the slurry, into a pocket above the flow path of the slurry, whereby the slurry flows through a low resistance flow channel toward and away from the pump, without damaging the gilets.

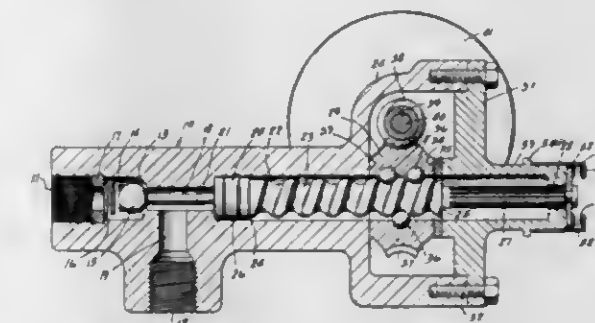
3,420,579
VACUUM OPERATED BRAKE SYSTEM
Douglas E. Kelly, Northfield, and Frank E. Obermaier, Park Ridge, Ill., assignors to The Dole Valve Company, Morton Grove, Ill., a corporation of Illinois
Filed May 3, 1967, Ser. No. 635,786
U.S. Cl. 303—13 7 Claims
Int. Cl. B60t 15/16; B60t 17/02



A vacuum operated brake system for use as an auxiliary braking system in a vehicle having the usual brake foot pedal. A vacuum motor is connected to the vacuum system of the vehicle engine through a transducer which includes a vacuum modulator to vary the level of vacuum applied to the vacuum motor and an electric solenoid for controlling the operation of the vacuum modulator. The vacuum motor includes a power take-off for connection to the brake pedal to move the pedal in accordance with the amount of current passing through the solenoid. A manually operated rheostat is electrically connected to the solenoid for varying the amount of current to the solenoid and is adapted to be located in the vehicle in proximity to the vehicle operator, for example, on the steering wheel or column, for hand operation.

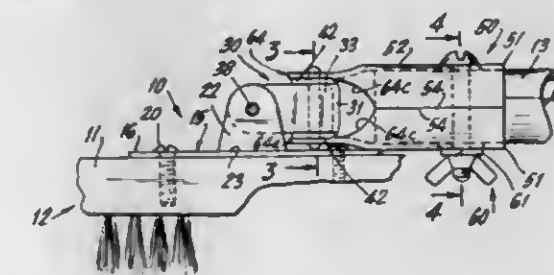
3,420,580
SKID CONTROL DEVICE
Richard W. Dymond, Rochester, Mich., assignor to TRW Inc., Cleveland, Ohio, a corporation of Ohio
Filed May 11, 1967, Ser. No. 637,675
U.S. Cl. 303—21 13 Claims
Int. Cl. B60t 17/18

A hydraulic unloading device for an anti-skid system wherein a valve means is disposed between a master cylinder and a wheel brake means, and wherein a piston is operated by the rotary action of an electric motor to close the valve means and to expand the volume of the hydraulic brake lines at the wheel side of the valve. The piston is splined to the valve housing and has a threaded exterior which is driven through a ball nut by a worm reduction to the electric motor. The electric motor is controlled by the deceleration sensing equipment of the anti-



skid brake control and is reversibly operable for moving the piston in either longitudinal direction for opening or closing the valve means. Due to the type of drive provided, the piston is unable to move unless a control signal is applied to the electric motor.

3,420,581
SWIVEL HANDLE CONNECTOR FOR HOUSEHOLD UTENSILS
William P. Richardson, Greenwich, Conn., assignor to Empire Brushes, Inc., Port Chester, N.Y., a corporation of New York
Filed June 21, 1967, Ser. No. 647,759
U.S. Cl. 306—11 10 Claims
Int. Cl. B25g 3/38; F16c 11/00

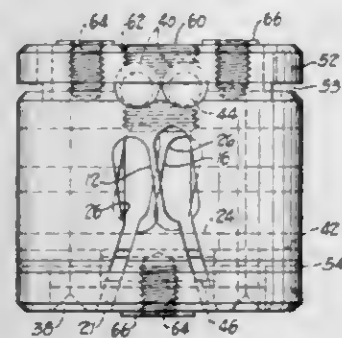


The swivel handle connector comprises a base plate having a pair of upstanding spaced, parallel, apertured ears cut from the metal of the base plate and bent upwardly and away from each other, a swivel bracket made of a single piece of metal and having a top wall portion from which opposed portions are bent downwardly, then outwardly, and then downwardly again to provide apertured ears lying against the inner surfaces of the upstanding ears and pivoted thereto, said bracket also having opposed apertured ears bent down from the top wall portion and carrying a transverse rivet to which are hinged a pair of semi-tubular, complementary handle connectors having tongues to receive the ends of the transverse rivet, and said connectors together forming a ratchet to receive one end of a handle, and being formed with diametrically opposed holes to receive a bolt adapted to pass through a diametric hole in the end of the handle wrested into said socket.

3,420,582
UNIVERSAL FLEXURE TYPE JOINT
Robert E. Shelley, Cumberland, Md., assignor, by mesne assignments, to Toroid Corporation, Huntsville, Ala., a corporation of Alabama
Filed July 22, 1964, Ser. No. 384,495
U.S. Cl. 308—2 9 Claims
Int. Cl. F16c 11/00

1. A universal flexure comprising an outer cylindrical shell and an inner cylindrical shell forming a coaxial cylindrical assembly, each said shell having first, second, third and fourth pairs of slots, respectively, formed in the cylindrical walls thereof, 90° apart, first, second, third and fourth webs formed by and between each said pair of slots, respectively, each said web in said inner shell being canted in one direction from the direction parallel to the axis of said cylindrical assembly, each said web in said outer shell being canted about the same amount

in the opposite direction with respect to said axis of the cylindrical assembly so that when said inner and outer shells are positioned coaxially, the center lines of said first, second, third and fourth webs of said inner and outer webs are respectively aligned and are positioned in a plane normal to said axis of said cylindrical assembly, a pair of end slots extending from each end of said cylindrical assembly, each said pair of end slots being symmetrically placed with respect to said axis of said



cylindrical assembly, said pairs of end slots extending at right angles to each other, one said pair of end slots intersecting said first and third pairs of web forming slots of said inner and outer shells, the other said pair of end slots intersecting said second and fourth pairs of web forming slots of said inner and outer shells, one said slot of each pair of end slots intersecting only one slot of each pair of web forming slots, respectively, in each said shell and each said pair of end slots defining an end member therebetween.

3,420,583

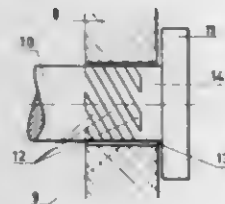
BEARING FOR RADIAL AND AXIAL LOADS
Gilles Gerardus Hirs, Reenwijk, Netherlands, assignor to Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek ten behoeve van Nijverheid, Handel en Verkeer, The Hague, Netherlands, a corporation of the Netherlands

Filed May 17, 1966, Ser. No. 550,741

Claims priority, application Netherlands, May 21, 1965, 6506475

U.S. Cl. 308—9
Int. Cl. F16c 35/00

2 Claims



A bearing for transmitting radial and axial loads between two elements which are rotatable with respect to each other and each of which possesses a bearing surface having a mainly cylindrical part and an adjoining mainly flat radial part, the said elements, when operated normally, being separated by a slit-shaped space which is filled with a medium that transmits the load. In dependency on the application of the bearing, the medium can be either a liquid or a gas.

3,420,584

TRACK ROLLER SEAL

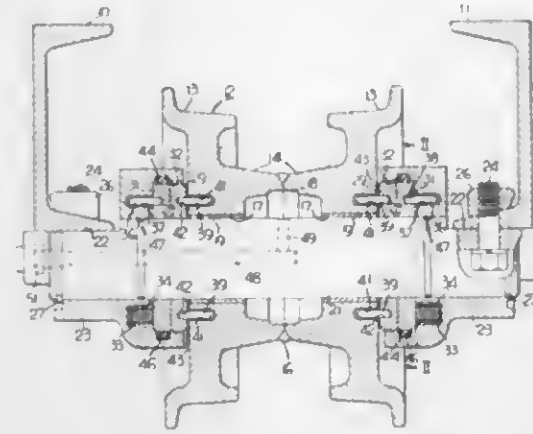
Craig W. Cannon, New Berlin, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Mar. 18, 1966, Ser. No. 535,461

U.S. Cl. 308—36.2
Int. Cl. F16c 33/74

3 Claims

A sealed bushing type bearing assembly for sealing

track rollers on a crawler tractor. The seal includes a sealing ring rotating with the roller and a second seating ring



connected to the stator shaft and having biasing means forming a sealing surface between the rings.

3,420,585

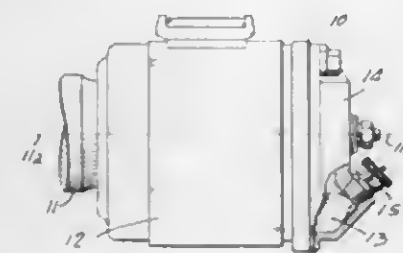
OIL HOLE COVER

Hans Jensen, Wheeling, Ill., assignor to Glts Bros. Mfg. Co., Chicago, Ill., a corporation of Delaware
Filed Apr. 6, 1966, Ser. No. 540,771

U.S. Cl. 308—44

Int. Cl. F16c 33/66; F16c 35/00

3 Claims



An oil hole cover having an externally threaded body member with a friction plug inset in the threaded area adapted to be threaded into an oil hole in a housing, the body member defining an oil passageway and closable by a cap which has a pin projecting through a closed end thereof, the pin carrying a plunger adapted to close the oil passageway, and a spring acting between the closed end of the cap and the plunger to urge the plunger and a sealing gasket carried thereby against the open end of the body member.

3,420,586

STEERING BUSHING ASSEMBLY

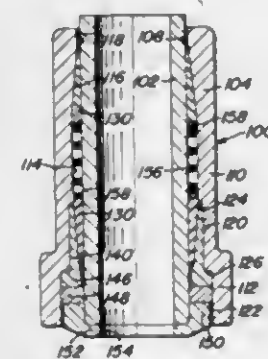
Theodore C. Gerner, 1800 S. Broadway,
Oklahoma City, Okla. 73109

Continuation of application Ser. No. 259,502, Feb. 19, 1963. This application Sept. 6, 1966, Ser. No. 577,537

U.S. Cl. 308—70

Int. Cl. F16c 25/00

6 Claims



An idler arm and bracket for use in the steering linkage of an automotive vehicle in which the end of the idler arm has a bore extending therethrough receiving a hollow

cylindrical spindle journaled in the bore by a pair of spaced, outwardly tapering bearing liners complementary with and engaging tapering surfaces on the bore with a coil compression spring disposed between and engaging the adjacent ends of the bearing liners to urge them outwardly into slack take-up relation between the spindle and tapering surfaces on the bore. Each bearing liner is longitudinally slit and provided with longitudinal grooves in the cylindrical inner surface thereof for rotatable supporting and bearing engagement with the outer surface of the cylindrical spindle.

3,420,587

LOW FRICTION SPHERICAL BEARING

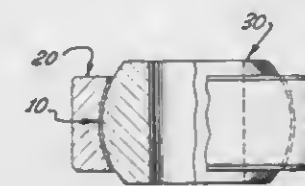
Frederick A. Straub, 4222 Los Nietos Drive,
Los Angeles, Calif. 90027

Application Aug. 21, 1964, Ser. No. 391,128, now Patent No. 3,268,983, dated Aug. 30, 1966, which in turn is a continuation-in-part of application Ser. No. 296,604, filed July 22, 1963, now abandoned. Divided and this application May 5, 1966, Ser. No. 547,982

U.S. Cl. 308—72

Int. Cl. F16c 23/04

5 Claims



A liner of thin bearing material is provided between an outer bearing race ring and an inner or central bearing element wherein portions of the liner are mechanically locked into at least one spiral depression provided within the bearing race ring inner surface, the width of said depression being narrower in portions adjacent axial ends of said ring to restrain said liner from shifting with respect to said race ring on relative rotation between the central bearing element and the outer bearing race ring.

3,420,588

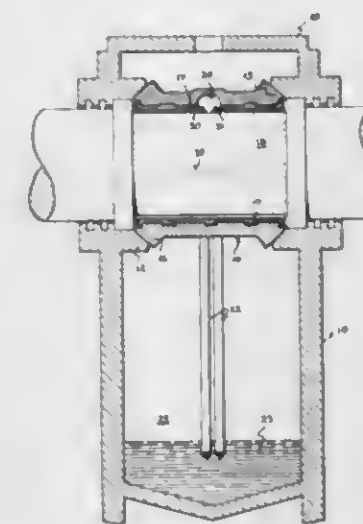
BEARINGS OF THE RING-OILED TYPE

Dan W. Kimberlin, Erie, Pa., assignor to General Electric Company, a corporation of New York
Filed July 11, 1966, Ser. No. 564,221

U.S. Cl. 308—128

Int. Cl. F16c 1/24

8 Claims



A ring-oiled type bearing having a specially contoured oil reservoir extending in the lining of the lower half

thereof to provide a supply of oil over the entire surface of the bearing, whether the axis of a journal mounted in the bearing is horizontal or is tilted during use.

3,420,589

UNITIZED TAPERED ROLLER BEARING

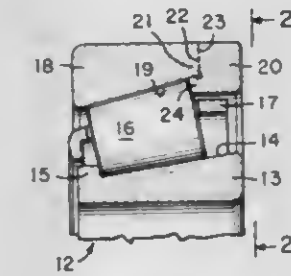
Walter F. Green, Canton, Robert L. Williams, North Canton, and Wyn E. McCoy, Canton, Ohio, assignors to Timken Roller Bearing Company, Canton, Ohio, a corporation of Ohio

Filed Aug. 31, 1966, Ser. No. 576,329

U.S. Cl. 308—174

Int. Cl. B16c 19/14; B16c 19/34

3 Claims



A single row unitized tapered roller bearing for absorbing thrust in both axial directions in which the cone is provided with an integral thrust rib abutted by the small diameter ends of the rollers, a separately formed thrust rib is attached to the cup in position to abut the large diameter ends of the rollers; and attachment means connects the separate thrust rib to the cup to retain the rollers in preadjusted operating abutment with both thrust ribs.

3,420,590

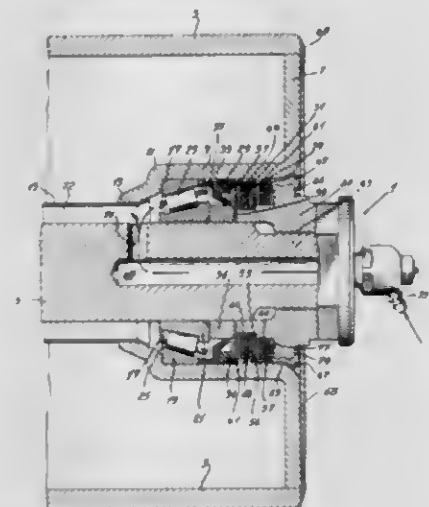
DUSTPROOF BEARING FOR IDLER ROLLER

Georges A. Bilocq, Plessisville, Quebec, Canada, assignor to Forano Limited, Plessisville, Quebec, Canada
Filed Oct. 31, 1966, Ser. No. 590,735

U.S. Cl. 308—187

Int. Cl. F16c 1/24; F16c 33/78

7 Claims



A dustproof bearing for idler roller. Within the end-bore chamber of the pulley, and over the external end of the fixed shaft, there is formed a sealed labyrinth channel as follows. The bearing assembly is first mounted over the shaft until it reaches the end of the end-bore chamber. Next, an annular ring is mounted over the shaft, and over the annular ring, there is provided a first means to define a lubrication channel, which is constructed to allow the lubricant to circulate in one direction toward the external

end of the channel but which closes the channel when the lubricant circulates in the opposite direction. At the outer end of the shaft, there is a cylindrical retaining member which is arranged to retain the bearing against axial movement along the shaft. Over the cylindrical retaining member, there are provided a plurality of spaced annular elements which define the remaining portion of the lubrication channel and are all contained inside an annular retaining ring which terminates in an external inwardly depending flange abutting the cylindrical member at the external end thereof.

3,420,591

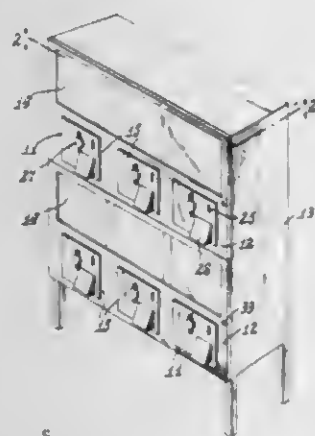
MERCHANDISE VENDING EQUIPMENT

Harold M. Schaefer, Chicago, Ill., assignor to Victor Vending Corporation, Chicago, Ill., a corporation of Illinois
Filed May 23, 1967, Ser. No. 640,727

U.S. Cl. 312-35

7 Claims

Int. Cl. B65b 59/00



Merchandise vending equipment having a plurality of coin controlled vending machines mounted on the door of a cabinet so as to be enclosed in the cabinet when the door is closed and readily available for servicing when the door is open.

3,420,592

AIR CONDITIONER

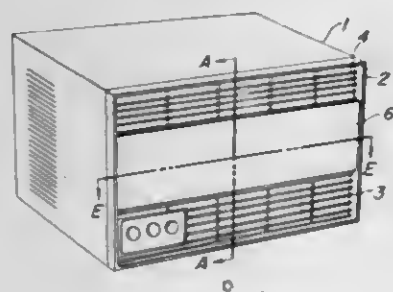
Kyoichi Ogata, Hiroyuki Ogawa, Akio Sakazume, Mitsuo Akiyama and Ukichi Kikuchi, Tochigi-ken, Japan, assignors to Hitachi Ltd., and Keihin Hitachi Engineering Co., Ltd., Tokyo, Japan, both corporations of Japan
Filed May 10, 1967, Ser. No. 637,491

Claims priority, application Japan, June 20, 1966, 41/39,592

U.S. Cl. 312-204

2 Claims

Int. Cl. E05f 17/00; F24f 11/02; F24f 13/14



An air conditioner having a decorative frame structure fitted over the front end opening thereof, said decorative frame structure having air passage openings formed therein which are opened or closed simultaneously by means of upper and lower closure panels slidably mounted in said decorative frame structure.

3,420,593

GETTER ASSEMBLY

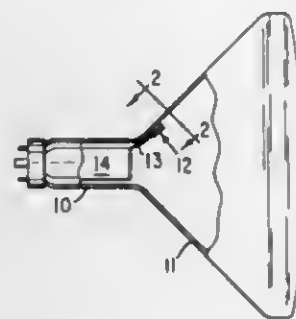
Aden J. King, Syracuse, N.Y., assignor to King Laboratories, Inc., Syracuse, N.Y., a corporation of New York

Filed Feb. 23, 1967, Ser. No. 618,096

U.S. Cl. 316-30

6 Claims

Int. Cl. H01j 7/20



Getter assembly for cathode ray tubes, the assembly including a thermal barrier between the getter body and the tube envelope to prevent excessive heat transfer to the envelope during flashing of the getter.

3,420,594

OPTICAL SCANNING SYSTEM

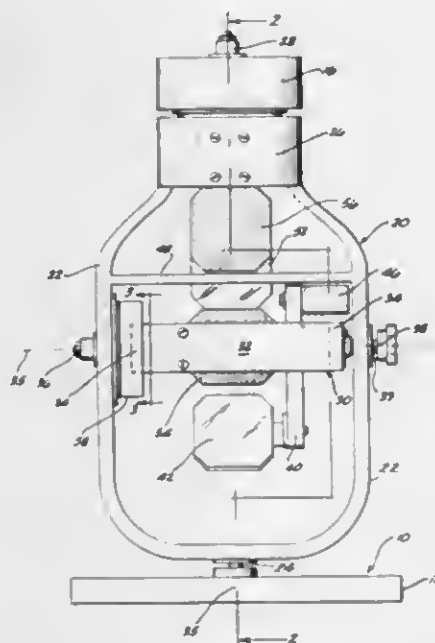
Arthur S. Chapman, Rolling Hills, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Aug. 2, 1965, Ser. No. 477,658

U.S. Cl. 350-23

9 Claims

Int. Cl. G02b 23/02; G02b 17/00; G02b 1/00



A stabilized optical scanning arrangement is provided designed to eliminate image rotation when the system is currently moved in both azimuth and elevation. An outer gimbal is provided for journal movement in azimuth and an inner gimbal is pivoted to the outer gimbal for journal movement in elevation. Independently movable shafts are provided concentric with the axes of azimuth and elevation movement. The shafts carry reflector mirrors in optical alignment with the scanning mirrors carried by the respective gimbals. Movement of each reflecting mirror results from a rollable driving interconnection with both the azimuth gimbal and the elevational gimbal which results in rotational movement of each reflecting mirror in one half angular relationship to the rotational movement of the azimuth and elevational gimbals.

3,420,595

LENS SEQUENCE OF OPTIMUM LENS SPACING

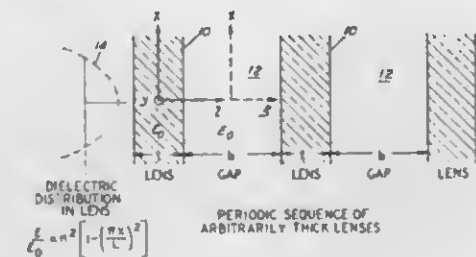
Enrique A. J. Marcattili, Fair Haven, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed July 15, 1964, Ser. No. 382,873

U.S. Cl. 350-96

2 Claims

Int. Cl. G02b 5/14



This application describes an electromagnetic beam guidance system comprising a plurality of uniformly spaced dielectric slabs, each of which is characterized by a dielectric constant which decreases as a function of the square of the distance from the system axis. Two relationships are derived which relate the slab parameters to the maximum slab spacing. Since there are no limitations on the thickness of the slabs, the relationships cover the complete gamut from a sequence of infinitely thin slabs, to a continuous dielectric waveguide.

3,420,596

APPARATUS INCLUDING GUIDE PLATE MEANS AND MULTIPLE INTERNAL REFLECTIVE PRISM MEANS FOR LAUNCHING AND TRANSMITTING SURFACE-GUIDED OPTICAL WAVES

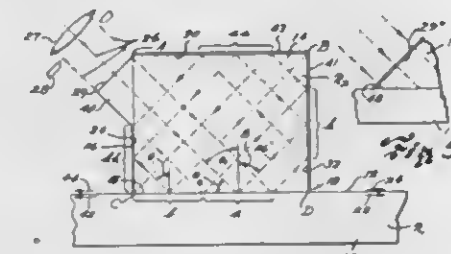
Harold Osterberg, Sturbridge, Mass., assignor to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts

Filed Mar. 5, 1965, Ser. No. 437,517

U.S. Cl. 350-96

12 Claims

Int. Cl. G02b 5/14; G02b 27/14



Optical apparatus including guide plate means of appreciable length having a guide-surface portion of higher refractive index value than that in the interior thereof and a multiple internal reflective prism means of even higher refractive index in contacting relation with said guide surface portion so as to repeatedly direct light toward the interface therebetween and cause part of said light to so pass into said guide plate means as to travel as surface guided optical waves along the guide surface portion thereof.

3,420,597

RETROREFLECTIVE STRUCTURE AND METHOD OF MAKING SAME

Alfred H. Nellesen, Roseville, and Robert J. Schoonover, St. Paul, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Filed Apr. 13, 1964, Ser. No. 359,180

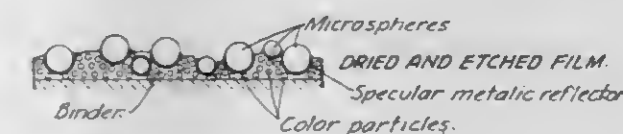
U.S. Cl. 350-105

12 Claims

Int. Cl. G02b 5/12

A new method for making retroreflective structures is disclosed; and this method comprises (1) applying upon a substrate a paint-like film of binder solids, relatively

large pigment particles and transparent glass microspheres completely coated with a thin metal layer having a specular surface adjacent the glass of the microspheres, (2) drying that film to cause the exposed surface to assume a lenticular irregularity as caused by the metal coated microspheres projecting it outwardly in those locations occupied by the microspheres, (3) applying an etching solution over the outer face of the film for a time and at a temperature sufficient to remove the metal of the outer surface lenticular portion of the metal coated microspheres even though there is paint-like binder present as



a veneer, and (4) washing the etching solution away from the surface of the structure. It has been found that the veneer coating of binder solids over the metal coated microspheres does not prevent the etching to remove the metal on the outer hemispherical portion of the microspheres projecting above the dried paint-like coating. Additionally, the etching penetration through the veneer binder coating, while effective to remove the metal on the outer half of the microspheres, does not attack the binder material in the lower portion of the microspheres. Thus, the microspheres are retained in the paint-like coating in firmly bonded condition even after etching.

3,420,598

SCREEN ANIMATOR

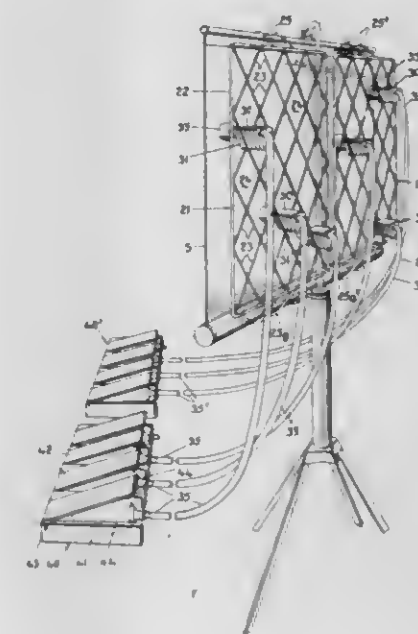
Daniel Goss, P.O. Box 1132, Adelaide St. Post Office, Toronto 1, Ontario, Canada

Filed May 6, 1966, Ser. No. 548,140

U.S. Cl. 350-120

5 Claims

Int. Cl. G03b 21/56; G03b 21/32



A device for animating "still" pictures projected onto a flexible display screen. A plurality of fluid operated actuators are adapted for positioning behind the display screen such that selective extension and retraction of the actuators under fluid pressure permits intermittent deformation of the screen surface from its normal plane. By so deforming selected areas of the screen, apparent animation of the picture projected thereon can be produced.

3,420,599

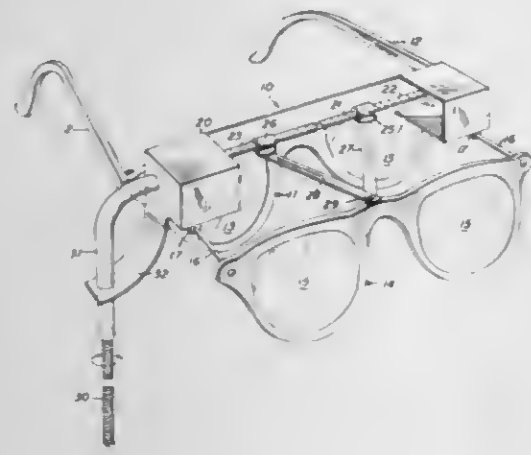
ADJUSTABLE BINOCULAR WORN AS GLASSES
Dolph G. Frantz, 3212 Dorchester Drive, and William Joseph, 3719 Berkley Drive, both of Montgomery, Ala. 36111

Filed Oct. 19, 1965, Ser. No. 497,633

U.S. Cl. 350-146

1 Claim

Int. Cl. G02b 25/00; G02b 7/02; G02c 3/00



There is a front lens system or frame carrying lens for each eye of the user and this is guidedly mounted on a rear lens system for movement toward or away from that system. The rear lens system carries lens for each eye of the user. Means for moving the front lens system toward or away from the rear lens system is provided. A screw member oppositely threaded on each half is mounted on and parallel to the rear lens system. Threaded sleeves are received on each threaded half and these are pivotally connected to the rear ends of two spacing levers that extend forward to a common pivot at the center of the front lens system. A cable is connected to one end of the screw member to rotate the same thereby moving the front lens system toward or away from the rear lens system for binocular vision.

3,420,600

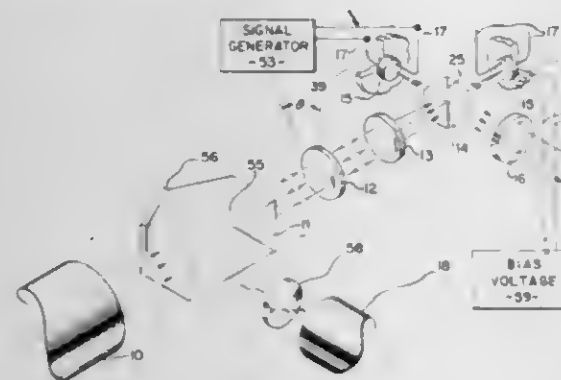
INTERFEROMETRIC OPTICAL MODULATOR
Gus E. Meyers, Redondo Beach, and David B. Pollock, Huntington Beach, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware

Filed Oct. 26, 1964, Ser. No. 406,424

U.S. Cl. 350-150

17 Claims

Int. Cl. G02f 1/26; H04b 9/00



An interferometer is described for amplitude modulating a light beam by varying the path length in the interferometer in accordance with a signal on a piezoelectric transducer. An optical isolator is provided between the modulator and a laser providing the input light beam for minimizing the effect of reflected light on the laser. In a preferred embodiment the optical isolator comprises a Foster-Seeley prism and a quarter wave plate for polarizing the light and rejecting reflected light. A second quarter wave plate may be employed for providing a second output light beam from the modulator having polarization distinct from polarization of the principal modulator output beam. A feedback arrangement is also provided for stabilizing operation of the modulator.

ing the light and rejecting reflected light. A second quarter wave plate may be employed for providing a second output light beam from the modulator having polarization distinct from polarization of the principal modulator output beam. A feedback arrangement is also provided for stabilizing operation of the modulator.

3,420,601

MATERIALS AND STRUCTURES FOR OPTICAL FARADAY ROTATION DEVICES

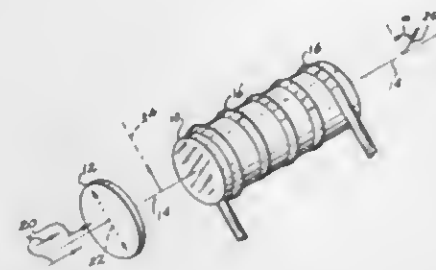
Robert W. Young, Woodstock, Conn., and Robert E. Graf and Charles C. Robinson, Southbridge, Mass., assignors to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts

Filed June 24, 1965, Ser. No. 466,594

U.S. Cl. 350-151

9 Claims

Int. Cl. G02f 1/22



1. A Faraday rotation device providing good light transmission characteristics for optical energy of a pre-selected wavelength when passing therethrough and having a large Verdet constant at said wavelength when subjected to a predetermined magnetic field, said device comprising an elongated member of glass and magnetic means disposed in adjacent relation to side wall portions thereof for subjecting said member to the magnetic field of said magnetic means, said glass member being formed of a zinc borate glass having as an essential ingredient thereof a substantial amount of a trivalent rare earth metal oxide.

3,420,602

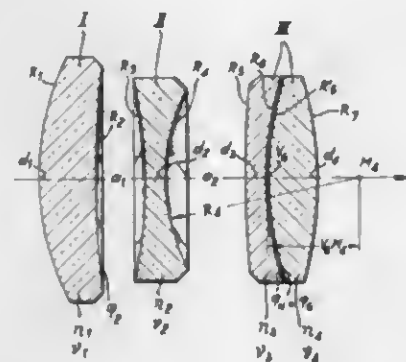
TRIPLET WITH ONE CEMENTED COMPONENT
Joachim Eggert, Ernst Tronnier, and Paul Schuhmann, Braunschweig, Germany, assignors to Voigtlander, A.G., Braunschweig, Germany, a corporation of Germany

Filed Mar. 22, 1965, Ser. No. 441,727

U.S. Cl. 350-227

10 Claims

Int. Cl. G02b 9/14



A photographic objective in the form of a triplet. The objective includes from front to rear a converging front lens, an intermediate non-symmetrical diverging lens, and a converging doublet. The objective may operate with an aperture of approximately 1:2.8 and has a focal length approximately equal to the diagonal of the useful

image format, while the included angle of the objective for distant objects is somewhat greater than 53°. The objective is corrected for astigmatism, curvature of field, coma, and distortion to such an extent that even with the fully open aperture a high quality image is produced. Because of the increased included angle of the objective, as compared to conventional objectives, the objective has a focal length shorter than conventional objectives so that the size of a camera carrying the objective of the invention is considerably shortened along the optical axis.

3,420,603

OPTICAL WINDOWS FOR LASERS

Charles Joseph Whilems, Forest Road, Fairlop, Ilford, Essex, England

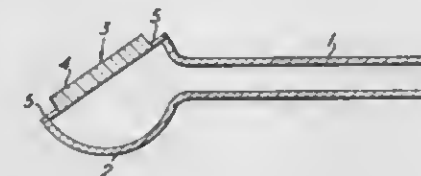
Filed Mar. 20, 1964, Ser. No. 353,354

Claims priority, application Great Britain, Mar. 21, 1963, 11,297/63

U.S. Cl. 350-319

2 Claims

Int. Cl. G02f 3/00



A sealed optical cell for a gas laser tube has an optical window peripherally sealed to the end bulb of the cell, and an abrupt change of thickness between the central portion of the window and the outer portion which is sealed to the bulb provides a stress barrier to prevent distortion of the central portion of the window.

3,420,604

SOUND FILM APPARATUS

Arthur W. Kingston, The Old Mill House, Willowbank, Denham, England

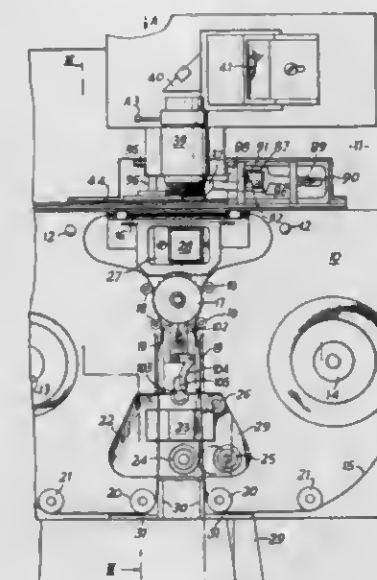
Filed July 23, 1965, Ser. No. 474,364

Claims priority, application Great Britain, July 28, 1964; 30,000/64; Oct. 20, 1964, 42,805/64

U.S. Cl. 352-26

12 Claims

Int. Cl. G03b 1/22



A sound film projector using a cassette and having a capstan for drawing the film past a sound head after leaving a film sprocket, the sprocket being driven by a

motor through a resilient coupling and the capstan being driven by the same motor through a friction drive which allows a synchronous drive to be achieved by slippage in the friction drive. A film advancing claw member is driven by the said motor through a cam rotating in an aperture in a driving element carrying the claw. The advancement of the film being effected by a straight line movement of the claw to avoid a sawing action on the film perforations.

3,420,605

WIDE FIELD PHOTOGRAPHY AND PROJECTION

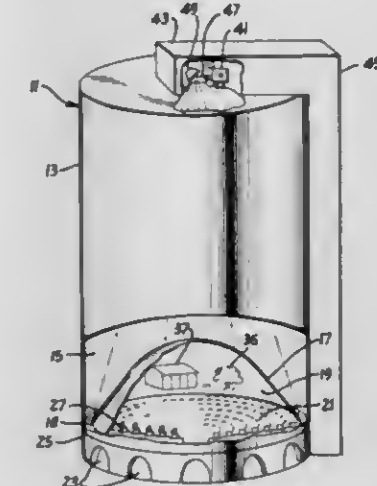
Vernon L. Kipping, 540 Melrose Ave., San Francisco, Calif. 94127

Filed June 14, 1965, Ser. No. 463,479

U.S. Cl. 352-69

5 Claims

Int. Cl. G03b 37/00



A camera having ultra-wide-angle optics is directed vertically upward to photograph the entire hemisphere surrounding the camera. The film is processed in the usual manner. An auditorium for an audience is provided with a hemispherical concave translucent screen. The projector for the film is located outside the auditorium and projects onto the convex surface of the screen.

3,420,606

CINEMATOGRAPHIC PROJECTOR APPARATUS
Charles Michelson, Paris, France, assignor to Teverama S.A., Vaud, Switzerland, a company of France

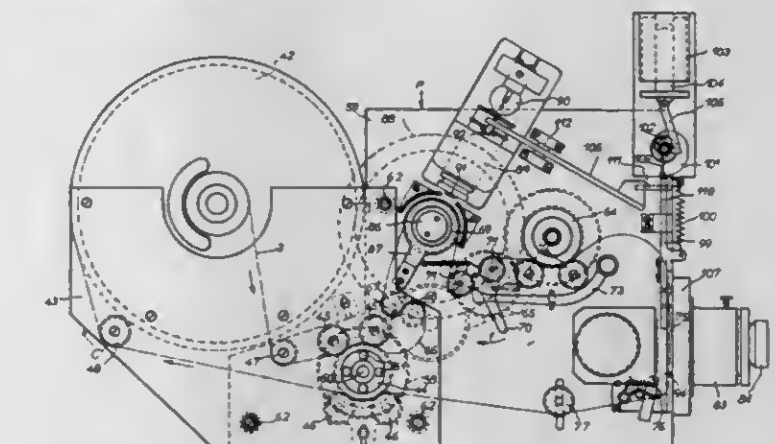
Filed Oct. 24, 1965, Ser. No. 504,483

Claims priority, application France, Oct. 31, 1964, 993,467; July 15, 1965, 24,719

U.S. Cl. 352-239

4 Claims

Int. Cl. G03b 31/02



A movie projector for use with endless films bearing interdigitated images belonging to different sequences and as many juxtaposed sound tracks as there are such sequences.

quences. The projector comprises an image projection optical system adjustably related to said film and adapted to undergo relative shift with respect thereto equivalent to the height of an image, a sound pick-up system adjustably related to the film and adapted to undergo relative shift with respect thereto equivalent to the interval between consecutive sound tracks, and mechanical means for simultaneously adjusting said optical system and said pick-up system to produce said respective shifts thereof.

3,420,607

STRUCTURE FOR SUPPORTING COMPONENTS OF A PHOTOGRAPHIC PROJECTOR

Erich Zillmer, Braunschweig, Germany, assignor to Voigtlander A.G., Braunschweig, Germany, a corporation of Germany

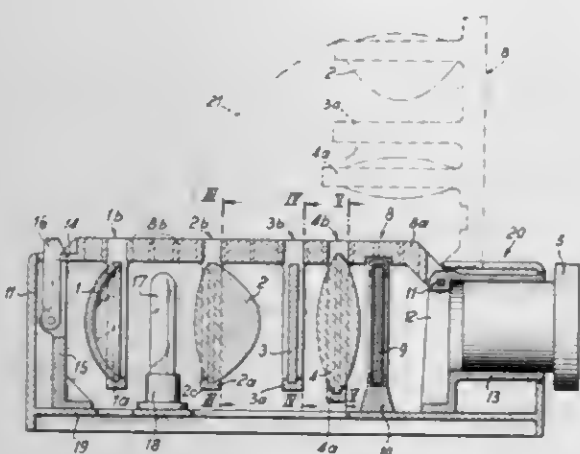
Filed Jan. 25, 1966, Ser. No. 522,919

Claims priority, application Germany, Feb. 4, 1965, Z 11,306

U.S. Cl. 353—100

Int. Cl. G03b 21/14

3 Claims



An apertured lamp-housing cover having molded integral therewith a plurality of holders for optical elements of a slide projector. A plurality of springy elements situated in the openings of the cover in registry with the holders yieldably maintain the optical elements therein. The cover is hinged at one end to the projector so that upon upward rotation of the cover to its open position, the optical elements attached thereto are pivoted out of the projector housing. This provides free access to the optical elements of the projector for the purpose of removing dust or, if desired, for interchanging the optical elements.

3,420,608

VACUUM FRAME AND IMPROVEMENTS FOR VACUUM FRAMES

Michael A. Canale, 801 Oakfield Ave., Wantagh, N.Y. 11793

Continuation of application Ser. No. 255,404, Jan. 31, 1963. This application Sept. 20, 1965, Ser. No. 488,372

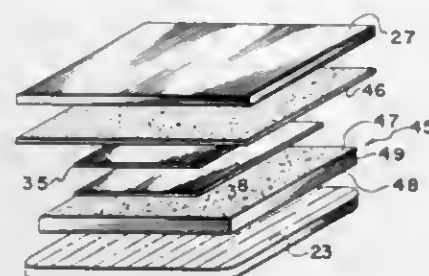
U.S. Cl. 355—91

Int. Cl. G03b 27/00

1 Claim

1. A vacuum frame comprising a rigid transparent member and a flexible member in facing relationship and means for substantially exhausting the air between said rigid and flexible members, said rigid and flexible members having positioned between them a matte bed comprising spongy material and flexible sheet material and further in combination with separate flexible sheet material means in facing relationship to the said first mentioned flexible sheet material of the said matte bed, said

frame being adapted to hold printing material in it between the said first and second mentioned sheet materials with at least a portion of the facing surfaces of the said



3,420,609

PHOTOMETER FOR COMPARING SCATTERED WITH TRANSMITTED LIGHT

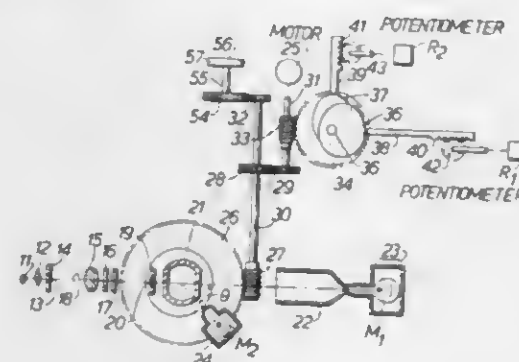
Shichibei Kozawa, Yasucho, Shiga Prefecture, Japan, assignor to Shimadzu Seisakusho Ltd., Kyoto, Japan, a corporation of Japan

Filed Aug. 27, 1964, Ser. No. 392,423

U.S. Cl. 356—104

Int. Cl. G01n 21/00

17 Claims



In a photometer for automatically drawing Zimm plots, a light source directed upon a solute and solvent sample, a first photocell rotatable to varying positions for producing an output proportional to the intensity of light scattered by the sample at different angles, a second photocell for producing an output proportional to the intensity of light transmitted through the sample, a recorder pen, means for converting the movement of the first photocell to a movement of the recorder pen along a first orthogonal axis, means for converting the movement of the first photocell and the outputs of both the first and second photocells to a movement of the recorder pen along a second orthogonal axis, whereby the combined movements of the recorder pen along the orthogonal axes results in the formation of a Zimm plot as defined in the Journal of Chemical Physics, vol. 16, page 1099 (1948).

ERRATUM

For Class 356—246 see: Patent No. 3,420,138

3,420,610

WRITING INSTRUMENTS AND SELF-PRESSURIZING ASSEMBLIES THEREFOR

Curtis L. Malm, Norwalk, Calif., assignor to Paper Mate Manufacturing Company, Santa Monica, Calif., a corporation of Delaware

Filed Aug. 8, 1966, Ser. No. 570,824

U.S. Cl. 401—112

Int. Cl. B43k 7/12

13 Claims

A unitary, replaceable ink-containing cartridge carrying a self-contained control assembly for normally venting the cartridge and pressurizing it during writing. The assembly includes a chamber with a resilient compression

element, an actuating rigid member and spring means normally venting the chamber and cartridge, movement of the actuating member against the spring causing the re-

brush is in an extended position, removal of the pressure on the shield will cause the shield to come back to its original shape and the ridges will then contact the base of the brush to frictionally hold it in the extended position the applicator is in the upright position.



silient element to compress air in the chamber and cartridge. Writing instruments containing such self-contained pressurizing cartridge.

3,420,611

FOUNTAIN BRUSH HOLDING DEVICE

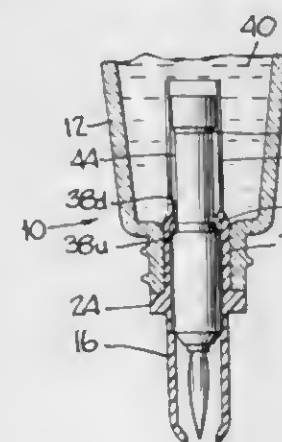
Edward J. Towns, 53 Mounthaven Drive, Livingston, N.J. 07039

Continuation-in-part of application Ser. No. 587,527, Oct. 18, 1966. This application Oct. 10, 1967, Ser. No. 677,832

U.S. Cl. 401—115

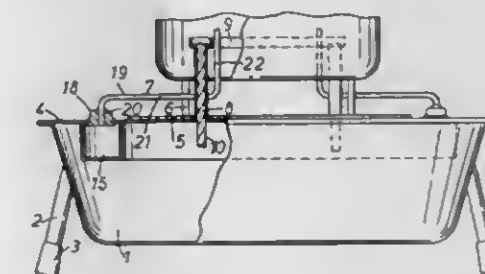
Int. Cl. B43k 7/12

14 Claims



The embodiment of the invention disclosed in the following specification is of a fountain type of applicator adapted to be used with the brush pointing upward, such as in an eyeliner or liquid lipstick applicator. A fountain brush having a weighted base and a brush portion is held within a flexible plastic shield which shield and brush are mounted on a bottle that holds the liquid that is to be applied by the brush. The forward portion of the flexible plastic shield is oval or elliptical in cross section. When the brush and its base is in the retracted position, the brush is entirely within the shield and thereby protected. Ridges on the inside of the shield hold the brush in the retracted position even when the applicator is turned upside down. However, pressure transversed to the ridges will sufficiently deform the oval shield so as to cause the ridges to move radially outward and thus away from the base of the brush. If this pressure is applied when the applicator is in an upside down position, the base and brush will advance from the retracted position to the extended position and at the same time carry a quantity of fluid along. Once the

A heating appliance utilizing liquid fuel in which provision is made for delivering water into the combustion zone of the appliance if the appliance is overset so as to form a flame extinguishing vapor within the combustion zone by contact of the water with hot surfaces defining or within the combustion zone.



3,420,613

GAS BURNER ASSEMBLY FOR INCINERATORS

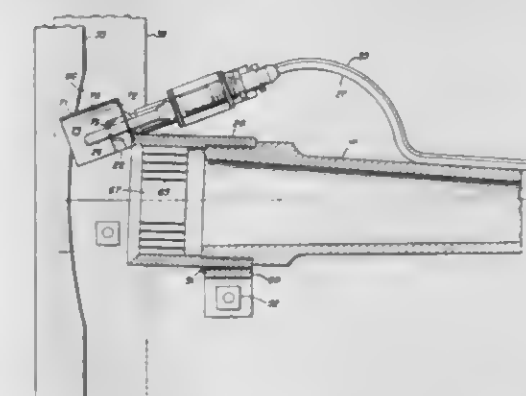
Reuben L. Christophel, Harrisonburg, Va., assignor to Shenandoah Manufacturing Company, Inc., Harrisonburg, Va., a corporation

Filed Oct. 10, 1966, Ser. No. 585,470

U.S. Cl. 431—51

Int. Cl. F23q 9/08

4 Claims



A smooth working assembly including a number of standard parts is provided by positioning the parts in such space relationship as to avoid practically all of the many objections to gas burners for small outdoor incinerators. The primary purpose is to arrange the parts so that minimum attention need be given the assembly.

A main gas burner is connected to a source of gas by a passageway having in it a safety valve for shutting off the flow of gas in event of flame failure. The main gas burner has a discharge head and a pilot is located adjacent that discharge head. A thermocouple bears a particular relation to the pilot, which particular relation is characterized by the fact that the thermocouple is energized by the adjacent pilot, both of which are positioned to be supplemented by the heat and flame from the main burner. Pilot stability is supported by the main burner flame to maintain a constant pilot flame even in adverse wind conditions. The thermocouple is so positioned to be energized not only from the pilot burner but also by the

radiated heat from the main burner flame. This relation of pilot and thermocouple is considered new and highly efficient.

Associated with the foregoing special relation of pilot and thermocouple is a stabilizing shield to house the pilot and the thermocouple, said shield having a sloping top, a rear portion having openings to receive the pilot and thermocouple, and two closed sides, the bottom of the shield being open.

3,420,614

BURNERS FOR FURNACES

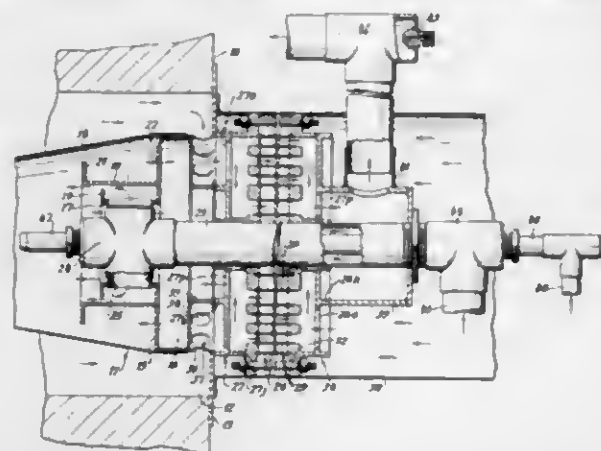
Trevor Ward, London, England, assignor to Hotwork Limited, London, England

Filed Dec. 22, 1966, Ser. No. 603,879

U.S. Cl. 431-215 4 Claims
Int. Cl. F23d 1/44

The combustion air supplied to a furnace burner is heated before reaching the combustion zone by passing it

through passages in a heat exchanger surrounding a fuel gas supply conduit, gases from the furnace being passed



through other passages in the heat exchanger to provide the heat.

CHEMICAL

3,420,615

METHOD FOR FIXING PHTHALOCYANINE DYE STUFFS ON TEXTILE FIBERS

William S. Griffith, Mount Holly, N.C., assignor to Martin-Marietta Corporation, a corporation of Maryland

No Drawing. Filed Dec. 20, 1965, Ser. No. 515,169

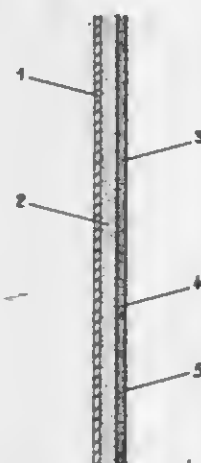
U.S. Cl. 8-37 6 Claims

Int. Cl. C09h 49/00; D06p 1/30; D06p 1/14
1. A process for coloring cotton textile fibers comprising the steps of applying to the fibers an aqueous composition comprising a water soluble, organic dyestuff which is a sulfinate of the phthalocyanine series selected from the group consisting of phthalocyanine sulfinates, copper phthalocyanine sulfinates and nickel phthalocyanine sulfinates and containing at least one pendant sulfinate group per phthalocyanine molecule as a substituent for hydrogen in the arylene nuclei of the phthalocyanines and a fixing agent selected from the group consisting of $\text{Na}_2\text{S}_2\text{O}_3$, thiourea, N-monoalkyl- and N,N'-dialkyl thioureas the alkyl groups of which contain 1-6 carbon atoms,

 NH_4SCN

elemental sulfur, acetyl thioureas, trisodium thiocyanurate and sodium diethyldithiocarbamate; drying the fibers; heating the fibers at an elevated temperature until the dyestuff is fixed; and washing the fibers.

to water and carries the first of said salt layers containing a mixture of fluoride and bichromate salts, said semi-permeable membrane covering said first layer consisting of



cellophane, said second salt layer covering said membrane consisting of a paste formed by a mixture of a material of the group consisting of sodium pentachlorophenol and copper sulphate with oil.

3,420,618

GAS PURIFICATION BY HYDROGENATION

Harold W. Fleming, Louisville, Ky., assignor to Catalysts and Chemicals Inc., a corporation of Delaware

No Drawing. Filed July 6, 1965, Ser. No. 469,896

U.S. Cl. 23-2 5 Claims

Int. Cl. C01b 2/00

A process for removing by hydrogenation either oxygen and acetylene or oxygen, acetylene and ethylene from a gaseous mixture additionally containing hydrogen and carbon monoxide comprising contacting said gaseous mixture at a temperature of 250° F. to 700° F. with a palladium catalyst supported on activated alumina having a surface area of 200-450 square meters per gram. To selectively hydrogenate oxygen and acetylene without converting carbon monoxide to methane or carbon dioxide, 0.1 to 0.3 weight percent of palladium is utilized whereas when the selective hydrogenation of oxygen, acetylene and ethylene is desired the amount of palladium used is 0.5 to 1.0 weight percent.

3,420,619

RECOVERY OF OXIDES OF MOLYBDENUM FROM THE OXYCHLORIDE

James L. Booker, Angleton, and Robert E. Fredrickson, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Feb. 4, 1966, Ser. No. 525,210

U.S. Cl. 23-21 3 Claims

Int. Cl. C01g 1/02; C01g 39/00

The method of recovering molybdenum oxides in substantially pure form from molybdenum oxychloride comprising heating said oxychloride at a temperature between about 15° C. and about 130° C. at a reduced pressure of not over about one-half atmosphere positive pressure for a time sufficient to decompose the molybdenum-oxychloride to molybdenum oxides and HCl vapor, removing the HCl vapor, and retaining the molybdenum oxides as a particulate solid. The molybdenum oxychloride may be prepared by known methods, e.g. by crushing and roasting molybdenum ore to convert the molybdenum values therein to impure oxides, hydrochlorinating the roasted ore as by passing HCl there-through to yield a vaporized molybdenum oxychloride, and condensing the oxychloride as produced.

3,420,620

MONOFLUORO-POLYPHOSPHATES

Robert E. Mesmer, Oak Ridge, Tenn., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Aug. 11, 1966, Ser. No. 571,705

U.S. Cl. 23-50 18 Claims

Int. Cl. C01b 25/30; C01c 1/28

1. A process for producing a polyphosphate of the formula, $\text{M}_3\text{XP}_3\text{O}_9\text{F}$, wherein M is selected from the group consisting of ammonium and alkali metals and wherein X is selected from the group consisting of hydrogen, ammonium and alkali metals comprising reacting a substance yielding fluoride ions and a trimetaphosphate selected from the group consisting of alkali metal trimetaphosphates and ammonium trimetaphosphate, in an aqueous solution and at a temperature of from about 20° C. to about 100° C. and at a pH of from about 2 to about 11.

11. A compound of the formula, $\text{M}_3\text{XP}_3\text{O}_9\text{F}$, wherein M is selected from the group consisting of ammonium and alkali metals and wherein X is selected from the group consisting of hydrogen, ammonium and alkali metals.

3,420,621

PROCESS FOR PRODUCING HYDROXYLAMMONIUM PERCHLORATE

James W. Watters, Washington, D.C., Robert E. Farncomb, Oxon Hill, Md., and Manfred J. Czlesia, Krefeld-Gartenstadt, Germany, assignors to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed Aug. 17, 1966, Ser. No. 573,130

U.S. Cl. 23-85 17 Claims

Int. Cl. C01b 21/14; C01b 21/18

A process for producing a purified, high yield of hydroxylammonium perchlorate, useful as an oxidizer in propellant formulations, by employing as a reactant hydroxylammonium sulfate or hydroxylammonium chloride.

3,420,622

PROCESS FOR OBTAINING FLUORINE COMPOUNDS FROM DIGESTION SOLUTIONS OF CRUDE PHOSPHATES WITH NITRIC ACID OR HYDROCHLORIC ACID

Ernst Dönges, Rudolf Kohlhaas and Albert Hloch, Frankfurt am Main, and Nikolaj Medić, Kelkheim, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Feb. 17, 1966, Ser. No. 528,096
Claims priority, application Germany, Feb. 27, 1965, F 45,383

U.S. Cl. 23-88 7 Claims
Int. Cl. C01b 33/10

A process has been provided for recovering fluorine values from crude phosphate by digesting the same with nitric acid, forming a suspension of finely divided calcium silicofluoride and recovering the silicofluoride by extracting the same with acidified water and precipitating the silicofluoride in the form of potassium silicofluoride. Similarly, a process has been provided for recovering the fluorine values from crude phosphate with aqueous hydrochloric acid by carefully controlling the water content of the digested crude phosphate mixture. The calcium silicofluoride suspension is obtained as a slurry of fine crystals from which the fluorine values are recovered by extracting with acidified water and the silicofluoride precipitated by means of potassium chloride as potassium silicofluoride.

3,420,623

MANUFACTURE OF PURIFIED AMMONIUM PHOSPHATES FROM WET PROCESS PHOSPHORIC ACID

James E. Barker, East Point, Ga., assignor to Tennessee Corporation, New York, N.Y., a corporation of Delaware

Filed June 1, 1967, Ser. No. 642,907
U.S. Cl. 23-106 10 Claims
Int. Cl. C01b 25/28

A process for producing commercially pure diammonium or monoammonium phosphate from impure phosphoric acid, preferably wet process phosphoric acid (WPA), wherein the impure acid is first reacted with an alkali metal salt or base to precipitate and subsequently separate the fluosilicates as the alkali metal salt. The treated acid is then neutralized with ammonia to precipitate the metallic phosphates out of solution. The metallic phosphates are separated out as a process by-product and the neutralized fluid is ammoniated with recycled aqueous ammonia to precipitate out the remaining metallic salts. The filtrate from the first stage ammoniation is then subjected to a second stage ammoniation at about a pressure of from atmospheric to about 60 p.s.i.g. but preferably 45 p.s.i.g. and a temperature from above 130° F., to decomposition temperature preferably 140° F. to obtain a heptammonium triphosphate $(\text{NH}_4)_7\text{H}_2(\text{PO}_4)_3$ precipitate which upon drying in an ammonia atmosphere converts at elevated temperature up to 300° F. preferably 180° F. to diammonium phosphate $(\text{NH}_4)_2\text{HPO}_4$. Alternatively, the heptammonium triphosphate may be dried in an air atmosphere at temperatures from about 100° F. to 375° F. to obtain monoammonium phosphate.

3,420,624

AMMONIUM PHOSPHATES

Elliot B. Fitch, Weston, Conn., assignor to Dorr-Oliver Incorporated, Stamford, Conn., a corporation of Delaware

Filed July 24, 1967, Ser. No. 655,573
U.S. Cl. 23-107 2 Claims
Int. Cl. C01b 25/28

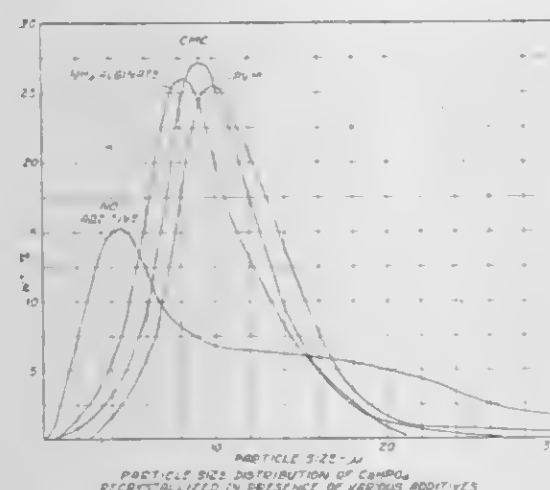
A process for generating ammonium polyphosphate from merchant grade orthophosphoric acid and ammonia

which utilizes a first stage having a pipe reactor and a heat exchanger in series to partially ammoniate and concentrate the phosphoric acid. The product of the first stage is then transferred to a second stage pipe reactor and fresh ammonia is added to complete the ammoniation process.

3,420,625 RECRYSTALLIZATION OF ANHYDROUS CALCIUM ACID PHOSPHATE FROM THE DIHYDRATE FORM

Joseph M. Margolis, South Euclid, Ohio, assignor to General Electric Company, a corporation of New York
Continuation-in-part of application Ser. No. 505,909, Nov. 1, 1965. This application Dec. 13, 1965, Ser. No. 517,500
U.S. Cl. 23-108
Int. Cl. C01b 25/32; B01j 17/04

8 Claims



1. In the process of converting $\text{CaHPO}_4 \cdot 2\text{H}_2\text{O}$ to CaHPO_4 by recrystallization in an acidic aqueous medium wherein $\text{CaHPO}_4 \cdot 2\text{H}_2\text{O}$ of the desired particle size distribution is suspended in the medium, and the medium is then heated to cause formation of CaHPO_4 of a desired particle size distribution, the improvement consisting of adding to the medium before recrystallization about 0.35-0.7 gram of an additive per kilogram of $\text{CaHPO}_4 \cdot 2\text{H}_2\text{O}$ wherein the additive is at least one compound selected from the group consisting of water-soluble high molecular weight polycarboxylic acids and their water-soluble anhydrides and ammonium and alkali metal salts, whereby the particle size distribution of the resulting CaHPO_4 is substantially narrower than without the use of said additive.

3,420,626 METHOD OF RECOVERING SODIUM SULFITE FROM WASTE SODIUM SULFITE PULPING LIQUOR

Philip E. Shick and Nallan C. S. Chari, Toledo, Ohio, assignors to Owens-Illinois, Inc., a corporation of Ohio
Continuation-in-part of application Ser. No. 130,297, Aug. 9, 1961. This application Dec. 23, 1964, Ser. No. 420,833

U.S. Cl. 23-129
Int. Cl. C01d 5/14

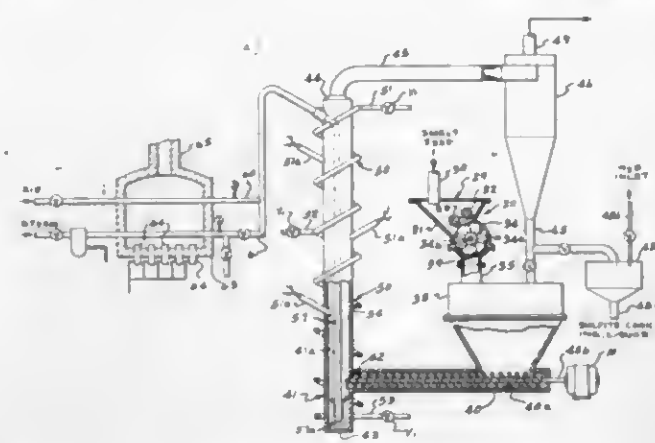
4 Claims

1. In the method of recovering sodium sulfite from waste sodium sulfite liquor used in chemical pulping of wood, comprising the steps of concentrating said liquor and burning the resultant concentrate to form a molten smelt containing sodium sulfide, the improvement comprising:

cooling and reducing said smelt to relatively finely-divided particles,

introducing said particles laterally into an upwardly moving confined stream of steam and air whereby said particles are "fluidized" in said stream and moved upwardly therein, said stream comprising a mixture of two to one parts by volume of steam and one to thirty parts by volume of air, and

maintaining the temperature of said stream at from about 500° F. to about 1200° F., thereby promoting



selective oxidation of the aforesaid sodium sulfide to sodium sulfate.

3,420,627 CONCENTRATION OF PHOSPHORIC ACID

Billy J. Young, Fullerton, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California

Filed Jan. 21, 1964, Ser. No. 339,300

U.S. Cl. 23-165
Int. Cl. C01b 25/22

6 Claims

1. The method for preparing a highly concentrated, anhydrous phosphoric acid that comprises introducing a dilute phosphoric acid having a concentration between about 27 and about 63 weight percent P_2O_5 into a vacuum concentration unit and heating said acid therein for a period greater than about 30 minutes to a temperature between about 125° and about 450° F. while maintaining a subatmospheric pressure on said acid between about 10 and about 250 millimeters mercury absolute pressure so as to eliminate the free water of solution and concentrate said dilute phosphoric acid to an intermediate concentration between about 69 and about 73 weight percent P_2O_5 ; withdrawing said phosphoric acid at said intermediate concentration and before insoluble metaphosphates are formed and passing said phosphoric acid of said intermediate concentration to a final evaporation step wherein said acid is directly contacted with hot combustion gases having a temperature between about 1000° and 2000° F., maintaining said acid in contact with said hot combustion gases for a period of time between about 0.1 and about 90 seconds so as to increase the concentration of said acid by about 2 to about 13 weight percent P_2O_5 , separating said acid from said hot combustion gases and withdrawing said acid from said contacting as said highly concentrated anhydrous phosphoric acid having a P_2O_5 content between about 73 and about 82 weight percent, all said concentrations being expressed on an impurity free basis.

3,420,628 PROCESS FOR THE MANUFACTURE OF CONCENTRATED PHOSPHORIC ACIDS

Sam P. Robinson, Houston, Tex., assignor to James G. Brown & Associates, Inc., Houston, Tex., a corporation of Texas

Continuation-in-part of application Ser. No. 458,143, May 24, 1965. This application Apr. 25, 1966, Ser. No. 544,973

U.S. Cl. 23-165
Int. Cl. C01b 25/22

22 Claims

1. In the production of concentrated wet process phosphoric acid by a process which includes the steps of introducing into a mixing zone particulate phosphate rock with concentrated sulfuric acid to initiate reaction therebetween, and continuing the reaction in a reaction zone at a temperature and for a time sufficient to produce a hot phosphoric acid-containing substantially anhydrous acid-

ulate, and thereafter recovering product acid from said acidulate, the improvement which comprises the steps of:

- (a) mixing the hot acidulate from the curing zone with a quench fluid comprising weak acid wash and product phosphoric acid in a quench zone maintained under a substantial sub-atmospheric pressure to form therein a liquid-solid slurry with said acidulate,
- (b) maintaining said slurry at the boiling temperature of said product phosphoric acid at said sub-atmospheric pressure for a time sufficient to effect substantial equilibrium between the P_2O_5 content of the slurry with that of said product phosphoric acid,
- (c) separating product acid from solid products in said slurry,
- (d) washing the separated solids with water to produce said weak acid wash; and
- (e) recycling said acid wash together with a portion of said product acid to said quench zone.

3,420,629 PRODUCTION OF BORON NITRIDE

Eugenio Lubatti, Turin, and Salvatore Pappalardo, Novara, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy, a corporation of Italy

No Drawing. Filed Apr. 12, 1966, Ser. No. 541,953
Claims priority, application Italy, Apr. 13, 1965, 8,193/65; June 22, 1965, 13,949/65

8 Claims

Described is a process for producing boron nitride. A boron-containing substance selected from the group consisting of boric acid, boric anhydride and hydrated borate is mixed with recycled boron nitride from a subsequent step. The mixture is heated to drive off water when using boric acid or hydrated borate. It is then finely ground when using boric acid or boric anhydride. Thereafter the mixture is nitrided by heating in a stream of ammonia to form boron nitride. The boron nitride produced is ground and part of the ground boron nitride is recycled to a previous step and the remainder is purified.

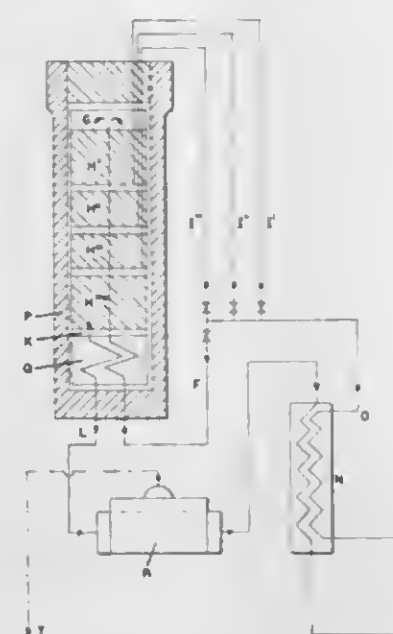
3,420,630 PROCESS FOR THE SYNTHETIC PRODUCTION OF AMMONIA

Wilhelm Friedrich Braun, Haldenrain 6, Lucerne Switzerland

Filed Apr. 21, 1967, Ser. No. 632,753
Claims priority, application Switzerland, Apr. 25, 1966, 6,007/66

U.S. Cl. 23-198
Int. Cl. C01c 1/04

4 Claims



In a process for the synthetic production of ammonia, a circulating gas stream passes through a reactor chamber

having catalyst layers, the stream being broken up so that a portion passes to the beginning of the layers and other portions pass respectively between the layers. The stream of gas passing to the reactor chamber is pre-heated by being brought into heat exchange relation with the gas from the reaction chamber. A heat exchanger in one part of the reaction chamber removes heat from the gas as it passes from it.

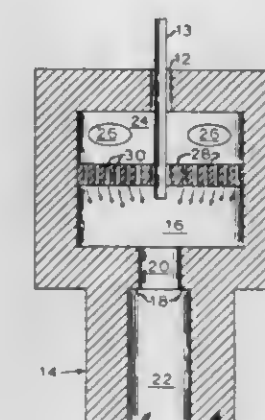
3,420,631 PROCESS AND APPARATUS FOR THE PRODUCTION OF CARBON BLACK

Joe S. Boyd, Franklin, La., assignor to Cabot Corporation, Boston, Mass., a corporation of Delaware

Filed Sept. 30, 1966, Ser. No. 583,379

U.S. Cl. 23-209.4
Int. Cl. C09c 1/48

5 Claims



1. In an apparatus for making high structure carbon black comprising a combustion chamber, an oil-feed probe mounted axially for discharge into said combustion chamber, a quench chamber and a reduced diametrical flow passage between said combustion chamber and quench chamber, the improvement consisting of,

- (a) a precombustion zone,
- (b) means for tangential introduction of reactants for combustion into said precombustion zone, and
- (c) a divider structure between said zone and said combustion chamber and a plurality of conduits in said divider structure, said conduits comprising means to convey combustion products in a substantially linear flow pattern from said precombustion zone into said combustion chamber.

4. In a process for making high structure carbon black in a reactor comprising a combustion chamber, an oil-feed probe mounted for axial discharge into said combustion chamber, and a quench chamber, the improvement comprising,

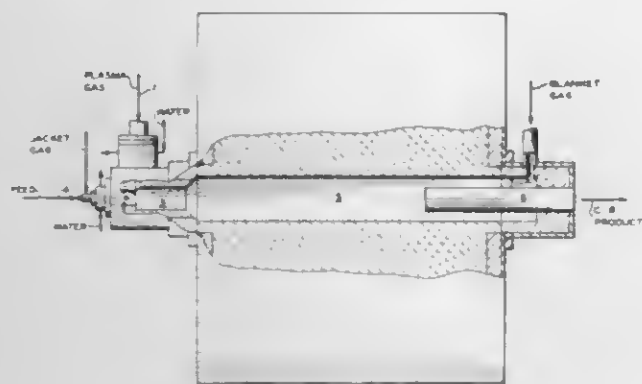
- (a) tangentially introducing a combustible reactant and an oxidizing agent into a precombustion zone, thereby providing spin and turbulence to said reactant, agent, and combustion products produced therefrom, and
- (b) passing said combustion products in a plurality of relatively linear paths through conduits in a divider means into said combustion chamber, said paths being substantially parallel to and in concentric relation with said oil-feed probe, thereby continually decomposing oil fed through said probe to form decomposition products including carbon black, and
- (c) passing said decomposition products through a reduced diametrical flow passage into said quench chamber.

3,420,632

PRODUCTION OF CARBON BLACK USING PLASMA-HEATED NITROGEN

Norman W. Ryan, Salt Lake City, Utah, Assignor to Phillips Petroleum Company, a corporation of Delaware
 Filed Nov. 18, 1966, Ser. No. 595,413
 U.S. Cl. 23-209.4
 Int. Cl. C01b 31/02

6 Claims



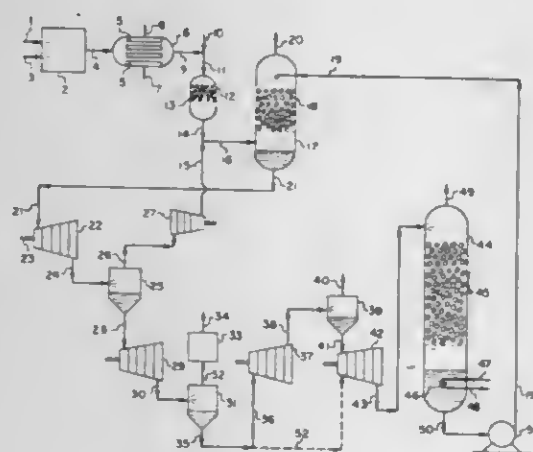
1. A method of making carbon black comprising contacting at least one aromatic hydrocarbon with plasma-heated nitrogen, said nitrogen being at a temperature sufficiently high to promote formation of carbon black, wherein at least a portion of said aromatic hydrocarbon is covered with gas selected from nitrogen, helium, neon, argon, krypton, xenon, air, and mixtures thereof, before said contacting occurs and wherein a gas selected from nitrogen, helium, neon, argon, krypton, and xenon, and mixtures thereof is introduced downstream of the reaction chamber, moves helically upstream, reverses direction after joining said aromatic hydrocarbon and said plasma-heated nitrogen gas, and moves downstream therewith.

3,420,633

REMOVAL OF IMPURITIES FROM HYDROGEN

Kwo T. Lee, Jackson Heights, N.Y., assignor to Chemical Construction Corporation, New York, N.Y., a corporation of Delaware
 Filed Sept. 27, 1966, Ser. No. 582,274
 U.S. Cl. 23-210
 Int. Cl. C01b 1/33; F25j 3/08

11 Claims



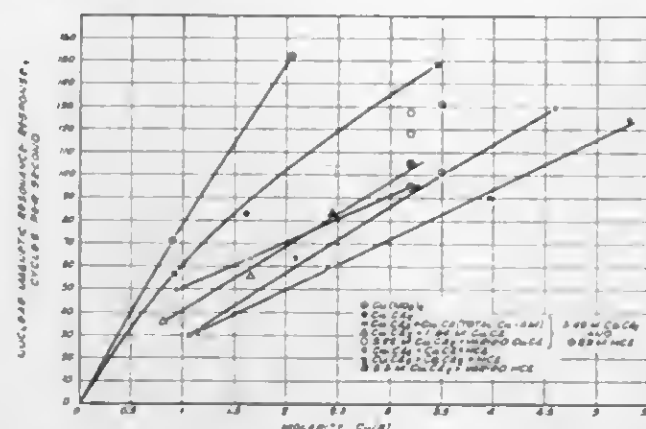
Crude hydrogen gas containing carbon dioxide and hydrogen sulfide impurities is scrubbed with aqueous liquid triethanolamine solution to remove the impurities from the hydrogen gas. Rich triethanolamine solution containing carbon dioxide, hydrogen sulfide and some dissolved hydrogen is regenerated by reducing the pressure in successive stages whereby a hydrogen rich gas phase, a carbon dioxide rich gas phase and a hydrogen sulfide rich gas phase are, respectively, separated. The hydrogen rich gas phase is recycled to the crude hydrogen gas stream entering the scrubber.

3,420,634

METHOD FOR DETERMINING THE CONCENTRATION OF CUPRIC IONS IN THE PRESENCE OF CUPROUS IONS BY NUCLEAR MAGNETIC RESONANCE

Charles E. Godsey, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
 Filed Oct. 13, 1964, Ser. No. 403,598
 U.S. Cl. 23-230
 Int. Cl. G01n 31/00

11 Claims



A method of continuously monitoring and controlling the ratio of cupric to cuprous ions in solution by the use of nuclear magnetic resonance (NMR). The NMR spectrum line for the water proton in an aqueous solution containing cupric and cuprous ions, and containing no other paramagnetic or ferromagnetic ionic species, has a width as measured at one half of its amplitude which is directly proportional to the concentration of the cupric ion.

3,420,635

FRUIT RIPENESS TELLTALE

Ward Benjamin Davis, Glendale, Calif., assignor to Aseptic Thermo Indicator Company, North Hollywood, Calif., a corporation of California
 Filed Mar. 28, 1966, Ser. No. 537,726
 U.S. Cl. 23-253
 Int. Cl. G01n 33/02; G01n 33/22

9 Claims



1. A telltale device for determining when picked fruit of the variety having a climacteric rise in respiration of carbon dioxide as the fruit approaches the state of ripeness, has become edible, comprising a thin layer of a mixture of a carbon dioxide absorbent and a pH color changing indicator, adapted to be applied in communication with the surface of a fruit, the amount of said absorbent on the covered area being less than that required to absorb the carbon dioxide evolved at ripeness at the surface of the fruit subtended by said layer of absorbent, and said pH indicator being adapted to change color when an excess of carbon dioxide is evolved at the fruit area subtended by said layer.

3,420,636

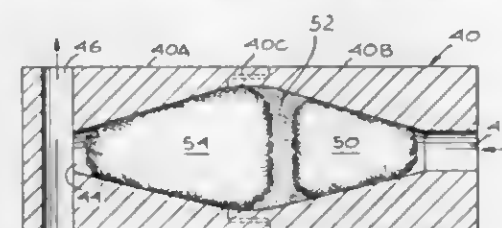
CARBON MONOXIDE ANALYZER

Robert C. Robbins, Menlo Park, Calif., assignor to Stanford Research Institute, Menlo Park, Calif., a corporation of California
 Filed Apr. 28, 1966, Ser. No. 546,053
 U.S. Cl. 23-254
 Int. Cl. G01n 31/00; G01n 21/26

9 Claims

1. In a carbon monoxide detector of the type wherein an air sample is passed through a mercuric oxide cell to produce mercury vapor, a measurement of which con-

tinuously indicates the amount of carbon monoxide, the improvement in said mercuric oxide cell comprising walls forming a chamber through which said mixture of gases



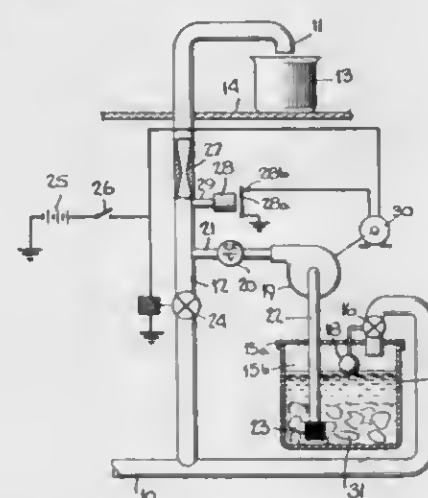
are passed, said chamber being filled with two glass wool pads separated by a layer of red mercuric oxide powder having a predetermined thickness.

3,420,637

APPARATUS FOR FLUORIDATION OF WATER

Albert H. Half, 3514 Rock Creek Drive, Dallas, Tex. 75204 and Allen F. Reid, Dallas, Tex. (258 Mill Spring Road, Manhasset, N.Y. 11030)
 Filed Sept. 26, 1966, Ser. No. 581,780
 U.S. Cl. 23-272.8
 Int. Cl. C02b 7/00; B01d 11/00

7 Claims



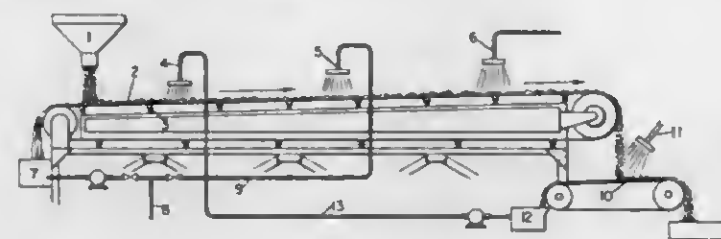
A water main is fluoridated as the water is discharged by delivering from a reservoir metered amounts of saturated fluoridated water dependent on the flow of the main water. Means are provided to prevent the addition of fluoride compound when the flow of water drops below a given rate.

3,420,638

ACID LEACHING OF PHOSPHATE ROCK ON AN IMPERFORATE RUBBER BELT

Paul R. Cutter and Donald N. Hamilton, Painesville, Ohio, assignors to Diamond Shamrock Corporation, a corporation of Delaware
 Filed Jan. 18, 1965, Ser. No. 426,013
 U.S. Cl. 23-312
 Int. Cl. C01b 25/22; B01d 11/02

6 Claims



A method is provided for the removal of values from minerals by the countercurrent contact of said minerals with a liquid wherein the minerals are introduced at the lower end of an upwardly moving conveyor and are contacted during their upward progress on said conveyor at a series of points with a liquid of progressively increasing

concentration. Washing of the exhausted mineral to remove entrained liquid therefrom is also contemplated. The method is made more efficient by the optional recycle of liquid materials to the process.

3,420,639

MOLTEN SALT METHOD OF SEPARATION OF AMERICIUM FROM PLUTONIUM

Lawrence J. Mullins and Joseph A. Leary, Los Alamos, N. Mex., assignors to the United States Atomic Energy Commission
 No Drawing. Filed Oct. 20, 1967, Ser. No. 677,504
 U.S. Cl. 23-325
 Int. Cl. C01g 56/00

2 Claims

Americium values are separated from an americium-plutonium value mixture by dissolving this mixture in a molten salt solution. A combination of gaseous oxygen and argon is then introduced into the loaded melt to precipitate the plutonium as the dioxide, leaving the americium values in solution.

3,420,640

PROCESS FOR DEPLETING ¹⁷O AND ¹⁸O IN ²³⁸PuO₂

John A. Porter, Williston, S.C., assignor to the United States Atomic Energy Commission
 No Drawing. Filed Sept. 6, 1967, Ser. No. 667,048
 U.S. Cl. 23-344
 Int. Cl. C01g 56/00

5 Claims

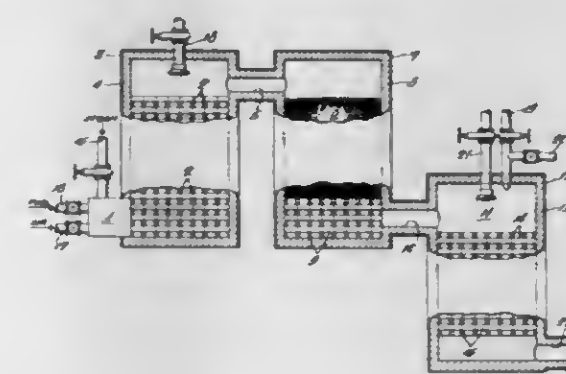
A process for preparing ²³⁸PuO₂ having a low neutron emission rate by depleting the oxide in ¹⁷O and ¹⁸O isotopes. Solid phase ²³⁸PuO₂, heated to about 700° C., is contacted with water vapor (steam) that is depleted in ¹⁷O and ¹⁸O to effect an exchange of oxygen isotopes and thereby deplete the ²³⁸PuO₂ in ¹⁷O and ¹⁸O.

3,420,641

MANUFACTURE OF COMBUSTIBLE GAS

Charles Gordon Milbourne, Lansdowne, and John T. Pinkston, Jr., Swarthmore, Pa., assignors to United Engineers and Constructors Inc., Philadelphia, Pa., a corporation of Delaware
 Filed Apr. 29, 1966, Ser. No. 546,374
 U.S. Cl. 48-213
 Int. Cl. C01b 2/02

1 Claim



1. The cyclic process for manufacturing a gas having a calorific value in the range of from about 400 B.t.u. per cubic foot to about 1000 B.t.u. per cubic foot which, in each cycle, comprises substantially simultaneously: (1) burning fluid fuel with compressed air in a first combustion zone, passing the resulting hot products of combustion, at an elevated pressure of at least 50 p.s.i.g., successively through a first heat storage zone of refractory material and then through a first zone of reforming catalyst to store heat in said first heat storage zone and said first catalyst zone, and, substantially simultaneously, burning fluid fuel with compressed air in a second com-

bustion zone and passing the resulting hot products of combustion along with the products of combustion from said first catalyst zone, at an elevated pressure of at least 50 p.s.i.g., through a second heat storage zone of refractory material to store heat in said second heat storage zone, then discontinuing said burning while continuing the flow of compressed air to purge combustion products from said first heat storage zone, said first catalyst zone and said second heat storage zone, expanding said products of combustion and purge gases, from said elevated pressure to substantially atmospheric pressure, in an expanding zone, compressing air in a compressing zone with energy derived from such expansion in said expanding zone and passing said compressed air to said first combustion zone and said second combustion zone for burning said fluid fuel and for said purging, and (2) passing steam, at an elevated pressure of at least 50 p.s.i.g., successively through a third heat storage zone of refractory material, a second zone of reforming catalyst and a fourth heat storage zone of refractory material to purge said third heat storage zone, said second catalyst zone and said fourth heat storage zone, then, while continuing the flow of steam, injecting hydrocarbons to be catalytically reformed, at said elevated pressure of at least 50 p.s.i.g., substantially between said third heat storage zone and said second catalyst zone and simultaneously injecting normally liquid hydrocarbons to be thermally reformed, at said elevated pressure of at least 50 p.s.i.g., substantially between said second catalyst zone and said fourth heat storage zone, said third heat storage zone, said second catalyst zone and said fourth heat storage zone containing heat stored therein according to step (3) below, said hydrocarbons injected between said third heat storage zone and said second catalyst zone being reformed in said second catalyst zone with said steam into a gas rich in hydrogen which then passes to said fourth heat storage zone where it mixes with said normally liquid hydrocarbons injected between said second catalyst zone and said fourth heat storage zone, whereby said normally liquid hydrocarbons are thermally cracked in said fourth heat storage zone in the presence of said gas rich in hydrogen, and recovering the resulting product gas; and thereafter reversing said sequence by substantially simultaneously: (3) burning a fluid fuel with compressed air in a third combustion zone, passing the resulting hot products of combustion, at an elevated pressure of at least 50 p.s.i.g., successively through said third heat storage zone and said second catalyst zone to store heat in said third heat storage zone and said second catalyst zone, and substantially simultaneously burning fluid fuel, with compressed air in a fourth combustion zone downstream from said second catalyst zone and passing the resulting hot products of combustion along with the products of combustion from said second catalyst zone, at an elevated pressure of at least 50 p.s.i.g., through said fourth heat storage zone to store heat in said fourth heat storage zone, then discontinuing said burning while continuing the flow of compressed air to purge combustion products from said third heat storage zone, said second catalyst zone, and said fourth heat storage zone, expanding said products of combustion and purge gases, from said elevated pressure to substantially atmospheric pressure, in said expanding zone, compressing air in said compressing zone with energy derived from such expansion in said expanding zone, and passing said compressed air to said third combustion zone and said fourth combustion zone for said burning of fluid fuel and for said air purging, and (4) passing steam, at an elevated pressure of at least 50 p.s.i.g., successively through said first heat storage zone, said first catalyst zone, said second heat storage zone to purge said first heat storage zone, said first catalyst zone and said second heat storage zone, then, while continuing the flow of steam, injecting hydrocarbons to be catalytically re-

formed, at said elevated pressure of at least 50 p.s.i.g., into said steam substantially between said first heat storage zone and said first catalyst zone and simultaneously injecting normally liquid hydrocarbons, at said elevated pressure of at least 50 p.s.i.g., substantially between said first catalyst zone and said second heat storage zone, said first heat storage zone, said first catalyst zone and said second heat storage zone containing heat stored therein according to step (1) above, said hydrocarbons injected between said first heat storage zone and said first catalyst zone being reformed in said first catalyst zone with said steam into a gas rich in hydrogen which then passes to the second heat storage zone where it mixes with said normally liquid hydrocarbons injected between said first catalyst zone and said second heat storage zone whereby said normally liquid hydrocarbons are thermally cracked in said second heat storage zone in the presence of said gas rich in hydrogen, and recovering the resulting product gas, each of said combustion air-purging steps making up one-half of the cycle time and the flow of gases to be expanded to said expanding zone being continuous and substantially uniform in mass throughout the cycle.

3,420,642
PRODUCTION OF GASES CONTAINING METHANE FROM HYDROCARBONS
George Percival, Solihull, England, assignor to The Gas Council, London, England, a British body corporate
No Drawing. Filed Mar. 30, 1964, Ser. No. 355,944
Claims priority, application Great Britain, Apr. 2, 1963, 13,076/63

U.S. Cl. 48—214
Int. Cl. C01b 2/14

This application relates to a process for the production of gases containing methane wherein a mixture of vaporized paraffinic hydrocarbons and steam, the hydrocarbons having an average of from 4–15 carbon atoms per molecule, is preheated to temperatures of at least 350° C. and then fed through a bed of nickel catalyst, the bed being maintained at temperatures between 400° C. and 550° C. The product of this reaction is then mixed with additional vaporized hydrocarbons and passed through a further bed of nickel catalyst, the bed being maintained at temperatures of from 400° C.–600° C. The ratio of the total weight of steam to hydrocarbons is greater than 1.6 to 1. This two-stage process prolongs the life of the catalyst.

3,420,643
METHOD FOR REFORMING LIGHT PETROL FRACTIONS UNDER PRESSURE
Jean Housset, Saint-Nazaire, Jacques Quibel, Paris, Pierre Lhonore, Douai, and Robert Pidoux, Saint-Nazaire, France, assignors to La Societe Chimique de la Grande Paroisse, Azote et Produits Chimiques
No Drawing. Filed Aug. 24, 1965, Ser. No. 482,235

U.S. Cl. 48—214
Int. Cl. C01b 2/14

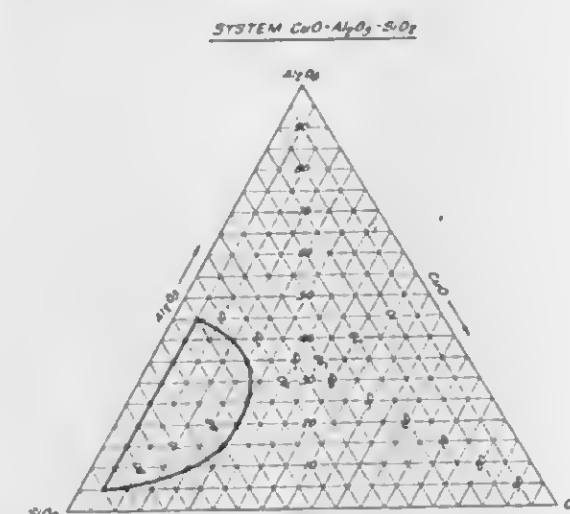
A process for the catalytic reforming with water vapor of hydrocarbons heavier than methane, which comprises passing the reforming mixture under an effective pressure in the range of from 0 to 80 bars through a reforming zone containing a catalyst, wherein the reforming mixture is contacted with the catalyst at an initial temperature in the range of from 430 to 600° C. and (1) the quantity of catalyst, per metre of the reforming zone, (2) the quantity of reforming mixture entering the reforming zone and (3) the heating rate are selected so that the average rise in the temperature of the catalyst in the first metre of the reforming zone is in the range of from 80 to 120° C. and the average temperature rise of the catalyst in the second metre of the reforming zone is in the range of from 75 to 100° C.

3,420,644
METHOD FOR MOLDING OF GLASS AND CERAMIC MATERIALS
Nick G. Lirones, North Muskegon, Mich., assignor to Howmet Corporation, a corporation of Delaware
No Drawing. Filed Oct. 19, 1964, Ser. No. 404,976
The portion of the term of the patent subsequent to Aug. 16, 1983, has been disclaimed

U.S. Cl. 65—18
Int. Cl. C03b 19/00; B29c 11/00

A method for molding glass and ceramic articles wherein a mold is built up around a disposable pattern by means of alternating application of dip coat and stuccoing material. The improvements of the invention relate to the use of dip coat compositions comprising aqueous solutions of colloidal graphite and graphite flour. At least 50 percent of the colloidal graphite consists of particles of less than one micron while the balance of the colloidal graphite consists of particles of less than 20 microns. The stucco applied over the dip coat compositions consists of graphite particles, and the graphitic dip coat and stucco layers make up at least about half the cross section of the mold.

3,420,645
METHOD FOR MAKING HOLLOW GLASS PARTICLE HAVING A METALLIC COPPER COATING
Michael L. Hair, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed June 16, 1966, Ser. No. 558,041
U.S. Cl. 65—21
Int. Cl. C03c 21/00; C03b 19/10

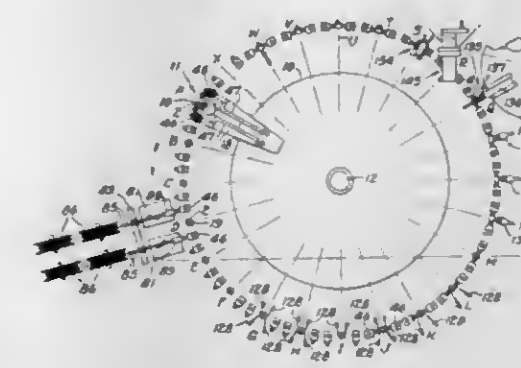


Method of making hollow glass particles by forming solid particles of an aluminosilicate glass containing an effective amount of copper oxide and heating the particles in a hydrogen containing atmosphere at a temperature of 600–1000° C. and for a time of 5–120 minutes sufficient to cause migration of the copper oxide, whereby a metallic copper coating is formed on the surface of the particle and the particle becomes expanded.

3,420,646
LAMP BRIDGE MAKING METHOD AND APPARATUS
Russell V. Weigel, Mentor, Ohio, assignor to General Electric Company, a corporation of New York
Filed May 6, 1965, Ser. No. 453,637
U.S. Cl. 65—59
Int. Cl. C03c 27/02

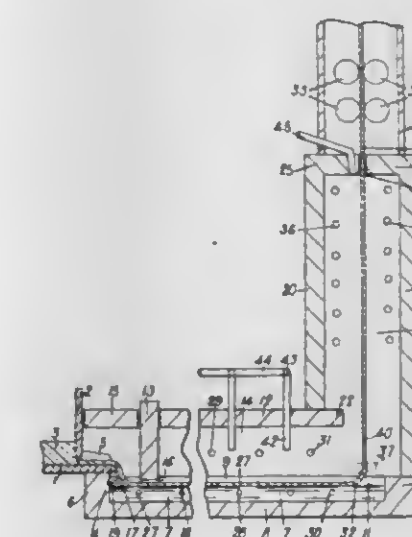
In a method and apparatus for making insulating bridges for supporting the internal elements of electric lamps and similar devices, a short glass rod is supported intermediate its ends in a pair of holder jaws, short spud wires held in movable holders mounted opposite the ends of the glass rod are inserted endwise into the heated and

softened ends of the glass rod by movement of the holders toward the rod ends, the holder jaws for the glass rod then opened and the glass rod thereafter supported solely



by the inserted spud wires held in the holders, and a side region of the glass rod then heated and softened and one or more support wires inserted thereinto.

3,420,647
METHOD OF AND APPARATUS FOR THE MANUFACTURE OF FLAT GLASS ON A MOLTEN METAL BATH
Harold Charnock, Up Holland, near Wigan, England, assignor to Pilkington Brothers Limited, Lancashire, England, a corporation of Great Britain
Continuation-in-part of application Ser. No. 324,679, Nov. 19, 1963. This application Aug. 30, 1967, Ser. No. 670,820
Claims priority, application Great Britain, Nov. 20, 1962, 43,925/62
The portion of the term of the patent subsequent to Nov. 14, 1984, has been disclaimed and dedicated to the Public
U.S. Cl. 65—65
Int. Cl. C03b 18/02; C03b 29/00



Glass in ribbon form is thermally conditioned as it is advanced along molten metal and is bent upwardly from the molten metal surface and subjected to controlled attenuation while it is freely suspended in a drawing chamber.

3,420,648
MICROSCOPE COVER GLASS AND METHOD
Richard Charles Andrews, Wollaston, Stourbridge, and Arthur Hugh Bedford, West Hagley, Stourbridge, England, assignors to Chance Brothers Limited, Birmingham, England, a corporation of Great Britain
No Drawing. Filed Sept. 1, 1965, Ser. No. 484,470
Claims priority, application Great Britain, Sept. 18, 1964, 38,278/64

U.S. Cl. 65—66
Int. Cl. C03b 17/00; C03c 3/08

5. A method of producing microscope cover glasses comprising the steps of forming molten glass consisting essentially of by weight from 63 to 68% silica (SiO₂),

6 to 10% sodium oxide (Na_2O), 3 to 7% potassium oxide (K_2O), 1.8 to 5% alumina (Al_2O_3), 4 to 9% boron oxide (B_2O_3), 1 to 4% barium oxide (BaO), 1.5 to 6% zinc oxide (ZnO), 1.5 to 4% titanium dioxide (TiO_2), 0.4 to 1% antimony oxide (Sb_2O_3) and 1 to 2% zirconia (ZrO_2), and drawing a ribbon of glass having a thickness less than 0.350 mm. from this molten glass.

3,420,649

METHOD OF DRAWING GLASS ARTICLES
Edmond S. Lewis, Jr., Monterey, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 334,459
Dec. 30, 1963. This application June 16, 1967, Ser.
No. 646,694

U.S. Cl. 65—66

3 Claims

Int. Cl. C03b 17/04; C03c 3/10



An improved method of forming special glass materials and in particular a method of forming thixotropic glasses into a cane or tubing by drawing the glass directly from the orifice of a glass melting tank.

3,420,650

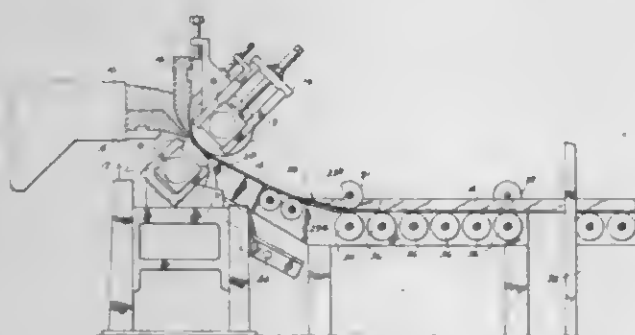
METHOD AND APPARATUS FOR FORMING GLASS CHANNELS
Ellis Humphreys, St. Louis, Mo., assignor to Mississippi Glass Company, St. Louis, Mo., a corporation of New York

Filed Feb. 8, 1966, Ser. No. 525,930

U.S. Cl. 65—94

20 Claims

Int. Cl. C03b 13/18



Apparatus and method for fabricating elongate channel shaped webs of rolled glass wherein the width of the undeformed flat web is selectively adjusted within predetermined limits by controlled variation of longitudinal tension applied thereto prior to deformation thereof.

3,420,651 ROLL BEARING STRUCTURES FOR GLASS MAKING MACHINES

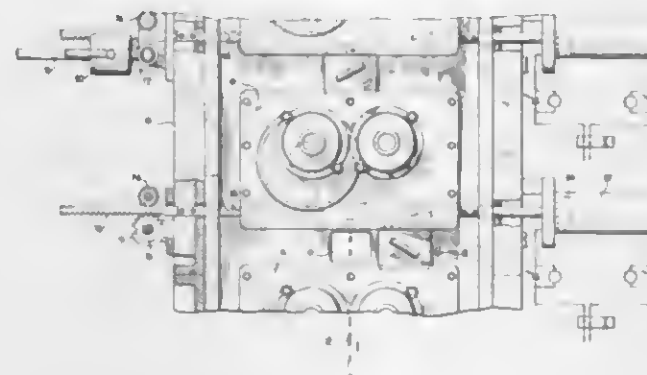
John Martin, Monterrey, Mexico, assignor to Fabricacion de Maquinas, Monterrey, Nuevo Leon, Mexico, a corporation of Mexico

Filed June 7, 1965, Ser. No. 461,679

U.S. Cl. 65—194

4 Claims

Int. Cl. C03b 15/02



A swing roll structure for a vertical draw sheet glass forming and annealing machine is disclosed in which the swing roll is mounted for rotation about its first own axis and also about a second axis spaced from its own and parallel thereto. The bearing structure for the two axes of rotation are hermetically sealed with the side wall of the machine and the swing roll is weight biased about its second axis of rotation toward its paired roll and the glass sheet. Both remote and local control means are provided for quickly rotating the swing roll about its second axis of rotation to effect a fast separation of each roll pair to permit passage of the bait or a stone and a cushioned return to re-contact the glass sheet.

3,420,652

MOLD COVER FOR BENDING GLASS SHEETS

Samuel L. Seymour, Oakmont, Pa., assignor to PPG Industries, Inc., a corporation of Pennsylvania

Filed Jan. 4, 1966, Ser. No. 518,691

U.S. Cl. 65—287

3 Claims

Int. Cl. C03b 23/02



An improved cover for a mold for press bending glass sheets that comprises a layer of bulky fiber glass cloth containing a fine wire screen superimposed on a portion only of said layer of bulky fiber glass cloth into which it is capable of being enveloped.

3,420,653

GLASS MELTING FURNACE

George B. Boettner, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Mar. 8, 1965, Ser. No. 437,830

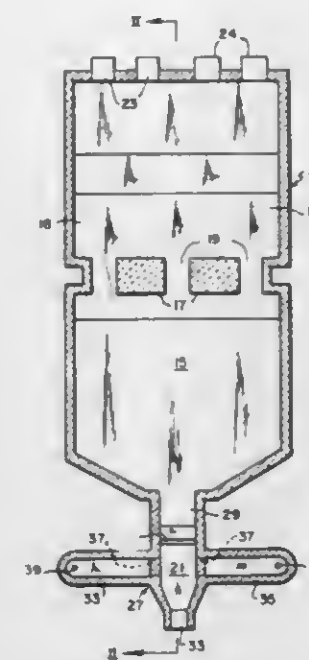
U.S. Cl. 65—335

4 Claims

Int. Cl. C03b 5/22; C03b 3/00

A glass-melting furnace comprising a deep melting zone and a shallow refining zone separated from the

melting zone by a bridgwall. A cooling channel communicates with the refining zone and is provided with a



drain slot in its bottom wall and an overflow channel and communicates by means of submerged throats with a plurality of forehearths.

3,420,654

METHOD OF CONTROLLING GROWTH OF ALGAE WITH BENZOFURAZANS AND BENZOFURAZAN-1-OXIDES

William N. Cannon, Greenwood, and Koer Gerzon, Indianapolis, Ind., assignors to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana
No Drawing. Filed Oct. 23, 1965, Ser. No. 504,077
U.S. Cl. 71—67

8 Claims

Int. Cl. A01n 23/00

Method of controlling algae with benzofurazans or benzofurazan-1-oxides optionally substituted by alkyl, alkoxy, halogen or nitro.

3,420,655

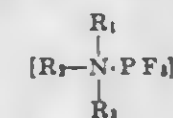
AMINE-PHOSPHORUS PENTAFLUORIDE COMPLEXES AS HERBICIDES

Mervin E. Brokke, Richmond, Calif., George E. Lukes, deceased, late of El Cerrito, Calif., by John Hazzard, administrator, Kentfield, Calif., and Duane R. Arneklev, Sunnyvale, Calif., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Apr. 20, 1965, Ser. No. 450,261
U.S. Cl. 71—86

6 Claims

Int. Cl. A01n 5/00; C07c 87/00

This invention pertains to combating weeds by applying to the weed habitat a phytotoxic amount of a complex addition product of phosphorus pentafluoride and an amine corresponding to the formula



in which R_1 , R_2 and R_3 are hydrogen, lower alkyl, cycloalkyl, phenyl, naphthyl or substituted phenyl in which the substituents are halogen, nitro, lower alkoxy or lower alkyl. Representative compounds are p-chloroaniline-phosphorus pentafluoride complex, 2,5-dichloroaniline-phosphorus pentafluoride complex, 2,4-dichloroaniline-phosphorus pentafluoride complex, N-methyl-o-toluidine-phosphorus pentafluoride complex, 1-aminonaphthalene-phosphorus pentafluoride complex.

3,420,656

PROCESS FOR FORMING HARD OXIDE PELLETS AND PRODUCT THEREOF

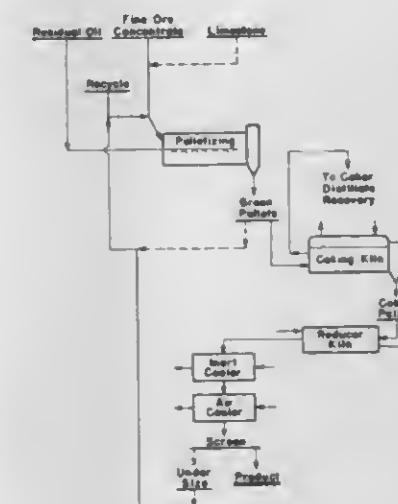
Valentine Mekler, New York, and Morgan C. Sze, Garden City, N.Y., Ward J. Bloomer, Westfield, N.J., and William V. Bauer, New York, N.Y., assignors to The Lummus Company, New York, N.Y., a corporation of Delaware

Filed Sept. 2, 1966, Ser. No. 577,055

U.S. Cl. 75—5

20 Claims

Int. Cl. C21b 1/10



Finely divided iron ore is mixed with a fluid carbonaceous material and agglomerated into pellets at a temperature in the range of 400°–650° F. The fluid material should have a 5% boiling point of at least 650° F. The green pellets are coked at 700°–1000° F. to drive off volatile components, which are recovered, and form an evenly dispersed coke structure. The pellets are indurated and partially reduced at 1500°–2200° F. The resulting pellets are very strong, contain little or no free carbon, have less than 5% metallic iron, the balance being mainly FeO .

3,420,657

OXYGEN TREATMENT OF CHROMIUM ALLOYS

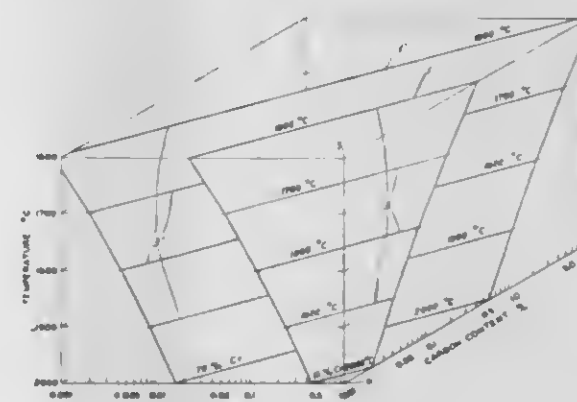
Donald J. Hansen, Lewiston, N.Y., assignor to Union Carbide Corporation, a corporation of New York

Filed Feb. 14, 1966, Ser. No. 527,214

U.S. Cl. 75—60

2 Claims

Int. Cl. C22c 3/00



A process for removing carbon from iron-chromium-carbon alloys without substantial loss of chromium which comprises: providing a substantially slag-free molten mass of iron-chromium-carbon alloy, adjusting the starting composition of the alloy to provide between 75% and

15% chromium and a silicon content of less than about 3% and treating the molten alloy by blowing oxygen on the surface of said alloy, the pressure conditions at all times during oxygen treatment, for a particular metal temperature, being in the volume of the graph of the drawing which extends to the left of the plane corresponding to the chromium content of the alloy and in front of the plane corresponding to the desired final carbon content of the alloy.

3,420,658

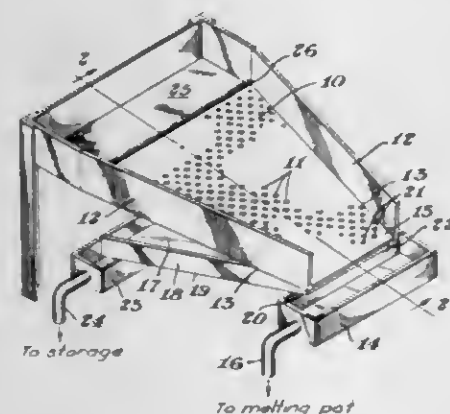
FLUID SLUDGE METHOD

John N. Reding, Jr., Midland, and Norman H. Berhenke, Harrison, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Mar. 3, 1966, Ser. No. 531,589

U.S. Cl. 75-67

Int. Cl. C22b 45/00

3 Claims



1. The method of separating fluid sludge from a mixture containing molten magnesium metal and fluid sludge which comprises:

flowing said mixture over an inclined foraminous ferrous metal plate, said plate being substantially non-wetted by the molten magnesium metal.

3,420,659

METHOD FOR THE PRODUCTION OF VANADIUM ALLOYS

Heinrich W. Rathmann and Robert T. C. Rasmussen, Cambridge, Ohio, assignors to Foote Mineral Company, Exton, Pa., a corporation of Pennsylvania

No Drawing. Filed Oct. 11, 1967, Ser. No. 674,633

U.S. Cl. 75-84

Int. Cl. C22b 55/00

11 Claims

Vanadium-bearing slags, with silica, flux, and carbonaceous reducer are smelted to produce a primary vanadium silicide having 25-60 percent silicon. The primary silicide is refined with lime and vanadium-bearing slag or a vanadium oxide to produce a vanadium alloy having a silicon content less than 20 percent.

3,420,660

HIGH STRENGTH PRECIPITATION HARDENING HEAT RESISTING ALLOYS

Masao Kawahata, Yokohama, Kozou Yokota, Tokyo, Yukishige Fukase, Kawasaki, and Shoichi Katoh, Tokyo, Japan, assignors to Nippon Yakin Kogyo Company Limited, Tokyo, Japan, a corporation of Japan

Filed Sept. 17, 1964, Ser. No. 397,103

Claims priority, application Japan, Sept. 20, 1963, 38/50,225

U.S. Cl. 75-122

Int. Cl. C22c 31/00

1 Claim

A heat resisting alloy which has a high creep rupture strength, excellent toughness at temperatures up to 800°

C. and excellent resistance to oxidation is prepared by adding precipitation hardening elements comprising molybdenum, tungsten, niobium alone or added with uranium and vanadium, titanium, aluminum and at least one of boron, zirconium and/or tantalum to a base alloy having a crystal structure of face-centered cubic containing iron, chromium, nickel and cobalt.

3,420,661

ZINC BASE CASTING ALLOY

Leslie J. Larrieu, San Marino, Calif., assignor to Morris P. Kirk & Son, Inc., Los Angeles, Calif., a corporation of Nevada

No Drawing. Filed May 4, 1966, Ser. No. 547,407

U.S. Cl. 75-178

Int. Cl. C22c 17/00

12 Claims

Improved zinc base die casting alloys conforming to A.S.T.M. specification Alloy XXIII and Alloy XXIII modified with small additions of nickel, both alloys improved in mechanical strength retention after aging by the addition of small but critical amounts of beryllium.

3,420,662

PROCESS FOR PREPARING A MASKED COLOR SEPARATION POSITIVE UTILIZING AN ELECTROPHOTOGRAPHIC PHOTOCONDUCTIVE COPY SHEET

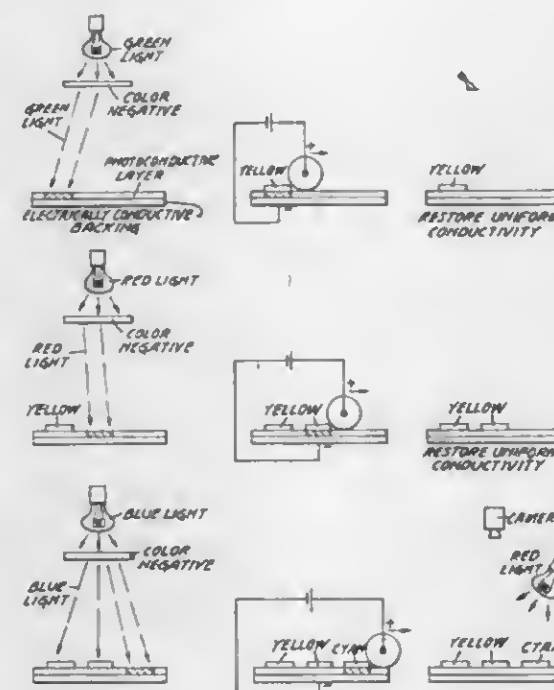
Donald K. Meyer, West St. Paul, Minn., and Vsevolod Tulagin, Rochester, N.Y., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Filed Apr. 7, 1965, Ser. No. 446,398

U.S. Cl. 96-30

Int. Cl. G03g 15/22; G03f 3/06

5 Claims



1. A process for preparing a masked color separation positive from a color negative suitable for use in conjunction with a printing process using printing inks of primary colors X and Y, said masked color separation positive to constitute a black-and-white record for primary color X, which comprises:

(1) Exposing an electrophotographic photoconductive copy sheet sensitive to the color complements of X and Y through said color negative to light of the color complement of Y thereby forming a differential conductivity pattern in said copy sheet, and electrodeveloping said copy sheet to provide dye of color X selectively on the light exposed areas of the copy sheet in an amount sufficient to compensate for the X component of the Y colored printing ink,

- (2) Removing said differential conductivity pattern in said copy sheet and restoring said copy sheet to a uniform photosensitivity,
- (3) Exposing said copy sheet through said color negative to light of the color complement of X, thereby forming a second differential conductivity pattern in said copy sheet, and electrodeveloping said copy sheet to provide selectively on its light exposed areas a colored material of a color which is capable of absorbing light freely transmitted by said dye of color X, and
- (4) Photographing said copy sheet in light of a color which is freely transmitted by said dye of color X and which is absorbed by the aforesaid colored material and producing a black-and-white positive separation record for color X.

3,420,663

SIZING AND LAYOUT OF AUTOSTEREOSCOPIC PRINTS FOR GRAPHIC ARTS REPRODUCTION

James Edward Huffaker and Bramlet L. Beard, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed June 21, 1965, Ser. No. 465,491

U.S. Cl. 96-40

Int. Cl. G03c 9/02

8 Claims

1. The method of matching a lineform image to a lenticular screen prepared from an embossing matrix comprising the steps of

- (a) projecting the lineform image at least partially onto the plane of a sizing ruler having a known pitch mismatch with said lenticular screen,
- (b) varying the magnification of said lineform image until a moiré fringe frequency corresponding to said known pitch mismatch occurs, and
- (c) preparing a printing plate of the lineform image having a corresponding magnification to that of the lineform image whose moiré fringe frequency corresponds to said known pitch mismatch.

3,420,664

DEHYDRODITHIZONE AND MERCAPTOTETRAZOLIUM SALTS AS SILVER HALIDE PHOTOGRAPHIC ANTIFOGGANTS AND STABILIZERS

Fritz Dersch and John A. Welsh, Binghamton, N.Y., assignors to GAF Corporation, a corporation of Delaware

No Drawing. Filed Jan. 3, 1966, Ser. No. 517,976

U.S. Cl. 96-66.5

Int. Cl. G03c 1/34; 1/28

10 Claims

Stabilizer and antifogging compounds for use in silver halide photography include dehydrodithizone and chloride, bromide and iodide salts for 5-alkyl mercapto-2,3-diaryltetrazole, 5-alkyl-mercapto-2,3-dialkyltetrazole, 5-carboxyalkylmercapto-2,3-diaryltetrazole and 5-carboxyalkylmercapto-2,3-dialkyltetrazole compounds.

3,420,665

HEAT-SENSITIVE DIAZOTYPE MATERIALS

Edward C. Bialczak, Mount Prospect, Ill., assignor to Addressograph-Multigraph Corporation, Cleveland, Ohio, a corporation of Delaware

No Drawing. Filed Aug. 30, 1965, Ser. No. 483,865

U.S. Cl. 96-75

Int. Cl. G03c 1/52

6 Claims

Diazotype materials comprising a base sheet (e.g., paper) coated with a diazo compound (e.g., a 4-morpholino-benzenediazonium salt), a coupling component (e.g., resorcinol) and a heat-sensitive aromatic sulfonylurea or sulfonylthiourea developing agent (e.g., N-p-toluenesulfonyl-N'-butylurea).

3,420,666

TWO-COMPONENT HEAT DEVELOPING DIAZOTYPES

Walter J. Welch, Port Dickinson, and Bert E. Tripp, Binghamton, N.Y., assignors to GAF Corporation, a corporation of Delaware

No Drawing. Filed Oct. 15, 1964, Ser. No. 404,182

U.S. Cl. 96-91

Int. Cl. G03c 1/52

10 Claims

A heat-developable, two-component diazotype photo-printing material which comprised a support and a light-sensitive layer containing an azo coupling component, a light-sensitive diazonium compound, a neutral to acid reagent yielding an alkaline reacting compound on heating to a temperature of 100-200° C. and retrograded starch was prepared.

3,420,667

SUBSTITUTED QUINONES AND DIIMINE QUINONES AS SILVER HALIDE SENSITIZERS

Ralph A. Copeland, 912 River Road, M.R. 97, Binghamton, N.Y. 13901

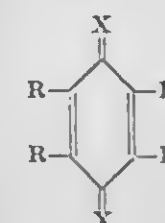
No Drawing. Filed Dec. 29, 1965, Ser. No. 517,478

U.S. Cl. 96-107

Int. Cl. G03c 1/28, 1/34

7 Claims

1. A photographic film comprising a base and a light sensitive silver halide emulsion of the type suitable for halftone reproduction, said silver halide being selected from the group consisting of silver chloride, silver chlorobromide, silver chlorobromiodide, said emulsion containing from 0.01 to 0.1 gram per 100 grams of silver halide present in the preparation of the emulsion of a compound corresponding to the formula:



wherein X is selected from the group consisting of oxygen and the radical Ny wherein y represents a member selected from the group consisting of hydrogen and alkyl groups of from 1 to 12 carbon atoms and each of R is individually selected from the group consisting of hydrogen, halogen and alkyl groups of from 1 to 12 carbon atoms.

3,420,668

(N-PHENYL - p-TOLUENESULFONAMIDO)ALKYL MERCURY COMPOUNDS AS SILVER HALIDE EMULSION SENSITIZERS

Mitsunori Sugiyama, Yosuke Nakajima, and Tadashi Nagae, Kanagawa-ken, Japan, assignors to Fuji Shashin Film Kabushiki Kaisha, Kanagawa-ken, Japan, a corporation of Japan

No Drawing. Filed June 25, 1965, Ser. No. 467,083

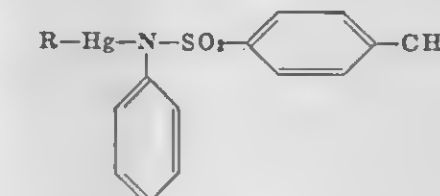
Claims priority, application Japan, June 29, 1964, 39/36,735

U.S. Cl. 96-108

Int. Cl. G03c 1/28; G03c 1/34

5 Claims

1. A light sensitive silver halide photographic emulsion, into which has been incorporated, during the production of the emulsion, a compound represented by the general formula:



in which R represents a member selected from the class consisting of alkyl group having 1-3 carbon atoms, phenyl group, tolyl group and benzyl group.

3,420,669
PHOTODEVELOPABLE, DIRECT-PRINT COMPOSITIONS CONTAINING CUPROUS SALTS

Edward Arthur Sutherns and Hans Hirsch, London, England, assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 376,246, June 18, 1964. This application Sept. 12, 1967, Ser. No. 667,091

Claims priority, application Great Britain, June 8, 1967, 26,609/67, 26,610/67

U.S. Cl. 96—108 36 Claims
Int. Cl. G03c 1/28

Photodevelopable, direct-print compositions containing cuprous salts provide direct-print image records having increased image discrimination. In one aspect of this invention, cuprous iodide is added to a silver halide emulsion wherein the halide of said silver halide is predominantly bromide. Another aspect of this invention relates to a new process for preparing said direct-print composition.

3,420,670
STABILIZATION OF SYNERGISTICALLY SENSITIZED PHOTOGRAPHIC SYSTEMS

Kirby M. Milton, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Nov. 26, 1965, Ser. No. 510,054
U.S. Cl. 96—109 11 Claims

Int. Cl. G03c 1/34; G03c 1/34

1. In a photographic silver halide emulsion wherein said halide comprises at least 50 mole percent chloride sensitized with a noble metal and labile selenium, the improvement wherein a 3-pyrazolidone is used as a stabilizer during the sensitization of said emulsion.

3,420,671
FEED AND FORAGE PELLETS AND PROCESS FOR PRODUCING THE SAME

Earl H. Hess and Donald R. Tshudy, Lancaster, Pa., assignors to Lancaster Laboratories, Inc., Lancaster, Pa., a corporation of Pennsylvania

No Drawing. Filed Mar. 5, 1964, Ser. No. 349,738
U.S. Cl. 99—2 10 Claims

Int. Cl. A23k 1/20

A compressed animal feed of subdivided forage and a binder produced by subjecting starchy material to enzyme treatment and cooking at elevated temperature and pressure.

3,420,672
STABLE EMULSION ANIMAL FEED CONTAINING MOLASSES AND METHOD OF PRODUCING SAME

Milo D. Appleman, Los Angeles, Calif., assignor to Jack J. Schroeder, Long Beach, Calif.

No Drawing. Filed Feb. 12, 1965, Ser. No. 432,387
U.S. Cl. 99—6 7 Claims

Int. Cl. A23k 1/02

An emulsified animal feed which contains molasses, animal and vegetable fats and 0.001–0.6% starch.

3,420,673
PROCESS FOR REDUCTION OF COFFEE FOAM

Herbert Guggenheim, Tenafly, N.J., assignor to General Foods Corporation, White Plains, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 5, 1965, Ser. No. 445,712
U.S. Cl. 99—71 2 Claims

Int. Cl. A23f 1/08

Foaming of coffee extract due to cooling the hot percolate prior to drying is substantially reduced by subjecting the extract to pressure during said cooling step.

3,420,674
PROCESS FOR REMOVAL OF DELETERIOUS ACID COMPONENTS FROM STEAM VOLATILIZED COFFEE

James R. McCartney, New York, N.Y., assignor to General Foods Corporation, White Plains, N.Y., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 509,224, Nov. 22, 1965. This application Oct. 26, 1967, Ser. No. 678,449

U.S. Cl. 99—71 4 Claims
Int. Cl. A23f 1/08

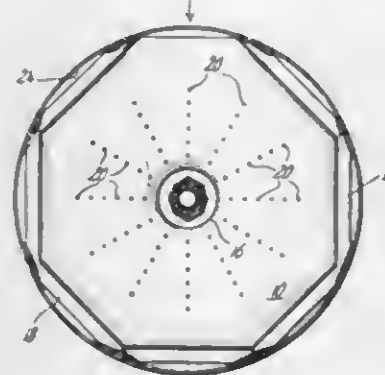
Roasted and ground coffee which has been dearomatized by steaming is subjected to vacuum to remove residual acids and thereby upgrade the flavor of the extract obtained from such coffee.

3,420,675
DISPOSABLE COFFEE CARTRIDGE

Nicholas J. Costas, 39 Collier Road, Wethersfield, Conn. 06109

Filed Oct. 26, 1964, Ser. No. 406,491
U.S. Cl. 99—77.1 3 Claims

Int. Cl. A23f 1/08



A disposable paper coffee cartridge formed of upper and lower sheets sealed about their periphery and center to define an annular chamber containing coffee to be brewed with a plurality of radially extending perforations for allowing the passage of liquid.

3,420,676
FERMENTING VEGETABLE MASH TO PRODUCE A STABLE VEGETABLE JUICE WITH SIMULTANEOUS PRODUCTION OF FERMENTED FODDER

Fritz Günther Keitel, Seestrass 300, 8267 Berlingen, Thurgau, Switzerland

No Drawing. Filed Mar. 14, 1966, Ser. No. 533,828
Claims priority, application Switzerland, Apr. 1, 1965, 4,521/65

U.S. Cl. 99—105 7 Claims
Int. Cl. A23l 1/02; A23k 3/02

An improved method of producing vegetable juices by subjecting the vegetable mash to a lactic acid fermentation until the pH has dropped to below 4.5, and then squeezing the juice out of the mash. The juice is then pasteurized. The fermented mash may be admixed with an unfermented mash prior to squeezing out the vegetable juice, and the squeezed out juice exhibiting a stable Tyndall effect.

3,420,677
TASTE OF FOOD AND DRINKS

Akio Shiga, Machida-shi, Japan, assignor to Kyowa Hakko Kogyo Co., Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed July 19, 1966, Ser. No. 566,208
Claims priority, application Japan, July 23, 1965, 40/44,169

U.S. Cl. 99—140 9 Claims
Int. Cl. A23l 1/22

1. A composition useful for enhancing the taste of food and drinks comprising L-asparagine and a 5'-nucleotide.

3,420,678
TASTE OF SEASONING, FOOD AND DRINKS

Akio Shiga, Machida-shi, Japan, assignor to Kyowa Hakko Kogyo Co., Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed July 19, 1966, Ser. No. 566,226
Claims priority, application Japan, July 23, 1965, 40/44,168

U.S. Cl. 99—140 9 Claims
Int. Cl. A23l 1/22

1. A composition useful for enhancing the taste of food and drinks comprising L-glutamine and a 5'-nucleotide.

3,420,679
LAMINATED FILM, METHODS OF MAKING SAME AND PACKAGES FORMED THEREFROM

Maurice J. Gifford and Paul E. Grindrod, Madison, Wis., assignors to Oscar Mayer & Co., Inc., Chicago, Ill., a corporation of Illinois

Filed Nov. 10, 1965, Ser. No. 507,150
U.S. Cl. 99—171 8 Claims

Int. Cl. B29d 9/00; B32b 27/08

Saran film in the amorphous or supercooled condition is directly combined or laminated to a ply or film of polycarbonate resin without the use of any intermediate adhesive or activating solvent. The saran film is selected to have outstanding barrier properties with respect to air and moisture transmission. The polycarbonate film provides excellent mechanical characteristics to the resulting laminate, both at below-freezing temperatures and at elevated temperatures. The resulting laminates are especially useful for packaging of foods and hermetic seals can be readily formed between saran-to-saran plies or between saran and polycarbonate plies.

3,420,680
COMPOSITIONS AND PROCESSES FOR ELECTROLESS NICKEL PLATING

Michael Gulla, Newton, Mass., assignor to Shipley Company, Inc., Newton, Mass., a corporation of Massachusetts

No Drawing. Filed Apr. 8, 1966, Ser. No. 541,060
U.S. Cl. 106—1 7 Claims

Int. Cl. C23c 3/02

An electroless nickel plating composition characterized by the addition of hydroxy-propane sulfonic acid or a salt of hydroxy-propane sulfonic acid. The additive suppresses side reactions consumptive of hypophosphite, provides a more constant ratio of consumption of hypophosphite ions relative to nickel ions in storage and in use and suppresses gas generation and evolution in the body of the composition other than at the catalytic surface being plated.

3,420,681
POLISHING COMPOSITION CONSISTING OF A POLYSACCHARIDE AND AN ABRASIVE

Alexander A. Karrip, 747 Riderwood Drive, Hazelwood, Mo. 63042

No Drawing. Filed Jan. 13, 1966, Ser. No. 520,355
U.S. Cl. 106—5 3 Claims

Int. Cl. C09g 1/02

A polishing agent for use in conjunction with the standard paste wax substance for facilitating the buffing operation performed during removal of the wax coating and polishing of the surface to which it is applied. The agent comprises a mixture substantially made up of a wax tension reducing substance such as dextran, and a moisture absorbing abrasive ingredient, as for example, bentonite.

858 O.G.—7

3,420,682
PRODUCTION OF LOW DENSITY RIGID SHAPES

Jay Don Gensler, San Antonio, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Dec. 13, 1963, Ser. No. 330,245
U.S. Cl. 106—40 5 Claims

Int. Cl. C04b 21/02; C04b 35/04

1. A novel composition of matter which comprises a rigid, porous, calcined mass consisting essentially of from about 10 to about 40 weight percent alkaline earth metal oxide, from about 60 to about 90 weight percent alkaline earth metal sulfate and from about 20 to about 0 weight percent alkaline earth metal sulfite, said alkaline earth metal being a member selected from the group consisting of magnesium and calcium.

3,420,683
LOW MELTING GLASS

Koichi Ikeda, Shigeru Tsuji, Shinzo Anazawa, and Tsukasa Koyama, Minatoku, Tokyo, Japan, assignors to Nippon Electric Company Limited, Minatoku, Tokyo, Japan

No Drawing. Filed Dec. 11, 1963, Ser. No. 329,854
Claims priority, application Japan, Dec. 17, 1962, 37/57,288

U.S. Cl. 106—47 7 Claims
Int. Cl. C03c 3/12; C03c 5/00

A glass composition of the PbO—B₂O₃ system in which the softening temperature is lowered by the addition of Tl₂O in the range of from 1 to 65% by weight.

3,420,684
SEALING GLASS COMPOSITIONS, METHOD OF SEALING, AND ARTICLE

Erwin C. Hagedorn, Oregon, Ohio, assignor to Owens-Illinois Inc., a corporation of Ohio

Filed June 19, 1964, Ser. No. 376,592
U.S. Cl. 106—54 15 Claims

Int. Cl. C03c 3/08; C03c 7/02

Sealing glasses free of sodium oxide and potassium oxide for sealing to glass and metal, including metal alloys, consisting essentially of, in parts by weight:

	Percent
SiO ₂	46–56
Al ₂ O ₃	12–18
CaO	7–15
MgO	5–11
Li ₂ O	2–3.5
B ₂ O ₃	8–18
F ₂	0–0.7

and articles having at least one metal surface sealed therewith.

3,420,685
KOVAR SEALING GLASS

Francis W. Martin, Painted Post, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Oct. 20, 1965, Ser. No. 498,844
U.S. Cl. 106—54 2 Claims

Int. Cl. C03c 3/08; B32b 17/06

1. A glass composition for forming seals with an alloy of nickel, cobalt, and iron consisting essentially in weight percent on the oxide basis of 64 to 68% of silica, 19 to 21% of boric oxide, 1 to 3% of alumina, 5 to 7% of potassium oxide, 1 to 3% of sodium oxide, 0.5 to 1.5% of lithium oxide, and 2 to 4% of zinc oxide.

3,420,686

AROMATIC ACETATES AS GRINDING AIDS
Frank G. Serafin, Peabody, Mass., assignor to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut

No Drawing. Filed Feb. 17, 1965, Ser. No. 433,504
U.S. Cl. 106—90 15 Claims
Int. Cl. C04b 7/54; C04b 7/58

Aromatic acetates (e.g., phenyl acetate and p-nitrophenyl acetate) are disclosed as grinding aids and pack set inhibitors in minerals and cement (e.g., portland cement).

3,420,687

METHOD OF INCREASING THE GRINDING EFFICIENCIES OF MINERALS AND CEMENT
Frank G. Serafin, Peabody, Mass., assignor to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut

No Drawing. Filed May 10, 1965, Ser. No. 454,666
U.S. Cl. 106—102 9 Claims
Int. Cl. C04b 7/54; C04b 7/58

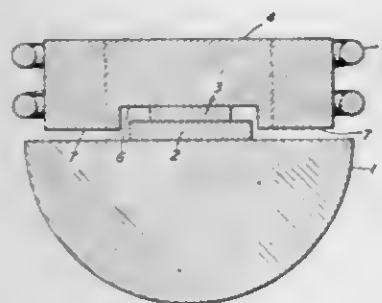
In the grinding of a mineral or cement (e.g., portland cement), a urea compound is interground with the mineral or cement to increase the efficiency of the grinding operation. Pack set of the resulting ground material is also inhibited. The urea compound can be urea, acetyl urea or diacetyl urea.

3,420,688

METHOD OF PRODUCING IMMERSED BOLOMETERS

Bruce Norton, Westport, Conn., assignor to Barnes Engineering Company, Stamford, Conn., a corporation of Delaware

Filed May 26, 1965, Ser. No. 459,020
U.S. Cl. 117—9 10 Claims
Int. Cl. H01c 7/04



Immersed thermistor bolometers are made by applying a low melting glass such as an arsenic modified selenium glass to the back of the immersion lens, placing a thermistor flake thereon, and a weight with a notch deep enough so that when the glass is heated and softens, the flake is immersed to a definite accurately predetermined point, because at that point the edges of the notch strike the lens. The notch is, of course, deeper than the thickness of the flake. Low noise bolometers of uniform response are reliably prepared.

3,420,689

METHOD FOR FORMING AN OXIDATION RESISTANT COATING ON A SUBSTRATE

Stephen Foldes, Cleveland, and Moses A. Levinstein, Cincinnati, Ohio, assignors to General Electric Company, a corporation of New York

No Drawing. Original application Oct. 24, 1962, Ser. No. 232,896. Divided and this application Dec. 21, 1965, Ser. No. 545,178

U.S. Cl. 117—22 5 Claims
Int. Cl. C23b 5/50; C23b 5/52; C23c 17/00

1. The process for forming a protective coating on an exposed surface of a body formed of a base metal selected

from the group consisting of columbium, columbium base alloys, tantalum, and tantalum base alloys comprising plating said body with a coating of silver, applying over said silver coating a coating of a metal powder consisting of aluminum and up to 50 total weight percent of at least one metal selected from the group consisting of chromium, silicon and titanium, and fusing said coatings to said base metal by heating said composite body in a non-oxidizing atmosphere at a temperature sufficiently high to cause fusion of the coatings to each other and to the base metal.

3,420,690

ARTIFICIALLY COLORED MINERAL GRANULES

Romayne M. Beyard and John C. Horal, Hagerstown, Md., assignors to The Ruberoid Co., New York, N.Y., a corporation of New Jersey

No Drawing. Filed May 6, 1966, Ser. No. 547,745
U.S. Cl. 117—62 11 Claims
Int. Cl. C04b 31/28

1. A method for manufacturing artificially colored mineral granules which comprises (i) coating the granules with a colored composition comprising a pigment and an aqueous alkali silicate, (ii) heating the coated granules to a temperature below about 600° F. substantially to dehydrate the silicate in the coating, (iii) insolubilizing said silicate, and (iv) applying to the silicate a chelating agent selected from the group consisting of ethylenediamine tetraacetic acid and its salts in an amount sufficient to prevent substantially the development of haze and bloom on the surface of the coated granules.

3,420,691

ARTIFICIALLY COLORED MINERAL GRANULES

Patrick H. Thomas, Hagerstown, and Gary R. Holland, Williamsport, Md., assignors to The Ruberoid Co., New York, N.Y., a corporation of New Jersey

No Drawing. Filed May 6, 1966, Ser. No. 548,072
U.S. Cl. 117—62 11 Claims
Int. Cl. C04b 31/28

1. A method for manufacturing artificially colored mineral granules which comprises (i) coating the granules with a coloring composition comprising a pigment and an aqueous alkali silicate, (ii) substantially dehydrating the silicate in the coating, (iii) insolubilizing the dehydrated silicate to bond said pigment to said granules, and (iv) applying to the coated granules an organic acid, selected from the group consisting of hydroxy substituted dicarboxylic acids and hydroxy substituted tricarboxylic acids in an amount sufficient to prevent the growth of opaque salt crystals on the surface of the coated granules.

3,420,692

PROCESS FOR OBTAINING LOW BAKE PAINT FILMS OF IMPROVED CURE AND ABRASION RESISTANCE

William C. Jeff, North Plainfield, and Thomas Luyster, Jr., Saddle Brook, N.J., assignors to John L. Armitage & Co., Newark, N.J., a corporation of New Jersey

No Drawing. Filed Oct. 22, 1964, Ser. No. 405,837
U.S. Cl. 117—63 5 Claims
Int. Cl. B44d 1/44

A method for producing low bake resin-containing paint films of improved cure and abrasion resistance, comprises forming a layer with a composition containing a high molecular weight polyvinyl chloride resin, either a homopolymer or copolymer of vinyl chloride with dibutyl maleate or vinyl acetate, air-drying the resin layer, treating the dried layer with a ketone, and then curing the resin layer at a temperature not substantially in excess of 250° F.

3,420,693

GLASS HAVING DUAL PROTECTIVE COATINGS THEREON AND A METHOD FOR FORMING SUCH COATINGS

Addison B. Scholes, Muncie, and John E. Pickard, Selma, Ind., assignors to Ball Brothers Company Incorporated, Muncie, Ind., a corporation of Indiana

No Drawing. Filed June 5, 1964, Ser. No. 373,063
U.S. Cl. 117—72 9 Claims
Int. Cl. C03c 17/08; C03c 17/32

Method for treating glass by forming two coatings thereon, the first coating being a tin oxide coating produced by exposing heated virgin glass to a heat decomposable tin compound, and the second coating being a lubricious organic compound coated on the tin oxide coating, and an article produced by the method.

3,420,694

PLURAL COATED TRANSPARENT COLORED LAMP AND METHOD OF FORMING SAME

William G. James, Cleveland Heights, Ohio, assignor to General Electric Company, a corporation of New York

Filed Feb. 1, 1966, Ser. No. 524,058
U.S. Cl. 117—73 9 Claims
Int. Cl. B44d 1/14; F21v 3/04



5. The method of forming a weather resistant transparent color coating on an electric lamp bulb which comprises first coating the outer bulb surface with a solution of a colored cellulosic lacquer, drying the said first coating, and then coating the outer bulb surface with a second solution consisting essentially of poly (bisphenol-A-carbonate) having an intrinsic viscosity of about 0.97 and a chlorinated solvent therefor and diluent sufficient to provide a solution containing about 4% by weight solids, and drying the said second solution.

3,420,695

PROCESS FOR DESENSITIZING METALLIC POWDERS

George B. Rlee, Trout Creek, Utah, and Robert L. Dow, China Lake, Calif., assignors to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed Nov. 9, 1964, Ser. No. 410,031
U.S. Cl. 117—100 6 Claims
Int. Cl. C23c 3/00

A method for making particulate metal safe to handle in large quantities by coating the metallic particles with an organic elastomeric material. The desensitized metal powders thus formed are relatively insensitive to electrostatic discharge and practically non-toxic to handlers.

3,420,696

ALDEHYDE FIXATION ON POLYMERIC MATERIAL

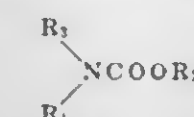
James F. Cotton, Columbus, Ga., and Maurice E. Heard, Lanett, Ala., assignors to West Point-Pepperell, Inc., West Point, Ga., a corporation of Georgia

No Drawing. Continuation-in-part of application Ser. No. 372,113, June 2, 1964. This application Apr. 26, 1965, Ser. No. 451,033

U.S. Cl. 117—118 36 Claims
Int. Cl. D06m 15/54; C08j 1/44

An aldehyde is fixed on a polymer of the group consisting of cellulose, cellulose esters and starch, comprising the steps of treating said polymer with an aqueous mixture containing a member of the group consisting of

(1) an aldehyde together with a carbamate having the formula



where R_1 and R_2 are selected from the group consisting of hydrogen, alkyl and carbocyclic aryl, and R_3 is selected from the group consisting of alkyl and carbocyclic aryl, (2) an aldehyde-carbamate condensation product wherein the carbamate has the formula H_2NCOOR_2 , and (3) an aldehyde together with an aldehyde-carbamate condensation product wherein the carbamate has the formula N_2NCOOR_2 , and heating said treated polymer at a temperature sufficient to fix the aldehyde on said polymer but insufficient to cause any substantial nitrogen fixation.

3,420,697

PERFLUOROALKYL-SUBSTITUTED POLYAMIDE OIL-REPELLENCY COMPOUND AND TEXTILE MATERIALS TREATED THEREWITH

Richard F. Sweeney, Dover, and Koei-Liang Liaw, Morristown, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Aug. 25, 1965, Ser. No. 482,599
U.S. Cl. 117—121 11 Claims
Int. Cl. D06m 15/00; C07c 103/32

Novel perfluoroalkyl-substituted polyamide compositions prepared by reacting a perfluorocarboxylic acid or derivative thereof with a polyalkylene polyamine. The resultant polyamide products are useful as oil repellents, particularly for the treatment of fibers.

3,420,698

METHOD OF STAINING GLASS AND GLASS STAINING COMPOSITIONS

Allison L. Smith, Vineland, N.J., assignor to Owens-Illinois, Inc., a corporation of Ohio

No Drawing. Filed Oct. 5, 1964, Ser. No. 401,718
U.S. Cl. 117—124 2 Claims
Int. Cl. C03c 21/00

Staining compositions for staining glass containing cuprous sulfide, silver oxide, lead metaborate and zinc sulfide which is applied to the glass and thereafter fired to a temperature sufficient to bake the composition and which produce a deep staining effect.

3,420,699

PROCESS FOR IMPARTING TO A CELLULOSIC TEXTILE RESISTANCE TO ROT AND WEATHERING

Hubert H. St. Mard, New Orleans, and Carl Hamalainen and Albert S. Cooper, Jr., Metairie, La., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Apr. 22, 1966, Ser. No. 544,370
U.S. Cl. 117—138.5 9 Claims
Int. Cl. D06m 13/50; D06m 13/34

1. A process for imparting to cellulosic textiles resistance to rot and weathering comprising

- wetting the cellulosic textile with an aqueous solution containing about from 8 to 17.2% by weight of an aminoplast resin selected from the group consisting of trimethylolmelamine and methylated methylolmelamine, about 13% of zirconyl acetate catalyst (22% ZrO_2), and about 0.2% of a wetting agent,
- removing excess solution to obtain a wet pickup of about from 70% to 90%,
- drying the wet cellulosic textile at about from 75° to 95° C. for about from 3 to 5 minutes of time, the lower temperatures used with the longer periods of time, and
- curing the dry cellulosic textile at about from 120° to 160° C. for about from 4 to 8 minutes of time,

the lower temperatures used with the longer periods of time.

3,420,700

PROCESS FOR IMPARTING ROT-RESISTANCE TO AN ORGANIC TEXTILE MATERIAL AND THE RESULTING MATERIAL

Darrell J. Donaldson and Wilma A. Guice, New Orleans, and George L. Drake, Jr., and Wilson A. Reeves, Metairie, La., assignors to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed Apr. 29, 1966, Ser. No. 546,169
U.S. Cl. 117-138.5 7 Claims

Int. Cl. D06m 13/50

1. A process for rendering organic fibrous materials rot-resistant comprising the steps:

- preparing an aqueous solution comprising 0.5 to about 5.0 weight percent of a thioorganolead compound having the formula $R_2Pb-S-R$ where R is at least one member of the group consisting of alkyl, aryl, and cycloalkyl;
- impregnating the organic fibrous material with the thioorganolead solution;
- removing the excess thioorganolead ($R_2Pb-S-R$) solution by passing the impregnated organic fibrous material through a pair of squeeze rolls adjusted to retain from about 60 to 120 weight percent of the solution on the dry weight of the fibrous material; and
- drying the impregnated fibrous organic material.

3,420,701

PROCESS FOR IMPARTING ROT-RESISTANCE TO AN ORGANIC TEXTILE MATERIAL AND THE RESULTING MATERIAL

Darrell J. Donaldson and Wilma A. Guice, New Orleans, and George L. Drake, Jr., and Wilson A. Reeves, Metairie, La., assignors to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed Apr. 29, 1966, Ser. No. 546,182
U.S. Cl. 117-138.5 10 Claims

Int. Cl. D06m 13/50

1. A process for rendering organic fibrous materials rot-resistant comprising the steps:

- preparing an aqueous solution comprising 0.5 to about 5.0 weight percent of an organolead compound having the formula R_2PbY where R is at least one member of the group consisting of alkyl, aryl, and cycloalkyl, and Y is an anion selected from the group consisting of acetate, imidazole, hydroxide and halogen;
- impregnating the organic fibrous material with the organolead solution;
- removing the excess organolead (R_2PbY) solution by passing the impregnated organic fibrous material through a pair of squeeze rolls adjusted to retain from about 60 to 120 weight percent of the solution on the dry weight of the fibrous material; and
- drying the impregnated fibrous organic material.

3,420,702

DOUBLE BATH TREATMENT OF CELLULOSIC FABRICS TO IMPART CREASE RESISTANCE AND HIGH ABRASION RESISTANCE THERETO

Myrtle Joanne Spangler, Danville, Va., assignor to Dan River Mills, Incorporated, Danville, Va., a corporation of Virginia
No Drawing. Filed May 11, 1965, Ser. No. 454,985
U.S. Cl. 117-139.4 4 Claims

Int. Cl. D06m 15/48
Method of manufacturing fabrics capable of being formed into crease resistant articles having high abrasion resistance comprising the steps of impregnating the cellulosic fabric with a copolymer comprising about 49 to 50 weight percent polymerized ethyl acrylate, about 49 to 50

weight percent polymerized butyl acrylate and about 2 to 2.7 weight percent methylol acrylamide, removing moisture from the impregnated fabric and thereafter impregnating with a crease proofing chemical and drying the resulting impregnated fabric.

3,420,703

PROCESS FOR TREATING A TEXTILE MATERIAL WITH AN AQUEOUS ANTISTATIC AND HANDLE-IMPROVING COMPOSITION AND THE AQUEOUS TREATING COMPOSITION

Helmuth Kirkschnek, Georg Von Flack, Leverkusen, and Mathieu Quaedvlieg, Opladen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed May 13, 1965, Ser. No. 455,633
Claims priority, application Germany, May 3, 1964, F 43,030

U.S. Cl. 117-139.5 5 Claims

Int. Cl. C08g 41/00; C10m; D06m

A method of improving handle and antistatic properties of fibrous material such as wool, cotton, rayon, cellulose acetate, synthetic polyamides, polyesters, polyacrylonitrile and polypropylene by treating the fibrous material by exhaustion process with a heated aqueous liquor having an acid pH, the active ingredients of the liquor consisting essentially of:

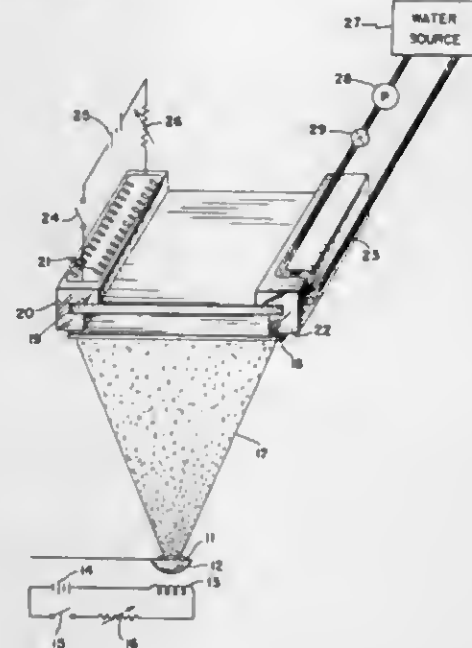
- a cationic interface-active compound exemplified by $R-N(CH_2-CH_2-NH-CO-NH_2)_2$, or a cationic polymer thereof wherein R is a long chain alkyl radical, an alkyl-polyoxy-alkylene, or quaternization product thereof;
- a lower aliphatic aldehyde exemplified by formaldehyde and
- an anionic interface-active or anionic polymeric compound exemplified by the ammonium salts of alkylaryl sulfonic acids.

3,420,704

DEPOSITING SEMICONDUCTOR FILMS UTILIZING A THERMAL GRADIENT

James E. Webb, Administrator of the National Aeronautics and Space Administration with respect to an invention of Robert L. Ramey, Charlottesville, and William D. McLennan, Richmond, Va.
Filed Aug. 19, 1966, Ser. No. 574,280
U.S. Cl. 117-201 2 Claims

Int. Cl. C23c 13/04



A process for increasing the hole mobility of deposited semiconductor material film on a substrate is provided by depositing in a vacuum a polycrystalline semiconductor film such as germanium onto a substrate while maintaining a thermal gradient across the substrate.

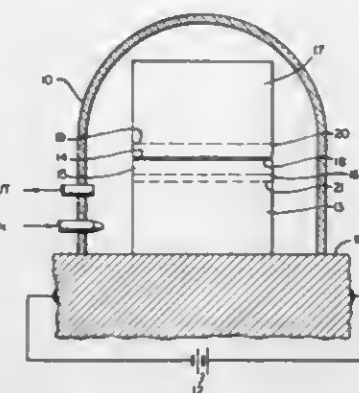
3,420,705

METHOD OF ETCHING A SEMICONDUCTOR MATERIAL

Benjamin Topas, Santa Monica, Calif., assignor, by mesne assignments, to Siemens Aktiengesellschaft, a corporation of Germany
Continuation of application Ser. No. 254,540, Jan. 21, 1963, which is a continuation-in-part of application Ser. No. 117,573, June 16, 1961. This application July 27, 1966, Ser. No. 568,349

U.S. Cl. 117-201 1 Claim

Int. Cl. H01l 7/00; C23c 17/00



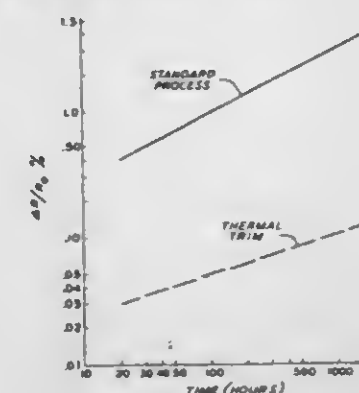
1. The method of producing a plate-shaped semiconductor body consisting of an extremely planar surface and an epitactically applied semiconductor layer, upon said surface, which comprises placing a first semiconductor plate, provided with an extremely flat surface, and possessing processing damage below said surface, into a reaction vessel, said first semiconductor plate being placed inside the reaction vessel so that its flat surface lies opposite the flat surface of a second semiconductor plate and essentially parallel to the same, so that heating the first semiconductor plate produces a temperature gradient between these surfaces, heating the first semiconductor plate in a gaseous atmosphere, suitable for transporting the material from the first to the second semiconductor plate, by transport reaction, to a temperature suitable for said transport reaction, continuing the heating process until the region lying beneath the surface of the first plate is removed up to a layer thickness which exceeds the thickness of the region showing processing damages, removing the second semiconductor plate from the reaction chamber and using said first plate in the same reaction vessel as a substrate for epitactic precipitation from vapor phase of new semiconductor material upon its surface.

3,420,706

TECHNIQUE FOR FABRICATION OF PRINTED CIRCUIT RESISTORS

Charles C. Y. Kuo, Bethlehem, Pa., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed June 23, 1964, Ser. No. 377,303
U.S. Cl. 117-227 4 Claims

Int. Cl. B44d 1/20; C23c 11/00



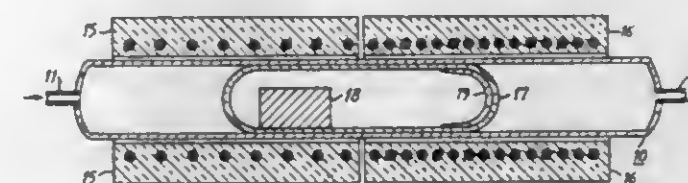
Thermal trimming of thin film resistor is effected by heating the films to a temperature within the range of 400-650° C. in an oxidizing atmosphere.

3,420,707

DEPOSITION OF NIOBIUM STANNIDE

Joseph John Hanak, Trenton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Dec. 28, 1964, Ser. No. 421,528
U.S. Cl. 117-227 12 Claims

Int. Cl. C23c 11/00; C23c 13/00



A mass of niobium tin (Nb_3Sn) is positioned in a furnace and maintained at a first temperature in the range of about 800° to 1000° C. A substrate is positioned in a second furnace adjacent the first furnace, or in a second zone of the same furnace, and is maintained at a second temperature at least 50° C. higher than the first temperature. Preferably, the second temperature is in the range of about 900° to 1600° C. The substrate may be an insulator, a metallic alloy, a metal, or a semiconductor. The niobium tin mass is reacted with hydrogen chloride gas to form a mixture of hydrogen and niobium chloride and tin chloride vapors. This reaction is reversible, and the mixture thus formed reacts when heated in the vicinity of said substrate to the second or higher temperature to reform niobium tin, which deposits as a crystalline coating on the substrate. According to one embodiment, the coating is continuously deposited on a substrate consisting of an elongated flexible material such as a wire, ribbon, tape, or the like. The efficiency of the process may be improved by positioning a second mass of niobium tin immediately adjacent the substrate.

3,420,708

INCLINED DIFFUSER

Francis C. Schaffer, 6755 Merrydale, Baton Rouge, La. 70812
Filed Sept. 27, 1965, Ser. No. 490,563
U.S. Cl. 127-5 3 Claims

Int. Cl. C13d 1/12



1. Apparatus for moving solid and semisolid materials in countercurrent relationship with a liquid and for repeatedly contacting the materials with the liquid, comprising inclined conveyor means for moving solid and semisolid materials upwardly along an inclined path, said conveyor means including a foraminous, path-defining bottom support for said materials, an inclined stationary bottom wall beneath the foraminous support, said wall defining a multiplicity of open-top, fluid-receiving wells along the inclined extent of said path, each of said wells having an upper edge defining an overflow for that well and each of said wells having an outlet opening beneath its upper edge, conduit means having an inlet connected to each outlet opening and having an outlet positioned

directly over the foraminous support and over the next lower well on said path, the outlet opening of each of said conduits being positioned below a horizontal plane passing through the overflow opening of the well to which that conduit is connected, whereby liquid that is introduced into an upper well will be conveyed by gravity through the conduit means, through the solid and semi-solid materials, through the foraminous support, and into the next lower well on said path.

3,420,709

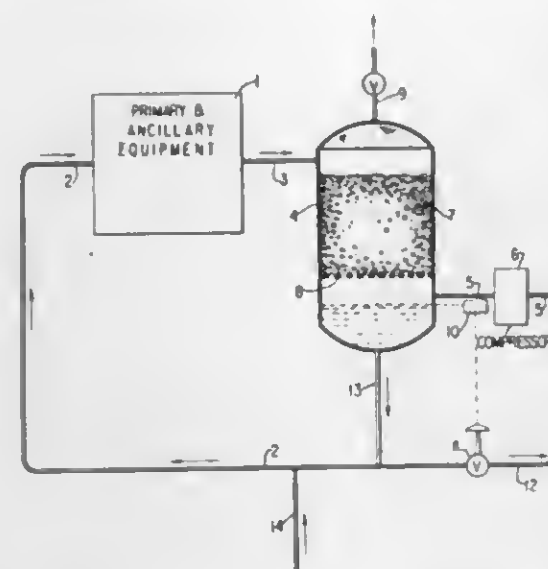
LIQUID PURIFICATION BY ADSORPTION
Harold E. Barrett, Jr., Berkeley, and Bernard N. Dickinson, Redwood City, Calif., assignors to Diamond Shamrock Corporation, a corporation of Delaware
Filed Apr. 29, 1965, Ser. No. 451,781

U.S. Cl. 127—53

11 Claims

Int. Cl. C13d 3/14; C13d 3/14

A method of liquid purification in which insoluble synthetic resins, many being ion-exchange resins, are used as adsorbents in combination with prior, known adsorbents, such as activated carbon. The combination exhibits an improved purification effect when compared with that of the prior adsorbents alone, which effect increases with decreasing particle size of adsorbents.



carbonaceous deposits, the heat of combustion being at least partially absorbed by the liquid water.

3,420,712

METHOD FOR TREATING ELONGATED METAL WORKPIECES WITH A SUCCESSION OF TREATING LIQUIDS

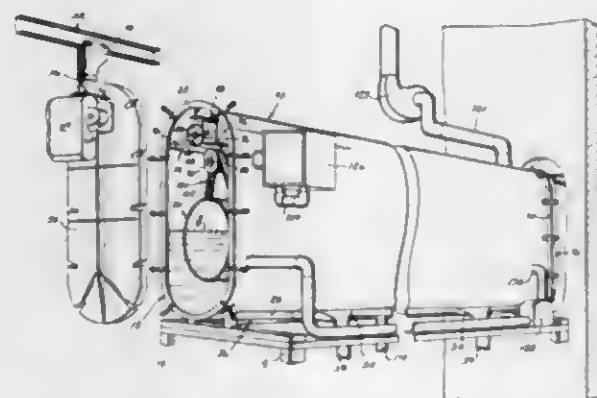
John T. Parsons, Traverse City, Mich., assignor to Parsons Corporation, Traverse City, Mich., a corporation of Michigan

Filed July 10, 1964, Ser. No. 381,670

U.S. Cl. 134—33

4 Claims

Int. Cl. C23f 3/04; B08 9/04



A method is provided for cleaning and otherwise treating the inner and outer surfaces of large diameter cylindrical tubes with a succession of treating liquids within the same tank, having removable end walls. A tube is supported horizontally by sling belts, suspended from a conveyor which leads into the tank; the tank ends are then sealed in place. A succession of metal treating liquids are introduced to partly fill the tank to a level above the lowermost portion of the inner wall of the suspended tube. The sling belts are then rotated, so that the treating liquid flows over the inner and outer walls of the partly submerged tube; simultaneously the treating liquid is circulated longitudinally from one end of the tube to the other.

3,420,713

PROCESS OF OPERATING A FUEL CELL WITH AN ALIPHATIC MONOAMIDE FUEL

William V. Childs, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed June 4, 1964, Ser. No. 372,551

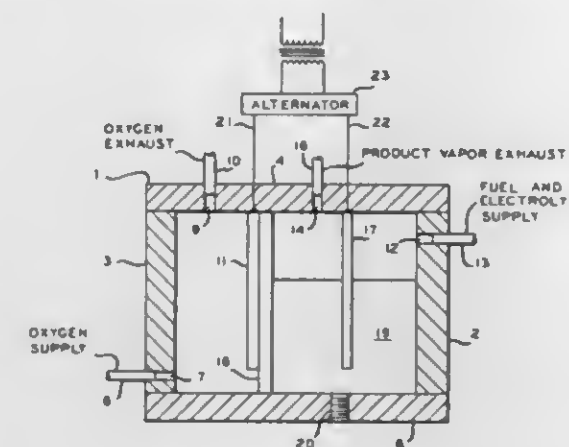
U.S. Cl. 136—86

4 Claims

Int. Cl. H01m 27/02

A process of generating electrical energy in a fuel cell having a catalytic anode in contact with an electrolyte and

a catalytic cathode separated from the electrolyte by an ion exchange membrane, the cathode being in contact with the membrane, by passing a liquid fuel selected from



aliphatic monoamides of carboxylic acid having 1 to 12 carbon atoms to the anode, and passing an oxygen-containing gas to the cathode.

3,420,714

ROUND CELLS AND BATTERIES MADE THEREFROM

Geoffrey Peter Knight, Loughton, England, assignor to The Ever Ready Company (Great Britain) Limited, London, England, a corporation of Great Britain
Filed June 21, 1965, Ser. No. 465,319

Claims priority, application Great Britain, June 24, 1964, 26,212/64

U.S. Cl. 136—107

7 Claims

Int. Cl. H01m 1/02; H01m 21/06; H01m 15/00

A galvanic dry cell of the type having a zinc can as the soluble electrode, a carbon rod with a metal cap as the insoluble electrode, and a depolarizer bobbin and separator arranged in the zinc can in conventional manner and with an expansion chamber above the depolarizer bobbin, is encapsulated by a casing of synthetic plastics material injection moulded onto the cell at low temperature and pressure, the casing including a seal between the can rim and the metal cap and also including a clamping flange overlying the marginal area of the base of the cell.

3,420,715

ADDITIVE FOR PHOSPHATE COATING SOLUTION
Robert F. Ayres, Florissant, Mo., assignor, by mesne assignments, to Consolidated Foods Corporation, Chicago, Ill., a corporation of Maryland
No Drawing. Filed June 4, 1965, Ser. No. 461,521

U.S. Cl. 148—6.16

3 Claims

Int. Cl. C23f 7/10; C23f 7/08

An additive for rejuvenating phosphate conversion coating materials to thereby restore same to substantially their original chemical balance which consists essentially of phosphoric acid, a synthetic non-ionic detergent, an accelerating agent, and water.

3,420,716

METHOD OF FABRICATING AND HEAT-TREATING PRECIPITATION-HARDENABLE NICKEL-BASE ALLOYS

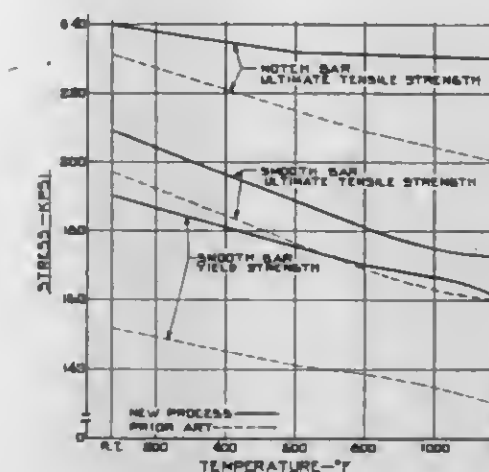
Justin F. Slepitis, Passaic, N.J., assignor to Curtiss-Wright Corporation, a corporation of Delaware
Filed Nov. 4, 1965, Ser. No. 506,371

U.S. Cl. 148—11.5

5 Claims

Int. Cl. C21d 7/14

A method of fabricating and heat-treating certain precipitation-hardenable nickel-base alloys to improve strength and hardness without substantial diminution of



then heat-treating the alloy at a temperature several hundred degrees below the solutioning temperature.

3,420,717

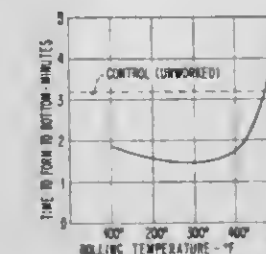
METAL SOFTENING PROCESS AND PRODUCT THEREOF

Davis S. Fields, Jr., and Daniel L. Mehl, Lexington, Ky., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Mar. 28, 1966, Ser. No. 537,939

U.S. Cl. 148—11.5

13 Claims

Int. Cl. C22f 1/04



1. The process of preparing stock of the eutectoid alloy nominally comprising by weight 78% zinc, 22% aluminum, comprising the steps of:

solution heat treating said stock at a temperature between its eutectoid temperature and its solidus temperature for a period of time adequate to obtain a uniform structure throughout said stock, quenching said stock, and thereafter working said stock at a temperature below 400° F.

3,420,718

PROCESS FOR THE PRODUCTION OF VERY LOW CARBON-CONTAINING COLD-ROLLED STEEL STRIPS

Nobuo Fukuda, Mineo Shimizu, Kameo Matsukura, and Narumi Ando, Kitakyushu, Japan, assignors to Yawata Iron & Steel Co., Ltd., Tokyo, Japan

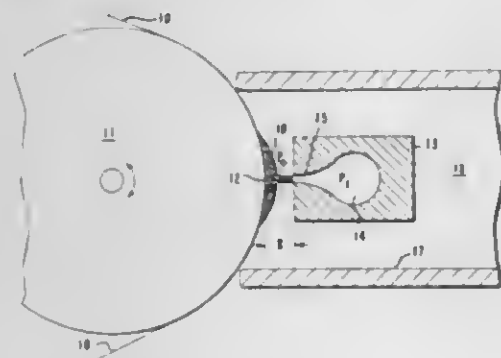
No Drawing. Filed Aug. 20, 1965, Ser. No. 481,399

U.S. Cl. 148—12.1

4 Claims

Int. Cl. C21d 7/14

The present invention is concerned with a process for producing a very low carbon cold-rolled steel strip comprising the first step of hot-rolling a low carbon steel containing 0.03 to 0.12 wt. percent carbon, the second step of allowing to cool the thus hot-rolled steel strip to produce a secondary mill scale layer on the surface of said steel strip and thereafter annealing the resultant steel strip in a heating zone containing a non-oxidizing gas to reduce the carbon in the steel to an amount less than 0.010 wt. percent by oxidation with the secondary mill scale on the surface, and the third step of cold-rolling the very low carbon steel strip after decarburization annealing at a re-



A method of cleaning the surface of a traveling web by removing particulate matter held on said surface by a strong electrostatic bond or located within the boundary layer of air adjacent the traveling web, by exposing said surface to a shock wave created by air directed against said surface at at least sonic velocity to dislodge said particles and removing the dislodged particles at reduced pressure.

3,420,711

PROCESS FOR DEFOULING EQUIPMENT CONTAMINATED WITH CARBONACEOUS DEPOSITS
Roger P. Van Driesen, Hopewell, N.J., assignor to Cities Service Research and Development Company, New York, N.Y., a corporation of Delaware
Filed Apr. 26, 1966, Ser. No. 545,357

U.S. Cl. 134—2

7 Claims

Int. Cl. B08b 3/00

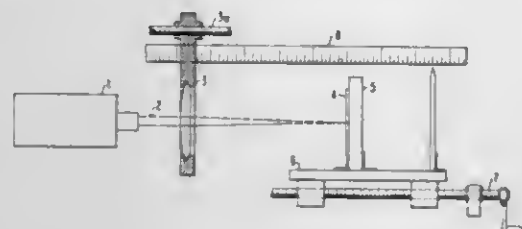
1. Process for defouling process equipment of combustible carbonaceous deposits which comprises contacting the surfaces of the process equipment fouled with carbonaceous deposits with an admixture of water and an oxygen-containing gas at an elevated temperature to combust the carbonaceous deposits and at a superatmospheric pressure sufficient to maintain the fouled surfaces of the equipment in substantially complete contact with

duction rate of 30 to 80%, annealing the cold-rolled strip for recrystallization in a non-oxidizing gas and thereafter subjecting the annealed steel strip to a temper-rolling.

3,420,719 METHOD OF MAKING SEMICONDUCTORS BY LASER INDUCED DIFFUSION

Horton R. Potts, Endicott, and Charles A. Speicher, Endwell, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed May 27, 1965, Ser. No. 459,402
U.S. Cl. 148-188 6 Claims
Int. Cl. H011 7/44

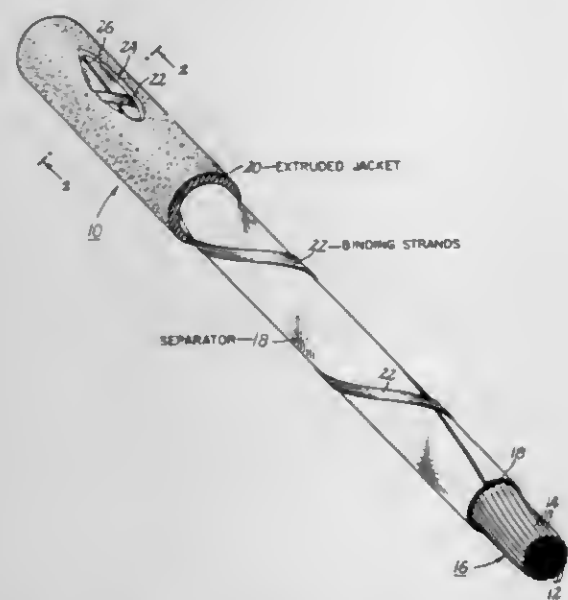


The invention concerns a diffusion process wherein a diffusant, in the form of a thin film, is applied by well-known techniques, for example evaporation, to a substrate constituted primarily of a semiconductor. The diffusant is diffused into the substrate by means of energy derived from a laser beam, the time of diffusion being under control of means subjected to a diverted component of the laser beam.

3,420,720 METHOD OF MAKING JACKETED MULTI-CONDUCTION ELECTRICAL CABLE

Robert C. Hillman, Cheshire, Conn., assignor to The Whitney Blake Company, New Haven, Conn.

Filed Nov. 8, 1963, Ser. No. 322,283
U.S. Cl. 156-53 4 Claims
Int. Cl. H01b 13/08; H01b 13/14



1. The method of forming multi-conductor cables having a cable core consisting of a plurality of insulated conductors, said method comprising the steps of

- A. spirally wrapping the cable core with a strip of terephthalate polyester,
 - (1) the longitudinal edges of the strip overlapping one another to completely cover the cable core,
- B. passing the wrapped cable core through a heated chamber

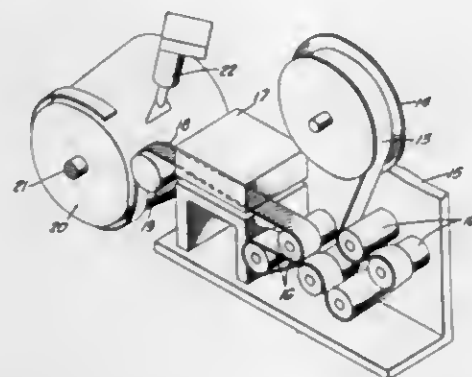
- (1) to heat the terephthalate polyester strip to a temperature of 120° to 150° F.,
- (2) whereby shrinkage of the spirally wrapped strip draws the strip tightly about the cable core and the exposed edge of the strip is rounded to alleviate disruption in the formation of a jacket around the wrapped cable core by an extruder, and then

C. passing the wrapped cable core through a jacketing extruder.

3,420,721 METHOD OF WRAPPING BIAS CUT TAPE UNDER LONGITUDINAL TENSION

James A. Bayless, Downey, and Earl F. Grubn, La Mirada, Calif., assignors to Swedlow Inc., Garden Grove, Calif., a corporation of California

Filed Mar. 12, 1965, Ser. No. 439,308
U.S. Cl. 156-162 10 Claims
Int. Cl. B65b 81/08; B31c 3/00

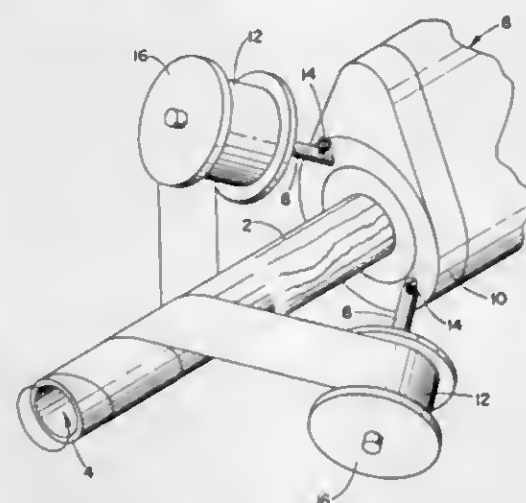


A method of forming a strong, high density structure having a curved or otherwise contoured inner surface in which a tape which is maintained under longitudinal tension is wrapped around a suitable mandrel with the width of the tape being positioned generally parallel to the surface of the mandrel and each tape layer overlapping the previous layer.

3,420,722 METHOD OF APPLYING A PROTECTIVE WRAPPING TO A CONDUIT

Frank E. McNulty, Robert M. Nee, and Charles J. Martin, Tulsa, Okla., assignors to Nee & McNulty, Inc., Tulsa, Okla., a corporation of Oklahoma

Filed Dec. 15, 1965, Ser. No. 514,030
U.S. Cl. 156-162 9 Claims
Int. Cl. B31c 3/00; F16l 9/14



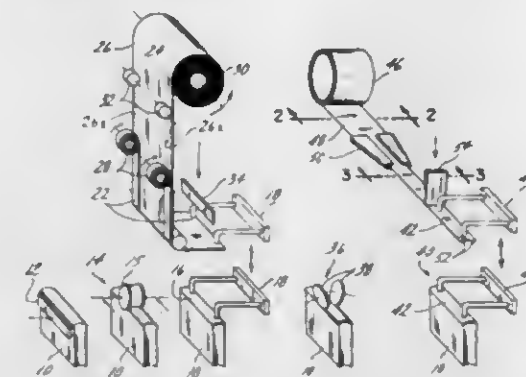
1. A method of wrapping a conduit covered with a hot applied coating which comprises affixing the free end of an unsupported layer of sheet-like thermoplastic resin film to the coated surface of said conduit, and spirally

wrapping said conduit with said film under tension while the temperature of that portion of the coating as it is contacted by said film ranges from the stretch point to the softening point of said film.

3,420,723 METHOD OF FORMING AND APPLYING TUBULAR BACK LININGS TO FILLERS

James H. Thorp, West Hartford, Conn., assignor to The Smyth Manufacturing Company, Bloomfield, Conn., a corporation of Connecticut

Filed Nov. 30, 1964, Ser. No. 414,725
U.S. Cl. 156-201 2 Claims
Int. Cl. B42b 5/00; B31f 5/00



A two-part tubular back-liner is formed from a conventional flat back-liner with subadjacent headband segments attached and a second paper back-liner with inwardly folded side edge portions. The marginal side edge portions are adhesively attached to the flat back-liner.

3,420,724 PROCESS FOR PREPARING BONDED, NONWOVEN FABRICS

Robert H. Saunders, Chadds Ford, Pa., assignor to Hercules Incorporated, a corporation of Delaware

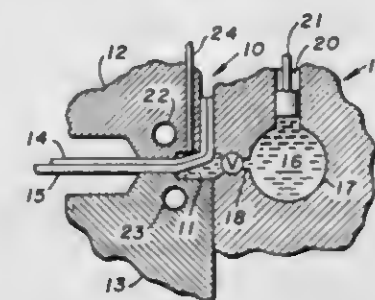
No Drawing. Filed May 18, 1965, Ser. No. 456,812
U.S. Cl. 156-272 7 Claims
Int. Cl. D04b 1/54

1. A process for preparing a bonded, nonwoven fabric which comprises preparing a web comprising synthetic, organic, thermoplastic staple fibers, said web having intermittent dark and light colored areas, exposing the web to radiant heat, whereby the fibers in the dark areas melt preferentially, and thereafter cooling the web so that the molten thermoplastic fibers solidify and become bonded to the light colored fibers.

3,420,725 JOINING FABRIC SEAMS WITH THERMOPLASTIC MATERIALS

Philip E. Curry, Pensacola, Fla., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed June 23, 1965, Ser. No. 466,301
U.S. Cl. 156-305 2 Claims
Int. Cl. B29c 6/04; B29f 1/00



Stitchless piecing together of textile fabric is accomplished by injecting under pressure a solution of urethane elastomeric resin into overlapped fabric portions and heating the fabric to evaporate the solvent therefrom.

3,420,726 ORGANOPHOSPHORUS COUPLING AGENTS FOR EPOXY TO GLASS LAMINATES

Malcolm E. Schrader, Brooklyn, and Irving Lerner, Woodside, N.Y., assignors to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed Mar. 30, 1965, Ser. No. 444,085
U.S. Cl. 156-314 1 Claim
Int. Cl. C09j 5/02

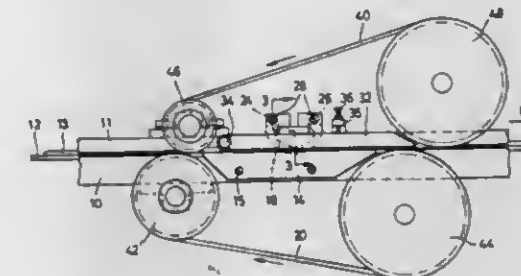
Glass surface is treated with an organophosphorus compound selected from the group consisting of diethyl p-aminobenzylphosphonate esters and diethyl bis-2 hydroxyethyl amino methyl phosphonate esters for preventing adsorption of water molecules and to serve as a superior coupling agent between the glass and an epoxy resin in glass reinforced plastics.

3,420,727 CUTTING-WELDING DEVICE FOR THERMOPLASTIC SYNTHETIC FOILS

Hans Beck, Urbanstrasse 27, Nürtingen, Württemberg, Germany

Filed May 12, 1966, Ser. No. 549,547
Claims priority, application Germany, May 15, 1965, B 81,946

U.S. Cl. 156-498 6 Claims
Int. Cl. B32b 31/18

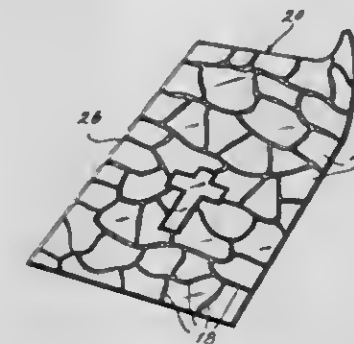


A cutting-welding device for thermoplastic synthetic foils with transporting means holding the marginal areas of the foil and with upper and lower guiding means for the foils to be cut and welded, in which said upper guiding means have pivotally connected thereto one end of down-holding strips for holding foil portions to be cut down on supporting means for the foil portions being cut, whereas the other end of said down-holding strips is adjustable relative to said supporting means.

3,420,728 WINDOW DISPLAY AND METHOD OF MAKING THE SAME

Charles B. Haverstock, 44 Frederick Lane, Glendale, Mo. 63122

Filed July 6, 1964, Ser. No. 380,316
U.S. Cl. 161-6 4 Claims
Int. Cl. B44f 1/06; B44c 1/28



A display device for mounting in windows and on

other transparent structures to simulate the appearance of a stained glass window.

3,420,729 MOLDED HOLLOW PLASTIC ARTICLES OF MANUFACTURE RIGIDIFIED WITH RIGID RESINOUS COMPOSITIONS AND PROCESS FOR THEIR MANUFACTURE

Arthur H. Roberts, 1208 Eastern Parkway, Brooklyn, N.Y. 11213

Continuation-in-part of applications Ser. No. 22,002, Apr. 13, 1960, Ser. No. 455,764, May 14, 1965, Ser. No. 475,989, July 30, 1965, and Ser. No. 523,778, Jan. 28, 1966. This application Feb. 7, 1966, Ser. No. 525,667

U.S. Cl. 161—7

Int. Cl. B44c 3/00; B29c 5/00

25 Claims



Rigid decorative hollow articles are produced by preparing an outer shell component from a pliable thermoplastic material. Compositions containing vinyl chloride in a polymerized and plasticized state illustrate suitable materials for the shell component. Slush casting illustrates a suitable method for preparing the outer shell component. The outer shell is then rigidified by a solidifiable rigid resin composition, which jointly forms with the shell component a cavity. The rigidifier component is intimately bonded to the entire inner surface of the outer shell component. Rigidifier resin components comprise rigid thermosetting polyester resins or rigid thermosetting epoxy resins. The polyester resins are condensation products of dibasic acids with diols and may also contain cross-linking monomers.

3,420,730 METHOD OF MAKING STAINED GLASS WINDOWS AND RESULTANT THEREOF

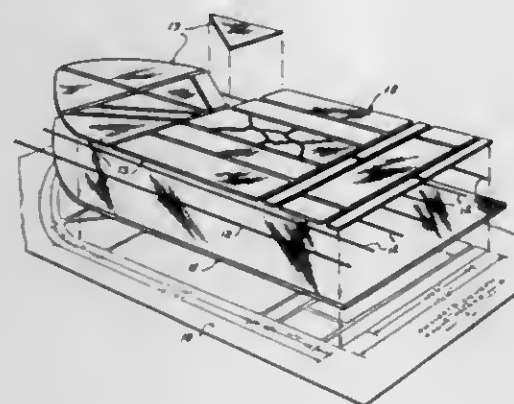
Herbert B. Ellefson, 1411 Juanita Drive, Arlington, Tex. 76010

Filed Aug. 30, 1965, Ser. No. 483,406

U.S. Cl. 161—38

Int. Cl. B32b 17/06; B44f 1/06

4 Claims



A method of making a mosaic window which includes use of a plurality of removable nylon cords for separating glass mosaic units that are attached to a base plate of glass along their boundary edges to provide expansion joints to prevent cracking.

3,420,731 HEAT SEALABLE YARN AND FABRIC

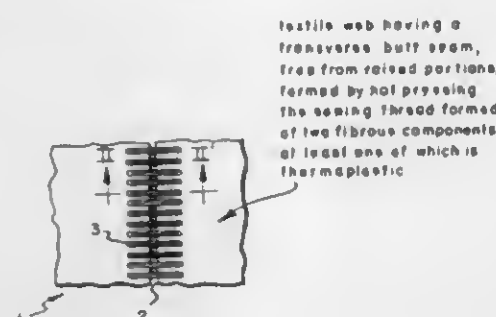
Hans H. Kuhn, Spartanburg, S.C., assignor to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware

Continuation-in-part of application Ser. No. 253,605, Jan. 24, 1963, now Patent No. 3,337,381, dated Aug. 22, 1967. This application June 30, 1964, Ser. No. 379,210

U.S. Cl. 161—52

Int. Cl. D06c 25/00; C09j 5/10

5 Claims



A heat sealable yarn comprising a substantially homogeneously distributed blend of thermoplastic and non-thermoplastic components. Such yarns are ideally suitable for securing one or more members in a preselected configuration.

3,420,732 TRANSFER FILM AND PROCESS OF USING SAME

Larry J. Bresina, St. Paul, and Richard A. Miller, White Bear Lake, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Oct. 23, 1965, Ser. No. 504,055

U.S. Cl. 161—227

Int. Cl. G03c 11/00

13 Claims

1. A dimensionally stable, electrophotographic print having bonded to its image bearing surface an essentially colorless, methanol soluble, synthetic polyamide layer.

3. The electrophotographic print of claim 1 in which said essentially colorless, methanol soluble, synthetic polyamide layer is bonded to said print surface with a heat activated, essentially colorless adhesive.

3,420,733 METHOD OF CASTING A THIN RESIN FILM LINING INTO A MOLD SURFACE AND THE PRODUCT

Hiroshi Ochi, Hiroshige Takai, Klmio Sugimoto, Yoshimi Hayase, Ogaki, and Bungo Nakazawa, Tokyo, Japan, assignors to Ibigawa Electric Industry Co., Ltd., and Asahi Glass Co., Ltd., a corporation of Japan

No Drawing. Filed Oct. 7, 1963, Ser. No. 314,546

Claims priority, application Japan, Oct. 9, 1962,

37/43,559

U.S. Cl. 161—231

Int. Cl. B32b 27/06; B32b 27/36; B32b 31/00

8 Claims

A hardened film having thickness less than 100 μ of etherified methylol polyamino-triazine and oil modified alkyd resin is formed on a plate surface constituting a casting cell. Polymerizable material is cast and polymerized in the cell. Cast sheet of synthetic resin having a hard surface thereon is obtained. An adhesive layer may be applied before casting on the hardened film.

3,420,734 PROCESS OF FORMING ELECTROSTATIC PRINTING PAPER FROM IONIC FIBROUS CELLULOSIC DERIVATIVES AND PAPER THEREOF

Nils T. Anderson, Vancouver, Wash., and William M. Hearon, San Rafael, Calif., assignors to Crown Zellerbach Corporation, San Francisco, Calif., a corporation of Nevada

No Drawing. Filed Apr. 2, 1965, Ser. No. 445,271

U.S. Cl. 162—135

Int. Cl. G03f 5/02

9 Claims

In electrostatic printing, a method of dissipating electrical charges on the back of a dielectric film provided for receiving an image-defining electrostatic charge, where the charges on the back of the film are conducted through a cellulosic material having electrical conductive properties occurring by reason of ionic disassociation taking place in the cellulosic material. An electrostatic printing paper for practicing the method including a cellulosic base sheet having a fibrous structure composed of an ionic fibrous cellulosic derivative, which is the product formed by substituting ionizable groups in the reactive groups of the anhydroglucose units that form cellulose, the printing paper including a dielectric film extending over at least one face of the base sheet.

3,420,735 WET-STRENGTH RESINS AND A PROCESS FOR IMPROVING THE WET-STRENGTH OF PAPER

John S. Conte, Medla, and Robert W. Faessinger, Ridley Park, Pa., assignors to Scott Paper Company, Delaware County, Pa., a corporation of Pennsylvania

No Drawing. Continuation-in-part of applications Ser. No. 396,698, Ser. No. 396,712, Ser. No. 396,713, Ser. No. 396,740, Sept. 15, 1964. This application Mar. 31, 1967, Ser. No. 627,307

U.S. Cl. 162—167

Int. Cl. D21b 3/32

14 Claims

Water-soluble, cationic, thermosetting resins prepared from (a) a dicarboxylic acid, (b) a polyalkylene polyamine, (c) either urea or an inorganic acid and an alkali metal cyanate, and (d) formaldehyde. These resins may be used in treating paper to impart thereto improved wet-strength properties.

3,420,736 FELT CLEANER FOR PAPER MAKING MACHINE

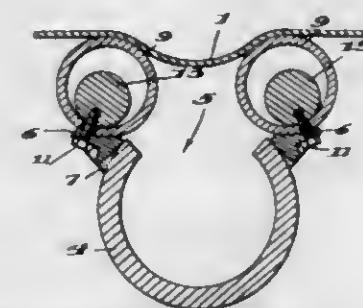
Edward D. Kwasniewski, West Seneca, and Howard E. Barton, Far Rockaway, N.Y., assignors to The Carborundum Company, Niagara Falls, N.Y., a corporation of Delaware

Filed Sept. 1, 1965, Ser. No. 484,371

U.S. Cl. 162—274

Int. Cl. D21f 7/08; D21f 1/32; D21f 1/48

7 Claims



A device for cleaning a felt fabric employed in a paper making machine comprising a suction box having a slot therein with tubular members on opposite sides of the slot. The tubular members, which are in direct contact with the felt fabric, are composed of a hard dense ceramic material to preclude damage to the felt fabric while effectively permitting the extraction of water therefrom and the attendant dirt and foreign matter.

3,420,737 BOILING LIQUID REACTOR

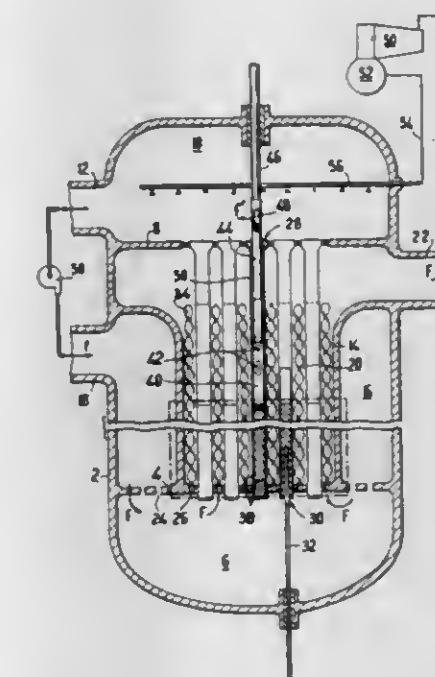
Raymond H. F. Marchal, Paris, and Claude D. Fouré, Courbevoie, France, assignors to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation, Paris, France

Continuation of application Ser. No. 400,979, Oct. 2, 1964. This application Dec. 6, 1966, Ser. No. 599,651

U.S. Cl. 176—56

Int. Cl. G21c 19/28; G21c 15/00

3 Claims



For correct operation under low and/or variable gravity conditions a boiling water reactor comprises twisted strips between the fuel elements for directing the water-steam flow in a plurality of adjacent helical streams maintaining a water film against the fuel elements and a phase collection system located downstream of the core and out of the neutronic portion of the reactor.

3,420,738 FUEL ELEMENT ASSEMBLY FOR A NUCLEAR REACTOR

Walter Lawrence Grant, Lynnwood, Pretoria, Transvaal, Republic of South Africa, assignor to Atomic Energy Board, Pelindaba, Transvaal, Republic of South Africa

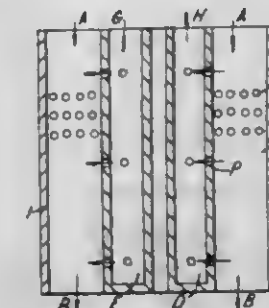
Filed June 3, 1965, Ser. No. 461,145

Claims priority, application Republic of South Africa, June 11, 1964, 64/2,773

U.S. Cl. 176—72

Int. Cl. G21c 3/22

11 Claims

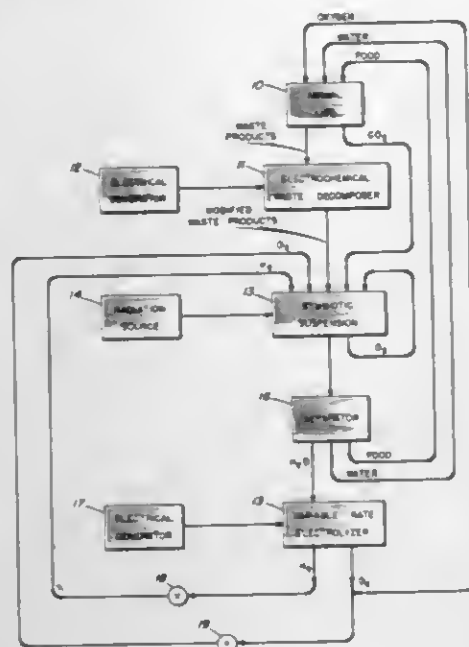


A fuel element assembly for a nuclear reactor, and which includes a tubular fuel container having inside it at least one inflow coolant duct and at least one outflow coolant duct; nuclear fuel granules being receivable in the space defined between the tubular fuel container wall and the ducts, the said ducts having respectively a plurality of longitudinally spaced coolant outflow and inflow openings communicating with the said space.

3,420,739 CLOSED ECOLOGICAL SYSTEM FOR THE SUPPORT OF ANIMAL LIFE AND THE METHOD THEREOF

Leonard H. Bongers and Bessel Kok, Baltimore, Md., assignors to Martin-Marietta Corporation, New York, N.Y., a corporation of Maryland

Filed Sept. 23, 1963, Ser. No. 310,734
U.S. Cl. 195—1
Int. Cl. C12b 1/00



1. A closed ecological system for the support of animal life therein comprising:

- a symbiotic culture container for an aqueous symbiotic culture of (1) chemosynthetic hydrogen oxidizing bacteria of the genus *Hydrogenomonas* capable of using the energy derived from the oxyhydrogen reaction to metabolize carbon dioxide and (2) an oxygen evolving photosynthetic algae capable of using radiant energy for the metabolism of carbon dioxide;
- an electrochemical waste decomposer to receive and decompose the waste products from said animal life;
- means for supplying to said symbiotic culture said decomposed waste products from said decomposer;
- means for separating water and portions of said symbiotic culture for use as a food supply to said animal life contained within said system;
- means for electrolyzing water within said system to produce oxygen and hydrogen;
- means for supplying oxygen from said electrolyzing means to said animal life for respiration purposes;
- means for supplying hydrogen from said electrolyzing means to said symbiotic culture to support growth of said chemosynthetic bacteria;
- means for radiating said symbiotic culture to support growth of said photosynthetic algae; and
- means for increasing the rate of hydrogen supply and for supplying oxygen to said symbiotic culture during periods of low radiation availability.

3,420,740 DIGITALIS TETRAGLYCOSIDES AND PRODUCTION THEREOF

Toshio Kawasaki, Fukuoka-shi, Japan, assignor to Sbio-nogi & Co., Ltd., Osaka, Japan
No Drawing. Continuation-in-part of application Ser. No. 370,667, May 27, 1964. This application Apr. 19, 1966, Ser. No. 543,552

Claims priority, application Japan, May 30, 1963, 38/28,376

U.S. Cl. 195—2
Int. Cl. C12b 1/00; C08b 19/00

Non-cardiac spirostan tetraglycoside saponin from Digitalis leaves is prepared by a process which comprises

the hydrolysis of the corresponding penta-, or higher, glycoside using certain glycoside hydrolyzing enzymes, examples of which are emulsin, glucosidase, amylase, hemicellulase and cellulase.

3,420,741 METHOD FOR THE PREPARATION OF SALICYLIC ACID

Martin H. Rogoff, Highland Park, Ill., assignor to International Minerals & Chemical Corporation, a corporation of New York

No Drawing. Continuation of application Ser. No. 452,903, May 3, 1965. This application Jan. 29, 1968, Ser. No. 701,134

U.S. Cl. 195—28
Int. Cl. C12b 1/00

In the fermentative production of salicylic acid in which a strain of *Pseudomonas* is cultivated in an aqueous medium at pH 5.5 to 8, the medium contains naphthalene, an assimilable nitrogen source, and an assimilable phosphorus source. In accordance herewith salicylic acid production is increased by altering the proportion of the *Pseudomonas* cell population to accumulate salicylic acid in the medium during the course of the fermentation to restore a balance which provides increased salicylic acid yields.

3,420,742 MILK FERMENTING PRODUCT AND METHOD OF MAKING SAME

Stewart M. Farr, Kalamazoo, Mich., assignor to Dairy Technics, Inc., Kalamazoo, Mich., a corporation of Michigan

No Drawing. Continuation-in-part of application Ser. No. 285,858, June 6, 1963. This application Oct. 16, 1964, Ser. No. 404,526

U.S. Cl. 195—59
Int. Cl. C12k 3/00

A method of producing a mixed bacterial concentrate which comprises separately incubating in separate culture media two or three types of bacteria, the first type being selected from the group consisting of *Streptococcus lactis*, *Streptococcus cremoris*, *Lactobacillus bulgaricus* and *Streptococcus thermophilus*, the second type being selected from the group consisting of *Streptococcus citrovorus* and *Streptococcus paracitrovorus*, and the third type consisting of *Streptococcus diacetylactis*, concentrating the respective media to obtain separate concentrates of the two or three type of bacteria, mixing together the two or three types of bacteria in the desired proportions to produce a mixed concentrate without permitting further growth of the bacteria, and then freezing the mixed concentrate so that it can be stored for a long time without major loss in the viability of the bacteria. A stabilized mixed bacteria concentrate consisting essentially of a substantially neutralized mixture of two or three types of bacteria, as aforesaid, the concentrate being stabilized by the admixture of a stabilizing agent and a nutrient medium and the concentrate being frozen so that it can be stored for a long period of time without major loss in the viability of the bacteria.

3,420,743 HARVESTING BIOLOGICALS FROM EGGS

Ellsworth Roland Sandhage, Pearl River, and Arthur Sinclair Taylor, Spring Valley, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

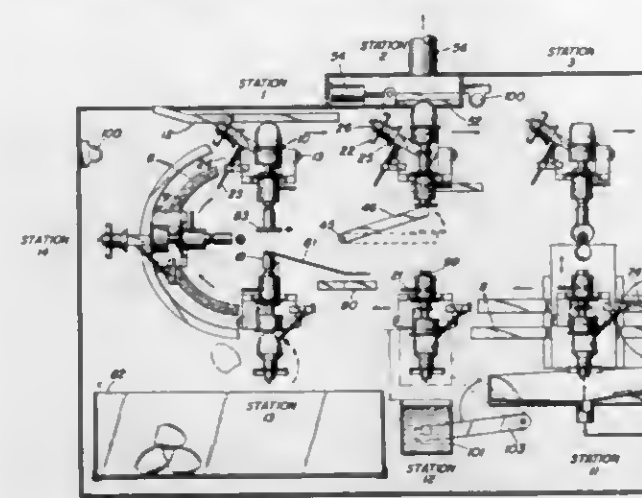
Filed Mar. 14, 1966, Ser. No. 533,898

U.S. Cl. 195—104
Int. Cl. C12k 5/00; C12d 7/00; A61k 23/00

1. An automatic machine for recovering fluid from parts of embryonated eggs comprising in combination,

- (a) a plurality of egg holders,

- (b) means for moving said holders successively to successive stations around an endless path,
- (c) the egg holders being mounted in housings and resilient funnel members swingable on said housing by parallel bars from a position to one side of the egg holders to a position over the eggs in the holder, the number of funnels being equal to the number of eggs,
- (d) means for swinging the funnels to one side at a loading station and means for permitting loading of eggs vertically into the holder with the pointed ends down,
- (e) means for raising the egg holder at a second station and means for decapitating the rounded end of the egg at said station and removing the decapitated shell,
- (f) means for lowering the egg holder as it proceeds to a further station,
- (g) means for exposing the decapitated eggs to manual puncturing of membranes,
- (h) means for swinging up the funnels as the egg holder reaches a succeeding station and means at said station for raising the egg holder to bring the funnels in contact with the decapitated egg ends,



- (i) means for locking the egg holder in the raised position,
- (j) collecting means for fluid and means for inverting the egg holders in their locked raised position to drain liquid into the collector,
- (k) means at a succeeding station for vertically shaking the egg container to shake out further liquid,
- (l) means as the egg holder is advanced to succeeding stations for repeating the following sequence of operations at least once, the sequence involving rotation of the egg holder through 360° whereby vacuum in the egg is broken and again shaking the egg vertically after rotation through the 360°,
- (m) means actuated by the movement of the egg holder to succeeding stations to unlock the egg holder raising means to turn the egg holder and permit eggs to fall therefrom, and
- (n) means actuated by further movement of the egg holder to turn it into an upright position and bring it to the first station.

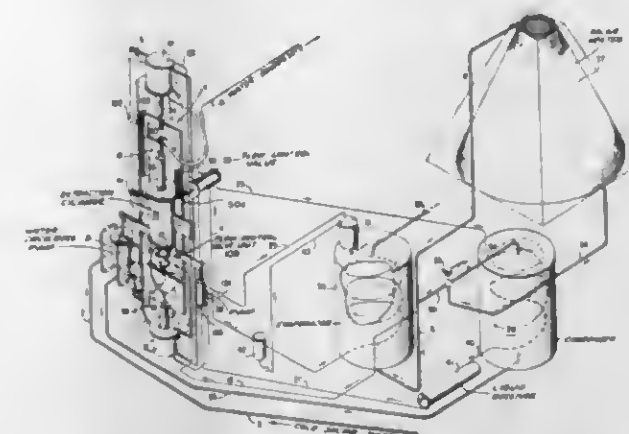
3,420,744
PROCESS FOR PRODUCING L-GLUTAMINE
Yuichi Noguchi, Junichi Nakajima, Tetsuo Uno, and Toru Nakanishi, Hofu-shi, Japan, assignors to Kyowa Hakko Kogyo Co., Ltd., Tokyo, Japan, a corporation of Japan
No Drawing. Filed Mar. 1, 1966, Ser. No. 530,801
Claims priority, application Japan, Mar. 1, 1965, 40/11,369

U.S. Cl. 195—29
Int. Cl. C12d 13/00

1. In a process for the production of L-glutamine by fermentation in an aqueous nutrient medium under aero-

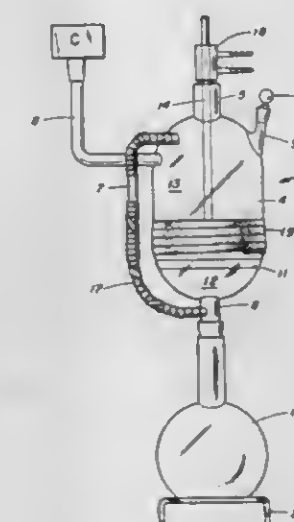
bic conditions, the improvement which comprises conducting the fermentation in the presence of more than 10⁻⁷ mole per liter of culture medium of a metal selected from the group consisting of lead, chromium, nickel, aluminum, cobalt, mercury and mixtures thereof.

3,420,745
PISTON-CYLINDER VACUUM DISTILLATION APPARATUS
William B. Schlueter, 1000 Betts St. NE., Albuquerque, N. Mex. 87112
Continuation-in-part of application Ser. No. 216,619, Aug. 13, 1962. This application July 5, 1966, Ser. No. 565,645
U.S. Cl. 202—160
Int. Cl. B01d 3/10



An apparatus which is intended for separating water as distillate from saline water. The apparatus includes a charging chamber for the saline water which is operated under vacuum pressure. A cylinder above the chamber contains a reciprocating piston. A vapor barrier separates the cylinder and the charging chamber. Water vapor is withdrawn from the charging chamber upon reciprocation of the piston through check valve means in the piston and vapor barrier. An electrical potential is maintained between the piston and the water in the charging chamber.

3,420,746
EXTRACTION-CRYSTALLIZATION APPARATUS
Lloyd A. Kaplan, Silver Spring, and Joshua D. Upton, Jr., Beltsville, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed Sept. 9, 1966, Ser. No. 579,184
U.S. Cl. 202—169
Int. Cl. B01d 3/40



An apparatus for recrystallizing and purifying compounds which have limited solubility in hot solvents

wherein an extractor having a condenser and a stirrer is divided into two chambers by a sintered glass disc. A distillation flask is mounted below the extractor. The extractor and flask are in fluid flow relationship by the means of two tubes one connected above and one connected below the extractor disc. The material to be extracted is placed on the disc and solvent is distilled from the flask into the extractor and condensed on the disc. The solvent and the dissolved material flow through the disc into the distillation flask and this operation is continued until crystalline solid appears in the solvent in the flask.

3,420,747

MULTISTAGE MULTIEFFECT DISTILLATION SYSTEM

William R. Williamson, Waterford, Conn., assignor to American Machine & Foundry Company, a corporation of New Jersey

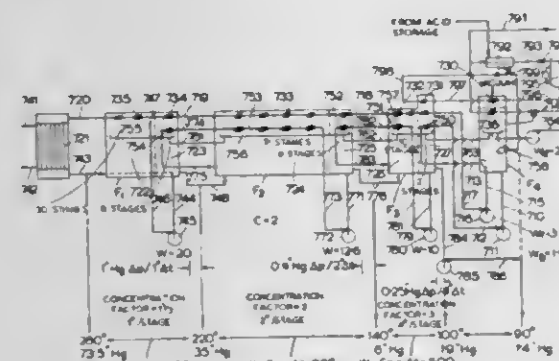
Filed Mar. 17, 1965, Ser. No. 440,494

Claims priority, application Great Britain, Mar. 15, 1965, 11,954/65

U.S. Cl. 202—173

3 Claims

Int. Cl. B01d 3/42; C02b 1/04



1. In a multistage multieffect distillation system comprising a plurality of sets of stages comprising distinct heat effects having operative temperature gradients ranging progressively from a high to a low condition, condensing coils in each set of stages, and a plurality of pumps, the pump associated with each lower temperature set of stages pumping liquid emerging from the low temperature end of each set of stages through some of the condensing coils in this set of stages and through the endmost condensing coils in the succeeding set of stages, the pump associated with the highest temperature set of stages pumping liquid through the remaining condensing coils of the set of stages and through a heat exchanger, the novel improvement of providing pumps having different circulation rates.

3,420,748

CONTROLLED FEEDSTOCK DIVISION TO PARALLEL FRACTIONATORS

Merion L. Johnson and Dale E. Lupfer, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed May 25, 1967, Ser. No. 641,271

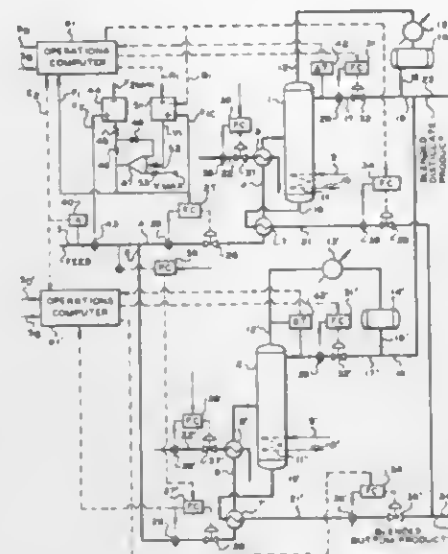
U.S. Cl. 203—1

9 Claims

Int. Cl. B01d 3/14; B01d 3/42

Two or more fractionators are operated in parallel with one column being maintained at its maximum loading so long as the other is at or above a minimum loading. The actual vapor flow rate in the first column is calculated

and compared with a predetermined value representing maximum vapor flow rate in the first column to produce a signal representing the feed flow rate to the first column needed to achieve the maximum vapor flow rate. A limiting device limits the maximum magnitude of this signal to a value representing the maximum available feed flow



rate to the first column. The latter value is determined by subtracting the predetermined minimum flow rate to the second (or additional) column from the total available feed flow rate. The output of the limiting device is applied as a set point signal to a flow controller in the feed line to the first column.

3,420,749

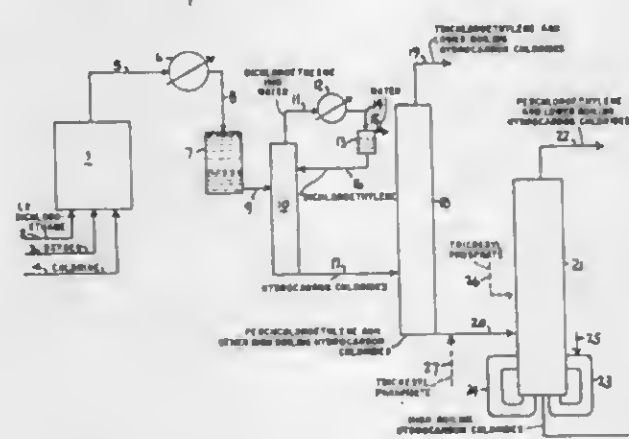
DISTILLATE SEPARATION OF IRON CONTAMINATED HYDROCARBON CHLORIDES IN THE PRESENCE OF PHOSPHORUS CONTAINING ESTERS

Frederick C. Dehn, New Martinsville, W. Va., assignor to PPG Industries, Inc., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 489,004, Sept. 21, 1965. This application June 9, 1967, Ser. No. 644,963

U.S. Cl. 203—6

22 Claims

Int. Cl. C23f 14/02; C23f 11/10



The distillation of hydrocarbon chlorides containing contaminating quantities of iron is described. An alkyl, aryl or alkyl-aryl ester of phosphoric or phosphorous acid is added to the hydrocarbon chlorides undergoing distillation to prevent fouling of equipment and sludge formation. The esters are added in quantities of about 5 parts by weight per part of iron present. Tricresyl phosphate is disclosed as a preferred material for the practice of the invention.

3,420,750

DISTILLING PHTHALIC ANHYDRIDE

Gerhard Schaefer, Hubert Suter, and Friedrich Wirth, Ludwigshafen (Rhine), and Walter Mann, Lampertheim, Hesse, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

Filed May 19, 1967, Ser. No. 639,829

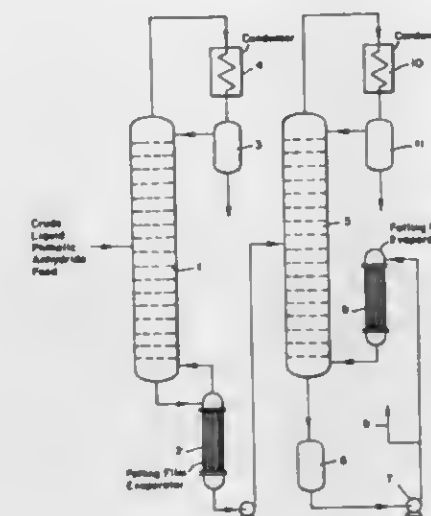
Claims priority, application Germany, May 21, 1966,

B 87,234; Apr. 15, 1967, B 92,089

U.S. Cl. 203—72

2 Claims

Int. Cl. B01d 3/00



The distillation of phthalic anhydride is carried out under vacuum pressure of 20 to 200 mm. Hg and temperature of 160° to 240° C. followed by falling film evaporation.

3,420,751

PROCESS FOR RECOVERY AND PURIFICATION OF ACRYLATE AND METHACRYLATE ESTERS BY EXTRACTIVE DISTILLATION WITH WATER

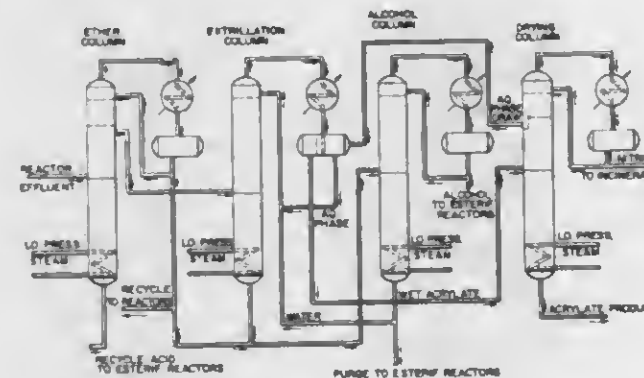
John W. Hougland, Northfield, and John C. Wislowski, Parma, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio

Filed Mar. 20, 1967, Ser. No. 624,308

U.S. Cl. 203—82

4 Claims

Int. Cl. B01d 3/40; B01d 3/36



The present invention relates to an improved process for the separation of mixtures comprising alcohols, unsaturated nitriles, unsaturated acids, water and unsaturated carboxylic acid esters which are capable of forming azeotropic mixtures and more particularly to an improved process for separating such mixtures by using a simple and effective extractive distillation step for selectively fractionating a complex mixture of products from an esterification reactor. The instant invention makes pos-

sible the use of a single train of the same four distillation columns for the separation and purification of any one of the acrylate monomers referred to herein.

3,420,752

PURIFICATION OF TOLUENEDIAMINE MIXTURES BY VACUUM DISTILLATION

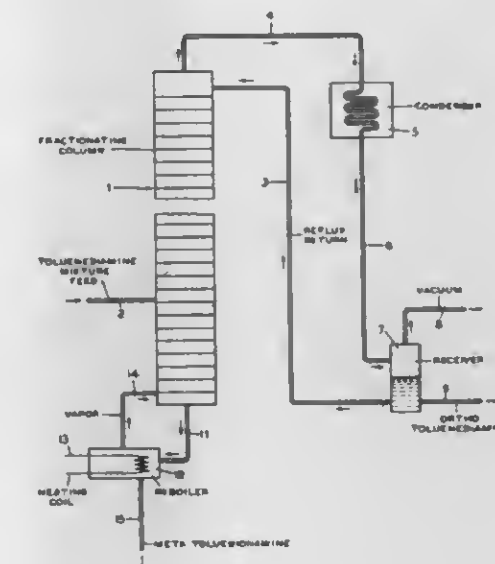
Voldemar Kirss and Jong C. Park, Buffalo, N.Y., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed May 17, 1965, Ser. No. 456,215

U.S. Cl. 203—94

3 Claims

Int. Cl. B01d 3/00; C07c 85/16



Process for the rectification of crude toluenediamine mixtures consisting of meta toluenediamines and minor amounts of ortho toluenediamines, said toluenediamine mixtures being obtained by reduction of the dinitration product of toluene, comprising introducing said crude mixture of toluenediamines into a distillation column, maintaining the column under subatmospheric pressure of not more than about 110–120 mm. Hg absolute at the top of said column, removing as distillate a minor fraction containing predominantly ortho toluenediamines, cooling and condensing said overhead vapor, returning a portion of said condensate to the top of the column to maintain a reflux ratio of at least about 15 to 1, heating the unvaporized feed passing down through the bottom of the column to effect stripping of the more volatile constituents contained therein, and recovering, as bottoms product, a mixture of meta toluenediamines containing less than 0.5% by weight of ortho toluenediamines.

3,420,753

METHOD OF MEASURING THE ACTIVITY OF A CARBONYLATION REACTION

John Happel, Hastings on Hudson, and Hillard Blanck, Floral Park, N.Y., assignors to National Lead Company, New York, N.Y., a corporation of New Jersey
No Drawing. Filed Sept. 9, 1965, Ser. No. 486,220

U.S. Cl. 204—1

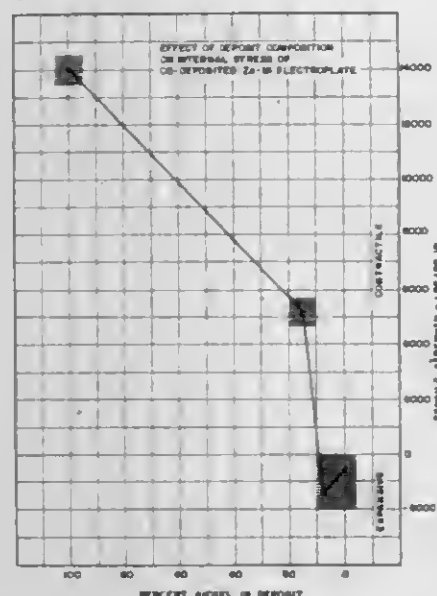
11 Claims

Int. Cl. B01k 1/00

1. The process for measuring the level of reactivity of a carbonylation reaction mixture which comprises reacting a mixture containing an organic compound capable of undergoing carbonylation, at least one substance capable of releasing carbon monoxide, and a compound having at least one active hydrogen atom in a carbonylation reaction and measuring an electrical property se-

lected from the group of resistivity or conductance of said reaction mixture to thereby ascertain the activity of the reaction mixture.

3,420,754
ELECTROPLATING A DUCTILE ZINC-NICKEL ALLOY ONTO STRIP STEEL
Edward J. Roehl, Warren, Ohio, assignor to Pittsburgh Steel Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 12, 1965, Ser. No. 439,268
U.S. Cl. 204—28
Int. Cl. C23b 5/04



The invention is concerned with the electrodeposition on steel strip of a zinc-nickel alloy plating containing nickel in a predetermined range of 6.5 to 9.5%, for the purpose of providing a coating having an expansive internal stress of about 500–1400 p.s.i., whereby a high ductility and low internal stress enables the plated strip to be subjected to cutting, bending, stamping or forming operations without cracking or breaking of the plating. At the same time, superior corrosion-resistant properties for the plating are obtained.

3,420,755
SURFACE TREATING PROCESS FOR METAL PARTS
Pierre Paret, Saint-Chamond, France, assignor to Compagnie des Ateliers et Forges de la Loire, Paris, France
No Drawing. Filed Jan. 13, 1964, Ser. No. 337,167
Claims priority, application France, Jan. 14, 1963, 921,321
U.S. Cl. 204—32
Int. Cl. C23b 5/00; C23b 3/00; B24c 1/08

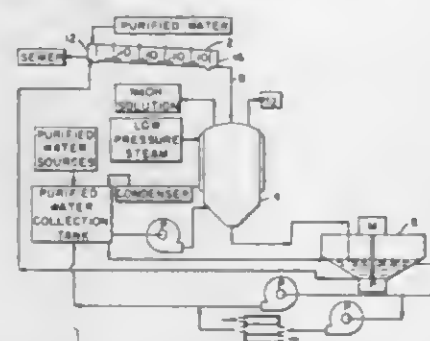
1. A method for surface treating metallic parts designed to allow for an unalterable fitting during static or dynamic contact with other metallic pieces comprising the following phases:

- a first phase consisting in polishing the surface of each piece in order to bring it to a state of high polish;
- a second phase consisting in applying upon said surface of each piece an abrasive jet of sand carried by a current of water, to eliminate the superficial layer altered during the polishing of said surface;
- a third phase consisting in applying by electrolysis upon each surface a metallic coating constituted by at least two superposed layers of different metals with the layers forming the terminal coating of each of said pieces consisting of a different metal.

3,420,756
PROCESS FOR PRODUCING A FERROMAGNETIC THIN FILM
Makoto Terajima, Tokyo, Japan, assignor to Nippon Telegraph and Telephone Public Corporation, Tokyo, Japan, a public corporation of Japan
Filed Sept. 15, 1964, Ser. No. 396,689
Claims priority, application Japan, Sept. 20, 1963, 38/50,342

U.S. Cl. 204—38
Int. Cl. C23b 5/04; C23b 5/60
1 Claim
An improved ferromagnetic thin film element and process for making the same are disclosed. A layer of an electrically conductive glass-like non-granular amorphous material such as carbon, silicon or germanium is applied to a metal or metallized substrate by vacuum evaporation after which the magnetic thin film is applied. The amorphous glass-like non-granular intermediate layer causes the uniaxial anisotropy to become remarkably definite and the coercive force of the magnetic thin film will be greatly reduced.

3,420,757
MERCURY CATHODE ELECTROLYSIS
William J. Friemel, Pasadena, and Vernon B. Wielkens, Houston, Tex., assignors to Diamond Shamrock Corporation, a corporation of Delaware
Filed Feb. 21, 1966, Ser. No. 528,715
U.S. Cl. 204—99
Int. Cl. C01d 1/08; C22d 1/04

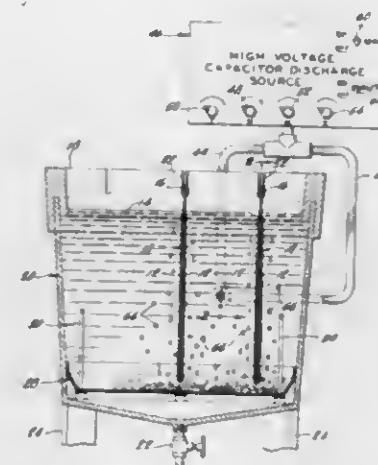


1. In the electrolytic process for producing alkali metal hydroxide and chlorine from alkali metal chloride brine including the steps of electrolytically decomposing the alkali metal chloride brine in an electrolytic cell having anodes and a flowing mercury cathode to release chlorine at the anodes and form a dilute alkali metal amalgam, removing said amalgam from said cell, passing said amalgam in contact with water and an electrically conductive material in an amalgam decomposer to form alkali metal hydroxide and hydrogen and to regenerate said mercury, washing said regenerated mercury with a stream of water in a washing zone outside said decomposer, and returning the washed regenerated mercury to said electrolytic cell as the flowing mercury cathode, the improvement which includes passing a stream of purified water to a collection zone, passing a first portion of water from said collection zone to said amalgam decomposer, and passing a second portion of water from said collection zone into contact with regenerated mercury from said decomposer in said washing zone, and returning the effluent water from said washing zone to said water collection zone.

3,420,758
METHOD FOR REMOVAL OF ADHERENT SURFACE COATINGS FROM SUBSTRATES
Charles L. Scheer, Berwyn, Pa., assignor to Foote Mineral Company, Exton, Pa., a corporation of Pennsylvania
Filed July 6, 1965, Ser. No. 469,444
U.S. Cl. 204—105
Int. Cl. C22d 1/24

4 Claims
A method of removing electrolytically-deposited manganese from re-usable cathode plates by immersing the

cathode plates in a liquid and producing one or more electro-hydraulic shock waves in the liquid which pass through the liquid and impinge the coated plates, causing the manganese to fall away from the plates for collection and removal. Preferably, the shock wave is generated by discharge of a capacitor across a spark gap in the liquid.



ing the manganese to fall away from the plates for collection and removal. Preferably, the shock wave is generated by discharge of a capacitor across a spark gap in the liquid.

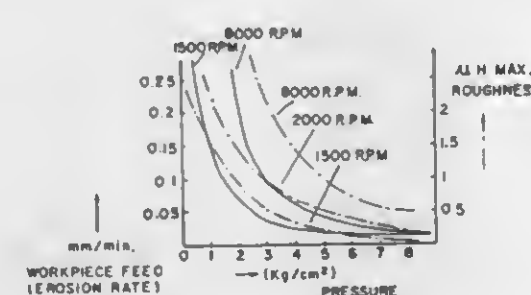
3,420,759
ELECTROMACHINING USING AN ELECTROLYTE HAVING SUBSTANTIALLY THE SAME RESISTIVITY AS THE ELECTRODE

Kiyoshi Inoue, 100 Sakato, Kawasaki, Kanagawa, Tokyo, Japan

Continuation-in-part of application Ser. No. 512,338, Dec. 8, 1965. This application July 5, 1966, Ser. No. 562,857

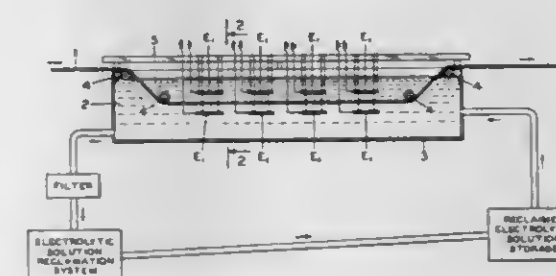
Claims priority, application Japan, Mar. 16, 1966, 41/16,693

U.S. Cl. 204—143
Int. Cl. B23p 1/00; B23p 1/08



1. A method of electrochemically removing material from a conductive workpiece, comprising the steps of: juxtaposing a conductive electrode surface with a surface of said workpiece; urging one of said surfaces toward the other of said surfaces to form a common interface between said surfaces; supplying to said interface an electrolyte having a specific resistivity substantially of the order of that of said electrode surface, thereby forming pockets of said electrolyte at said interface; relatively displacing said surfaces while continuing to urge said one of said surfaces toward said other surface; and applying an electric current across said interface between said surfaces electrochemically to erode material from said workpiece.

3,420,760
PROCESS FOR DESCALING STEEL STRIP IN AN AQUEOUS ORGANIC CHELATING BATH USING ALTERNATING CURRENT
Bernard J. Freedman, Groton, Richard A. Georgetti, Mystic, and William R. Tedeschi, Oakdale, Conn., assignors to General Dynamics Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 30, 1965, Ser. No. 452,055
U.S. Cl. 204—145
Int. Cl. C23b 1/00



A process for electrolytically removing scale from a metal article. In the process, the article is immersed in an electrolyte and contacted with an alternating current, the object to be descaled being free of any electrical connections. The electrolyte used in the process is an aqueous solution of a salt of a chelating acid and an alkali metal hydroxide or a nitrogen base. The electrolyte should have a pH of about 3 to 7 when a nitrogen base is used and a pH of about 3 to 6 when an alkali metal hydroxide is used.

3,420,761
LOW TEMPERATURE IRRADIATION OF MONOMER IMPREGNATED CELLULOSIC BODIES
Arthur M. Feibush, Westfield, N.J., assignor to the United States of America as represented by the United States Atomic Energy Commission
No Drawing. Filed Aug. 29, 1966, Ser. No. 576,187
U.S. Cl. 204—159.12
Int. Cl. B01j 1/10

1 Claim
A process for increasing the tensile strength and hardness of lignocellulosic bodies wherein the lignocellulosic body is impregnated with monomeric vinyl chloride and thereafter the monomer contained in the body is radioactively polymerized, the impregnation and irradiation of the lignocellulosic body being carried out at temperatures below minus 50° C.

3,420,762
ELECTROCOATING PROCESS WITH PRETREATMENT OF ARTICLES
Richard Elliott Shaw, Windsor, and James Phillip Wiltshire, Berkhamstead, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed Jan. 18, 1965, Ser. No. 426,411
Claims priority, application Great Britain, Jan. 24, 1964, 3,203/64, 3,204/64

7 Claims
U.S. Cl. 204—181
Int. Cl. C23b 13/00; C23f 17/00
A process of coating metal articles with an organic film-forming material, for example, paint, of the type in which the coating is electro-deposited by immersing the articles in an aqueous coating composition containing the organic film-forming material and passing an electric current through the coating composition between the article and another electrode. The articles are cleaned and rinsed with water prior to coating, and the water-wet articles are treated with aqueous coating composition to displace any water thereon prior to commencement of electro-deposition.

3,420,763

CATHODIC SPUTTERING OF FILMS OF STOICHIOMETRIC ZINC OXIDE

William J. Polito and George A. Rozgonyi, Irvington, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, Berkeley Heights, N.J., a corporation of New York

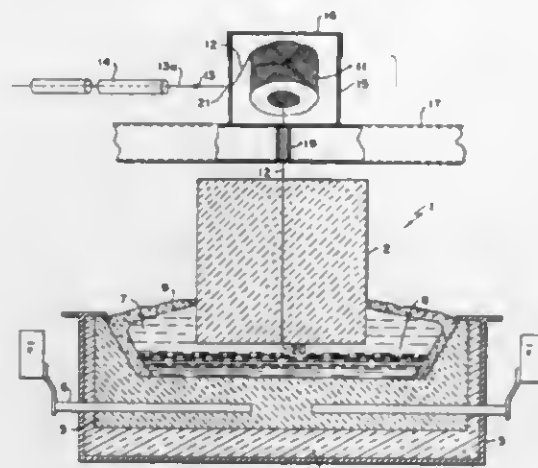
No Drawing. Filed May 6, 1966, Ser. No. 548,044

U.S. Cl. 204—192

1 Claim

Int. Cl. C23c 15/00

1. A method for depositing a zinc oxide film which comprises sputtering from a cathode of zinc oxide onto a substrate placed within 1 cm. to 5 cm. of said cathode and maintained at a temperature in the range of 100° C. to 800° C. in a gaseous atmosphere selected from the group consisting of oxygen, an inert gas, and mixtures thereof at a cathode current density in the range of 0.1 to 10 ma./cm.² and stopping said sputtering when said film has a thickness in the range of from about 0.1 micron to about 10 microns.



thereby alleviating the necessity of having a sliding contact between the anode and the probe. The probe is in

3,420,764

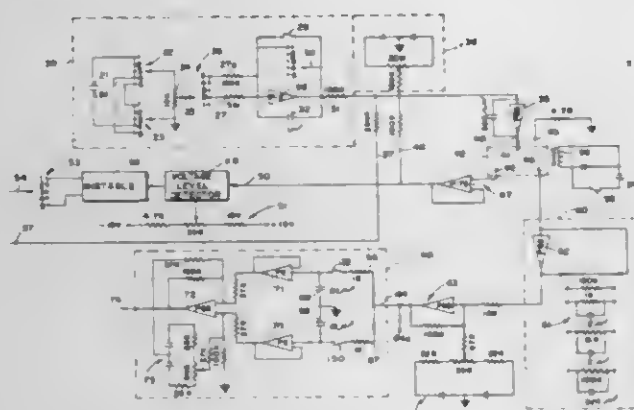
ELECTROCHEMICAL ANALYSIS SYSTEM

Helmar Schlein, Reseda, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware
Filed Mar. 16, 1964, Ser. No. 351,931

U.S. Cl. 204—195

24 Claims

Int. Cl. B01k 3/02



An electrochemical cell controller is described in which a ramp voltage of variable slope and timing pulses is generated. The timing pulse initiates a relay closure activating a dropping mercury electrode. A finite adjustable time after the timing pulse another pulse is generated. Just prior to this event a current measurement is made on the cell and its value is stored. During this second pulse another measurement is made and this difference between these two current measurements is then detected. In this manner the controller obtains the differential of the voltage current relationship in the cell. This type of measurement ignores the Faraday current in the cell and only conduction current is measured.

3,420,765

SELF-FEEDING ANODE PROBE FOR REDUCTION CELL

Eugene Clifford Uhrenholdt, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

Filed Apr. 29, 1965, Ser. No. 451,775

U.S. Cl. 204—195

8 Claims

Int. Cl. B01k 3/02

A probe for measuring the cell voltage of a reduction cell wherein the probe passes through the anode and is consumed as the anode is lowered into the electrolyte

positive electrical contact with the electrolyte and the lower end of the anode.

3,420,766

AUTOMATIC ELECTROPLATING AND WASHING APPARATUS

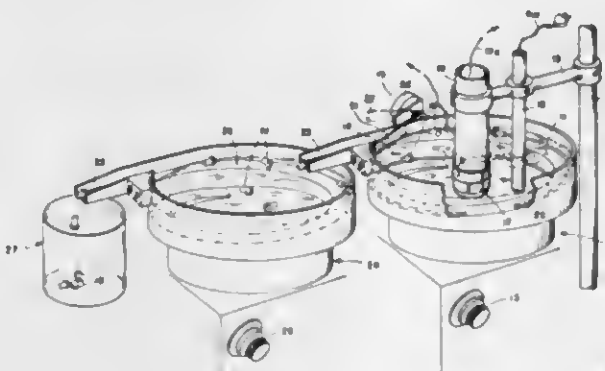
Irving L. Michelson, 615 Cheshire Way, Sunnyvale, Calif. 94087

Filed Mar. 10, 1965, Ser. No. 438,694

U.S. Cl. 204—201

7 Claims

Int. Cl. C23b 5/68; C23b 5/78



A vibratory electroplating apparatus having electrodes disposed in the vibrating channel so that the articles passing up the channel are electroplated while traveling.

3,420,767

CATHODE SPUTTERING APPARATUS FOR PRODUCING PLURAL COATINGS IN A CONFINED HIGH FREQUENCY GENERATED DISCHARGE

Willis J. Carlson, Minneapolis, Minn., assignor to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota

Filed Mar. 3, 1966, Ser. No. 531,548

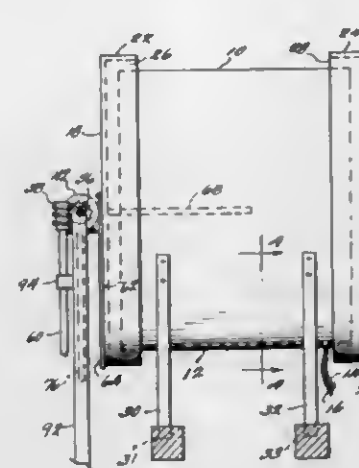
U.S. Cl. 204—298

6 Claims

Int. Cl. C23c 15/00

1. Apparatus for depositing on at least one substrate sputtered material from a target electrode, comprising: a container housing a chamber enclosing a space within said container, means to maintain an ionizable gas at sputterable pressures within said container; means for moving said target electrode into and out of said chamber, means for applying energy at high frequencies to said chamber to ionize gas which is confined within the

chamber whereby material is sputtered from said target when positioned within said chamber; and contact with an isomerization catalyst without substantial hydrocracking, and is thereafter hydrogenated in contact



means for positioning said substrate in the path of said sputtered material.

3,420,768

MIDDLE DISTILLATE HYDROGEN TREATING PROCESSES

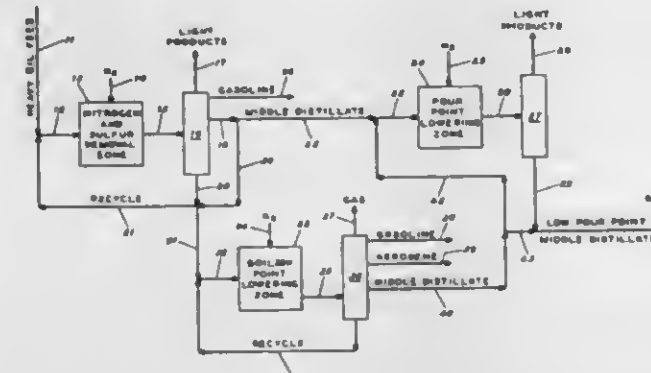
Ben G. Bray, El Ceritto, and Robert H. Kozlowski, Berkeley, Calif., assignors to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

Filed Feb. 21, 1966, Ser. No. 528,894

U.S. Cl. 208—58

4 Claims

Int. Cl. C10g 37/00



A process for the production of low nitrogen and sulfur middle distillates having pour points below 0° F. and -80° F., which comprises catalytically treating a high pour point middle distillate with low nitrogen and sulfur contents in the presence of hydrogen and a catalyst comprising alumina and a noble metal or a noble metal compound with the catalyst being essentially free of fluorine or aluminum fluoride, at temperatures of 700°-850° F., pressures of 200-2,000 p.s.i.g., and space velocities of 0.2-10. Platinum-on-alumina is the preferred catalyst. Hydrocracking precedes pour point reduction, and hydrofining may precede hydrocracking.

3,420,769

ISOPARAFFINIC JET FUEL

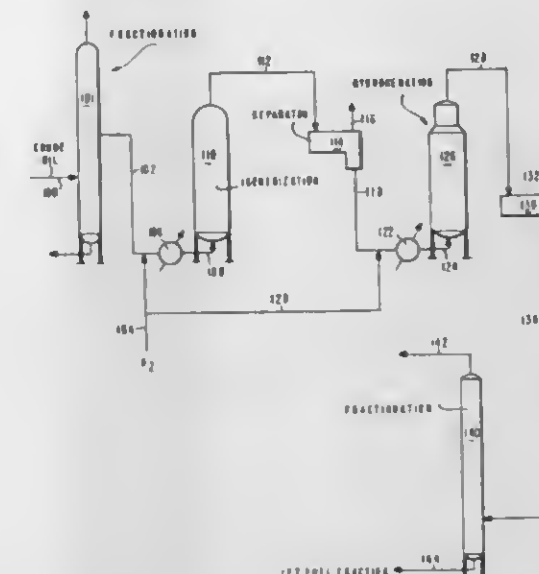
Richard S. Manne, Baytown, Tex., assignor to Esso Research and Engineering Company
Filed Mar. 20, 1967, Ser. No. 624,358

U.S. Cl. 208—66

8 Claims

Int. Cl. C10g 39/00

A 400-500° F. petroleum distillate is isomerized in



with a hydrogenation catalyst to obtain a jet fuel low in aromatic hydrocarbons.

3,420,770

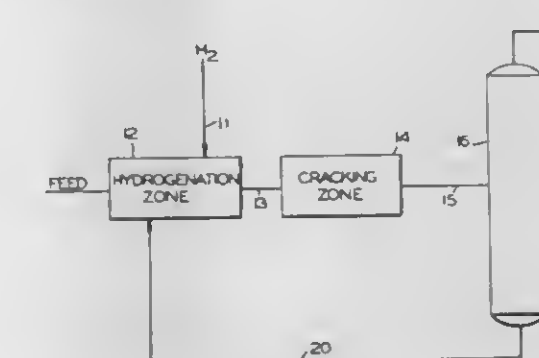
CATALYTIC CRACKING OF HYDROCARBONS

Nai Yuen Chen, Cherry Hill, N.J., assignor to Mobil Oil Corporation, a corporation of New York
Filed Sept. 28, 1966, Ser. No. 582,584

U.S. Cl. 208—120

7 Claims

Int. Cl. C10g 37/00



This disclosure is concerned with a novel process for converting hydrocarbons which comprises contacting a feed material with a cracking catalyst having an alpha value greater than 0.5 at average reaction temperatures ranging from minimum 1100° F. to a practical maximum of about 1350° F. at a minimum space velocity (LHSV) of 32 at 1100° F. to about 1200 at 1350° F. and a maximum cat.-oil ratio of about 0.1 and, more preferably, 0.01.

3,420,771

HYDROREFINING ASPHALTENIC PETROLEUM CHARGE STOCKS

Mark J. O'Hara, Prospect Heights, and William K. T. Gleim, Island Lake, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Mar. 17, 1966, Ser. No. 534,998

U.S. Cl. 208—216

5 Claims

Int. Cl. C10g 23/02

Hydrorefining of petroleum stocks containing asphaltenes, sulfur and nitrogen with a catalyst prepared by combining hydrated silica (5-15% water of hydration) and molybdenum, drying the composite and calcining it to a temperature of 600-1200° F. A portion of the charge stocks is formed into lower-boiling hydrocarbons. The catalyst may also contain an iron group metal.

3,420,772

REACTIVATING MOLECULAR SIEVES

John C. Eck, Convent, and William C. Zegel, Morristown, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed June 21, 1965, Ser. No. 365,702
U.S. Cl. 208—310 3 Claims
Int. Cl. C10g 25/12; C10g 25/04

This specification discloses a method of regenerating molecular sieves which have been utilized for the alternate absorption and desorption of straight chain paraffins until the capacity for further absorption by the molecular sieve has been substantially depleted, by contacting the molecular sieve with water at a temperature of from 60–300° C. and then dehydrating the molecular sieve by heating at a temperature from about 200° to about 400° C. The molecular sieve treated as above has an absorption capacity equal to that of unused molecular sieve.

3,420,773

TREATMENT OF WATER

Joseph G. Selmecki, Bridgeville, Pa., assignor, by mesne assignments, to Ionics, Incorporated, Watertown, Mass., a corporation of Massachusetts
No Drawing. Filed Mar. 3, 1966, Ser. No. 531,337
U.S. Cl. 210—28 7 Claims
Int. Cl. C02b 1/60; C02b 1/26

Method for removing anions from water by providing a body of weakly basic anion exchange resin in substantially its free base form, introducing carbon dioxide into a stream of water to be purified, passing the water through the resin with removal of the anions and regulating the carbon dioxide flow into the stream to control the removal of anions from the water, the anions being removed in order of decreasing exchange potential. Additionally, ferrous salts will precipitate out as ferrous carbonate.

3,420,774

REGENERATION OF WEAKLY ACIDIC CATION EXCHANGERS CHARGED WITH DETERGENTS
Christian Oehme, Cologne-Buchheim, and Hans Brost, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Mar. 29, 1966, Ser. No. 538,226
Claims priority, application Germany, July 3, 1965, F 46,518

U.S. Cl. 210—30 5 Claims
Int. Cl. B01j 11/02; C02b 1/76; B01d 15/06

A process in which non-ionic detergents are desorbed from a weakly acid cation exchanger by means of alkaline aqueous solutions, followed by regeneration of the ion exchanger with dilute aqueous mineral acid.

3,420,775

PREVENTION OF SCALE IN SALINE WATER EVAPORATORS USING CARBON DIOXIDE UNDER SPECIAL CONDITIONS

Edgar A. Cadwallader, 4406 Mahan Road, Silver Spring, Md. 20906
No Drawing. Filed July 5, 1967, Ser. No. 651,143
U.S. Cl. 210—48 4 Claims
Int. Cl. C23f 14/02; C02b 1/00

The removal of the scale forming elements of calcium and magnesium either separately or together from saline waters is accomplished by injecting carbon dioxide gas, in a controlled manner, into a closed or pressurized system containing said waters. The carbon dioxide reacts with the water to produce the soluble bicarbonate ions, which hold these scale forming elements in solution. After said saline water has been supersaturated with carbon dioxide, said saline water flows into a pressure release chamber whereupon the sudden release of the pressure causes these bicarbonates to decompose into carbon di-

oxide gas and carbonate ions which precipitate calcium as calcium carbonate. Further breakdown of the carbonate ion produces more carbon dioxide and hydroxyl ions which precipitate magnesium as magnesium hydroxide. These precipitates are then removed from the system and scale formation on the vital parts of the system is avoided.

3,420,776

PROCESS FOR INTRODUCTION OF OXYGEN VACANCIES IN PEROVSKITE FERROELECTRIC CRYSTALS

Ralph T. Hepplewhite, Millington, and Dawon Kahng, Somerville, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 10, 1966, Ser. No. 533,175

U.S. Cl. 252—62.9 6 Claims
Int. Cl. C04b 35/50

1. The method of creating oxygen vacancies in a ferroelectric oxide crystal comprising the step of heating the crystal at a temperature at which the oxygen has a high diffusivity in an ambient of the vapor of a metal whose free energy of formation of the metal oxide at such temperature is larger than that of the crystal.

3,420,777

PROCEDURE FOR PRODUCING A FERRITE, ESPECIALLY ADEQUATE FOR USE IN PULSE RELAY CORES

Karl Hans Polasek, Hagersten, Sven Jan Einar Rudestedt, Nasby Park, and Elmar Johannes Umblla, Hagersten, Sweden, assignors to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden
Filed Dec. 1, 1965, Ser. No. 510,816

Claims priority, application Sweden, Dec. 16, 1964, 15,207/64

U.S. Cl. 252—62.62 7 Claims
Int. Cl. C04b 35/34

1. Process for manufacturing a ferrite material with high volume resistivity, relatively high coercive force, and high remanence value comprising preliminarily sintering a pulverized oxide mixture composed according to the following molecular formula:



in which formula

$$0.01 \leq x \leq 0.04, y \geq \frac{1+x}{10}$$

and wherein up to 50% of the amount of Zn may be substituted by Cd and up to 5 atomic percent of the amount of Fe may be substituted by Mn, the sintered product after cooling down being pulverized and moulded to convenient form bodies, exposing said bodies to a final sintering process including heating up to a predetermined final sintering temperature and maintaining said final sintering temperature constant during a predetermined holding time with the exception of a short interval during which the form bodies are exposed to a temperature shot comprising a rapid temperature rise of about 100° C. in excess of said final sintering temperature with an immediately thereafter following reduction of the temperature of equal magnitude, said temperature shot being effectuated at an arbitrary moment during said holding time.

3,420,778

VOLTAGE STABILIZED LIQUID DIELECTRICS

Lawrence J. Heidt, Arlington, Mass., assignor to Simplex Wire and Cable Company, Cambridge, Mass., a corporation of Massachusetts
No Drawing. Filed July 21, 1966, Ser. No. 566,766
U.S. Cl. 252—63.7 13 Claims
Int. Cl. H01b 3/20

A method of increasing the allowable voltage stress rating, resistance to aging and electric discharge of oils in-

cluding the naturally occurring or synthetic paraffinic, naphthenic or moderately aromatic hydrocarbon oils is disclosed. This is accomplished by adding to the oil an additive in the amount of from .1 percent up to the limit of solubility of the additive in the oil. Suitable additives include o-nitrotoluene, o-nitroanisole, 2-nitrodiphenylamine, o-nitrobiphenyl, 2,4-dinitrotoluene, diphenylamine, benzoguanamine, triphenyl formazan, anthranilonitrile and mixtures thereof. The liquid dielectric compositions can be used for electrical insulation in combination with plastic or paper films or alone in cables, transformers, potheads, capacitors and otherwise.

3,420,779

INHIBITION OF CORROSION OF METALS

Harold Garton Emblem, Warrington, Norman Albert Hurt, Lynn, and Ernest Malcolm Wilkinson, Petts Wood, England, assignors to Holt Products Limited, Addington, England, a British company
No Drawing. Filed Aug. 17, 1964, Ser. No. 390,241

Claims priority, application Great Britain, Aug. 21, 1963, 33,159/63

U.S. Cl. 252—75 13 Claims
Int. Cl. C09k 3/00; C11d 1/00

Methods and compositions for inhibiting corrosion in liquid-containing metal systems are provided by the use of a water-soluble condensation product of an amino-alkyl silicate and an oxirane compound possessing one oxirane grouping. The product is particularly effective in such systems which utilize aluminium or aluminium-containing alloys in their construction.

3,420,780

PROCESS FOR REMOVING THE COLOUR FROM ORIENTED MONOCRYSTALS

Francis Forrat and Richard Jansens, Marcoussis, France, assignors to Compagnie Generale d'Electricite, Paris, France, a French corporation

No Drawing. Filed July 30, 1964, Ser. No. 386,440

Claims priority, application France, Sept. 23, 1963, 948,385

U.S. Cl. 252—301.1 7 Claims
Int. Cl. C09k 1/00

The present disclosure is directed to a process for the modification of coloration of perovskite crystals having the formula ALnO_3 in which A is a trivalent ion and Ln is a trivalent rare earth ion, wherein ions having a valency greater than 3 are substituted for some of the ions A and/or Ln and then these substituting ions are oxidized to their highest valence state. By using a suitable number of ions of rare gas electronic configuration and with a valency greater than 3 it is possible to eliminate color centers due to the presence of gaps or vacancies.

3,420,781

RARE EARTH ACTIVATED STRONTIUM LITHIUM GERMANATE PHOSPHORS

William A. McAllister, Morristown, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 14, 1966, Ser. No. 534,145

U.S. Cl. 252—301.4 4 Claims
Int. Cl. C09k 1/04

1. A phosphor composition having the general formulation



wherein

$$\begin{aligned} 0.65 \leq u/y \leq 2.6, \\ 0.1 \leq w/y \leq 2, \text{ and} \\ 0.04 \leq z/y \leq 0.2. \end{aligned}$$

3,420,782

STORAGE STABLE FOAM STABILIZING AGENT FOR CELLULAR POLYURETHANE PLASTICS

Manfred Dahm, Leverkusen, and Walter Simmler, Cologne-Mulheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany
No Drawing. Continuation-in-part of application Ser. No. 115,892, June 9, 1961. This application Apr. 22, 1966, Ser. No. 544,381

Claims priority, application Germany, June 10, 1960, F 31,407

U.S. Cl. 252—400 7 Claims
Int. Cl. B01j 1/16; C08f 47/00

A stable mixture of water, tertiary amine catalyst and a siloxane which contains direct carbon to silicon bonds as a composition which is storage stable and useful in the production of cellular polyurethane plastics.

3,420,783

PROCESS FOR PRODUCING IRON-MOLYBDATE CATALYST FOR OXIDATION OF METHANOL TO FORMALDEHYDE

Sten-Ake Bergstrand, Ingenjorsvageo, Perstorp, Sweden, assignor to Perstorp Aktiebolag
Filed Nov. 1, 1965, Ser. No. 505,832

Claims priority, application Sweden, Dec. 28, 1964, 15,685/64

U.S. Cl. 252—470 6 Claims
Int. Cl. B01j 11/22

Production of iron-molybdate catalysts by finely grinding dried iron-molybdate, mixing the ground powder with water to produce a moisture mass containing 37–39% moisture, pelletizing the mixture within 90 minutes of said mixing and drying the pellets obtained.

3,420,784

SILVER AND SILVER-CONTAINING COPPER-CADMIUM OXIDE-ZINC OXIDE-BARIUM OXIDE CATALYSTS

Carl D. Keith, Summit, Saul G. Hiodin, Mendham, and Ludwig A. Galen, East Orange, N.J., assignors to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware

No Drawing. Filed Jan. 13, 1966, Ser. No. 520,362

U.S. Cl. 252—475 11 Claims
Int. Cl. B01j 11/00

Supported silver catalysts are prepared by mechanically depositing on spherical inorganic carriers a dry finely divided silver powder which has a surface area of 3–30 m²/g.

3,420,785

CURABLE AND CURED COMPOSITIONS OF DIEPOXIDE ETHERS SUCH AS BIS(3,4-EPOXYBUTYL)ETHER WITH ACTIVE ORGANIC HARDENERS

Erich Marcus, Charleston, and Donald L. MacPeck, South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Feb. 12, 1964, Ser. No. 344,208

U.S. Cl. 260—2 15 Claims
Int. Cl. C08g 30/00; C07d 1/00

Curable and cured compositions of diepoxide ethers, such as bis(3,4-epoxybutyl)ether, are prepared by forming mixtures of the diepoxide and an active organic hardener such as a polycarboxylic acid, a polycarboxylic acid

anhydride or a polyfunctional amine. The resulting cured products are useful in coating, molding, casting and like applications.

3,420,786

SELF-EXTINGUISHING STYRENE POLYMER COMPOSITION CONTAINING A BROMINE COMPOUND AND 2,3-DIMETHYL-2,3-DIPHENYL BUTANE

Heinz Weber and Heinz Burger, Ludwigshafen (Rhine), Guenther Daumiller, Ziegelhausen, and Herbert Willersinn and Johannes Grohmann, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed Mar. 22, 1966, Ser. No. 536,278
Claims priority, application Germany, Apr. 1, 1965, B 81,260, B 81,261

U.S. Cl. 260—2.5

9 Claims

Int. Cl. C08f 45/54; C08f 47/08; C08f 7/04

2. A self-extinguishing expanded article of plastic comprising a porous molding of a styrene polymer selected from the group consisting of polystyrene and copolymers containing at least 50% by weight of copolymerized styrene units, said molding containing as a flame retardant: a mixture of an organic brominated compound which contains at least four carbon atoms and more than 40% of bromine; and 2,3-dimethyl-2,3-diphenylbutane in an amount of 0.01 to 5% by weight on the weight of the styrene polymer; the amount of the organic brominated compound being such that the expanded plastic article has a content of at least 0.1% by weight of bromine.

3,420,787

POLYURETHANE FOAMS DERIVED FROM HYDROXYALKYLATED UREAS

Harold E. Reymore, Jr., Wallingford, and James N. Tilley, Cheshire, Conn., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed Mar. 25, 1966, Ser. No. 537,287

U.S. Cl. 260—2.5

5 Claims

Int. Cl. C08g 22/44; C08g 41/00; C09k 3/28

Polyurethane foams are rendered fire retardant by the use, as part or the whole of the polyol component, of a combination of a phosphorus containing polyol and a hydroxy alkylated urea having the formula:



wherein Ar represents an aromatic hydrocarbon residue of valency n containing from 0 to 4 halo substituents, R_1 and R_2 = lower-alkyl and $n=1$ to 3. The phosphorus containing polyols are N,N-di(hydroxyalkyl)aminomethane phosphonates, propylene oxide adducts of phosphoric acid and tris propylene glycol phosphates. Use of the urea in combination with the phosphorus polyol enables the structural strength of the foam to be increased without decrease in fire retardancy.

3,420,788

INCLUSION RESINS OF CYCLODEXTRIN AND METHODS OF USE

Jurg Solms, Vevey, Switzerland, assignor to Alico S.A., Lausanne, Switzerland, a corporation of Switzerland
No Drawing. Filed Apr. 20, 1965, Ser. No. 449,619
Claims priority, application Switzerland, Apr. 29, 1964, 5,615/64

U.S. Cl. 260—17.4

14 Claims

Int. Cl. C08b 19/00; C08f 29/50; B01d 15/00

This invention relates to the manufacture of inclusion resins which have the ability to include inorganic and organic compounds of specific shape within the specifically

shaped lumens and bores of the molecular structure of the inclusion resins. The inclusion resins of the present invention are water insoluble, can be prepared by various means, and can be used for selective separation of substances from each other.

3,420,789

POLYAMIDE RESINS HAVING SOLUBILITY AND RESISTANCE TO GELLING IN ALCOHOL SOLUTIONS

Alec Frank Wilson, London, England, assignor to Coates Brothers & Company Limited, London, England
No Drawing. Filed Feb. 11, 1963, Ser. No. 257,773
Claims priority, application Great Britain, Mar. 26, 1962, 11,389/62

U.S. Cl. 260—18

5 Claims

Int. Cl. C08g 20/00

1. A process for preparing a polyamide resin having solubility and resistance to gelling in alcohol solutions by polycondensation reaction between a polycarboxylic acid component comprising polymerized fatty acid and a polyamine, a major proportion of the polyamine being aliphatic primary polyamine, characterized in that the polycarboxylic acid component includes itaconic acid and the major proportion of the balance is polymerized fatty acid.

3,420,790

POLYETHYLENE-NATURAL WAX EMULSIONS FOR THE COATING OF FRUITS AND VEGETABLES

Saul Alexander Gassner, Rehovoth, Israel, Esther Hellinger, London, England, and Aharon Katchalsky, Tel Aviv, and David Vofsi, Rehovoth, Israel, assignors to Yeda Research and Development Co., Ltd., Rehovoth, Israel, a company of Israel
No Drawing. Continuation-in-part of application Ser. No. 202,710, June 15, 1962. This application Dec. 22, 1965, Ser. No. 515,763

Claims priority, application Israel, Feb. 20, 1962, 16,838

U.S. Cl. 260—23

10 Claims

Int. Cl. A23b 7/16; C08f 29/04; C08f 45/64

Emulsions containing polyethylene and a natural wax are used to form protective coatings on fruits and vegetables.

3,420,791

PROCESS FOR MAKING GRANULAR POLYMERS

Arthur E. Gargiolo, Lake Jackson, and William S. Holmes, Angleton, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Continuation of application Ser. No. 275,207, Apr. 24, 1963. This application Nov. 21, 1966, Ser. No. 596,006

U.S. Cl. 260—33.6

10 Claims

Int. Cl. C08g 53/02

Solid organic polymers are formed in, or reduced to, granular form by agitation of the fused resin, or of the resin-forming reactants, in an organic non-solvent for the resin, said solvent having dispersed therein about 0.5 to 5% by weight of an ammonium cation-modified organophilic clay wherein the cation contains at least one alkyl radical of at least 10 carbon atoms.

3,420,792

STABILIZED POLYPHENYLENE ETHER

Robert H. Zuccaro, Burlington, Mass., assignor to General Electric Company, a corporation of New York
Filed Jan. 18, 1967, Ser. No. 610,134

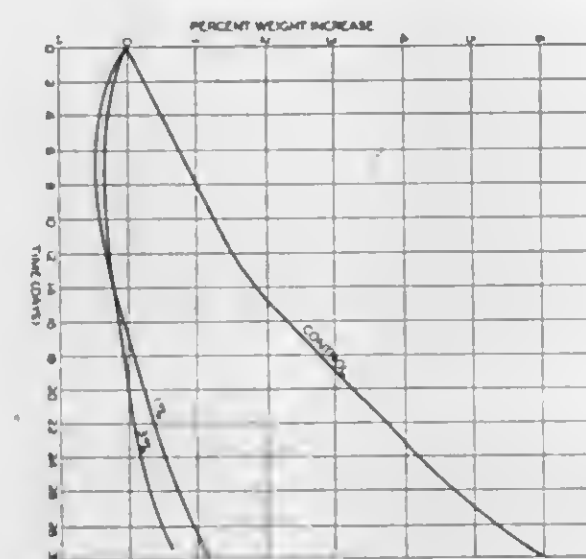
U.S. Cl. 260—45.9

5 Claims

Int. Cl. C08f 45/60; C08g 51/60; C08g 43/00

A stabilized polyphenylene ether composition consist-

ing of a major portion of a polyphenylene ether and



a minor portion of a hexaalkylphosphoric triamide stabilizer.

3,420,793

BIS-(FLUOROALKOXY)ALKYL SILOXANES

Allen G. Pittman, El Cerrito, and William L. Wasley, Berkeley, Calif., assignors to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed Mar. 16, 1967, Ser. No. 623,527

U.S. Cl. 260—46.5

18 Claims

Int. Cl. C08g 47/02; G09c 3/82

The adduct of hexafluoroacetone and an alkali metal fluoride, e.g., $(\text{CF}_3)_2\text{CF}-\text{OK}$, is reacted with a 1,4-dihalo-2-butene to replace the halo groups with perfluoroisopropoxy groups. A silane containing H bonded to Si—for example, HSiCl_2 —is then added across the double bond of the intermediate, producing bis-(perfluoroisopropoxy)alkyl silane derivatives which are useful, in both monomeric and polymeric form, for imparting a high degree of water-and oil-repellency to fibrous substrates, e.g., fabrics made from natural or synthetic fibers.

3,420,794

PROCESS FOR CURING POLYEPOXIDES WITH A POLYAMINE AND RESULTING PRODUCTS

Clayton A. May, Orinda, Calif., and Charles T. Badenhop, Bound Brook, N.J., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Aug. 29, 1963, Ser. No. 305,508

U.S. Cl. 260—47

11 Claims

Int. Cl. C08g 30/14

A process for preparing resinified products is disclosed. This process comprises simultaneously mixing a polyeepoxide, a polyamine (e.g., diethylene triamine) and a special activator which is an organic compound possessing a carbon atom attached to at least three different nitrogen atoms and having at least one hydrogen atom attached to one of the nitrogen atoms (e.g., dicyandiamide).

3,420,795

POLYAMIDES AND POLYIMIDES FROM DIAMINES CONTAINING ALKOXY PHENOL GROUPS

Rudolph J. Angelo, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Sept. 1, 1964, Ser. No. 393,734

U.S. Cl. 260—47

20 Claims

Int. Cl. C08g 20/00

Polyamide-acids, polyamide-amides, polyamide-esters and polyimides based on diamines having three phenyl rings two of which have 2 alkoxy substituents, their preparation and shaped articles thereof, useful in lacquers, and in film and fiber applications.

3,420,796

METHOD OF PREPARING POWDERED POLYURETHANE RESINS

Kanji Matsubayashi and Takuo Kawaguchi, Kurashiki, Japan, assignors to Kurashiki Rayon Co., Ltd., Kurashiki, Japan

No Drawing. Filed Sept. 7, 1965, Ser. No. 485,617

Claims priority, application Japan, Oct. 31, 1964, 39/61,480

U.S. Cl. 260—47

9 Claims

Int. Cl. C08g 22/18; C08g 22/06; C08g 22/04

Powdered polyurethane resins are prepared by reacting a polyhydroxyl compound having a molecular weight of 300 to 8000, an organic diisocyanate and a low molecular weight diol, in the presence of 5 to 60% based on the weight of the sum of said three reactants and the solvent, of the solvent which is selected from the group consisting of furan, tetrahydrofuran, methylfurans, dioxane, methyl- α -furfuryl ethers, 2,3-dihydropyran, tetrahydropyran, pentamethylene oxide, 1,8-cineol, 1,2-dimethoxyethane, 1-methoxy-2-butoxyethane, dichloroethyl ether, dichloromethyl ether, dibutyl ether, methyl chloromethyl ether, benzyl ethyl ether, benzyl methyl ether, anisole, phenetole, diallyl ether and allyl vinyl ether, while continuously mechanically pulverizing the reaction mixture.

3,420,797

PROCESS OF PRODUCING POLYOXYMETHYLENES WITH HIGH MOLECULAR WEIGHTS

Shinichi Ishida and Hiroshi Ohama, Tokyo, Japan, assignors to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan, a corporation of Japan

No Drawing. Filed Dec. 1, 1964, Ser. No. 415,165

Claims priority, application Japan, Dec. 3, 1963, 38/64,647

U.S. Cl. 260—67

5 Claims

Int. Cl. C08g 1/02

A process in which paraformaldehyde is heated in a closed system in the presence of a sulfox catalyst to produce a modified polyoxymethylene of higher molecular weight which is decomposed to produce formaldehyde which in turn is polymerized to yield high molecular weight polyoxymethylene having great thermal stability.

3,420,798

CROSS-LINKED POLYMERS OF LACTONIZED POLY(METHYL PROPENOL/METHACRYLIC ACID) AND METHOD OF PREPARING BY APPLYING HEAT

Wayne E. Smith, Shawnee, and Dru W. Alwani, Merriam, Kans., and Harry D. Ansporn, Kansas City, Mo., assignors to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed June 23, 1965, Ser. No. 466,425

U.S. Cl. 260—67

2 Claims

Int. Cl. C08f 3/40

Cross-linked polymers of partially lactonized poly(methyl propenol/methacrylic acid) derived from polymethacrolein with aldehyde and acetal groups reduced and oxidized to substantially equal numbers of hydroxyl and carboxyl groups are prepared by simply heating or heating in the presence of cross-linking agents such as butyl acid phosphate.

3,420,799

PROCESS FOR PREPARING AMINOPLASTS FROM ALKOXYACETALDEHYDE WITH AN AZINE

Stanley B. Cavitt, Santa Clara, Tex., assignor to Jefferson Chemical Company, Inc., Houston, Tex., a corporation of Delaware

No Drawing. Filed June 29, 1966, Ser. No. 561,356

U.S. Cl. 260—67.6

7 Claims

Int. Cl. C08g 9/10; C08g 9/28; C08g 9/12

A one-step process for preparing aminoplasts which comprises reacting an alkoxyacetaldehyde with an azine

such as urea, cyclic ethylene urea, a dicyandiamide or an aminotriazine in solution in a polar solvent.

3,420,800

POLYMERIC MATERIALS PRODUCED BY INTERACTING POLYISOCYANATE AND WATER IN THE PRESENCE OF POLYALDIMINE OR POLYKETIMINE

Geoffrey Arthur Haggis, Manchester, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Jan. 29, 1964, Ser. No. 341,114
Claims priority, application Great Britain, Feb. 4, 1963, 4,507/63

U.S. Cl. 260—75

8 Claims

Int. Cl. C08g 22/00; C08g 22/02

Polyaldimines or polyketimines derived from diamines or polyamines are added to polyisocyanates, preferably dissolved in inert solvents, to give solutions which are stable for periods up to several weeks, but which solutions, on treatment with water or exposure to the atmosphere, rapidly produce a cross-linked polymer and may be used to provide a rapid-drying surface coating of excellent physical properties. It is however preferred to use, as the polyisocyanate, isocyanate-ended prepolymers obtained by the interaction of excess of a polyisocyanate with a glycol or other polyhydric, alcohol, polyester, polyesteramide or polyether.

3,420,801

PROCESS FOR THE MANUFACTURE OF POLYETHYLENE TEREPHTHALATE

Herbert Fitz, Wiesbaden-Biebrich, Germany, assignor to Kalle Aktiengesellschaft Wiesbaden-Biebrich, Germany

No Drawing. Filed Feb. 7, 1964, Ser. No. 343,235
Claims priority, application Germany, Feb. 9, 1963, K 48,902

U.S. Cl. 260—75

9 Claims

Int. Cl. C08g 17/015; C08g 51/58

This invention relates to a process for the manufacture of polyethylene terephthalate by polycondensing bis-hydroxyethyl terephthalate in the presence of stannous oxalate as a catalyst.

3,420,802

NOVEL POLYESTERAMIDES AND THE PREPARATION THEREOF

Jack G. Scruggs, Cary, N.C., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Apr. 21, 1965, Ser. No. 449,891

U.S. Cl. 260—75

2 Claims

Int. Cl. C08g 20/30

Novel polyesteramides characterized by a regularity of recurrence of the ester and amide linkages in the unit repeating chain and having the formula



wherein R is an aliphatic or cycloaliphatic radical. These polymers may be produced by polycondensing 2,6-naphthalene dicarboxylic acid diamide-N,N'-di-ε-caproic acid or its ester-forming derivatives, such as the chloride and diester derivatives thereof, with aliphatic or cycloaliphatic glycols.

**3,420,803
LITHIUM AMIDE AS A TRANSESTERIFICATION CATALYST**

John A. Price, Swarthmore, and Otto K. Carlson, Marcus Hook, Pa., assignors to FMC Corporation, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Nov. 23, 1966, Ser. No. 596,452
U.S. Cl. 260—75 2 Claims

Int. Cl. C08g 17/08; C08g 17/013

Process for the preparation of polyethylene terephthalate comprising carrying out a transesterification reaction between dimethyl terephthalate and ethylene glycol in the presence of lithium amide and polycondensing the resulting product.

3,420,804

PROCESS FOR INCREASING THE MOLECULAR WEIGHT OF A POLYAMIDE IN THE SOLID STATE

Keith W. Ramsey, Gaitre, Pontypool, Monmouthshire, and John H. Dunnill, Longlevens, Gloucestershire, England, assignors to British Nylon Spinners Limited, Pontypool, England

Filed June 1, 1965, Ser. No. 460,282
Claims priority, application England, June 3, 1964, 22,888/64

U.S. Cl. 260—78

7 Claims

Int. Cl. C08g 20/20

A process for increasing the molecular weight of a polyamide which comprises heating the solid polyamide in particulate form, at a temperature above 150° C. but below its melting point, with superheated steam, which also serves to dry the polyamide. Preferably the polyamide, the molecular weight of which is increased by the process, has an initial relative viscosity of between 20 and 50 and the process increases this viscosity by at least 10. The process provides high relative viscosity polyamides which are capable of being melt-spun into filaments.

3,420,805

REACTION PRODUCT OF POLYVINYL PHOSPHONIC ACID AND p-PHENYLENE-DIAMINE

Hans Bernhard Adolf Kramer, New York, Gunter Messwarb, Kelkheim, Taunus, and Walter Denk, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning

No Drawing. Original application Oct. 3, 1962, Ser. No. 228,011, now Patent No. 3,350,368, dated Oct. 31, 1967. Divided and this application July 17, 1967, Ser. No. 664,582

Claims priority, application Germany, Sept. 25, 1956, F 21,304; Sept. 26, 1956, F 21,318

U.S. Cl. 260—80

1 Claim

Int. Cl. C08g 33/16

1. The reaction product of polyvinylphosphonic acid dichloride with para-phenylene-diamine at a temperature between -50° C. and 200° C. with substantially complete replacement of all halide groups.

3,420,806

REGULAR HIGH POLYMERS OF FLUORINATED STYRENES AND PROCESS FOR PRODUCING THE SAME

Giulio Natta and Dario Sianesi, Milan, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy

No Drawing. Filed Mar. 20, 1959, Ser. No. 800,646
Claims priority, application Italy, Mar. 25, 1958, 4,501/58

U.S. Cl. 260—91.5

14 Claims

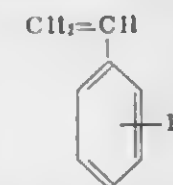
Int. Cl. C08f 7/06

1. A process for polymerizing monofluorinated styrenes selected from the group consisting of ortho-, meta-, and para-fluoro-styrenes, para-fluoro-ortho-alkyl styrene in which the alkyl group contains 1 to 2 carbon atoms, and mixtures thereof, to linear, structurally regular polymers

that are solid at normal temperature, which process comprises bringing the monomer into intimate contact, at a temperature of from about 30° C. to about 80° C. and in an inert hydrocarbon solvent, with a catalyst consisting essentially of the product obtained by mixing, in a molar ratio of 1:1 to 6:1, triethyl aluminum with a transition metal catalyst-forming component selected from the group consisting of TiCl₃, TiCl₄, VCl₄ and mixtures of TiCl₄ and VCl₄, and separating the polymerize which is produced from the reaction mass.

9. Linear, regular polymers of ortho-fluorostyrene characterized in that they are solid at normal temperature, have isotactic structure, exhibit isotactic crystallinity on X-ray examination, and have a melting temperature above 270° C.

13. A crystalline homopolymer of a nuclear monofluoro substituted styrene having the following general formula



said homopolymer having isotactic structure and a melting point above 240° C.

3,420,807

VINYL CHLORIDE POLYMERIZATION

James B. Harrison, Eggertsville, Orville L. Mageli, Grand Island, and Arthur I. Lowell, Amherst, N.Y., assignors to Wallace & Tiernan Inc., Newark, N.J.

No Drawing. Continuation of application Ser. No. 187,920, Apr. 16, 1962. This application Dec. 19, 1966, Ser. No. 603,048

U.S. Cl. 260—92.8

7 Claims

Int. Cl. C08f 3/52; C08f 3/56; C08f 3/22

Certain vinyl monomers are polymerized at a temperature below about 70° C. using as the initiator a perester having the general formula:



where R is alkyl having 1-10 carbon atoms. Desirably the above initiator is used in conjunction with a di-acyl peroxide, such as lauroyl peroxide.

3,420,808

MILLING CIS POLYBUTADIENE AT TEMPERATURES BELOW 100 DEGREES F.

Clyde H. Mathis and Roy W. Siedenstrang, Borger, Tex., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Aug. 31, 1964, Ser. No. 393,112

U.S. Cl. 260—94.7

3 Claims

Int. Cl. B29b 3/00; B29b 1/04; C08d 5/00

Maintaining rubber stock temperature during compounding of high cis content rubber at a temperature below 100° F. provides adequate bonding on the mill while avoiding gel formation and produces a compounded stock having satisfactory processing characteristics.

3,420,809

CATALYST FOR ETHYLENE POLYMERIZATION

Erik Tornqvist, Roselle, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 161,353, Dec. 22, 1961. This application Aug. 12, 1966, Ser. No. 572,001

U.S. Cl. 260—94.9

19 Claims

Int. Cl. C08d 1/30; B01j 11/78

1. A process for preparing a catalyst comprising 0.1 to 5 moles of AlCl₃ and 0.5 to 10 atoms of aluminum per mole of a transition metal halide selected from the group consisting of TiCl₄, TiBr₄ and VCl₄, said catalyst being

suitable for polymerizing ethylene, which consists of grinding in a dry inert environment a mixture of finely divided aluminum powder with at least a portion of the AlCl₃ until at least a darkening in color of said aluminum powder in the resulting mixture occurs, the aluminum/AlCl₃ molar ratio being about a minimum of 3:1, and a maximum insufficient to cause caking before said darkening, and then admixing the thus ground material with the transition metal chloride and residual AlCl₃.

3,420,810

PROCESS FOR JOINING THE A AND B CHAINS OF INSULIN

Panayotis Katsoyannis, Patchogue, and Andrew M. Tometsko, Rochester, N.Y., assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Oct. 25, 1966, Ser. No. 589,468
U.S. Cl. 260—112.7 2 Claims

Int. Cl. C07g 15/00; A61k 17/04; C07b 29/00

A method of combining the A chain and B chain of insulin with high yields wherein one equivalent of S-sulfonated B chain is contacted with at least 6 equivalents of the sulfhydryl form of the A chain at low temperature while maintaining the pH of the reaction mass at a pH of from about 9.5 to about 10.8.

3,420,811

SOLUBLE EDIBLE SODIUM CASEINATES PREPARED BY OXIDIZING CASEIN DISPERSIONS WITH H₂O₂ OR Cl₂ AND THEN SOLUBILIZING THE RESULTANT PRODUCTS WITH A FOOD GRADE SODIUM COMPOUND

Wilhelmine H. Van Wieren and George A. Damisch, Syracuse, N.Y., assignors to The Borden Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Aug. 6, 1965, Ser. No. 477,938

U.S. Cl. 260—119

4 Claims

Int. Cl. A23j 3/00; C07g 7/00

This invention relates to the method of preparing sodium caseinate and to the resultant products having improved flavor and storage stability comprising the steps of treating an aqueous dispersion of an edible casein with a reagent selected from the group consisting of an aqueous solution of chlorine, hydrogen peroxide, and combinations thereof, and then solubilizing the casein with a food grade sodium compound, the proportions of reagent being, for each part by weight of casein, from about 5 to about 25 parts by weight of about 5 to about 40 p.p.m. chlorine solution and from about 3 to about 25 parts by weight of about 5 to about 70 p.p.m. hydrogen peroxide solution.

3,420,812

DISAZO DYESTUFFS METAL-COMPLEX

Gerhard Langbein, Hofheim, Taunus, and Fritz Meininger, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft, vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed May 11, 1965, Ser. No. 454,998

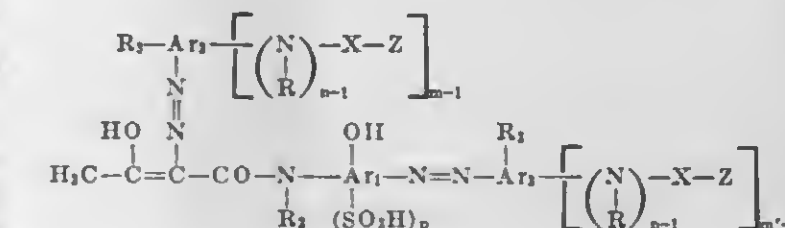
Claims priority, application Germany, May 13, 1964, F 42,863

U.S. Cl. 260—148

7 Claims

Int. Cl. C09b 45/24; C09b 45/26; C09b 45/28

Water-soluble, disazo dyestuffs of the formula



and the complex metal compounds of said disazo dye-stuffs, wherein Ar₁ is benzene or naphthalene, Ar₂ and Ar₃ are benzene, naphthalene, benzene sulfonic acid, naphthalene sulfonic acid, lower alkoxy-benzene, nitrobenzene, nitrobenzene sulfonic acid, lower alkoxy-nitrobenzene sulfonic acid or chlorobenzene sulfonic acid radicals, R is hydrogen or lower alkyl, R₂ is hydrogen or lower alkyl, R₃ is hydrogen, hydroxyl, carboxyl or lower alkoxy, X is sulfonyl or carbonyl, Z is β -chloroethyl, β -sulfoethyl, β -phosphatoethyl or vinyl, n is 1 or 2, the sum of m and m' being at least 3, and p stands for 1 or 2, and wherein the groups R₂ in Ar₂ and Ar₃ and —OH in Ar₁ are each linked in ortho-position to the adjacent azo group.

3,420,813

MONAZO DYESTUFFS CONTAINING 4-HYDROXY-6-METHYL AND 6-HYDROXY-4-METHYL-PYRAZOLO[3,4-b]PYRIDINE GROUPS

Curt Mueller, Basel, Basel-Stadt, and Otto Senn, Arlesheim, Basel-Land, Switzerland, assignors to Sandoz Ltd. (a/k/a Sandoz A.G.), Basel, Switzerland

No Drawing. Continuation-in-part of application Ser. No. 429,908, Feb. 2, 1965. This application May 25, 1967, Ser. No. 641,110

Claims priority, application Switzerland, Feb. 6, 1964, 1,417/64

U.S. Cl. 260—156

13 Claims

Int. Cl. C09b 29/08

4-hydroxy-6-methyl- and 6-hydroxy-4-methyl-pyrazolo[3,4-b]pyridines are particularly useful coupling components in the preparation of azo dyestuffs. The resulting azo dyes produce dyeings on linear aromatic polyester and cellulose ester fibers which have excellent fastness properties.

3,420,814

PROCESS FOR PRODUCING ARTIFICIAL STAPLE FIBERS

Otto Reichert, Kurt Heuer, and Heinz Grotjahn, Oberbruch-Grebben, and Hans George Wendlandt, Oberbruch, Germany, assignors to American Enka Corporation, Enka, N.C., a corporation of Delaware

No Drawing. Filed July 21, 1965, Ser. No. 473,847

Claims priority, application Germany, July 31, 1964, V 26,491

U.S. Cl. 264—197

3 Claims

Int. Cl. D01f 3/12, 3/28

A high strength, easy separable and processible rayon staple fiber is produced by spinning continuous filaments into a coagulating bath containing a small amount of formaldehyde and no heavy metal salts, by subsequently stretching the filaments in a second bath at a controlled temperature, by cutting the filaments into staple fiber while still in an incompletely regenerated state, i.e., at a gamma number of 35 to 47, and by depositing the cut fibers into an acid floating bath maintained at a temperature above 90° C.

3,420,815

QUERCETIN AND QUERCETIN GLYCOSIDE

Pierre J. Courbat, Praogins, Vand, Switzerland, assignor to Zyma S.A., Nyon, Vaud, Switzerland

No Drawing. Filed Oct. 24, 1966, Ser. No. 588,746

Claims priority, applications France, Oct. 25, 1965, 36,051; Switzerland, Mar. 9, 1966, 3,362/66

U.S. Cl. 260—210

12 Claims

Int. Cl. C07d 7/32; C07d 7/24

Quercetin derivatives are produced by reacting quercetin or a quercetin glycoside with an epoxy compound such as ethylene oxide in a molar ratio of 1 to 2-20 in at least partially aqueous medium in the presence of an

alkaline catalyst at a temperature exceeding 50° C. The products have pharmacological properties and are useful in treating e.g. circulatory disorders.

3,420,816

DERIVATIVES OF VERNAMYCIN B

Miklos Bodanszky, Princeton, N.J., assignor, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

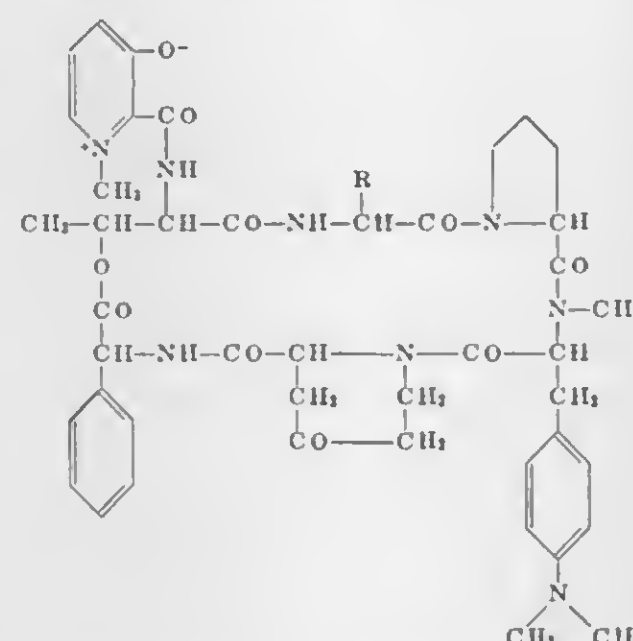
No Drawing. Filed Mar. 15, 1965, Ser. No. 439,989

U.S. Cl. 260—239.3

3 Claims

Int. Cl. C07d 87/54

This invention relates to new compounds having the following structural formula



substances which are useful as antimicrobial agents or to enhance the antimicrobial effect of vernamycin A.

3,420,817

4,1,5-BENZOXADIAZOCIN-2-ONS AND PROCESSES FOR PREPARING SAME

Arthur Stempel, Teaneck, and Leo Henryk Sternbach, Upper Montclair, N.J., assignors to Hoffman-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 522,397, Jan. 24, 1966. This application Dec. 6, 1966, Ser. No. 600,347

U.S. Cl. 260—239.3

9 Claims

Int. Cl. C07d 87/54; C07c 103/30

4,1,5-benzoxadiazocin-2-ones (A) and processes for preparing same. These compounds are convertible into 3-hydroxy-1,4-benzodiazepin-2-ones with base. (A) are useful as intermediates and as anticonvulsant, muscle relaxant and sedative agents.

3,420,818

TETRAHYDROISOQUINOLINES

Hans Ott, Convent Station, N.J., assignor to Sandoz, Inc., Hanover, N.J.

No Drawing. Continuation-in-part of application Ser. No. 391,732, Aug. 24, 1964. This application Feb. 20, 1967, Ser. No. 617,051

U.S. Cl. 260—239.3

36 Claims

Int. Cl. C07d 53/06

The compounds are of the class of 5,9,10,14b-tetrahydroisoquinolo[2,1-d][1,4]benzodiazepin-6(7H)-one, useful as oral or parenteral anticonvulsants, sedatives and muscle relaxants.

3,420,819

NOVEL SULFANILYLAMINOPYRIDAZINONE DERIVATIVES AND THEIR PRODUCTION

Takenari Nakagome, Nishinomiya, and Toshiaki Komatsu, Toyonaka, Japan, assignors to Sumitomo Chemical Co., Ltd., Osaka, Japan

No Drawing. Filed June 10, 1963, Ser. No. 286,448

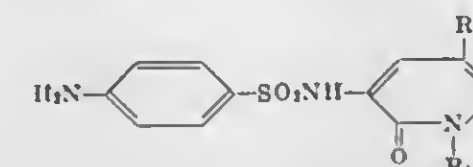
Claims priority, application Japan, June 13, 1962, 37/24,792

U.S. Cl. 260—239.7

3 Claims

Int. Cl. C07d 51/04; A61l 23/00

1. A 4-sulfanilylamino-3(2H)pyridazinone derivative of the formula:



wherein R₁ is a lower alkyl radical and R₂ is a member selected from the group consisting of hydrogen atom and lower alkyl radicals.

3,420,820

UNSATURATED LACTONES OF THE STEROID SERIES AND PROCESS FOR PREPARING THEM

Ulrich Stache, Hofheim, Taunus, Werner Fritsch, Neuendorf, Taunus, and Werner Haede, Hofheim, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Aug. 31, 1966, Ser. No. 576,243

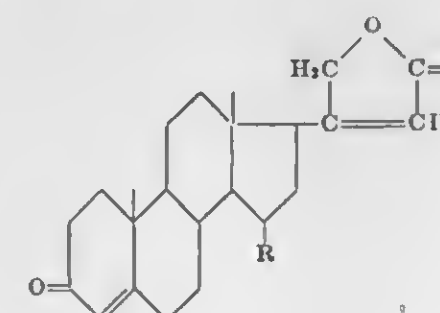
Claims priority, application Germany, Sept. 1, 1965, F 47,055

U.S. Cl. 260—239.57

6 Claims

Int. Cl. C07c 173/00

Compounds of the formula



where R is hydrogen or hydroxy in α -position, or wherein there may be an olefinic unsaturation or an oxido group in the 14,15-position. Process for making said compounds by reacting 20-keto, 21-hydroxy (or 21-acyloxy)-C₂₁ steroids with a dialkyl phosphonate in the presence of an anhydrous base.

3,420,821

TRIAZINYL-STILBENE REACTIVE OPTICAL BRIGHTENERS

Erich Schinzel, Frankfurt am Main, and Karl Heinz Lebkücher, Hofheim, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed June 21, 1965, Ser. No. 465,748

Claims priority, application Germany, June 30, 1964, F 43,307

U.S. Cl. 260—240

3 Claims

Int. Cl. C09b 23/16; C09b 23/00; C09b 55/00

Aminostilbene compounds, useful as optical brighteners, which can be fixed on fibrous materials and foils having hydroxyl groups or reactive hydrogen atoms in the presence of agents having alkaline action.

3,420,822

QUATERNARY SALTS OF BASIC ESTERS OF β -(1-NAPHTHYL)-ACRYLIC ACID

Silvano Casadio, Milan, Italy, assignor to Istituto de Angeli S.p.A., Milan, Italy, an Italian body corporate

No Drawing. Filed Oct. 20, 1965, Ser. No. 499,014

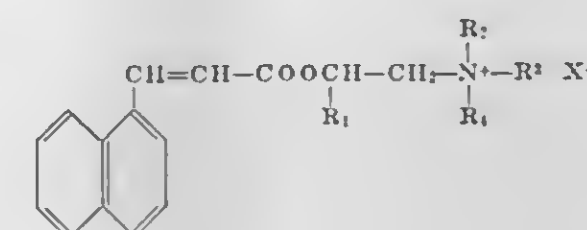
Claims priority, application Italy, Nov. 2, 1964, 44,572

U.S. Cl. 260—240

5 Claims

Int. Cl. C09b 23/00; C09b 55/00; C07c 69/76

This invention relates to quaternary salts of basic esters of β -(1-naphthyl)-acrylic acid having valuable antibacterial and antifungal activities. The quaternary salts of the invention possess the general formula



wherein R₁ is hydrogen or phenyl, R₂ and R₃ individually represent methyl or ethyl or when taken collectively with the nitrogen atom to which they are attached represent morpholino, piperidino or pyrrolidino; R₄ represents methyl, ethyl, butyl, isoamyl, octyl, decyl, dodecyl, hexadecyl, octadecyl, bromohexyl, benzyl or an acetyl and X represents a bromide, chloride or iodide ion or a methyl sulfate ion.

3,420,823

DIBENZOTHAZINES

Wilson Shaw Waring, Macclesfield, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Mar. 24, 1966, Ser. No. 537,007

Claims priority, application Great Britain, Apr. 13, 1965, 15,728/65; Oct. 27, 1965, 45,500/65

U.S. Cl. 260—243

9 Claims

Int. Cl. C07d 43/02

Dibenzothiazine derivatives which possess antidepressant activity and compositions containing the same. Representative of these derivatives is 6- β -diethylaminoethyl-6H-dibenzo[c,e][1,2]thiazine-5,5-dioxide.

3,420,824

5-OXO-1,4,2-DIOXAZINES AND PREPARATION FROM α -AMIDOOXY ACIDS

Linus M. Ellis, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 26, 1966, Ser. No. 567,818

U.S. Cl. 260—244

8 Claims

Int. Cl. C07d 87/00; A01n 9/20

5-oxo-1,4,2-dioxazines, which are prepared by dehydrating 2-amidooxycarboxylic acids in the presence of anhydrides or halides of organic acids, acid halides of sulfur, phosphorus or silicon, or ketene, are useful as plant growth retardants.

3,420,825

PREPARATION OF 2-SUBSTITUTED-5,6-DIHYDRO-4H-1,3,4-OXADIAZINES

Donald L. Trepanier, Indianapolis, Ind., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Sept. 28, 1966, Ser. No. 582,550

U.S. Cl. 260—244

5 Claims

Int. Cl. C07d 87/52

A method for the preparation of 2-substituted-5,6-dihydro-4H-1,3,4-oxadiazine compounds by the reaction of

an ethylene dihalide with a substituted benzoyl hydrazide in the presence of an alkali metal hydroxide.

3,420,826

2,4,6-(SUBSTITUTED)-1,3,4-OXADIAZINES AND METHOD FOR THEIR PREPARATION

Donald L. Trepanier, Indianapolis, Ind., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 395,552, Sept. 10, 1964. This application Sept. 28, 1966, Ser. No. 582,551

U.S. Cl. 260—244

29 Claims

Int. Cl. C07d 87/52

2,4,6-(substituted)-4H - 1,3,4 - oxadiazine compounds such as 2 - (m-chlorophenyl)-5,6-dihydro-4,6,6-trimethyl-4H-1,3,4-oxadiazine are prepared by various procedures. The compounds are useful as sedatives, as anticonvulsants and as pesticides.

3,420,827

PROCESS FOR MAKING 4,4-DIMETHYL-3-BUTENYL METHYL KETONES, INTERMEDIATES THEREFOR AND THE SAID INTERMEDIATES

John C. Leffingwell, Winston-Salem, N.C., assignor, by mesne assignments, to SCM Corporation, New York, N.Y., a corporation of New York

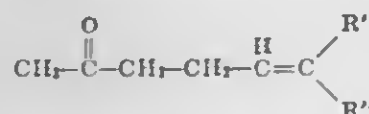
No Drawing. Filed Dec. 10, 1965, Ser. No. 513,096

U.S. Cl. 260—247.2

10 Claims

Int. Cl. C07d 27/14; C07c 91/26; C07c 49/24

The preparation of (4,4-dilower alkyl substituted-3-butenyl) methyl ketones of the formula:



wherein R' and R'' represent the same or different lower alkyl radicals, preferably methyl radicals, is described. Also described are novel enamine compounds which are useful as intermediates in the preparation of the above-mentioned ketones. The ketones are useful in the formulation of perfumes and pharmaceuticals since they have pleasing fragrant odors. Processes for preparing the novel enamine intermediates are also described.

3,420,828

PROCESS FOR PRODUCING N-METHOXY ETHYL MORPHOLINE SUBSTANTIALLY FREE OF BETA, BETA DIAMINODIETHYL ETHER

Herbert G. Muhlbauer, Austin, Tex., assignor to Jefferson Chemical Company, Inc., Houston, Tex., a corporation of Delaware

Filed Aug. 18, 1965, Ser. No. 480,702

U.S. Cl. 260—247.7

5 Claims

Int. Cl. C07d 87/32

N-methoxyethylmorpholine can be obtained as a purified by-product when morpholine is prepared by the reaction of diethylene glycol with ammonia in the presence of hydrogen by the treatment of a heart-cut by-product N-methoxyethylmorpholine stream with ethylene oxide, following which an N-methoxyethylmorpholine product having a purity of more than 95% is obtained by distillation.

3,420,829 3,4 - DIHYDRO - 4 - OXO - 1,2,3 - BENZOTRIAZINE-3-YL-ETHYL PHOSPHORIC AND PHOSPHONIC ACID ESTERS

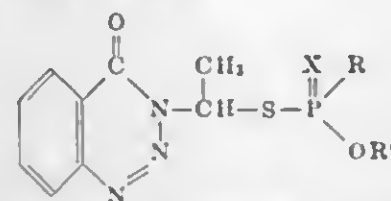
Walter Lorenz, Wuppertal-Vohwinkel, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed May 12, 1966, Ser. No. 549,470
Claims priority, application Germany, May 18, 1965, F 46,077

U.S. Cl. 260—248

7 Claims

Int. Cl. C07d 55/08

Thiol- and thionthiol-phosphoric and -phosphonic acid esters having the formula



in which R is lower alkyl, lower alkoxy or phenyl, R' is lower alkyl, and X is oxygen or sulfur, which possess pesticidal properties and which may be utilized in compositions with dispersible carrier vehicles, and which may be prepared by conventional methods.

3,420,830

4-KETO-1,3-BENZODIOXANE AND 4-KETO-1,3-BENZOOXAZINE DERIVATIVES

John H. Fried, Palo Alto, Calif., assignor to Syntex Corporation, Panama, Panama, a corporation of Panama
No Drawing. Filed July 11, 1966, Ser. No. 563,998

U.S. Cl. 260—244

10 Claims

Int. Cl. C07d 87/20; C07d 15/08

4-keto-1,3-benzodioxane and 4-keto-1,3-benzooxazine derivatives, prepared from salicylic acid and salicylamide derivatives and acetylenic ethers, are analgesic and anti-inflammatory agents.

3,420,831

1-(3-HYDROXYPROPYL)-3 METHYL-5-PHENYL-HEXAHYDROPYRIDAZINE

William J. Houlihan, Mountain Lakes, N.J., assignor to Sandoz Inc., Hanover, N.J.

No Drawing. Filed Nov. 25, 1966, Ser. No. 596,756

U.S. Cl. 260—250

1 Claim

Int. Cl. C07d 51/04

9-methyl-7-phenyl-1,5 diazabicyclo[4.3.0]nonane useful as an anti-depressant is prepared by treating α-phenyl levulinic acid with 3-hydrazino propanol to form 2-(3-hydroxypropyl)-6-methyl-4-phenyl-4,5 dihydropyridazin (2H)-3-one, reducing the latter to form 1-(3-hydroxypropyl)-3-methyl-5-phenyl-hexahydropyridazine, and converting this compound to the desired nonane via halide synthesis and ring closure.

3,420,832

1,5-DIAZABICYCLO[4.3.0]NONANES

William J. Houlihan, Mountain Lakes, N.J., assignor to Sandoz Inc., Hanover, N.J.

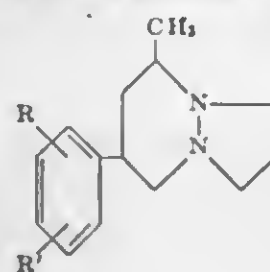
No Drawing. Filed Nov. 25, 1966, Ser. No. 596,806

U.S. Cl. 260—250

3 Claims

Int. Cl. C07d 57/22; C07d 51/04

1. A compound selected from the group consisting of diazabicyclononanes of the formula



and the non-toxic pharmaceutically acceptable salts thereof, wherein

R is in one of the positions 2-, 3- or 4- and represents hydrogen, lower alkyl, lower alkoxy, chloro, fluoro or trifluoromethyl;

R' is in one of the available positions 2-, 3- or 4- and represents hydrogen, lower alkyl, lower alkoxy, chloro, fluoro or trifluoromethyl; or

R and R' together form a 2,3- or 3,4-methylenedioxy bridge.

3,420,833

VAPOR PHASE PRODUCTION OF POLY-CHLORINATED COMPOUNDS

William H. Taplin III, Lafayette, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 321,283, Nov. 4, 1963. This application Sept. 8, 1967, Ser. No. 666,474

The portion of the term of the patent subsequent to May 17, 1983, has been disclaimed and dedicated to the Public

U.S. Cl. 260—283

11 Claims

Int. Cl. C07d 31/26; C07d 33/36; C07d 31/46

Aromatic, heterocyclic nitrogen compounds such as pyridines, quinolines, dipyrindyls and quinoxalines are chlorinated to produce aromatic, heterocyclic nitrogen compounds having at least three chlorine substituents by introducing said nitrogen compound as a vapor in a substantially inert diluent vapor into a reaction zone with rapid turbulent mixing with at least four moles of chlorine per mole of nitrogen compound. The reaction zone is maintained at a temperature in the range of from at least 400° C. to about 700° C.

3,420,834

2,3-DIMETHOXY-BERBINES SUBSTITUTED IN THE 10 POSITION AND PROCESS

Georges Muller, Nogent-sur-Marne, and André Poittevin, Les Lilas, France, assignors to Roussel UCLAF, Paris, France, a corporation of France

No Drawing. Continuation-in-part of application Ser. No. 506,117, Nov. 2, 1965. This application Nov. 24, 1967, Ser. No. 685,333

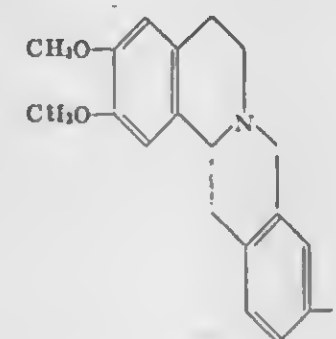
Claims priority, application France, Nov. 13, 1964, 994,859; Feb. 11, 1965, 5,222; Feb. 12, 1965, 5,388; Oct. 11, 1965, 34,493

U.S. Cl. 260—287

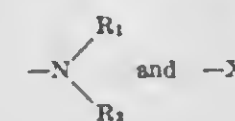
21 Claims

Int. Cl. C07d 33/00; C07d 35/00; C07d 33/38

The present invention relates to berbine derivatives of the formula



wherein Z is selected from the group consisting of



wherein R₁ is selected from the group consisting of hydrogen and alkyl having from 1 to 6 carbon atoms, R₂ is selected from the group consisting of hydrogen, alkyl hav-

ing from 1 to 6 carbon atoms and an acyl of an organic carboxylic acid having from 1 to 12 carbon atoms, and X is selected from the group consisting of halogen having an atomic weight greater than 19, —C≡N and —COOR₃, said compounds occurring in racemic or optically active form, and their salts. The invention also relates to a process for the preparation of these compounds.

These compounds are noteworthy due to their interesting tranquilizing properties.

3,420,835

3-PHENYL-7-AMINO-CARBOSTYRILS AS BRIGHTENING AGENTS

Wolf-Dieter Wirth, Cologne-Stammheim, Hans Knupfer, Bergisch Neukirchen, Carl-Wolfgang Schellhammer, Opladen, Karl Schonol, Leverkusen, and Walter Scholermann, Cologne, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Mar. 24, 1966, Ser. No. 537,030
Claims priority, application Germany, Mar. 30, 1965, F 451,669

U.S. Cl. 260—288

8 Claims

Int. Cl. C07d 33/52

3-phenyl-7-amino-carbostyrils having utility as brighteners.

3,420,836

1,3-DI-(4-PIPERIDYL)PROPANE DERIVATIVES

Bernard Brust, Parsippany, Troy Hills, Rodney Ian Fryer, North Caldwell, and Leo Henryk Sternbach, Upper Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 380,949, July 7, 1964. This application June 21, 1965, Ser. No. 465,774

U.S. Cl. 260—293

5 Claims

Int. Cl. C07d 31/24; C07d 65/14; C07d 63/18

1,3-di-(4-piperidyl)propane derivatives having an alkyl, cycloalkyl, phenyl, substituted phenyl or 5- or 6-membered heterocyclic group in 2-position are prepared by hydrogenating the corresponding piperidyl derivatives. The products are pharmacologically useful as anti-depressants.

3,420,837

N-DECANOYL-PIPERIDINES

Evald L. Skau, Robert R. Mod, and Frank C. Magne, New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture
No Drawing. Application Sept. 4, 1964, Ser. No. 394,636, which is a continuation-in-part of application Ser. No. 260,923, Feb. 25, 1963. Divided and this application Mar. 3, 1967, Ser. No. 632,870

U.S. Cl. 260—294.7

8 Claims

Int. Cl. C07d 29/10

This invention is directed to certain N-decanoyl-piperidines. These compounds are useful as plasticizers for various resins, in particular, vinyl type resins.

3,420,838

2,3-BIS[p-(ω-AMINOALKOXY)PHENYL]-INDOLES

Jacob Szmuszkovicz, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Dec. 20, 1965, Ser. No. 515,184

U.S. Cl. 260—294.7

5 Claims

Int. Cl. C07d 57/00; C07d 27/56

2,3-bis[p-(ω-aminoalkoxy)phenyl] indoles, the acid addition salts thereof as well as a process for the production thereof are disclosed. These compounds are anti-inflammatory agents which can be orally, parenterally or rectally administered. The products are also useful as intermediates for mothproofing agents, pickling inhibitors and herbicides.

3,420,839 AMINOMETHYL PYRAZOLONE DERIVATIVES OF NICOTINAMIDE

Feriano Banci and Ezio Tubaro, Rome, Italy, assignors to Stabilimenti Chimico-Farmaceutici Dr. R. Ravasini & C. Ia S.p.A., Rome, Italy, a corporation of Italy
No drawing. Filed June 10, 1966, Ser. No. 556,562
Claims priority, application Italy, July 1, 1965, 14,623/65; May 12, 1966, 10,857/66

U.S. Cl. 260—295.5 6 Claims
Int. Cl. C07d 57/00

Novel derivatives of nicotinamide are provided which are prepared by the aminomethylation reaction of nicotinamide. The products show improved pharmacological characteristics and properties in comparison with previous drugs. As analgesic, antipyretic and anti-inflammatory drugs, the novel products are superior to previous analogous drugs. Furthermore, the novel products show also antihistaminic, anticonvulsive, sedative, anti-bradycardia and so-called anti-slow actions.

3,420,840 FLUORINATED COMPOUNDS

Giuliana C. Tesoro, Dobbs Ferry, N.Y., and Richard N. Ring, Wood-Ridge, N.J., assignors to J. P. Stevens & Co., Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Aug. 4, 1960, Ser. No. 47,350
U.S. Cl. 260—296 3 Claims
Int. Cl. C07d 31/22; C07c 43/12; C07c 93/04

1. A polyfunctional fluorinated compound selected from the group consisting of compounds of the structure:



and



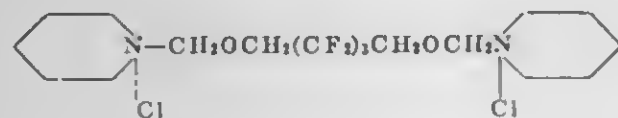
wherein

D is selected from the group consisting of hydrogen, chlorine and fluorine;
n is a number from 0 to 11; and
X is selected from the group consisting of chlorine and bromine; and



is a cationogenic group containing the quaternary N atom electrostatically bonded to the halogen ion X and covalently bonded to the residue, Q, of a tertiary amine, said tertiary amine being selected from the group consisting of dimethyl aniline, diethyl aniline, pyridine, lutidine, picoline, quinoline and isoquinoline.

2.



3,420,841 1,3-DI-(4-PYRIDYL)PROPANE DERIVATIVES

Bernard Brust, Parsippany, Troy Hills, Rodney Jan Fryer, North Caldwell, and Leo Henryk Sternbach, Upper Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Continuation-in-part of application Ser. No. 380,936, July 7, 1964. This application June 21, 1965, Ser. No. 465,753

U.S. Cl. 260—296 6 Claims
Int. Cl. C07d 31/26; C07d 31/32; C07d 31/50

1,3-di-(4-pyridyl)propane derivatives substituted in 2-position by alkyl, phenyl, substituted phenyl, benzyl or a

5- or 6-membered heterocyclic group are prepared by hydrogenating the corresponding 1,3-di-(4-pyridyl)-2-propenyl derivatives. The products are pharmacologically useful as anti-convulsant agents.

3,420,842

PROCESS FOR THE PREPARATION OF 2-NITROIMIDAZOLES

Glancarlo Lancini, Pavia, and Ettore Lazzari, Milan, Italy, assignors to Lepetit S.p.A., Milan, Italy

No Drawing. Continuation-in-part of application Ser. No. 470,888, July 9, 1965. This application Oct. 14, 1965, Ser. No. 496,184

Claims priority, application Great Britain, Aug. 12, 1964, 32,843/64

U.S. Cl. 260—309 2 Claims
Int. Cl. C07d 49/36

2-nitroimidazole (azomycin) and its lower alkyl and poly-lower alkyl derivatives are prepared by diazotizing a 2-aminoimidazole, or its acid addition salt, with an approximately equimolecular amount of an alkali metal nitrite in concentrated fluoboric acid, followed by treatment with a molecular excess of an alkali metal nitrite in water in the presence of copper powder as catalyst. The compounds are active against *Trichomonas vaginalis*.

3,420,843

NOVEL 1,2-PHTHALYLCARBAZOLE PIGMENT DYESTUFFS

Erich Dietz, Kelkheim, Taunus, Otto Fuchs and Erich Schinzel, Frankfurt am Main, and Dieter Wagner, Kelkheim, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

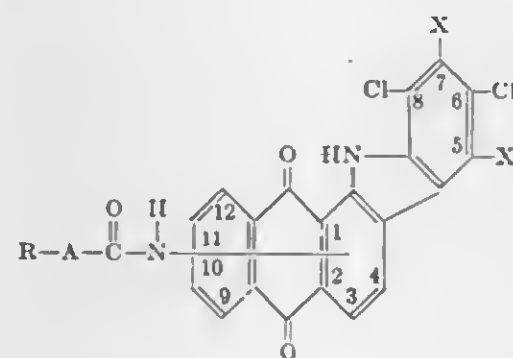
No Drawing. Filed Aug. 6, 1963, Ser. No. 300,181

Claims priority, application Germany, Aug. 7, 1962, F 37,544

The portion of the term of the patent subsequent to Aug. 8, 1984, has been disclaimed

U.S. Cl. 260—316 6 Claims
Int. Cl. C09b 1/32

1. The compound of the formula



in which A represents a member of the group consisting of phenylene, diphenylene and pyridine, R represents a member of the group consisting of chlorine, a bromine, a lower alkyl and 1,2-phthalyl-carbazole-aminocarbonyl as defined by the above formula and linked to the radical A, X represents hydrogen, chlorine, bromine or lower alkyl, and in which the aroylamino group is linked to the phthalyl-carbazole radical in a position selected from the 3-position and the 9-position.

3,420,844 PYRROLE-2-CARBOXAMIDO- PROPIONAMIDINES

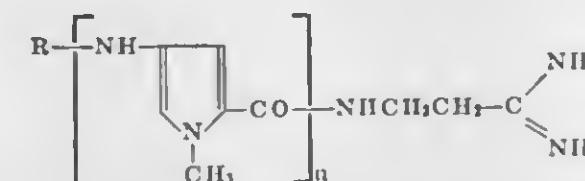
Federico Arcamone, Sergio Penco, and Vincenzo Nicollia, Milan, Italy, assignors to Società Farmaceutici Italia, Milan, Italy, a corporation of Italy

No Drawing. Filed July 22, 1964, Ser. No. 384,515

Claims priority, application Italy, July 26, 1963, 15,701/63

U.S. Cl. 260—326.3 11 Claims
Int. Cl. C07d 27/26; A01n 9/22

1. A compound selected from the group consisting of the formula



wherein R is selected from the group consisting of hydrogen and an acyl radical taken from the group consisting of alkanic acid having up to 4 carbon atoms and cyclopentyl propionic acid; n is from 2 to 3; and the non-toxic acid addition salts thereof with an acid selected from the group consisting of hydrochloric, sulphonic, phosphoric, acetic, maleic, ascorbic, succinic, benzoic and salicylic acids.

3,420,845 PYRROLE-2-CARBOXAMIDO AMIDINES

Federico Arcamone, Sergio Penco, and Vincenzo Nicollia, Milan, Italy, assignors to Società Farmaceutici Italia, Milan, Italy, a corporation of Italy

No Drawing. Filed July 7, 1965, Ser. No. 470,258

Claims priority, application Italy, July 14, 1964, 15,390/64

U.S. Cl. 260—326.3 7 Claims
Int. Cl. C07d 27/74

1. A compound selected from the group consisting of 1-methyl - 4-(1-methyl - 4-(1-methyl - 4-formyl-amino-pyrrole - 2-carboxamido) - pyrrole - 2-carboxamido)-pyrrole - 2-carboxamidoacetamide and its non-toxic acid addition salts with an acid selected from the group consisting of hydrochloric, sulphuric, phosphoric, acetic, maleic, ascorbic, succinic, benzoic and salicylic.

3,420,846 7-SUBSTITUTED MITOMYCIN A

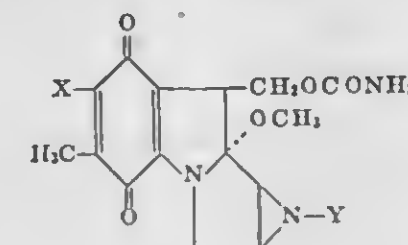
Masanao Matsui, Tokyo, Keizo Uzu, Shizuoka-ken, and Yasuhiro Yamada and Shigetoshi Wakaki, Tokyo, Japan, assignors to Kyowa Hakko Kogyo Co., Ltd., Tokyo, Japan, a corporation of Japan

Filed July 19, 1965, Ser. No. 472,813

Claims priority, application Japan, Aug. 25, 1964, 39/47,830

U.S. Cl. 260—326.3 2 Claims
Int. Cl. C07d 27/54

Compounds having the formula:



wherein X is selected from the group consisting of N-lysine, N-arginine and NHR₁, R₁ being any alkyl group having from 3 to 6 carbon atoms or a phenyl group and Y is selected from the group consisting of H, methyl and benzoyl.

3,420,847 PYRROLYL-LOWER-ALKYL-AMIDOXIMES

Malcolm R. Bell, East Greenbush, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 519,458, Jan. 10, 1966, which is a continuation of application Ser. No. 345,846, Feb. 19, 1964. This application Apr. 19, 1967, Ser. No. 631,872

U.S. Cl. 260—326.3 5 Claims
Int. Cl. C07d 27/22; C07d 27/24

New pyrrolyl-lower-alkyl-amidoximes having hypotensive, psychomotor depressant, psychomotor stimulant, anti-inflammatory, and hexobarbital potentiating activities.

3,420,848 DIBENZOCYCLOHEPTANE DERIVATIVES

Ernst Jucker, Ettingen, and Anton Ehnöther, Reinach, Basel-Land, Switzerland, assignors to Sandoz Ltd., Basel, Switzerland

No Drawing. Continuation-in-part of application Ser. No. 207,411, July 3, 1962. This application May 18, 1964, Ser. No. 368,358

U.S. Cl. 260—326.81 2 Claims
Int. Cl. C07d 87/28; C07d 27/24; C07d 27/28

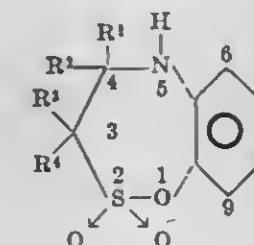
Dibenzocycloheptane derivatives (I) particularly useful as antidepressants are provided as well as the 5-OH intermediates (II) which are also antitussives. Especially good compounds (I) are 5-(2'-pyrrolidino-ethylidene)-dibenzo[a,e]cycloheptatriene, 5-(2'-dimethylamino-ethylidene)-dibenzo[a,d]cyclohepta[1,4]diene, 5-(2'-pyrrolidino-ethylidene)-dibenzo[a,d]cyclohepta[1,4]diene, and 5-(2'-dimethylamino-ethylidene)-dibenzo[a,d]cyclohepta[1,4]diene. Effective antitussives (II) are 5-hydroxy-5-(2'-dimethylaminoethyl)-dibenzo[a,e]cycloheptatriene, 5-hydroxy-5-(2'-dimethylaminoethyl)-dibenzo[a,d]cyclohepta[1,4]diene and 5-hydroxy-5-[1'-methyl-pyrrolidyl-(3')]-dibenzo[a,d]cyclohepta[1,4]diene.

3,420,849 BENZOOXATHIAZEPINES AND PROCESS THEREFOR

Fernand G. F. Eloy, Rhode Saint Genese, and André Van Overstraeten, Waterloo, Belgium, assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Mar. 15, 1966, Ser. No. 534,407
U.S. Cl. 260—327 5 Claims
Int. Cl. C07d 95/00

Benzoioxathiazepines of the formula:



wherein R¹ is a monovalent hydrocarbon group of up to 18 carbon atoms bonded to the position 4 carbon atom through a carbon atom of R¹ which is part of a benzenoid system either (a) directly or (b) indirectly through a carbonyl group, wherein R² and R⁴ are hydrogen or hydrocarbon groups of up to 18 carbon atoms, and wherein R³ is hydrogen, halogen or a hydrocarbon group of up to 18 carbon atoms. The benzoioxathiazepines are produced by condensing a sulfene with an aromatic nitrene. The benzoioxathiazepines are useful in the preparation of surfactants and chelating agents.

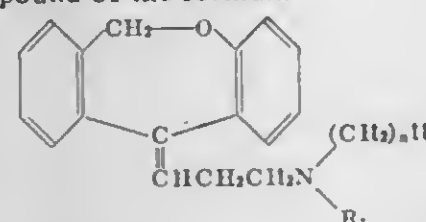
3,420,850
PROCESS FOR THE PRODUCTION OF 3,4-EPOXY-TETRAMETHYLENE-SULFONE
 Walter Dittmann and Heinz Stork, Marl, Germany, assignors to Chemische Werke Huls Aktiengesellschaft, Marl, Germany, a corporation of Germany
 No Drawing. Filed July 19, 1965, Ser. No. 473,233
 Claims priority, application Germany, Nov. 12, 1964, C 34,343

U.S. Cl. 260—332.1 4 Claims
 Int. Cl. C07d 63/18; C08f 45/58

3,4-epoxysulfolane in excellent yield is produced by reacting (heating) 3-sulfolene with hydrogen peroxide in the presence of a catalytic compound of tungsten. The peroxide is used in aqueous solution. The heating is carried out for several hours at a temperature in the range 30–90° C. The product is a stabilizer for halogen-containing polymers; also, is useful as an auxiliary material in textile manufacture, and as a monomer starting material in the production of polyethers, polyesters and the like.

3,420,851
NOVEL DIBENZOXEPINES
 Barry M. Bloom, Lyme, and James R. Tretter, Niantic, Conn., assignors to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware
 No Drawing. Continuation-in-part of application Ser. No. 179,471, Mar. 13, 1962. This application Dec. 19, 1962, Ser. No. 245,643
 U.S. Cl. 260—333 10 Claims
 Int. Cl. C07d 9/00

1. A compound of the formula



wherein n is a whole number from 0 to 1 and R_1 is alkyl having from 1 to 4 carbon atoms.

3,420,852
DICHLORIDE SALTS OF O-METHYLENATED SUGAR ACIDS
 William A. P. Black, Falkirk, Eric T. Dewar, Dalkeith, David Rutherford, Edinburgh, Scotland, assignors to the United States of America as represented by the Secretary of Agriculture
 No Drawing. Application Sept. 20, 1962, Ser. No. 225,168, now Patent No. 3,225,012, dated Dec. 21, 1965, which is a continuation-in-part of application Ser. No. 140,618, Sept. 25, 1961. Divided and this application June 16, 1965, Ser. No. 527,996
 U.S. Cl. 260—340.7 2 Claims
 Int. Cl. C07d 19/00; C08g 20/00

Dichloride salts of novel O-methylene derivatives of gluconic acid or idaric acid are interfacially polymerized with diamines or novel substituted diamino dideoxy sugar alcohols to provide improved linear polyamides, fibers of which exhibit improved resistance to yellowing. Novel water-soluble polyvinyl ethers that contain hexitol residues are also disclosed.

3,420,853
1-AMINO-4-PHENYL-3-BUTEN-2-OLS AND SALTS THEREOF
 Hendrik Dirk Moed, Volkert Claassen, and Gerard Bernard Paerels, Van Houtenlaan, Weesp, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
 No Drawing. Filed July 12, 1965, Ser. No. 471,434
 Claims priority, application Netherlands, July 11, 1964, 6407943

U.S. Cl. 260—343.7 11 Claims
 Int. Cl. C07c 91/06; C07c 149/24

Styryl ethanol amines substituted in the benzene rings

with alkyl, alkoxy, alkylthio, and halogen radicals. Examples are 1-cyclopentylamino-4-phenyl-3-butene-2-ol; 4-(4-chlorophenyl)-1-isopropylamines-3-butene-2-ol hydrochloride and 1-amino-4-(4-methoxyphenyl)-4-butene-2-ol hydrochloride. The compounds have β -sympatholytic activities.

3,420,854
CONVERSION OF ALKYLPHENOLS TO BENZOFURANS
 Phillip S. Landis, Woodbury, N.J., and Donald E. Boswell, Yardley, Pa., assignors to Mobil Oil Corporation, a corporation of New York
 No Drawing. Filed Feb. 3, 1966, Ser. No. 524,866
 U.S. Cl. 260—346.2 4 Claims
 Int. Cl. C07d 5/26

o-Alkylphenols are converted to benzofurans in high yield in contact with a crystalline aluminosilicate and carbonyl sulfide at 300–600° C. The aluminosilicate can be impregnated with a hydrogenation-dehydrogenation component, such as platinum.

3,420,855
SYNTHESIS OF STEROIDS
 Seymour D. Levine, North Brunswick, N.J., assignor to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware
 No Drawing. Filed Mar. 17, 1966, Ser. No. 534,997
 U.S. Cl. 260—346.2 8 Claims
 Int. Cl. C07d 101/00; C07d 5/32

This invention relates to novel 3-oxa-A-nor steroids having antiandrogenic activity.

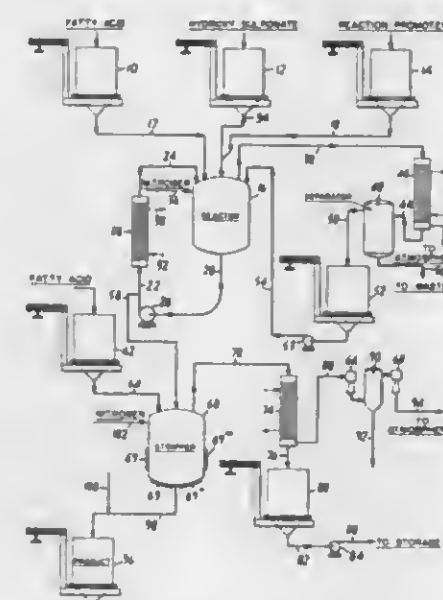
3,420,856
SULFONATED 1-CYCLOHEXYLAMINO-4-ANILINO-ANTHRAQUINONES
 François Benguerel, Basel, Switzerland, assignor to Sandoz Ltd. (also known as Sandoz A.G.), Basel, Switzerland
 No Drawing. Filed Sept. 22, 1964, Ser. No. 398,393
 Claims priority, application Switzerland, Sept. 24, 1963, 11,772/63; Aug. 11, 1964, 10,466/64
 U.S. Cl. 260—374 6 Claims
 Int. Cl. C09b 1/32; C09b 1/34

Water-soluble 1-anilino-4-cyclohexylaminoanthraquinone dyes bearing a sulfonic acid group on the anilino nucleus produce dyeings on polyamide and wool which have excellent fastness properties.

3,420,857
PROCESS FOR THE CONTINUOUS PRODUCTION OF FATTY ACID ESTERS OF HYDROXY SULFONATES
 Frederick Anthony Holland, North Bergen, Gerard Joseph McCrimlisk, Saddle Brook, and William A. Kelly, Teaneck, N.J., assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine
 Filed Dec. 11, 1964, Ser. No. 417,589
 U.S. Cl. 260—400 10 Claims
 Int. Cl. C07c 143/12; C07c 143/52; C11d 1/12

An improved method for the formation of fatty esters of hydroxy sulfonates is disclosed characterized by continuously supplying to the reaction kettle, during the course of the reaction, fatty acid reactants of a composition corresponding to fatty acids volatilized during the course of the reaction, by means of which it is possible to reduce the proportion of esters of relatively higher molecular weight fatty acids which are formed. Also dis-

closed is the use of this improved method in conjunction with an improved process for stripping of unreacted fatty



acids from the finished reaction mass to reduce the content of the lower molecular weight fatty acids.

3,420,858
PROCESS FOR THE PRODUCTION OF FATTY ACID ESTERS OF HYDROXY SULFONATES
 Gerard Joseph McCrimlisk, Saddle Brook, N.J., assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine
 Filed Dec. 11, 1964, Ser. No. 417,644
 U.S. Cl. 260—400 8 Claims
 Int. Cl. C07c 143/12; C07c 143/52; C11d 1/12

An improved method for the purification of crude reaction mixtures containing fatty esters of hydroxy sulfonates together with residual unreacted unesterified hydroxy sulfonates and free fatty acids is disclosed characterized by a two-step vacuum stripping operation to remove unreacted fatty acids. In the first step, vacuum stripping is conducted at moderate vacuum levels to remove a portion of the free fatty acids and to permit esterification of hydroxy sulfonates to continue. In the second step, a higher molecular weight fatty acid is added to maintain the crude reaction mixture fluid and permit continued distillation of unreacted fatty acids of lower molecular weight. A complete process for the preparation of hydroxy sulfonate esters is described.

3,420,859
11-iodo-10-UNDECYNOIC ACID AND ITS DERIVATIVES
 Akira Ueno, Tokyo, Etsuko Matsuzaki, Saitama-ken, Yoshio Momoki, Yoshino Ishimaru, Gosaku Saito and Sumio Sakai, Tokyo, Japan, assignors to Kaken Kagaku Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan
 No Drawing. Filed Mar. 9, 1965, Ser. No. 438,379
 Claims priority, application Japan, Mar. 13, 1964, 39/13,839; June 8, 1964, 39/32,221; July 4, 1964, 39/37,265
 U.S. Cl. 260—408 7 Claims
 Int. Cl. C07c 57/18; C07c 69/52

11-iodo-10-undecynoic acid and its zinc and phenyl esters of the formula: $\text{IC}\equiv\text{C}(\text{CH}_2)_8\text{COOR}$, wherein R is hydrogen, zinc, phenyl or substituted phenyl. The acid is produced by reacting 10-undecynoic acid with iodine in an aqueous lower alcohol solution. The zinc salt is produced by reacting an alkali salt of 11-iodo-10-undecynoic acid with an inorganic zinc salt. The phenyl esters are produced by reacting 11-iodo-10-undecynoyl chloride with a phenol providing the desired phenyl or substituted phenyl radical.

55S O.G.—8

2,420,860
METHOD OF RARE-EARTH METAL RECOVERY FROM ORTHOVANADATE COMPOUND
 Richard C. Ropp, Warren, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
 No Drawing. Filed Oct. 13, 1967, Ser. No. 675,070
 U.S. Cl. 260—429.2 5 Claims
 Int. Cl. C07f 5/00

Unseparable rare-earth metal orthovanadate is processed to efficiently recover the rare-earth metal constituent for reuse. The vanadate is dissolved in nitric acid or hydrochloric acid and insoluble vanadium pentoxide is filtered out. A specific acid concentration is required for efficient dissolution and recovery. A chelating agent such as ethylenediaminetetraacetic acid is added to complex any alkaline-earth metals present in the solution and an oxalate compound such as oxalic acid is added to cause the rare-earth metals to precipitate as oxalates.

3,420,861
EFFICIENT PREPARATION OF RARE-EARTH METAL OXALATE
 Richard C. Ropp, Warren, and Eugene A. Graff, Cedar Grove, N.J., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
 No Drawing. Filed Feb. 23, 1968, Ser. No. 707,433
 U.S. Cl. 260—429.2 9 Claims
 Int. Cl. C07f 5/00; C09k 1/02

An improved method of preparing rare-earth metal oxalate, by which there is obtained a significant increase in the rare-earth metal oxalate yield from rare-earth metal ion-containing solution. An aliphatic alcohol is included with an oxalate-compound-containing solution and the mixed oxalate-alcohol solution is added to the rare-earth metal-containing solution to precipitate the rare-earth metal oxalate. The amount of oxalate compound required is thereby reduced while the amount of rare-earth metal oxalate recovered is significantly increased.

3,420,862
COMPLEXES OF COPPER COMPOUNDS WITH ACETYLIDES
 Robert B. Long, Monmouth, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
 Filed Jan. 4, 1965, Ser. No. 423,227
 U.S. Cl. 260—438.1 8 Claims
 Int. Cl. C07f 1/08; C07c 7/16

Acetylenes are removed from acetylene containing streams by contacting said streams with a cuprous halide or other cuprous salt, said salt dissolved in a basic solvent having appreciable solubility for the cuprous salt but less than about 1% solubility for the complexed acetylides.

3,420,863
 β -[α' -(1''-1'''-TRIMETHYLENEFERROCENYL)]-1,1'-TRIMETHYLENEFERROCENES
 Richard A. Schnettler, Milwaukee, and John T. Suh, Mequon, Wis., assignors to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
 No Drawing. Filed Apr. 11, 1966, Ser. No. 541,500
 U.S. Cl. 260—439 7 Claims
 Int. Cl. C07f 15/02

The compounds are dimers of trimethyleneferrocene useful as petroleum additives and hematinic agents. Among the compounds disclosed are β -[α' -(1'',1'''-trimethyleneferrocenyl)]-1,1'-trimethyleneferrocene and α -

hydroxy - β - [α' - hydroxy-1'',1'''-trimethyleneferro-cenyl]-1,1'-trimethyleneferrocene.

3,420,864

PHOSPHORUS AND ARSENIC TRI-IMIDE METAL COMPOUNDS

Jean G. Riess, Brentwood, and John R. Van Wazer, Ladue, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Apr. 18, 1966, Ser. No. 543,022
U.S. Cl. 260-439 23 Claims
Int. Cl. C07f 9/06; C07f 9/70; C101 1/30

The present invention relates to new chemical compounds and the process for their preparation. The compounds embody a phosphorus tri-imide or an arsenic tri-imide moiety combined with metal complexes in a very stable form. The compounds have utility as gasoline additives, anti-knock compounds and catalysts.

3,420,865

NOVEL CARBOCYCLIC FERROCENES

John T. Suh and Claude I. Judd, Mequon, Wis., assignors to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed May 12, 1966, Ser. No. 549,444
U.S. Cl. 260-439 5 Claims
Int. Cl. C07f 15/02

The compounds are carbocyclic ferrocenes in which the carbon bridge contains 3 to 5 carbon atoms. The compounds are useful as petroleum additives and hematinic agents. Representative of the compounds disclosed are α -hydroxy - α - phenyl-1,1'-trimethyleneferrocene, β -phenyl- β -hydroxy-1,1'-tetramethyleneferrocene, and 1,1'-[γ -(4-pyridyl)pentamethylene] ferrocene.

3,420,866

PERFLUOROALKYL PEROXY PERFLUOROALKYL FLUOROXY COMPOUNDS

Jullanne H. Prager, Arden Hills, and Phillip G. Thompson, St. Paul, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Original application Jan. 21, 1965, Ser. No. 428,016. Divided and this application Dec. 12, 1966, Ser. No. 614,375
U.S. Cl. 260-453 4 Claims
Int. Cl. C07c 71/00

Fluoroxy-group substituted perfluoroalkyl compounds having a peroxy group in the perfluoroalkyl chain, having the formula



wherein X is a member of the group consisting of fluorine and -OF; R'_1 is a perfluoroalkyl radical; R''_1 is a perfluoroalkyl radical, the total number of carbon atoms in R'_1 and R''_1 taken together being from 2 to 18, said radicals having straight or branched chains, and each having at least 1 carbon atom; and n is 1 or 2. The compounds have oxidizing properties together with solubility characteristics of perfluorinated compounds.

3,420,867

N,N'-SULFONYL BIS(ARYL CARBAMATES) AND (THIOCARBAMATES)

John J. Kohler, Branford, Conn., and Louis A. Ross, Phillipsburg, N.J., assignors to The Ansul Company, a corporation of Wisconsin
No Drawing. Filed Aug. 25, 1966, Ser. No. 574,934
U.S. Cl. 260-455 7 Claims
Int. Cl. C07c 155/02; C07c 147/00; C07c 125/06

1. N,N'-sulfonyl bis(aryl carbamates) having the formula $SO_2(NH.COXA)_2$ where X is oxygen or sulfur and A is monovalent aryl.

3,420,868

SIDE CHAIN HALOGENATED ALKYLPHENYL HALOFORMATES

Edward D. Weil, Lewiston, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
No Drawing. Filed Aug. 29, 1963, Ser. No. 305,509
U.S. Cl. 260-463 14 Claims
Int. Cl. C07c 69/64

Haloformates which are useful as pesticides and as chemical intermediates. Some typical haloformates include, e.g., α -chloro-o-cresyl chloroformate, α -chloro-p-cresyl chloroformate, α,α -dichloro-o-cresyl chloroformate, α,α -dichloro-p-cresyl chloroformate, α,α,α -trichloro-p-cresyl chloroformate, 2-(2,3-dichloropropyl)phenyl chloroformate, α,α' -dichloro-2,3-xylene chloroformate, α,α' -dichloro-3,4-xylene chloroformate, and α,α' -dichloro-3,5-xylene chloroformate. The haloformate compositions are especially useful as intermediates for the preparation of side chain halogenated phenyl carbamates and side chain halogenated phenyl carbonates. Said carbamates and carbonates are also pesticidal.

3,420,869

UNSATURATED NITRATED ESTERS

John C. Weikel, Seattle, Clifford R. Houle, Renton, and Donald C. Malins, Seattle, Wash., assignors to the United States of America as represented by the Secretary of the Interior
No Drawing. Filed Apr. 13, 1967, Ser. No. 630,516
U.S. Cl. 260-467 6 Claims
Int. Cl. C07c 77/02

Unsaturated nitrate esters are made in high yield from a reactant consisting of an unsaturated alcohol or an unsaturated hydroxy acid by mixing the reactant with acetic anhydride then adding a stoichiometric amount of nitric acid, or by adding acetyl nitrate to the reactant so that the acetyl nitrate is consumed as it is added. 1-nitrate-octadeca-cis-9, cis-12, cis-15 triene (linolenyl nitrate) and 1-nitrate-octadeca-cis-9 monoene (oleyl nitrate) may be formed using this process. These unsaturated nitrate esters are useful as paint and oil additives.

3,420,870

DIPHENETHYLBENZENE MIXED ESTER CARBOXAMIDES

Ferdinand B. Zienty, Warson Woods, and Myron J. Holm, Olivette, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Original application June 5, 1964, Ser. No. 373,065, now Patent No. 3,293,278, dated Dec. 20, 1966. Divided and this application Mar. 24, 1966, Ser. No. 537,024
U.S. Cl. 260-471 3 Claims
Int. Cl. C07c 103/24

Certain p - diphenethylbenzene- $\alpha,\alpha,\beta,\beta$ -tetracarboxylic acid dialkyl ester amides are valuable as intermediate for the preparation of plasticizers, fireproofing agents, gear oil additives, grease additives, fungicides and bacteriostats.

3,420,871

ANTHRANILIC ACID ESTERS

Robert Allan Scherrer and Franklin Willard Short, Ann Arbor, Mich., assignors to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan

No Drawing. Continuation-in-part of application Ser. No. 240,706, Nov. 28, 1962. This application Sept. 1, 1964, Ser. No. 393,710
U.S. Cl. 260-472 6 Claims
Int. Cl. C07c 101/68

Amino esters of N-phenylanthranilic acids substituted at the 2- and 3-positions by halogen or methyl and op-

tionally substituted at the 6-position by chlorine; and acid-addition and quaternary ammonium salts. The compounds have anti-inflammatory activity and can be produced by esterifying a substituted N-phenylanthranilic acid or one of its derivatives with an aminoalcohol or one of its derivatives.

3,420,872

DIPHENETHYLBENZENE TETRACARBOXYLIC ACID ESTERS

Ferdinand B. Zienty, Warson Woods, and Myron J. Holm, Olivette, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Original application June 5, 1964, Ser. No. 373,065, now Patent No. 3,293,276, dated Dec. 20, 1966. Divided and this application Mar. 24, 1966, Ser. No. 537,002
U.S. Cl. 260-475 4 Claims
Int. Cl. C07c 69/76

Certain hydrocarbyl and hydrocarbyl diphenethylbenzene tetracarboxylic acid esters are valuable as resin intermediates, plasticizers, flameproofing agents, gear oil additives, grease additives, fungicides and bacteriostats.

3,420,873

OXIDATIVE CARBONYLATION AND CATALYST RECOVERY

Kenneth L. Olivier, Placentia, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
No Drawing. Filed Oct. 11, 1966, Ser. No. 585,736
U.S. Cl. 260-497 7 Claims
Int. Cl. C07c 51/20; C07c 57/04

1. In the oxidative carbonylation of a hydrocarbon olefin having from 2 to about 5 carbons to an oxygenated product thereof wherein the olefin and carbon monoxide are introduced into a reaction zone to contact, under substantially anhydrous conditions, an organic reaction medium comprising a low molecular weight, alkanolic acid which contains a catalyst consisting of from 0.001 to 5 weight percent of a platinum group metal bromide or chloride and from 0.1 to 10 weight percent of a redox agent selected from the class consisting of the soluble salts of nitrogen oxides and of multivalent metals having oxidation potentials more positive than said platinum group metal in said reaction medium to form said oxidized products and to reduce the catalyst to a lower oxidation state and wherein the reaction medium is contacted with oxygen to restore said catalyst to its higher oxidation state, the improved method for preventing permanent deactivation of the catalyst containing medium for the reaction which comprises removing from 1 to about 20 weight percent of the reaction medium from the remainder of said medium, distilling said removed portion to recover reaction products and solvent, reacting the tarry residue from said distillation with from 0.5 to 10 volumes of a strong mineral acid selected from the class consisting of nitric, sulfuric and hydrohalic acids forming mixtures thereof at a temperature from about 20° to about 150° and adding from 1 to about 50 volumes of an organic diluent having from 4 to about 7 carbons and selected from the class consisting of monohydroxy acyclic and alicyclic alcohols and ketones and esters of acyclic monocarboxylic acids and acyclic and alicyclic alcohols and glycols and esters of dicarboxylic acids and acyclic alcohols, separating the resulting admixture into an organic and an aqueous phase and separating the aqueous phase therefrom and recovering the catalyst values from said separated aqueous phase.

3,420,874

AMINE ADDITION SALTS OF NITRO-CARBOXY-ALKALI METAL PHENOLATES

Lionel A. Henderson, Columbus, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Sept. 28, 1962, Ser. No. 227,048
U.S. Cl. 260-501.14 3 Claims
Int. Cl. C07c 101/44; C06 9/02

1. 3,5-dinitro-1-guanidiniumcarboxy-2-sodium phenolate.

3,420,875

OLEFIN SULFONATES

Walter Anthony Di Salvo, North Arlington, and Jerome Stanley Schragar, Cedar Grove, N.J., assignors to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 2, 1966, Ser. No. 569,565
U.S. Cl. 260-513 7 Claims
Int. Cl. C07c 139/06; C07c 143/02

1. In the production of olefin sulfonates by the reaction of SO_3 and an olefin to produce an acid mix followed by aqueous alkaline treatment to convert the acid mix to an olefin sulfonate, the improvement which comprises first neutralizing the acid mix with aqueous sodium hydroxide while maintaining the temperature below about 150° F., the amount of sodium hydroxide and water being such that the resulting blend has a pH of at least about 12 and has a viscosity of about 5,000 to 30,000 centipoises, and passing the viscous alkaline blend continuously into a zone maintained under superatmospheric pressure in which said blend makes contact with a heated solid heat-exchange surface maintained at a temperature of at least about 350° F. so as to raise the temperature of the blend to at least about 330° F., by said contact, within a period of less than 5 minutes.

3,420,876

PROCESS FOR PREPARING 1-AMINO-3-CARBOXY-PROPANE-2-SULFONIC ACID

Takashi Hayashi and Mitsutoshi Kondo, Tokyo, and Michio Tanaka, Ohmiya-shi, Japan, assignors to Kaken Kagaku Kabushiki Kaisha, Tokyo, Japan.

No Drawing. Sept. 21, 1967, Ser. No. 669,388
Claims priority, application Japan, Sept. 27, 1966, 41/63,244

U.S. Cl. 260-513 8 Claims
Int. Cl. C07c 143/12; C07c 143/14

A process for preparing 1-amino-3-carboxypropane-2-sulfonic acid and salts thereof which comprises reacting γ -phthalimidocrotonic acid with an alkali bisulfite, thereby forming a sulfonic acid derivative of γ -phthalimidocrotonic acid, and then hydrolyzing said derivative to 1-amino-3-carboxypropane-2-sulfonic acid.

3,420,877

PROCESS FOR THE PREPARATION OF FLUOROCARBON SULFINATES AND DERIVATIVES THEREOF

Frank J. Pavlik, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 159,153, Dec. 13, 1961. This application October 23, 1965, Ser. No. 504,219

U.S. Cl. 260-513.7 8 Claims
Int. Cl. C07c 145/00

1. A process which comprises reacting an alkali metal sulfite or an alkaline earth metal sulfite in an aqueous medium containing from about 10 to about 50 weight

percent of a dissolved polar, inert organic solvent selected from the group consisting of dioxane, dimethoxyethane, di-n-butyl ether, tetrahydrofuran, and diethylene glycol diethyl ether with a compound of the formula



wherein R_1 is a perfluoroaliphatic radical having from 1 to about 18 carbon atoms, thereby producing a perfluoroaliphatic sulfinate.

3,420,878

MALEIC ACID PROMOTED OXIDATION PROCESS

William D. Vanderwerff, West Chester, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Apr. 27, 1966, Ser. No. 545,547
U.S. Cl. 260—524 9 Claims
Int. Cl. C07c 51/20; C07c 63/36

1. In a process for oxidizing an alkyl aromatic compound to form an aromatic carboxylic acid wherein an elemental oxygen containing gas is bubbled through said alkyl aromatic compound dissolved in a carboxylic acid solvent, in the presence of a catalyst system comprising a combination of a cobalt salt and an alkali metal salt of bromine in said solvent and wherein the temperature of said reaction is about 70° to about 250° C., the improvement comprising adding to said reaction mixture a small amount of maleic acid as promoter for said oxidation wherein the amount of maleic acid employed is in the range of 0.01 to 0.10 parts by weight based on said alkyl aromatic.

3,420,879

PURIFYING AROMATIC POLYCARBOXYLIC ACID

Delbert H. Meyer, Highland, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Filed Dec. 6, 1965, Ser. No. 512,005
U.S. Cl. 260—525 5 Claims
Int. Cl. C07c 51/42

1. A method of purifying crude aromatic polycarboxylic acid having impurity selected from the group consisting of aldehydic aromatic acids, ketonic aromatic acids, and mixtures thereof, which comprises the steps of forming an aqueous solution of said crude acid, treating said aqueous solution with at least one mole of alkali-metal borohydride per four moles of said impurity present in said crude aromatic polycarboxylic acid, carbon treating said borohydride treated solution, acidifying said carbon treated solution to regenerate said aromatic polycarboxylic acid, and recovering purified acid.

3,420,880

OXIDATION OF ALDEHYDES WITH A PALLADOUS SALT, A COPPER SALT AND OXYGEN IN THE PRESENCE OF WATER OR CARBOXYLATE IONS

Duncan Clark and Percy Hayden, Norton-on-Tees, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Feb. 11, 1965, Ser. No. 431,966
Claims priority, application Great Britain, Feb. 13, 1964, 6,094/64

U.S. Cl. 260—530 6 Claims
Int. Cl. C07c 51/26

Acrolein, methacrolein, crotonaldehyde, cyclohexene-1-aldehyde or cinnamaldehyde is oxidized to the corresponding unsaturated acid by reaction with oxygen in a liquid reaction mixture containing also a palladium salt, a copper salt and either water or carboxylate ions.

3,420,881

RECLAMATION PROCESS

Joseph Francis Turco and Jean A. Marriott, Westerly, R.I., assignors to General Dynamics Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 3, 1966, Ser. No. 531,475

U.S. Cl. 260—535 8 Claims
Int. Cl. C07c 51/55; C07c 51/42; C07c 59/16

1. Process for producing a solid, substantially pure alkali metal citrate by reclaiming a spent aqueous citrate dispersion derived from citrate solution that has been used for removal of metallic scale from a surface which comprises contacting the spent aqueous citrate dispersion with an alkali metal hydroxide sufficient to raise the pH of the spent dispersion to at least 10.5, separating the precipitated solids, evaporating the resultant solution to dryness, leaching the resultant solid with an organic solvent that is capable of dissolving the alkali metal hydroxide but not the alkali metal citrate until an aqueous solution of a portion of the solid measures at a pH of between about 8.5 and 9, and thereupon drying the remaining solid.

3,420,882

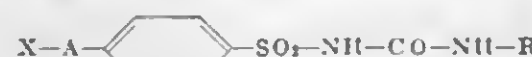
BENZENESULFONYL UREAS

Karl Muth and Walter Aumüller, Kelkheim, Taunus, and Rudi Weyer and Helmut Weber, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius and Brüning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Mar. 22, 1965, Ser. No. 441,880
Claims priority, application Germany, Feb. 2, 1964, F 42,379

U.S. Cl. 260—553 10 Claims
Int. Cl. C07c 143/78

Orally administrable benzenesulfonyl urea derivatives having hypoglycemic activity and the formula



in which

X is chlorine or bromine,
A is an alkylene of from 1 to 3 carbon atoms,
R is a cycloalkyl of from 5 to 8 carbon atoms, cyclohexyl substituted by an alkyl of from 1 to 3 carbon atoms or cyclohexylalkyl having from 1 to 2 carbon atoms in the alkylene chain.

3,420,883

N-ALKYL-N-CARBAMYLALKYL ISOPICRAMIC ACIDS

Jerzy Jozef Bartoszewicz, Twickenham, Middlesex, England, assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Nov. 25, 1964, Ser. No. 413,986
Claims priority, application Great Britain, Nov. 26, 1963, 46,699/63

U.S. Cl. 260—566 3 Claims
Int. Cl. C07d 87/42; C07c 103/30; A61k 7/12

This disclosure is concerned with certain N-alkyl-N-carbamyl-alkyl-isopicramic acid compounds for dyeing keratinous fibres. This disclosure is also concerned with compositions containing these compounds.

3,420,884

PROCESS FOR PREPARING PERFLUORO-ALKYLTHIOIMIDATES

Edwin Dorfman, Grand Island, and Claude Thomas Bean, Jr., Niagara Falls, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Dec. 28, 1964, Ser. No. 421,686
U.S. Cl. 260—566 3 Claims
Int. Cl. C07c 149/24

An improved process for preparing perfluoroalkylthio-

imidates, particularly dimethylperfluorogluarathioimide, and 250° C. and condensing formaldehyde from the effluent by reacting a mercaptan and perfluoroalkylthioimide at a low temperature in the presence of a catalyst.

3,420,885

REGENERATION OF SOLUTIONS LOADED WITH CARBON DIOXIDE

Wolfgang Schroeder, Frankenthal, Pfalz, Germany, assignor to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhein), Germany

Filed Aug. 21, 1964, Ser. No. 391,184
Claims priority, application Germany, Aug. 27, 1963, B 73,269

U.S. Cl. 260—584 3 Claims
Int. Cl. B01d 3/06

A process for regenerating solutions containing an alkali metal salt of an amino acid, an alkali metal salt of arsenous acid, or an alkali metal salt of carbonic acid or diethanolamine or triethanolamine which have been loaded with carbon dioxide at a pressure of from 5 to 100 atmospheres, by flashing said solution to atmospheric pressure and heating it in a steam-heated desorber for further desorption.

3,420,886

REARRANGEMENT OF CHRYSANTHENONE

William F. Eрман, Springfield Township, Hamilton County, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
No Drawing. Filed Jan. 13, 1967, Ser. No. 608,995

U.S. Cl. 260—586 1 Claim
Int. Cl. C07c 49/54; C07c 49/50

Chrysanthenone undergoes acid catalyzed rearrangement to form 2,6,6-trimethylbicyclo[3.2.0]hept-2-en-7-one.

3,420,887

DEHYDROGENATION OF ALCOHOLS TO KETONES

Charles R. Noddings and Andrew J. Dietzler, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Aug. 14, 1964, Ser. No. 389,765
U.S. Cl. 260—596 8 Claims
Int. Cl. C07c 45/16

Monohydric primary or secondary aliphatic alcohols including the cycloaliphatic alcohols are dehydrogenated to the corresponding aldehyde or ketone over a non-acidically precipitated calcium nickel phosphate material containing 7.5 to 9.2 atoms of calcium per atom of nickel at temperatures between 300° and 600° optionally in the presence of steam.

3,420,888

PRODUCTION OF FORMALDEHYDE FROM TRITHIANE

Albert Schöpf, Hering, Erhard Siggel, Seckmauern, and Gerhard Meyer, Obernburg, Germany, assignors to Vereinigte Glanzstoff-Fabriken AG, Wuppertal-Elberfeld, Germany

No Drawing. Filed Apr. 11, 1966, Ser. No. 541,512
Claims priority, application Germany, Apr. 23, 1965, V 28,311

U.S. Cl. 260—606 10 Claims
Int. Cl. C07c 45/00; C07c 47/04

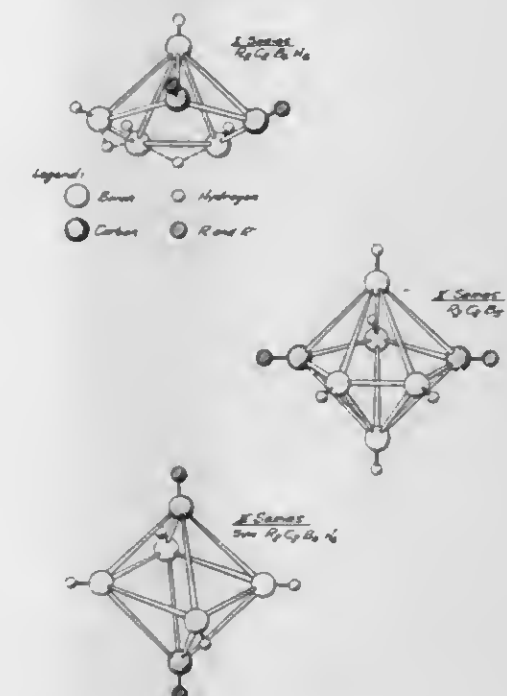
1. A process for the production of formaldehyde from trithiane which comprises contacting said trithiane with CuO and air at a temperature between about 190° C.

3,420,889

C-ALKYL DERIVATIVES OF C₂B₅H₇ AND C₂B₄H₆ AND PREPARATION THEREOF FROM DIHYDROCARBORANES

Thomas P. Onak, Pasadena, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Aug. 20, 1964, Ser. No. 391,056
U.S. Cl. 260—606.5 13 Claims
Int. Cl. C07f 5/02



The description discloses a process which produces a high yield of carboranes from dihydrocarboranes. Upon heating a C-alkyl derivative of dihydrocarborane a C-alkyl derivative can be obtained. A high yield is obtained when the heating process is accomplished in the presence of trimethylamine.

3,420,890

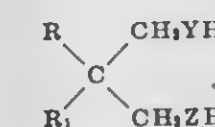
PROPANE DITHIOLS

Bernard J. Ludwig, North Brunswick, N.J., Julius Diamond, Plymouth Meeting, Pa., and Wilfred A. Skinner, Jr., Portola Valley, Calif., assignors to Carter-Wallace, Inc., a corporation of Maryland

No Drawing. Original application Apr. 29, 1963, Ser. No. 276,197, now Patent No. 3,264,338, dated Aug. 2, 1966. Divided and this application Feb. 16, 1966, Ser. No. 527,742

U.S. Cl. 260—609 7 Claims
Int. Cl. C07c 149/18

1. Thiol compounds of the formula



wherein R and R_1 represent hydrogen or hydrocarbon radicals selected from the group consisting of lower alkyl and phenyl, with at least one of said groups being a hydrocarbon radical, and Y and Z represent oxygen or sulfur, with at least one of said groups being sulfur.

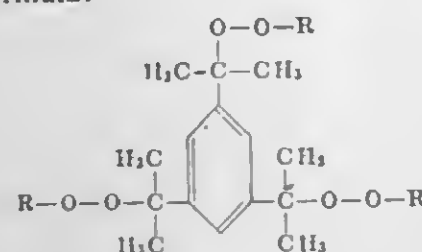
3,420,891

TRIS-PEROXIDES FROM 1,3,5-TRISOPROPYL-BENZENE

Orville Leonard Magell, Buffalo, and Richard Anthony Bafford, Tonawanda, N.Y., assignors to Wallace & Tiernan Inc., East Orange, N.J., a corporation of Delaware

No Drawing. Filed Dec. 8, 1966, Ser. No. 600,052
U.S. Cl. 260—610 5 Claims
Int. Cl. C07c 73/00

Tris-peroxides derived from 1,3,5-trisopropylbenzene, having the formula:



where R is an alkyl radical of from 1-8 carbon atoms, are disclosed. Crosslinked polymeric materials prepared using these tris-peroxides as crosslinking agents, exhibit none of the odor or blooming problems associated with other peroxides.

3,420,892

4-TRIFLUOROMETHYL-6,4'-DINITRODIPHENYL ETHERS

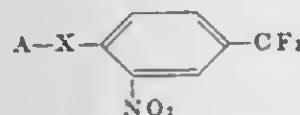
Henry Martin, Basel, Hans Aebi, Riehen, and Ludwig Ebner, Stein, Aargau, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss company

No Drawing. Continuation-in-part of application Ser. No. 256,243, Feb. 5, 1963. This application Jan. 18, 1966, Ser. No. 521,427

Claims priority, application Switzerland, Feb. 8, 1962, 1,567/62

U.S. Cl. 260—612 5 Claims
Int. Cl. C07c 43/28; C07c 43/20

Compounds are provided which are represented by the formula



wherein A represents a phenyl radical substituted by a bromine atom, 2 to 3 chlorine atoms, 2 alkyl radicals, a lower alkoxy radical, the nitro group, the CF₃-group, the —SO₂NH₂ group, the cyano group or the group —SCN, and X represents oxygen or sulfur.

3,420,893

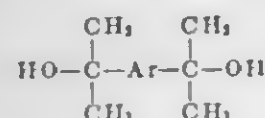
PROCESS FOR THE RECOVERY OF ALIPHATIC DICARBINOLS

Volkert Faltings, Gelsenkirchen-Buer, and Josef Ewers, Dorsten, Westphalia, Germany, assignors to Scholven-Chemie Aktiengesellschaft, Gelsenkirchen-Buer, Germany

Filed Apr. 23, 1964, Ser. No. 362,036
Claims priority, application Germany, May 4, 1963, Sch 33,235

U.S. Cl. 260—618 7 Claims
Int. Cl. C07c 29/00; C07c 31/18

The production of aliphatic dicarbinols of the formula:



in which Ar is aryl is disclosed by successively oxidizing, reducing and cooling an aromatic hydrocarbon wherein a further quantity of the starting aromatic hydrocarbon is introduced into the reduction mixture to promote crystallization.

3,420,894

PROCESS FOR THE PREPARATION OF BISPHENOLS

Arleen Cecilia Pierce, Belleville, and Nell Adams Lindo, New Providence, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Feb. 26, 1965, Ser. No. 435,724
U.S. Cl. 260—619 8 Claims
Int. Cl. C07c 37/20; C07c 39/24

This specification discloses an improved process for the preparation of 2,2-bis(4'-hydroxyphenyl)-1,1a,3,3a,4,5,5a,5b,6 - decachlorooctahydro - 1,3,4 - metheno-2H-cyclobuta [cd] pentalenes whereby 1,1a,3,3a,4,5,5a,5b,6-decachlorooctahydro-1,3,4 - metheno-2H-cyclobuta [cd] pentalene-2-one is reacted with a phenolic compound in the presence of a sulfonic acid catalyst at elevated temperatures. High yields of pure bisphenols are obtained.

3,420,895

PROCESS OF PRODUCING HYDROQUINONE

Hachiro Wakamatsu, Tokyo, and Masahiko Takesada and Jiro Sato, Kanagawa-ken, Japan, assignors to Ajinomoto Co., Inc., Tokyo, Japan

No Drawing. Filed July 11, 1966, Ser. No. 564,042
Claims priority, application Japan, July 13, 1965, 40/42,162; Dec. 22, 1965, 40/79,069; Apr. 14, 1966, 41/23,762

U.S. Cl. 260—621 14 Claims
Int. Cl. C07c 37/00

The yield of hydroquinone from the known reaction between acetylene and carbon monoxide in an inert hydrogen-bearing solvent in the presence of a rhodium catalyst can be increased greatly by holding the acetylene concentration in the reaction medium below 1.5 moles per liter. Under these conditions, the pressure can be held at 150 to 300 atmospheres without loss in yield, and the amount of catalyst present can be reduced, particularly in the simultaneous presence of hydrogen.

3,420,896

PREPARATION OF DIALKYLPHENOLS

Richard C. Mansfield, Cherry Hill, N.J., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

Filed Dec. 10, 1963, Ser. No. 329,460
U.S. Cl. 260—624 10 Claims
Int. Cl. C07c 39/06

1. A process for the production of dialkylphenols in high yields and of high purity which comprises reacting at least a total of 3 mols of an olefin for each mol of phenol by carrying out the reaction at a temperature of about 15-35° C. in the presence of at least a catalytic amount of BF₃.

3,420,897

TREATMENT OF HYDROCARBON OXIDATION MIXTURES

Joseph L. Russell, Ridgewood, N.J., and Harry Olenberg, Bronx, N.Y., assignors to Halcon International, Inc., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 139,620, Sept. 21, 1961. This application May 7, 1965, Ser. No. 454,217

U.S. Cl. 260—631 3 Claims
Int. Cl. C07c 35/08

1. In a process for hydrolyzing the reaction products containing 20 to 95% unreacted cyclohexane resulting from the molecular oxygen oxidation of cyclohexane in the presence of a boron compound selected from the group consisting of boric acid, meta boric acid, tetra boric acid and boron anhydride, the improvement which comprises contacting said reaction products containing 20 to 95% by weight cyclohexane with water at a temperature in the range of about 10 to 100° C.

3,420,898

SINGLE STAGE HYDROFORMYLATION OF OLEFINS TO ALCOHOLS

John L. Van Winkle, San Lorenzo, Rupert C. Morris, Berkeley, and Ronald F. Mason, Mill Valley, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 30, 1965, Ser. No. 468,573
U.S. Cl. 260—632 10 Claims
Int. Cl. C07c 29/16; C07g 15/06

The direct, single-stage production of reaction products consisting predominantly of primary alcohols by reacting an olefinic compound with carbon monoxide and hydrogen at a temperature between about 100° and 300° C. and superatmospheric pressure in the presence of a catalyst of cobalt in complex combination with carbon monoxide and a bicyclic heterocyclic tert-phosphine.

3,420,899

PROCESS FOR THE CATALYTIC PREPARATION OF CYCLODODECATRIENES-1,5,9 FROM CONJUGATED DIOLEFINS AND CATALYSTS THEREFOR

Carlo Longiave, Renato Castelli, and Alberto Andreetta, Novara, and Angelo Garberi, Cilavegna, Pavia, Italy, assignors to Montecatini Edison, S.p.A., Milan, Italy

No Drawing. Continuation of application Ser. No. 293,262, July 8, 1963. This application July 25, 1967, Ser. No. 655,962
Claims priority, application Italy, July 9, 1962, 13,540/62

U.S. Cl. 260—666 11 Claims
Int. Cl. C07c 3/60; C07c 3/10

The present invention relates to a catalytic process for the preparation of 1,5,9 cyclododecatriene. According to the present invention, the ring of the conjugated diolefin is closed by using a catalyst consisting of a titanium halide selected from the group consisting of tri- and tetravalent halides complexed with an organic nitrogen basic compound and an alkyl aluminum dihalide complexed with a Lewis base. The catalyst of the present invention is soluble in the reaction solvent, acts in a homogeneous phase, and appears extremely stereospecific in the cyclic trimerization of the conjugated diolefins (butadiene-1,3, isoprene, piperylene, etc.). It consists of four essential components:

- (A) A titanium halide;
- (B) An organic nitrogen-containing substance to form the complex with the titanium halide;
- (C) An alkyl aluminum dihalide;
- (D) An electron-donor substance of the Lewis base type to form a complex with the organic aluminum halide.

The ratio of the complexing substance to the organic aluminum halide must be such that there remains in the reaction solution an amount of uncomplexed aluminum compound equal to at least 1.5 grams per liter of solution.

3,420,900

HALOGEN EXCHANGE PROCESS

Victor Mark, Ransomville, N.Y., assignor to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed May 24, 1966, Ser. No. 552,441
U.S. Cl. 260—648 8 Claims
Int. Cl. C07c 17/20; C07c 23/02; C07c 23/18

A bromo-phosphorus compound of the formula Z₂PBr, where Z is chlorine, bromine, methyl or phenyl, is reacted with a halogenated hydrocarbon having at least one carbon to carbon double bond and a chloromethylene group or terminal chloromethyl group, so as to replace one of the chlorine atoms of said group with bromine. For example, hexachlorocyclopentadiene is converted to 5-bromopentachlorocyclopentadiene by reaction with PBr₃.

3,420,901

PROCESS FOR THE OXYCHLORINATION OF ORGANIC COMPOUNDS

Arthur C. Schulz, North Tonawanda, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 371,775, June 1, 1964. This application Oct. 23, 1967, Ser. No. 677,091

U.S. Cl. 260—659 7 Claims
Int. Cl. C07c 17/00; B01j 11/78

There is provided a process for the oxychlorination of organic compounds wherein a compound selected from the group consisting of lower alkanes, lower alkenes, and the partially chlorinated derivatives thereof is contacted in the vapor phase with a chlorinating agent and an oxygen-containing gas in the presence of an oxychlorination catalyst which is comprised of from 1 to about 35 percent of a variable valence metal of groups 3-8 of the periodic table and from about 65 to 99 percent alumina.

3,420,902

PROCESS FOR THE HYDROHALOGENATION OF ORGANIC COMPOUNDS

Danford H. Olson, Wood River, Ill., and George M. Bailey, Littleton, Colo., assignors to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio

No Drawing. Filed Aug. 1, 1966, Ser. No. 569,102
U.S. Cl. 260—663 13 Claims
Int. Cl. C07c 17/08

The present invention comprises a process for the production of organic halides comprising in combination the steps of contacting a hydrogen halide with an organic compound containing at least one non aromatic double bond in the presence of a catalytic amount of noble metal.

3,420,903

METHOD OF MAKING t-BUTYLLITHIUM

William Novis Smith, Jr., Exton, Pa., assignor to Foote Mineral Company, Exton, Pa., a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 592,248, Oct. 28, 1966. This application Feb. 7, 1967, Ser. No. 614,422

U.S. Cl. 260—665 8 Claims
Int. Cl. C07f 1/02

t-Butyl chloride is reacted with lithium containing a small amount of sodium in the presence of a small amount of lithium alkoxide containing from 1 to 10 carbon atoms.

3,420,904

PROCESS FOR OLIGOMERIZING A CONJUGATED ALIPHATIC DIOLEFIN AND ETHYLENE

Langley R. Hellwig, Trenton, N.J., assignor to Columbian Carbon Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 23, 1966, Ser. No. 551,943
U.S. Cl. 260—666 21 Claims
Int. Cl. C07c 3/20; C07f 15/04

Processes are described for the oligomerization of a conjugated aliphatic diolefin by contacting a liquid admixture of the diolefin and ethylene with a nickel coordination catalyst. Illustrations show the formation of 1,5-cyclododecadiene and 1,4,9-decatriene from a liquid admixture of 1,3-butadiene and ethylene in the presence of either a preformed Lewis base complex of nickel (0) or such complex which is formed in situ by reducing a nickel compound in the presence of a molecular Lewis base.

3,420,905 MOLECULAR REARRANGEMENT OF CYCLOALKADIENIC COMPOUNDS

Edwin L. De Young, Chicago, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

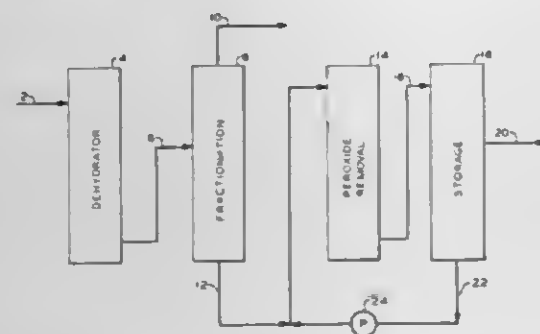
No Drawing. Filed Dec. 16, 1966, Ser. No. 602,127
U.S. Cl. 260—666
Int. Cl. C07c 5/30; C07c 5/24

Cycloalkadienic compounds will undergo molecular rearrangement to form divinyl-substituted cycloalkanes in the presence of certain catalytic compositions of matter such as an alumina which has been pretreated by heating at a temperature above about 350° C.

3,420,906 REMOVAL OF PEROXIDES FROM A CYCLOHEXENE STREAM

Joe N. Singletary, Phillips, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed July 24, 1967, Ser. No. 655,646
U.S. Cl. 260—666.5
Int. Cl. C07c 7/18

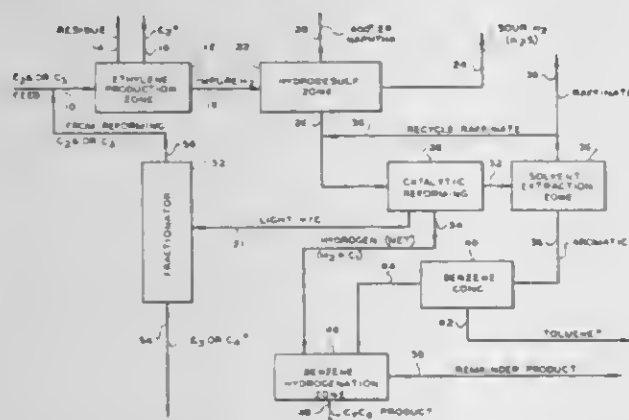


The peroxide number of a peroxide-containing stream is reduced by contacting said stream with silica gel. The peroxide number of cyclohexene is reduced by contacting with silica gel.

3,420,907 HYDROCARBON CONVERSION PROCESS

John T. Cabbage, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed May 2, 1966, Ser. No. 546,695
U.S. Cl. 260—667
Int. Cl. C07c 1/00; C10g 13/00



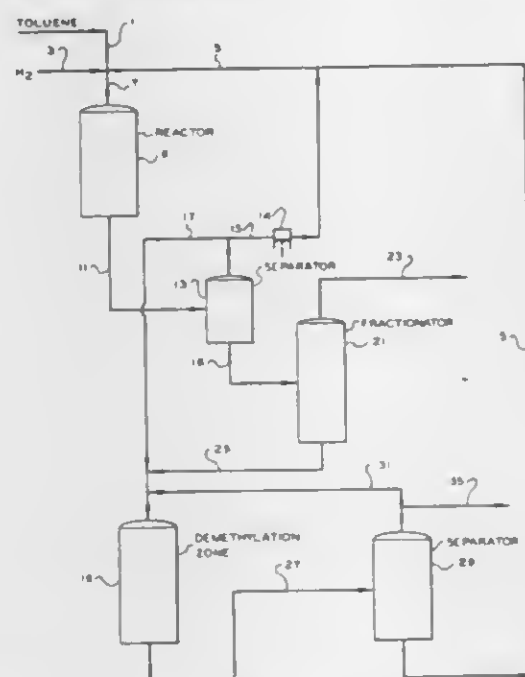
1. A process comprising the steps of:
 - (1) dehydrogenating a feed stream of ethane, propane, or a mixture thereof to produce an ethylene stream as a product of the process and an impure stream rich in H₂ containing a minor concentration of CO;
 - (2) hydrodesulfurizing a naphtha-rich stream in admixture with the impure H₂-rich stream of step (1) in contact with a catalyst immune to CO poisoning to produce a substantially sulfur-free, naphtha-rich stream;

- (3) catalytically reforming the resulting naphtha-rich stream of step (2) to produce a substantially CO-free H₂ stream, an aromatics-rich stream, and a lighter C₂-C₅ stream;
- (4) solvent-extracting the aromatics-rich stream of step (3) to separately recover a principally aromatics stream and a raffinate stream of principally non-aromatics;
- (5) separating the aromatics stream of step (4) into a principally benzene stream and a toluene and heavier stream as a product of the process; and
- (6) hydrogenating the benzene stream of step (5) in admixture with the CO-free H₂ stream of step (3) in contact with a nickel hydrogenation catalyst to produce a cyclohexane stream as a product of the process.

3,420,908

PROCESS FOR PRODUCING CYCLOHEXANE
Fred T. Sherk and John F. Hutto, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Aug. 19, 1966, Ser. No. 573,578
U.S. Cl. 260—667
Int. Cl. C07c 3/58; C07c 13/18



1. A process for making cyclohexane comprising the steps of combining fresh toluene feed with recycled toluene and cyclohexane; passing said combination of toluene and cyclohexane to a thermal hydrogenation zone; hydrogenating said toluene to methylcyclohexane in the presence of a suitable hydrogenation catalyst and hydrogen; withdrawing from said hydrogenation zone effluent comprising methylcyclohexane and cyclohexane; recovering cyclohexane from said effluent; passing said methylcyclohexane to a dealkylation zone; dealkylating said methylcyclohexane to cyclohexane in the presence of hydrogen and a suitable dealkylation catalyst; withdrawing from said hydrodealkylation zone effluent comprising toluene and cyclohexane; recycling said toluene and cyclohexane to the hydrogenation zone.

3,420,909

ALKYLATION PROCESS

Louis Schmerling, Riverside, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Aug. 21, 1967, Ser. No. 661,776
U.S. Cl. 260—671
Int. Cl. C07c 3/56

An alkylatable aromatic hydrocarbon is alkylated with a saturated hydrocarbon utilizing a catalyst comprising aluminum chloride and the higher-valence halide of a

metal which forms at least two metal halides differing in valence.

3,420,910 COPPER SWEETENING PRETREATING BEFORE ISOMERIZING ALPHA-PINENE

Carl Bordenca, Ponte Vedra Beach, John Mentzer Derfer, Jacksonville, and Clayton B. Hamby, Atlantic Beach, Fla., assignors, by mesne assignments, to S.C.M. Corporation, New York, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 479,275, Aug. 12, 1965. This application Jan. 16, 1967, Ser. No. 609,361

The portion of the term of the patent subsequent to Dec. 19, 1984, has been disclaimed

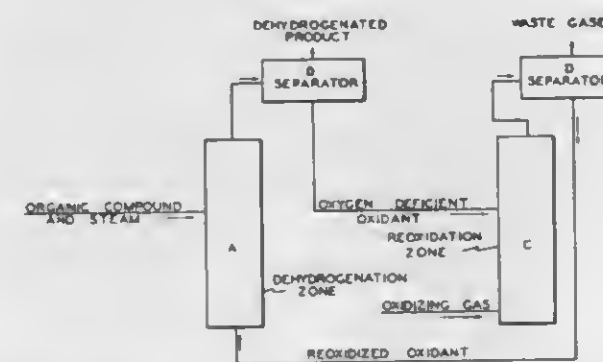
U.S. Cl. 260—675.5
Int. Cl. C07c 7/02; C07c 7/16; C07c 5/22

A process for removing catalyst poisoners from α -pinene stock by contacting it at a sweetening-reactive temperature between about 50° C. and about 300° C. with copper or copper oxide, and then isomerizing the pretreated stock with a hydrogen-acceptor catalyst under neutral to basic conditions at a temperature between about room temperature and about 300° C. Passing a non-reactive gas through the sour α -pinene supply, preferably simultaneously with such treatment by copper or copper oxide, provides improved results by removing from a α -pinene lower boiling, sour-inducing impurities, thereby increasing the efficiency of the sweetening step and prolonging the useful life of the copper or copper oxide as a sweetening agent.

3,420,911 OXIDATIVE DEHYDROGENATION USING ZINC OR CADMIUM FERRITE

Marvin Z. Woskow, Phillip M. Colling, and Olin C. Karkalits, Jr., Houston, Tex., assignors to Petro-Tex Chemical Corporation, Houston, Tex., a corporation of Delaware

Filed Jan. 27, 1967, Ser. No. 612,193
U.S. Cl. 260—680
Int. Cl. C07c 5/18; C07c 11/22; C07c 15/10



Dehydrogenation of organic compounds by reacting hydrogen removed from the organic compound with oxygen to form water. Oxygen is supplied by solid oxidant comprising zinc ferrite or cadmium ferrite which releases oxygen and is thereby converted to a composition diminished in oxygen.

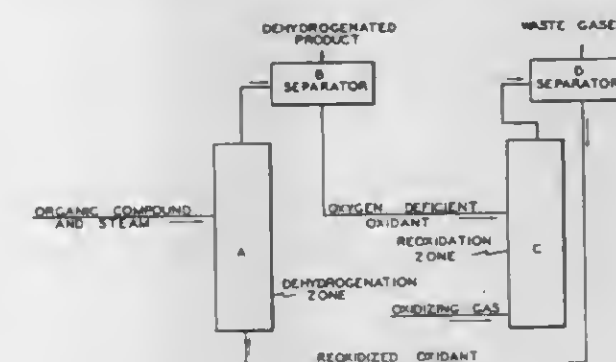
3,420,912 DEHYDROGENATION PROCESS USING MANGANESE FERRITE

Marvin Z. Woskow, Phillip M. Colling, and Olin C. Karkalits, Jr., Houston, Tex., assignors to Petro-Tex Chemical Corporation, Houston, Tex., a corporation of Delaware

Filed Jan. 27, 1967, Ser. No. 612,204
U.S. Cl. 260—680
Int. Cl. C07c 11/22; C07c 15/10; C07c 15/00

Dehydrogenation of organic compounds by reacting hydrogen removed from the organic compound with oxy-

gen to form water. Oxygen is supplied by solid oxidant comprising manganese ferrite which releases oxygen and



is thereby converted to a composition diminished in oxygen.

3,420,913 ACTIVATED CHARCOAL IN RUBBER COMPOUNDING

Henry E. Railsback, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Feb. 7, 1967, Ser. No. 614,407
U.S. Cl. 260—763
Int. Cl. C08c 11/18

Small amounts of activated charcoal are added to rubber stock containing carbon black. This composition has sufficient green tensile to facilitate fabrication of items such as radial ply tires which require greater strength to hold the cords in place during curing.

3,420,914 UNSATURATED POLYESTER COMPOSITIONS AND THEIR PREPARATION

Clayton A. May, Orinda, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 13, 1964, Ser. No. 411,138
U.S. Cl. 260—837
Int. Cl. C08g 30/10; C08g 30/04

New curable polyester compositions having controlled viscosity are disclosed. These compositions comprise a mixture of a soluble curable unsaturated polyester of a polyepoxide and an ethylenically unsaturated organic carboxylic acid, and a dissimilar polymeric material possessing a plurality of groups, such as epoxy, ester hydroxyl, and acetal groups. Examples of the polyesters and the polymeric additives are given. Also disclosed are the above-noted compositions containing ethylenically unsaturated monomer, such as styrene. Uses of the compositions, such as in the preparation of laminates, are also disclosed.

3,420,915 PHENOL MODIFIED HYDROCARBON RESINS AND BLENDS THEREOF WITH EPOXY RESIN, POLY- URETHANE OR POLYTHIOL

Charles Henry Braithwaite, Jr., Los Angeles County, Calif., assignor to Cal-Colonial Chemicals, La Habra, Calif., a corporation of California

No Drawing. Continuation-in-part of application Ser. No. 88,312, Feb. 10, 1961. This application Nov. 17, 1966, Ser. No. 594,990

U.S. Cl. 260—837
Int. Cl. C08g 33/10; C08g 45/06

A phenolic-hydrocarbon copolymer having a characteristic infra-red absorption curve containing from 1 to 60 percent of a phenol a substantial portion of which is in the diortho dialkylated form; and cured mixtures thereof with epoxy resins, isocyanates and polythiol resins.

3,420,916 PYROLYZED BLEND OF POLYETHYLENE AND POLYPROPYLENE

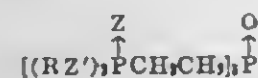
Gordon Y. T. Liu, Plaquemine, and Carl P. Strange, Addis, La., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Oct. 4, 1965, Ser. No. 492,896
U.S. Cl. 260-897 10 Claims
Int. Cl. C08f 29/12

A process for the preparation of hollow shaped articles from a pyrolyzed blend of polyethylene with a minor amount of polypropylene is described. The process for the preparation of the pyrolyzed blend is also described. Generally, 70 to 95 percent by weight of polyethylene is blended with 5 to 30 percent by weight of polypropylene in a conventional mixer, then heated to a temperature of 250° to 450° C. in the absence of air for a period of time of 1-10 minutes. The pyrolyzed blend is then extruded as a tube, constricted at one end, and inflated so as to make it conform to a predetermined shape, i.e. the surrounding mold.

3,420,917 TRIS(DISUBSTITUTED PHOSPHENYL ETHYL) PHOSPHINE OXIDES

Chisung Wu, Kendall Park, N.J., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Dec. 2, 1965, Ser. No. 511,258
U.S. Cl. 260-932 4 Claims
Int. Cl. C07f 9/02

A new class of phosphine oxides comprising the tris (disubstituted phosphinyl ethyl)phosphine oxides represented by the formula:

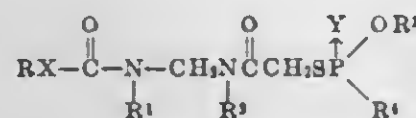


wherein Z and Z' represent oxygen or sulfur and R represents a monovalent hydrocarbon group having up to 18 carbon atoms when alkyl and up to 10 carbon atoms when aryl. These oxides may be made by reacting a vinyl phosphine oxide or a vinyl phosphonate or its sulfur analogue with elemental phosphorus and aqueous alkali.

3,420,918 N[CARBAMYL(THIOCARBAMYL)METHYL]PHOS- PHORODITHIO(THIO) OR PHOSPHONODITHIO (THIO)ACETAMIDES

Llewellyn W. Fancher, Lafayette, and David J. Broadbent, San Jose, Calif., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 21, 1965, Ser. No. 500,193
U.S. Cl. 260-938 6 Claims
Int. Cl. C07f 9/40

Compounds of the formula

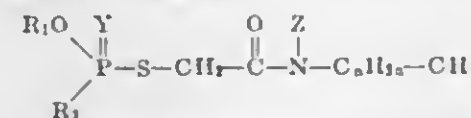


wherein X and Y are oxygen or sulfur; R is lower alkyl, lower alkenyl, lower alkynyl, naphthyl, phenyl, substituted phenyl, wherein said substituents are halogen, lower alkoxy, lower alkyl or nitro; bornyl, isobornyl, cyclohexyl, lower alkoxyalkyl, N-phthalimidomethyl or S-substituted-thioethyl wherein said substituents are lower alkyl, phenyl, naphthyl, halophenyl or alkyl phenyl; R¹ and R² are hydrogen, lower alkyl, phenyl, lower alkenyl or lower alkynyl; R³ is lower alkyl and R⁴ is lower alkoxy or lower alkyl. The compounds are useful as insecticides and acaricides.

3,420,919 NITRILE AMIDE PHOSPHATES AND PHOSPHONATES

Peter E. Newallis, Morris Plains, and Pasquale Lombardo, East Hanover, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed June 30, 1965, Ser. No. 468,583
U.S. Cl. 260-940 13 Claims
Int. Cl. C07f 9/38; C07f 9/8; C07f 9/16

1. A compound having the structural formula:

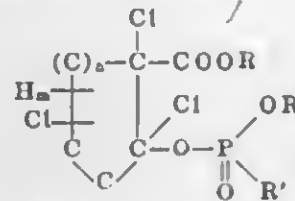


in which Y is a chalcogen selected from the group consisting of oxygen and sulfur, R₁ is an alkyl radical having from 1 to 6 carbons, R₂ is a member selected from the group consisting of alkyl and alkoxy radicals having from 1 to 6 carbons, n is an integer from 1 to 6 and Z is an aryl radical.

3,420,920 TRICHLOROCYCLOPENTYL AND TRICHLORO- CYCLOHEXYL PHOSPHATES AND PHOSPHO- NATES AND PROCESS THEREFOR

Rudolf F. W. Rätz, Hamden, and Miriam J. Gruber, New Haven, Conn., assignors, by mesne assignments, to The Ansul Company, a corporation of Wisconsin
No Drawing. Filed Sept. 30, 1965, Ser. No. 491,835
U.S. Cl. 260-941 10 Claims
Int. Cl. C07f 9/02; C07f 9/38; A01n 9/36

Trichlorocyclopentyl and trichlorocyclohexyl phosphates and phosphonates having the formula:



where R is lower alkyl; R' is lower alkyl, lower alkoxy, or chloromethyl; n is an integer from 1-2, and m is 5 or 7 being 5 when n is 1 and 7 when n is 2, are prepared by the exhaustive chlorination of selected cyclic vinyl phosphates and phosphonates. These compounds are unusually effective contact and systemic insecticides.

3,420,921 PROCESS FOR PREPARATION OF DIALKYL PHOSPHONATES

Harold E. Sorstokke, New City, N.Y., assignor to Stauffer Chemical Company, a corporation of Delaware
Filed Sept. 14, 1965, Ser. No. 487,215
U.S. Cl. 260-976 5 Claims
Int. Cl. C07f 9/08

A process for producing a dialkyl phosphonate by the reaction of phosphorus trichloride and a monohydric alcohol of from 1 to 4 carbon atoms, which comprises prior to the initiation of the reaction, saturating the alcohol with hydrogen chloride.

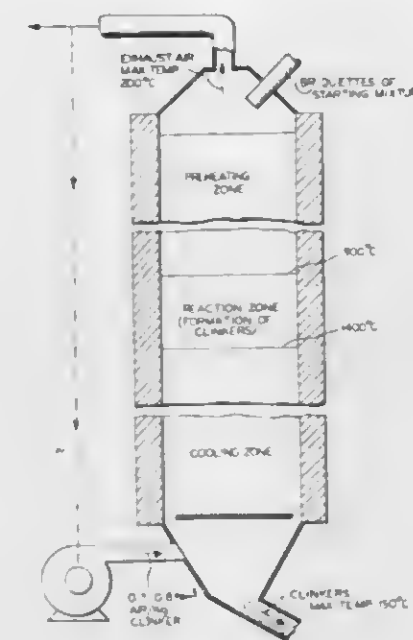
3,420,922 PRODUCTION OF HYDRAULIC BINDERS

Josef Wührer, Wulfrath, Germany, assignor to Rheinische Kalkstein-Werke G.m.b.H., Wulfrath, Germany
Filed July 13, 1967, Ser. No. 653,203
Claims priority, application Germany, July 14, 1966, R 43,692

U.S. Cl. 263-53 4 Claims
Int. Cl. C04b 1/02; 7/44; F27b 1/08

In the production of cement clinkers, the heat required for preheating the raw mix and bringing about the endothermic reactions therein is substantially completely furnished by the heat evolved in the exothermic clinker

formation, by feeding raw mix briquettes of a powder leaving on a 4900 mesh screen a residue of less than 10%

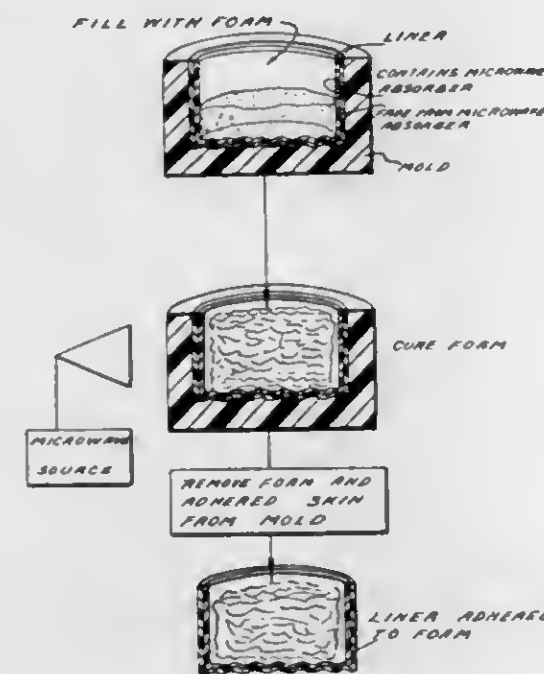


into a vertical kiln and passing in countercurrent thereto air in an amount of 0.68 to 0.82 Nm³ per kg. of discharged clinker.

3,420,923 PROCESS FOR MANUFACTURING FOAMED PLASTIC ARTICLES HAVING OUTER SKIN BY CURING WITH MICROWAVES

Gordon Ashworth and John Dunlop, Hyde, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
Filed July 27, 1964, Ser. No. 385,272
Claims priority, application Great Britain, July 29, 1963, 29,937/63

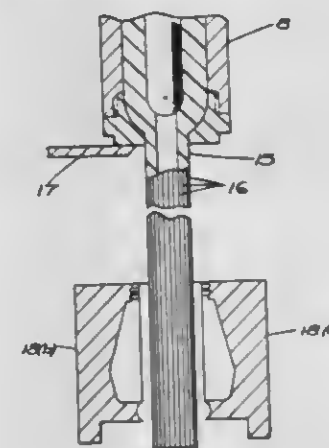
U.S. Cl. 264-26 7 Claims
Int. Cl. B29d 9/00



A process for curing foamed articles, especially where the foam is polyurethane. The curing is in a mold which is lined with a sheet material which becomes adhered to the foam. The sheet material has incorporated in it a material which absorbs microwave energy. The mold, after filling with foam, is placed in a microwave field. Preferably, the sheet has more than one layer and the absorber is in the layer next to the foam.

3,420,924 METHOD FOR BLOW MOLDING A CONTAINER INCORPORATING PEARLESCENT MATERIAL

Robert B. Mason, Mystic, and Edwin W. Fuerst, Hartford, Conn., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Continuation-in-part of application Ser. No. 391,920, Aug. 25, 1964. This application May 13, 1965, Ser. No. 455,452
U.S. Cl. 264-98 9 Claims
Int. Cl. B29c 5/06; B44f 9/08

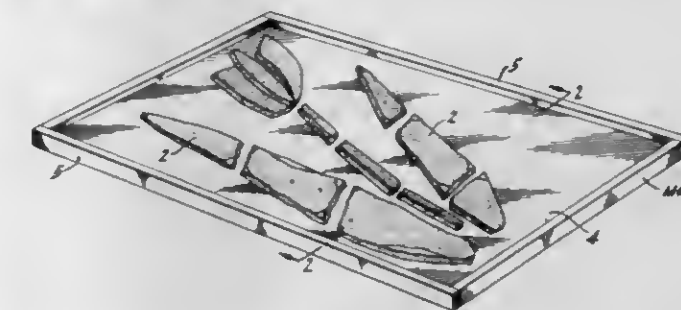


1. A method of making a container said method comprising the steps of:

- compounding a moldable mixture of a thermoplastic with a small amount of a pearlescent material, said pearlescent being in the form of platelets having a face diameter between about 3 to 70 microns and a thickness from about 0.5 to 5 microns;
- causing said moldable mixture to flow along a passage to orient the faces of the platelets in the thermoplastic in the direction of flow;
- forcing said moldable mixture containing said platelets through an annular outlet having radial protrusions extending into the outlet, to change the orientation of a portion of the platelets adjacent the protrusions, and to form a tubular parison having on its outer surface a series of axially extending grooves, containing pearlescent selectively oriented in side portions of the grooves; and
- generating a pressure within the parison to expand the parison and force the sides of at least a portion of the grooves outward in the direction of expansion against the walls of a mold cavity.

3,420,925 METHOD OF FABRICATING A PANEL

Ahmed N. Sharif, Lake Shore Drive S., R.D. 2, Dover, N.J. 07801
Filed June 21, 1966, Ser. No. 559,206
U.S. Cl. 264-102 5 Claims
Int. Cl. B29b 3/00



Method of fabricating a decorative or structural panel, a substantial proportion of which comprises a synthetic resin of the type which hardens by reaction with a curing agent which is mixed with the resin while it is still in a pourable state, and which may also contain varying amounts of particulate fillers, comprising preparing mix-

ture of uncured resin and filler, also a separate quantity of curing agent, mixing the two components, and permitting the resulting mixture to fall in successive small quantities through a vacuum to remove air and other gases normally entrapped therein, and then casting a panel from the de-aerated mixture.

3,420,926

METHOD FOR SELECTIVELY CONTROLLING THE EXTRUSION OF PLASTIC MATERIAL

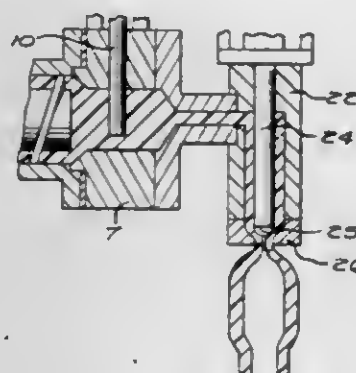
Robert B. Mason, Mystic, Raymond E. Winchester, Jr., Pawcatuck, and Robert G. Strauss, West Hartford, Conn., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Original application Nov. 13, 1962, Ser. No. 236,871, now Patent No. 3,217,360, dated Nov. 16, 1965. Divided and this application June 4, 1965, Ser. No. 461,419

U.S. Cl. 264-167

7 Claims

Int. Cl. B29d 23/04; B29f 3/06



An extrusion method for controlling material distribution in preselected portions of a plastic parison, by selectively adjusting the feed rate of the plastic to a parison forming unit, while simultaneously selectively adjusting the size of the extrusion outlet.

ERRATUM

For Class 264-197 see:
Patent No. 3,420,814

3,420,927

METHOD OF AND INSTRUMENTALITIES FOR APPLYING PLASTIC CLOSURES TO CONTAINER BODIES

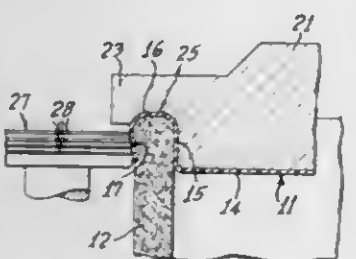
Andrew Lucien Corrinet, Oradell, N.J., assignor to American Can Company, a corporation of New Jersey

Filed May 14, 1964, Ser. No. 367,420

U.S. Cl. 264-249

5 Claims

Int. Cl. B29d 31/00; B32b 31/04



1. A method of conforming a plastic end closure flange to the shape of a container body, comprising the steps of providing a plastic end closure having an outwardly

flaring flange, placing said plastic end closure over an end portion of said container body, pressing said flange inwardly into tight engagement with the outer surface of said body, and cold rolling the outer surface of said flange with a roller having a serrated face to reform the outer surface of said pressed-in flange by plastic deformation to permanently set and restrain said flange against retraction from its tight engagement with said body.

3,420,928

METHOD OF PRODUCING SEALS

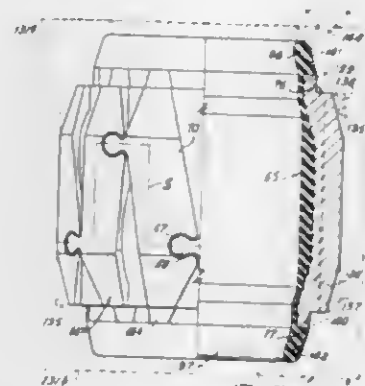
Norman F. Brown, Dallas, Tex., assignor to Otis Engineering Corporation, Dallas, Tex., a corporation of Delaware

Original application Sept. 27, 1963, Ser. No. 312,175. Divided and this application July 15, 1966, Ser. No. 604,077

U.S. Cl. 264-261

5 Claims

Int. Cl. B29d 9/00; B29c 5/04



1. The method of producing a seal having a closed ring of pivotally connected segments disposed about and embedded in a resilient annular body, said method including: connecting a plurality of the segments to form a closed ring of predetermined diameter; filling outer portions of interstices between adjacent segments with a filler substance by centrifugal force to form a rigid annular band with the filler substance covering and shielding radial outer portions of the longitudinal side surfaces of the segments, bonding an annular resilient body to internal surfaces of said rigid band with outer portions of the resilient body extending into the interstices between adjacent segments to the internal surfaces of the filler substance; and removing the filler substance to free the segments for pivotal movement relative to one another whereby said seal is freed to expand and contract radially.

3,420,929

METHOD OF ANCHORING A MONOFILAMENT TO A PLASTIC INJECTION MOLDING

Louis H. Morin, Bronx, N.Y., assignor to Coats & Clark Inc., New York, N.Y., a corporation of Delaware

Filed Feb. 21, 1966, Ser. No. 528,958

U.S. Cl. 264-278

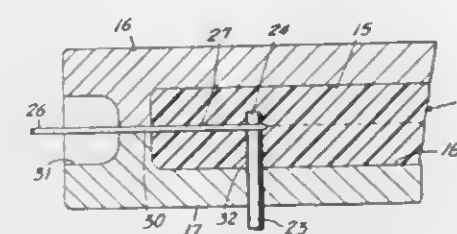
1 Claim

Int. Cl. B29f 1/00

A method of molding a looped monofilament into a molded product is provided wherein an anchor element is supported in a mold cavity and a monofilament is looped around the element disposing two strand portions of the monofilament in parallel relationship to each other where positioned within the molded product, one of the parallel strands of the monofilament being longitudinally tensioned to convert the loop of monofilament into a transverse crosshead. Plastic is injected into the cavity of the mold

and around the element and monofilament supported by the element, the element is withdrawn from the molded

polymer, such as polyvinyl pyrrolidone, this method permitting automatic operation, and markedly reducing the time conventionally employed for producing dragées.



3,420,932

METHODS OF MAKING ALCOHOL SOLUBLE COMPLEXES OF ALUMINUM AND PREPARATIONS EMPLOYING THE COMPLEXES

John L. Jones, North Plainfield, and Andrew M. Rubino, New Providence, N.J., assignors to Armour Pharmaceutical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 472,684, July 16, 1965. This application Dec. 20, 1966, Ser. No. 603,133

U.S. Cl. 424-47

16 Claims

Int. Cl. A61k 7/00; C07f 5/06

METHOD OF DRAWING CUP-SHAPED ARTICLES

Randolph D. Lurie, Park Forest, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

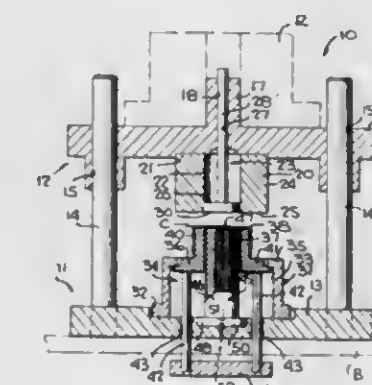
Original application Dec. 17, 1963, Ser. No. 331,249, now Patent No. 3,231,937, dated Feb. 1, 1966. Divided and this application Sept. 16, 1965, Ser. No. 487,702

The portion of the term of the patent subsequent to Feb. 1, 1983, has been disclaimed

U.S. Cl. 264-292

11 Claims

Int. Cl. B29c 17/03



1. A method of producing a redrawn plastic cup-shaped article comprising the steps of drawing a cup-shaped article, redrawing the cup-shaped article at ambient temperature, between a rough exterior surfaced male die and an axially aligned smooth surfaced interior die wall of a female die to form a plurality of closely spaced raised areas only upon an interior peripheral surface of the cup-shaped body incident to the redrawing thereof whereby said cup-shaped article is generally of a uniform wall thickness and necking-down is precluded.

3,420,931

PHARMACEUTICAL DRAGÉE

Wilhelm Daum, Eberhard Nurnberg, and Hans Joachim Sippel, Darmstadt, Germany, assignors to E. Merck A.G., Darmstadt, Germany

No Drawing. Filed Apr. 20, 1965, Ser. No. 449,637

Claims priority, application Germany, Apr. 23, 1964, M 60,752

U.S. Cl. 424-33

14 Claims

Int. Cl. A61k 9/00; B44d 1/00

An improved method for producing dragées wherein the dragée coating solution comprises about 35-60% by weight of sugar and about 0.5-10% by weight of a vinyl

3,420,933

ORAL LARVICIDAL COMPOSITION CONTAINING BACILLUS SPHAERICUS

Helmuth Cords, Princeton, N.J., and Carlos A. White, Shafter, Calif., assignors to International Minerals & Chemical Corporation, a corporation of New York

No Drawing. Filed Aug. 31, 1965, Ser. No. 484,108

U.S. Cl. 424-84

12 Claims

Int. Cl. A01n 15/00

An insecticidal composition useful in the control of water-inhabiting larvae consists of granules of a material such as vermiculite containing spores of *Bacillus sphaericus* and an attractant or bait. A portion of the granules must be dense enough to sink below the surface of the water and strong enough to maintain their physical integrity for a period of time such as 12 hours in water. The granules may be made by coating vermiculite with the *Bacillus* spores and an attractant such as yeast.

3,420,934

SPRAYABLE OR SUBCUTANEOUSLY ADMINISTRATION VACCINE FOR THE IMMUNIZATION OF MUSTELINES AGAINST DISTEMPER AND PROCESS FOR ITS PREPARATION

Othmar Ackermann, Marburg an der Lahn, Germany, assignor to Behringwerke Aktiengesellschaft, Marburg an der Lahn, Germany, a corporation of Germany

No Drawing. Filed Jan. 11, 1966, Ser. No. 519,949

Claims priority, application Germany, Jan. 19, 1965, B 80,160

U.S. Cl. 424-89

9 Claims

Int. Cl. A61k 23/00

Method of making a sprayable or subcutaneously administrable distemper vaccine for immunizing mustelines by attenuating a distemper virus by repeated passage in dog organ culture tissue followed by further passages in

musteline culture tissues. A vaccine so made. Method of immunizing mustelines by spray-administration of a vaccine so made.

3,420,935

PROCESS FOR EXTRACTING ANTIINFLAMMATORY AND HYPOCHOLESTEROLEMIC PRINCIPLE FROM PLANT SOURCES AND THE PRODUCT PRODUCED THEREBY

John J. Majnarich, 21707 Bothell Way,
Bothell, Wash. 98011

No Drawing. Continuation-in-part of application Ser. No. 231,453, Oct. 18, 1963. This application Feb. 23, 1965, Ser. No. 434,706

U.S. Cl. 424-195

Int. Cl. A61k 27/14; C07g 17/00

3 Claims

A process for extracting an antiinflammatory and hypocholesterolemic principle from plant sources such as *Phalaris arundinacea*, alfalfa, red clover, timothy and soya beans, including the steps of solvent extracting the principle from the plant source, concentrating the solvent eluate, separating a clear waxy fraction from the eluate, and separating the principle from the fraction. The separated principle can then be dried to crystalline form.

3,420,936

COMBATING BACTERIAL AND FUNGAL PLANT DISEASES WITH HEXACHLOROPHENE 2,2' - METHYLENE BIS - (3,4,6-TRICHLOROPHENOL)

Wilburn T. Wright, Fort Myers, Fla., assignor to Nationwide Chemical Corporation, Fort Myers, Fla.

No Drawing. Continuation-in-part of application Ser. No. 429,681, Feb. 1, 1965, which is a continuation-in-part of application Ser. No. 734,851, May 13, 1958, both now abandoned. This application Feb. 21, 1967, Ser. No. 617,480

U.S. Cl. 424-348

Int. Cl. A01n 9/24

10 Claims

Bacterial and fungal diseases of field crops, more particularly annual vegetables such as tomatoes and cucumbers, are prevented or controlled by application of hexachlorophene in relatively low concentrations. The agent may be applied by dry dusting or sprayed as a suspension or an emulsion in water or other suitable vehicle, and is applied to the surface of the ground adjacent the emergent stalk as well as to the foliage. The active agent may be formulated with spreading or wetting agents, sticking agents, and other adjuvants, and is compatible with various conventional practices for combined treatment where desired.

ELECTRICAL

3,420,937

APPARATUS AND PROCESS FOR THE MANUFACTURE OF CHEMICAL REACTION PRODUCTS

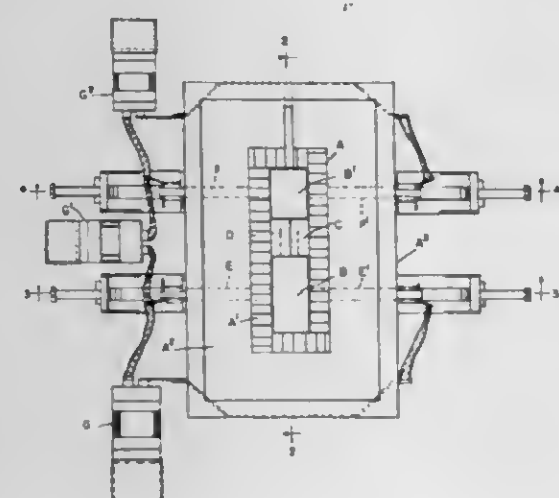
Norman W. Upton, Mount Clemens, Mich., Richard C. Upton, deceased, late of Lexington, Mich., by Norman W. Upton and Elizabeth J. Harper, co-executors, Mount Clemens, Mich., assignors to Upton Electric Furnace Company, Inc., Roseville, Mich., a corporation of Michigan

Filed Feb. 20, 1967, Ser. No. 617,423

U.S. Cl. 13-9

Int. Cl. H05b 7/18

10 Claims



The apparatus of the invention consists of an electric furnace of the fused salt bath type comprising a series of interconnected reaction chambers through which the material under treatment is successively passed. Heat is generated by passage of electric current from electrodes through the fused material in each chamber by an electric transformer arranged to provide a plurality of circuits for maintaining a heat differential in the various chambers. A passageway connecting adjacent chambers permits continuous flow while generating sufficient heat therein to maintain fluidity.

3,420,938

APPARATUS FOR DELIVERING MOLTEN MATERIALS

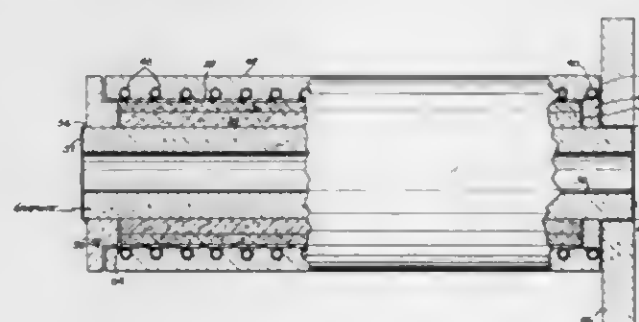
Wendell Graydon Ekdahl, Martinsville, N.J., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York

Filed June 23, 1965, Ser. No. 466,358

U.S. Cl. 13-9

Int. Cl. H05b 7/18; H05b 5/00

5 Claims



An induction heated pouring spout of a heated melting vessel has an induction heating coil encased in a ceramic cylinder. A graphite cylinder is disposed within and concentric to the graphite cylinder which conveys molten materials and is the susceptor for the coil.

3,420,939

ARC FURNACE ELECTRODE STRUCTURE

Max P. Schlienger, 19 Rollingwood Drive,
San Rafael, Calif. 94901

Filed Jan. 4, 1968, Ser. No. 695,937

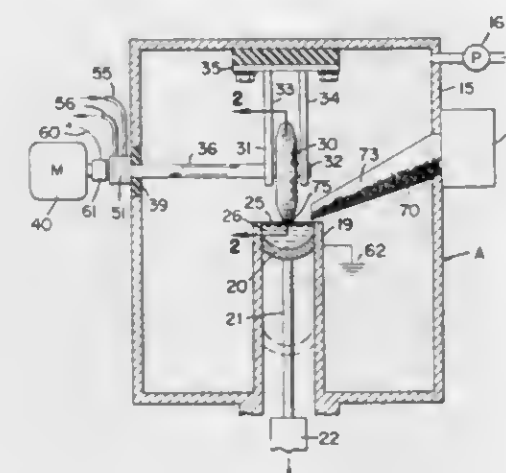
U.S. Cl. 13-18

Int. Cl. H05b 7/06; H05b 7/18; B23k 9/16

9 Claims

A nonconsumable arc furnace electrode in which the

electrode is formed of a cooled wheel-like member which is rotated to sequentially expose portions of the periphery including its own transducer means, substantially all of said output channels including dynamic phase shift means



of the wheel-like electrode in arc forming contact with the work piece.

3,420,940

AUTOMATIC PLAYER FOR ELECTRONIC MUSICAL INSTRUMENT

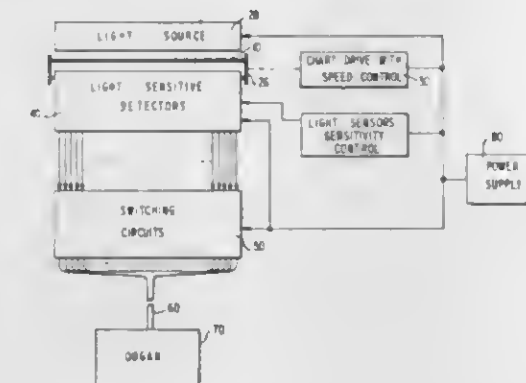
Ronald Glass, Hyattsville, Md. (5809 King Arthur Way, Glendale, Md. 20769), and Charles F. Fuechsel III, 3421 Memphis Lane, Bowie, Md. 20715

Filed Oct. 21, 1965, Ser. No. 499,855

U.S. Cl. 84-1.03

Int. Cl. G10f 1/00; G10b 3/06

15 Claims



An automatic player for an electronic musical instrument includes an elongated strip having markings representing musical notes transversely disposed thereon, said strip being driven at constant speed past a light source, the light which penetrates through the markings serving to actuate a plurality of aligned photocells, one for each note in the strip, thereby controlling a circuit and switch system to simulate the action of a key switch in the electronic musical instrument.

3,420,941

MULTIVOICE ELECTRONIC ORGAN

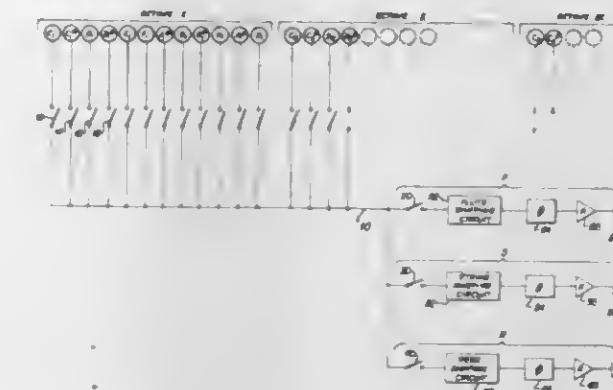
Donald J. Leslie, Altadena, Calif., assignor, by mesne assignments, to Columbia Broadcasting System, Inc. Continuation-in-part of application Ser. No. 463,828, June 14, 1965. This application Dec. 10, 1965, Ser. No. 523,814

U.S. Cl. 84-1.24

Int. Cl. G10h 1/02

14 Claims

1. In an electronic organ: a set of tone generators; a plurality of shaping circuits in circuit with said tone generators for producing a variety of voices; a plurality of separate output channels for the respective voices, each



whereby the said voices acquire separate identities as they are translated by said transducer.

3,420,942

SOLID STATE PACK

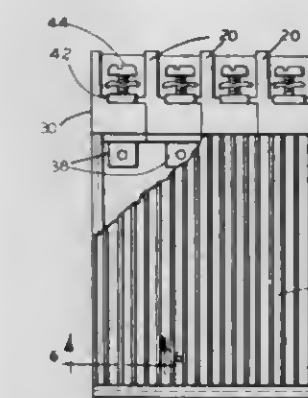
Hassan B. Kadah, P.O. Box 566,
Syracuse, N.Y. 13201

Filed Apr. 25, 1967, Ser. No. 633,484

U.S. Cl. 174-15

Int. Cl. H01b 7/34

8 Claims



A compact housing unit for solid state circuit boards having side members with external radiating fins, connected to plastic end members by sliding dove tail joints the end members having grooves to receive circuit boards, the end members being alike and at one end having provision for a terminal, and adapted to interfit with an intermediate or several intermediate complementary terminal sections, and at the other end having a mounting plate secured by screws, to the end members, the mounting plate when in position locking all parts in assembled relation.

3,420,943

VENTILATED UNDERGROUND HOUSING FOR ELECTRICAL APPARATUS

Herbert Douglass Short, New Market, Ontario, Canada, assignor to Lacle Industries Limited, Newmarket, Ontario, Canada

Filed Nov. 9, 1966, Ser. No. 593,143

Claims priority, application Canada, Nov. 9, 1965, 944,174

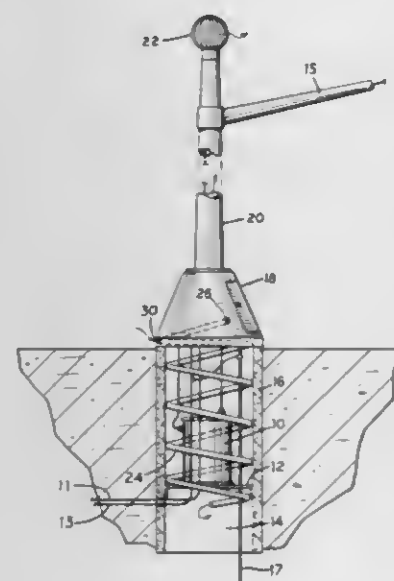
U.S. Cl. 174-16

Int. Cl. H01b 7/34; H01b 9/06; H02g 9/00

2 Claims

This invention is concerned with a ventilated housing for an electrical distribution transformer or like piece of heat producing apparatus that is mounted underground. These chambers usually have a hollow pole extending upwardly therefrom but acts as a chimney for the purpose of conducting heat away from the inside of the chamber.

Provision is made for the entry of ventilating air through ventilating openings in the top of the chamber that lead to the bottom of the chamber so that ventilating air can enter the ventilating openings, pass to the bottom of the

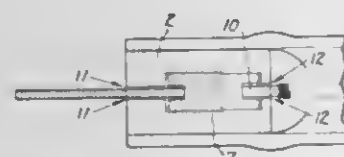


chamber and then upwardly through the ventilating stack. In this particular invention the air is admitted to the bottom of the chamber by means of a tortuous air intake pipe that is adapted to be tamperproof.

3,420,944 LEAD-IN CONDUCTOR FOR ELECTRICAL DEVICES

Richard H. Holcomb, South Euclid, Ohio, assignor to General Electric Company, a corporation of New York

Filed Sept. 2, 1966, Ser. No. 576,945
U.S. Cl. 174-17.05 7 Claims
Int. Cl. H05k 5/06



In an electrical device, especially a tungsten filament lamp of the halogen cycle type, having a lead-in conductor comprising an oxidizable thin retractory metal foil portion connected to outer and inner leads and hermetically sealed in a fused silica seal portion of the envelope, only the outer half of the foil is covered with a film of oxidation-resistant material. Thereby the film prevents access of air to the uncoated half of the foil by way of the usual small passage along the outer lead, and the uncoated half prevents access of the reactive halogen to the film by way of the usual corresponding small passage along the inner lead.

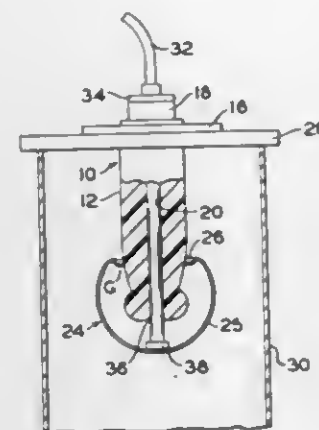
3,420,945 ELECTRODE AND INSULATOR WITH SHIELDED DIELECTRIC JUNCTION

Robert C. Finke, Westlake, and Robert H. Vetrone, North Olmsted, Ohio, assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Mar. 31, 1967, Ser. No. 628,247
U.S. Cl. 174-18 5 Claims
Int. Cl. H05k 5/00

A hollow spherical electrode forms a shield about the

negative junction of an insulator in high vacuum to in-

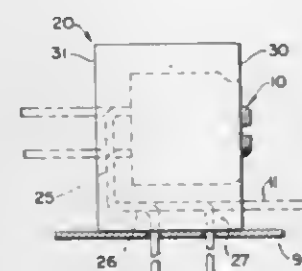


crease vacuum voltage standoff capabilities.

3,420,946 MOUNTING ADAPTER FOR ADJUSTABLE ELECTRICAL COMPONENTS

Charles Walter Yungblut, Santa Ana, Calif., assignor to Beckman Instruments, Inc., a corporation of California

Filed Nov. 30, 1966, Ser. No. 598,044
U.S. Cl. 174-52 6 Claims
Int. Cl. H05k 5/00; H02b 1/04; H01c 1/02



2. A mounting adapter for supporting on a circuit board or the like, an electrical component having at least one pin-type terminal extending outwardly therefrom and having an adjustable mechanism accessible from one direction for varying an electrical characteristic of said component, comprising:

a block of insulating material having a support surface and having a recess therein opening toward a side of said block disposed at an angle with respect to said support surface, said recess having a shape adapted to receive said electrical component therein with said adjustable mechanism exposed through said opening; first aperture communicating with said recess and extending through a sidewall of said block to a second side thereof, said aperture being so positioned and arranged as to receive the pin-type terminal of the electrical component when said component is inserted into said recess;

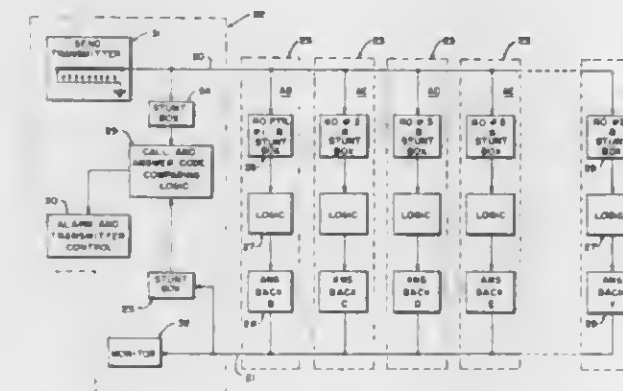
a second aperture adapted to receive the pin-type terminal of the electrical component upon said terminal being substantially reversely bent along said second side of said block, said second aperture extending from said second side of said block to another side of said block and being insulated from said recess by a portion of said block; and

means communicating with said second aperture and an opening at said support side of said block through which said pin-type terminal is positioned substantially perpendicular to said support side of said block for insertion through mounting holes in a circuit board or the like.

3,420,947 TELEGRAPH SYSTEM WITH SIMULTANEOUS MESSAGE TRANSMISSION AND POLL FOR ANSWER-BACK ARRANGEMENT

Walter J. Kerwin, Mount Prospect, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware
Filed May 11, 1965, Ser. No. 454,807

U.S. Cl. 178-3 14 Claims
Int. Cl. H04l 15/00

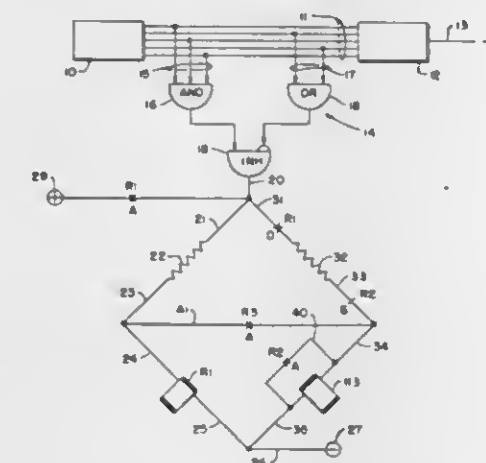


A full duplex, automatic selective calling telegraph system operates to provide a positive, individual answer-back, during message transmission, from all receiving stations selected in response to either individual or group addresses. The transmitting station has a pair of selective control units, one responsive to transmitted signals and the other responsive to received signals, for controlling a relay logic circuit which compares the transmitted call-directing codes with the received answer-back codes. Each receiving station supplies its answer-back code during a different predetermined character of the message text being transmitted.

3,420,948 TELEGRAPH TRANSMITTER CONTROL CIRCUIT

Robert E. Arko, Mount Prospect, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware

Filed Oct. 11, 1965, Ser. No. 494,450
U.S. Cl. 178-4.1 6 Claims
Int. Cl. H04l 15/04; H04b 7/00; H04b 1/40

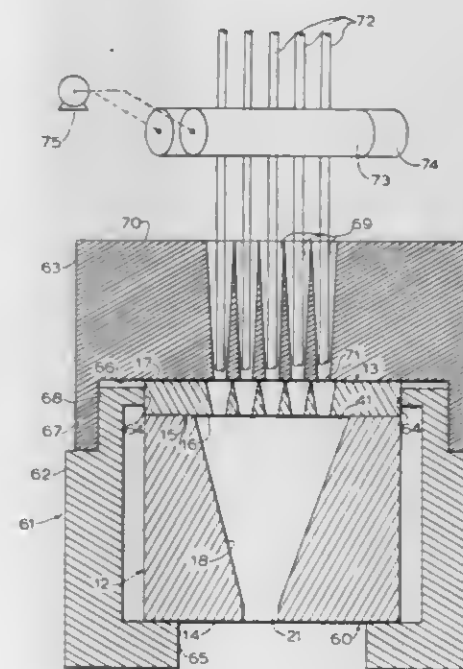


A transmitter control circuit activated by transmission of a predetermined code combination for disabling a transmitter and thereby preventing further transmission and activated by a break-make signal received from a receiving device for enabling the transmitter and thereby re-initiating transmission.

3,420,949 LIGHT GUIDE MESSAGE CHARACTER DISPLAY APPARATUS

Joseph T. McNaney, 8548 Boulder Drive, La Mesa, Calif. 92041

Filed Feb. 21, 1968, Ser. No. 707,093
U.S. Cl. 178-30 7 Claims
Int. Cl. H04l 15/34

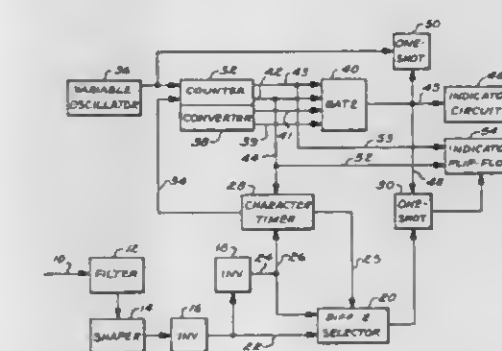


This invention represents a message character display device utilizing light guides for converting one or more light sources at the input thereof into character shaped arrangements of secondary point sources of light emanating from the output of said light guides. The device includes light guide support and orienting means comprised of one section which determines the character shaped arrangements of the guides at the light output surface, in combination with a second section which simplifies the relating of predetermined output ends of light guides to a certain number of light source positions at the input to the device. The support and orienting means permits the total number of light guides to be inserted and oriented in the device simultaneously.

3,420,950 PULSE DISTORTION TESTING APPARATUS

James E. Britt, Annandale, Va., assignor to The Susquehanna Corporation, a corporation of Delaware

Filed Feb. 5, 1965, Ser. No. 430,688
U.S. Cl. 178-69 11 Claims
Int. Cl. H04l 25/02



An embodiment of the pulse distortion testing apparatus is a start-stop telegraph or data pulse distortion measuring set which employs both digital and analog techniques. During the character timing period, pulses

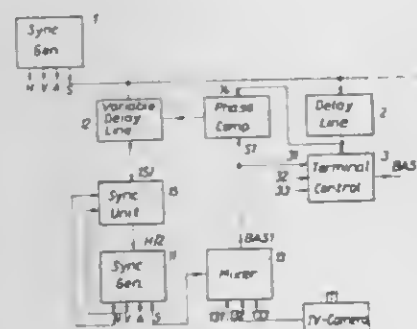
are generated and counted in an up-down pulse counter, the zero count occurring at the ideal transition points of the input pulse train. The counter output is continuously converted to an up-down current staircase. The occurrence of an actual transition in the input pulse train gates the instantaneous value of current to a meter to give an accurate percentage reading of distortion.

3,420,951 TELEVISION TRANSMISSION DELAY COMPENSATION APPARATUS

Johannes Günther, Darmstadt-Eberstadt, Germany, assignor to Fernseh G.m.b.H., Darmstadt, Germany
Filed Mar. 9, 1965, Ser. No. 438,251
Claims priority, application Germany, Mar. 17, 1964, F 42,329

U.S. Cl. 178—69.5
Int. Cl. H041 7/00

6 Claims



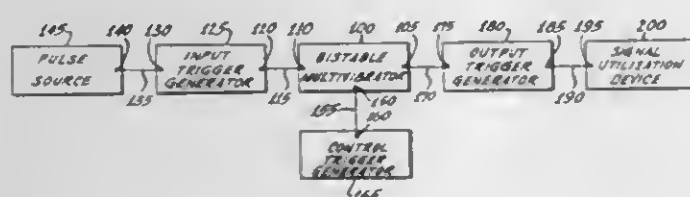
At least one remotely located video signal source receives synchronizing signals from a central synchronizing signal generator by way of a signal path which introduces a first signal delay. The signal source yields a video signal including a synchronizing signal component of which the phase is controlled by the synchronizing signals. The video signal source is connected to a terminal position close to said central synchronizing signal generator by way of a video channel introducing a second signal delay. A phase comparator at said terminal position develops an error voltage as a function of the phase difference between the synchronizing component of the video signal and a synchronizing signal derived from the central synchronizing signal generator. This error voltage is applied to control the delay of a delay device connected to control the phasing of the synchronizing component of the video signal.

3,420,952 NON-RANDOM FIELD SHIFT APPARATUS FOR A TELEVISION WAVEFORM MONITOR

Leonard J. Baun, Cinnaminson, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Mar. 22, 1965, Ser. No. 441,779

U.S. Cl. 178—69.5
Int. Cl. H041 7/00; G01r 25/00; H03k 3/00

8 Claims



Non-random field shift apparatus for a television waveform monitor including a bistable multivibrator which is switched in a given sequence by triggers supplied at the vertical synchronizing rate (VSR). Manual insertion of

a "shift" pulse switches the multivibrator from the state it is in at that time to its complementary state. Subsequently supplied VSR triggers then switch the multivibrator in a reverse sequence. Those triggers generated from the multivibrator output prior to the reversal coincide with the start of one television field while those generated afterwards coincide with the start of the alternate interlaced field. These latter triggers are used to shift the time-base system of the waveform monitor.

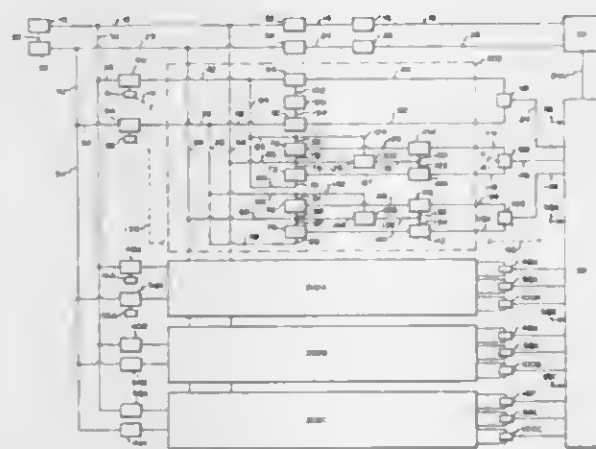
3,420,953 APPARENT MOTION CONTROL

Hanns H. Wolff, Orlando, Fla., assignor to the United States of America as represented by the Secretary of the Navy

Continuation-in-part of application Ser. No. 535,659, Mar. 14, 1966. This application Sept. 20, 1966, Ser. No. 580,835

U.S. Cl. 178—69.5
Int. Cl. H041 7/00

8 Claims



1. In an electronic picture synthesizer circuit of the type including a plurality of electronic cameras, one for each channel, for taking several independent pictures, a display system of the horizontal and vertical sweep scanning type and a synthesized system responsive to electrical signals from the cameras to actuate the display system to produce a composite picture, an improved apparent target motion control circuit comprising

- (a) a line sync pulse generator and main line sweep voltage generator connected in series to the display system to provide horizontal scan,
- (b) a frame sync pulse generator and main line frame sweep voltage generator connected in series to the display system to provide vertical scan, means providing individually for each camera controlled sync pulses derived from said sync pulse generators feeding the display system comprising
- (c) a first sync pulse delayer and line sweep voltage generator for each camera connected in series between said line sync pulse generator and an associated one of said cameras,
- (d) a second sync pulse delayer and frame sweep voltage generator connected in series between said frame sync pulse generator and said associated one of said cameras, and signal monitoring means for selectively passing and inhibiting the passage of video signals from each of said cameras through the synthesized to the display system,
- (e) said monitoring means comprising for each channel two control circuits, each including a pair of flip-flops circuits connected respectively one pair to said line pulse sync generator and to said first sync pulse delayer and the other pair to frame sync pulse generator and to said second sync pulse delayer, and
- (f) switching means for each control circuit and con-

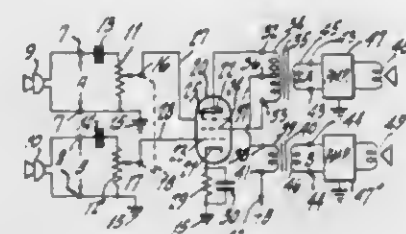
nected between its flip-flop circuit and said synthesizer to control the picture motion from center to right or left and/or up or down depending upon the selected inhibitions or released pulses.

3,420,954 SIGNAL TRANSLATING SYSTEM

Henry M. Bach, Jr., Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Aug. 25, 1961, Ser. No. 133,918

U.S. Cl. 179—1
Int. Cl. H04m 1/00; H03f 3/00; H03f 3/68

22 Claims



19. In an electrical signal processing system where in it is desired to perform two distinct functions in response to two different signals;

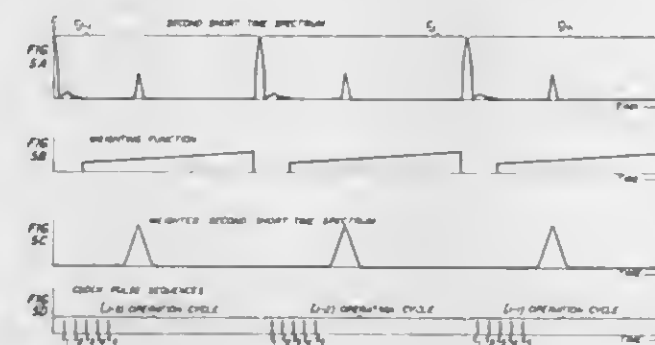
- an electron tube having a single cathode and a plurality of electron-receiving elements, first electrode means for controlling the intensity of the electron flow and second electrode means for controlling the relative impingement of electrons on said receiving elements;
- means for supplying a first input signal to said first electrode means;
- means for deriving a first output signal resulting from the effect of said first input signal on said electron flow;
- means for supplying a different and independent second signal to said second electrode means;
- and means for deriving a second output signal resulting from the effect of said second input signal on said electron flow.

3,420,955 AUTOMATIC PEAK SELECTOR

A. Michael Noll, Newark, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 19, 1965, Ser. No. 508,726

U.S. Cl. 179—1
Int. Cl. H04m 1/00

7 Claims



6. Apparatus for detecting the presence of voiced and unvoiced intervals in a speech wave which comprises a source of a succession of spectrum waveforms representative of the Fourier transform of the logarithm of the spectrum of corresponding successive segments of said speech wave, means for analyzing said spectrum waveforms to determine the presence or absence in each of said spectrum waveforms of a single large peak which exceeds a predetermined threshold, and

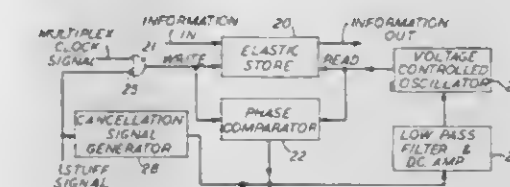
indicator means in circuit relation with said analyzing means for providing a voiced indicator signal indicative of the presence of a voiced segment of said speech wave corresponding to the $(j-1)$ spectrum waveform for each $(j-1)$ spectrum waveform in which there is present a single large peak that exceeds said predetermined threshold and which is either preceded or followed by a respective $(j-2)$ or j spectrum waveform in which there is present a single large peak that exceeds said predetermined threshold, and for providing said voiced indicator signal for each $(j-1)$ spectrum waveform in which there is absent a single large peak that exceeds said predetermined threshold but which is both preceded and followed by respective $(j-2)$ and j spectrum waveforms in each of which there is present a single large peak that exceeds said predetermined threshold.

3,420,956 JITTER REDUCTION IN PULSE MULTIPLEXING SYSTEMS EMPLOYING PULSE STUFFING

John D. Heightley, Watchung, Virgil I. Johannes, Plainfield, and John S. Mayo, Berkeley Heights, N.J., and Francis J. Witt, Andover, Mass., assignors to Bell Telephone Laboratories Incorporated, New York, N.Y., a corporation of New York
Filed Jan. 4, 1966, Ser. No. 518,674

U.S. Cl. 179—15
Int. Cl. H04j 1/00; H04j 1/12; H041 7/00

4 Claims



Apparatus at the receiving terminal of a PCM system employing pulse stuffing to eliminate the jitter associated with a reproduced signal derived from an elastic store due to the inability to stuff immediately at the transmitting terminal. A cancellation signal generator is employed at the receiving terminal and is driven by the inhibit pulses which delete the stuffed time slots from the output of the elastic store employed at the receiving terminal so that the generator produces an output voltage which falls linearly with a slope proportional to the average stuff rate and having a positive step discontinuity each time a stuffed time slot appears. The output of the cancellation signal generator constitutes the negative of the jitter component of the signal and is added to the phase comparator output of the elastic store with the result that the jitter associated with the received signal is eliminated.

3,420,957 DIAL PULSE SCANNING IN A PROGRAM-CONTROLLED TELEPHONE SYSTEM

Werner Ulrich, Colts Neck, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 13, 1964, Ser. No. 410,904

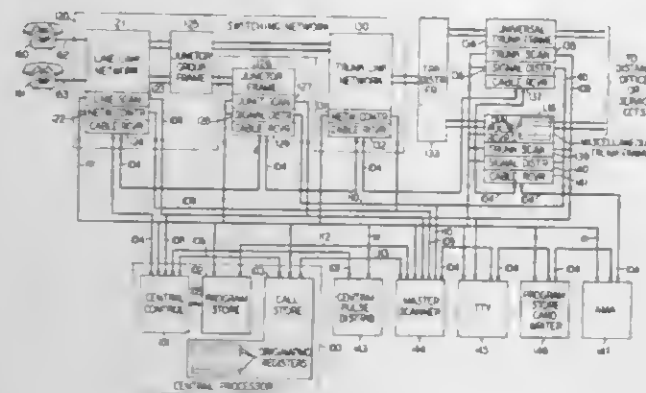
U.S. Cl. 179—18
Int. Cl. H04m 3/00

23 Claims

Circuitry is disclosed which decreases the amount of time required to scan for dial pulses in an electronic program-controlled telephone switching system. Lines are scanned to detect service requests and service requesting lines are assigned an originating register in memory. Simultaneously, the line is connected through the switching network to one of a plurality of dial pulse detectors. Each dial pulse detector is assigned to a unique originating register in memory and the detectors, rather than the lines,

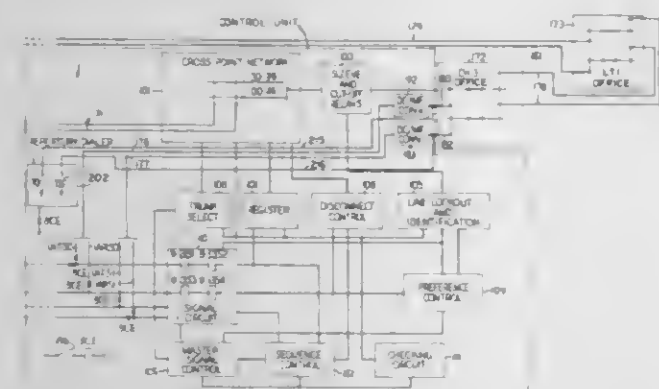
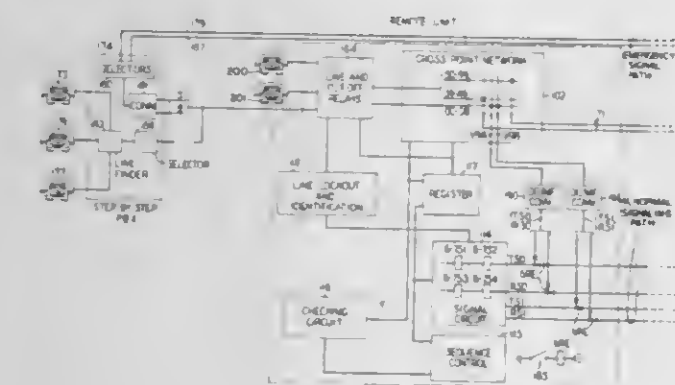
are scanned for dial pulses which are entered into the corresponding originating register. Successive detectors

completing the emergency path and also prevents inadvertent access to the remote unit by subscribers of the general telephone facilities.



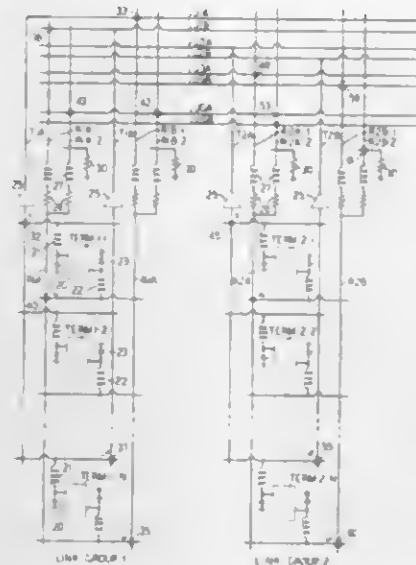
are assigned to successive originating registers, enabling a group of detectors to be scanned together in order to update a group of originating registers.

3,420,958
COMMUNICATION SYSTEM WITH ALTERNATE DATA LINK
James C. Ewin, Holmdel, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 29, 1964, Ser. No. 421,780
U.S. Cl. 179-18 8 Claims
Int. Cl. H04m 3/00



A line concentrator switching system is disclosed comprising a remote switching unit connected to a central office by speech trunks and a normal signaling path. The path is utilized for conveying control signals to direct establishment of connections from stations served by the remote unit to the speech trunks via a switching network of the unit. Equipment is disclosed for detecting a failure of the normal path and for establishing an emergency path via the general telephone network facilities. The latter equipment includes a repertory dialer for outpulsing a directory number followed by a verification code for controlling the establishment of the emergency path. The verification code both controls switching equipment for

3,420,959
TELEPHONE CONFERENCE CIRCUIT
William G. Hall, Morris Township, Morris County, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 9, 1965, Ser. No. 447,042
U.S. Cl. 179-18 16 Claims
Int. Cl. H04m 3/56

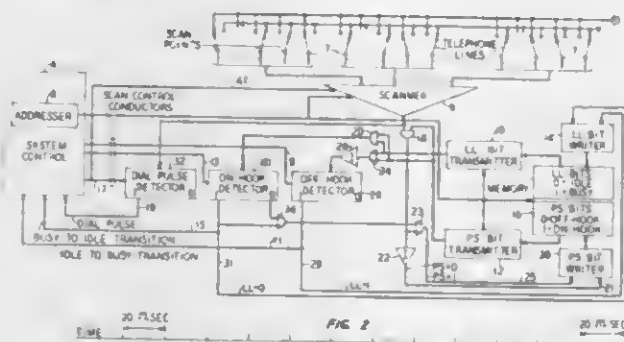


A four-wire time-division multiplex telephone conference circuit is disclosed having a switching arrangement that comprises:

- (a) Terminals for processing signals to and from the station equipment;
- (b) Links performing common transmission and switching functions for a multiplicity of terminals; and
- (c) Junctions interconnecting the links into a conference circuit in a time-division switching fashion.

Resonant transfer circuitry is used for linearly combining conference connection pulse amplitude modulated signals and applying combined pulse amplitude modulated signals to conference terminals.

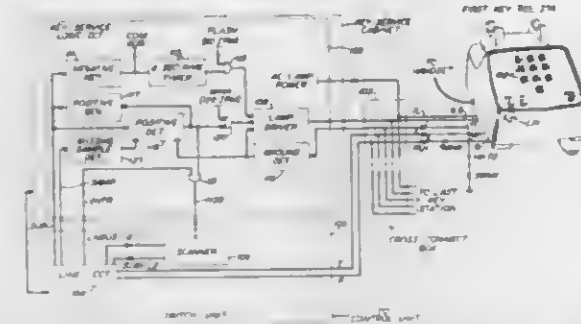
3,420,960
APPARATUS AND METHOD FOR TELEPHONE LINE SCANNING
John Z. Jacoby, Murray Hill, and Frank S. Vigliante, Piscataway Township, Middlesex County, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed May 14, 1965, Ser. No. 455,887
U.S. Cl. 179-18 18 Claims
Int. Cl. H04m 3/00



Telephone line scanning arrangements are disclosed wherein dial pulse, off-hook, and on-hook scans are made at different periodic intervals. A last-look bit and a present state bit are stored in memory while the dial pulse information is stored in appropriate registers. The present

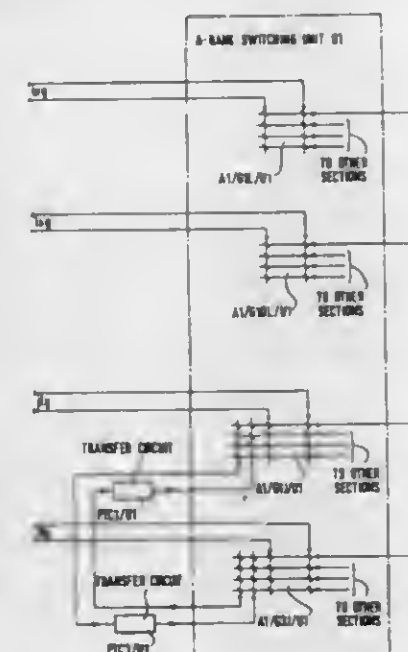
state bit are stored in memory while the dial pulse information to evaluate the information and distinguish between them. The present state bit is forced to an arbitrary value after each on-hook scan regardless of the actual present state of the line, the arbitrary value being an assumption which is then evaluated in order to distinguish between dial pulse transitions and idle lines. Both wired logic and stored program control are disclosed.

3,420,961
TIME DIVISION KEY TELEPHONE SYSTEM
Robert M. Averill, Jr., Little Silver, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed June 1, 1965, Ser. No. 460,123
U.S. Cl. 179-18 13 Claims
Int. Cl. H04m 3/00; H04m 1/00



A key telephone circuit for use with time division switching systems is disclosed. The key telephone circuit comprises two major equipment entities. The first entity is the time division switching line circuit that provides supervisory signals to the second entity, namely, the key service line circuit. The combined circuit arrangement forms a feedback memory circuit which controls the lamp drivers that operate at various winking rates to display the holding and other conditions of the line to the key telephone user.

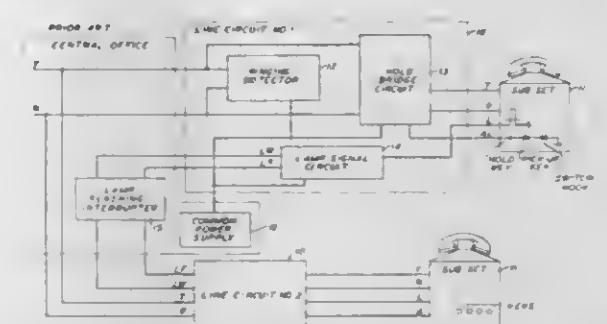
3,420,962
AUTOMATIC TELEPHONE EXCHANGE SWITCHING EQUIPMENT
Bloomfield James Warman, Charlton, London, England, assignor to Associated Electrical Industries Limited, London, England, a British company
Filed Aug. 2, 1965, Ser. No. 476,299
Claims priority, application Great Britain, July 28, 1965, 32,041/65
U.S. Cl. 179-18 5 Claims
Int. Cl. H04n 3/00



In an automatic telephone exchange system, switching equipment of a form comprising a plurality of switching

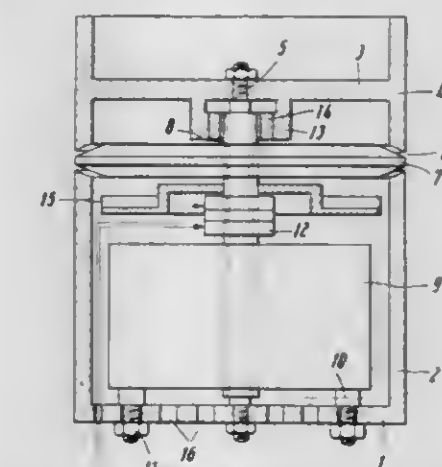
ranks and adapted for the setting up of a plurality of communication paths each composed of an outgoing portion connected to one side of a link circuit and an incoming portion connected to the other side of such link circuit, both outgoing and incoming portions being established through the switching ranks of the switching equipment, is characterized by the provision of transfer circuits each of which can serve to connect two established communication paths in series.

3,420,963
COMMUNICATION SYSTEM LINE CIRCUIT PARTICULARLY FOR KEY TELEPHONE SYSTEMS
Henry H. Abbott and Lawrence A. Hohmann, Jr., Middletown, and George W. Wells, Lincroft, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed July 30, 1965, Ser. No. 475,948
U.S. Cl. 179-99 22 Claims
Int. Cl. H04m 1/00; H04m 5/00



We disclose a key telephone line circuit which uses transistors and magnetic cores for performing the multiple functions of such a circuit in place of electromechanical relays as generally in the prior art. The line circuit includes a signal source or lamp flashing generator which is unique to the line circuit and responds to the status of the line to provide various signals. A first magnetic core is used in a ringing detector circuit; a second magnetic core is used as a line memory element; and a third magnetic core is used as a hold control element. The hold bridge is provided by transistor circuitry.

3,420,964
ROTATING HEAD WHEEL WITH MOTOR ON COMMON SHAFT
Helmut Haas, Kronach, Upper Franconia, Germany, assignor to Loewe Opta A.G., Berlin, Germany, a company of Germany
Filed Nov. 1, 1961, Ser. No. 149,469
Claims priority, application Germany, Nov. 5, 1960, L 37,444
U.S. Cl. 179-100.2 5 Claims
Int. Cl. G11b 5/00; G11b 5/52; H04n 5/76



1. Apparatus for recording/reproducing magnetic tape comprising a pair of cup-shaped drum members in spaced apart aligned relation having the bottom walls thereof

remote from one another, a disc having a magnetic bead connected with the periphery of said disc within the space between said drums, and means for securing said drums and discs on a frame; said means comprising a frame member, connecting means securing the bottom wall of one of said drums on said frame member, a coaxial rod member having one end connected with said frame member and the other end secured to the bottom wall of the drum remote from said frame member, bearing means mounting said disc on said rod member, and prime mover means within at least one of said drums for driving said disc.

3,420,965

CARTRIDGE TAPE RECORDER PLAY-BACK INSTRUMENT

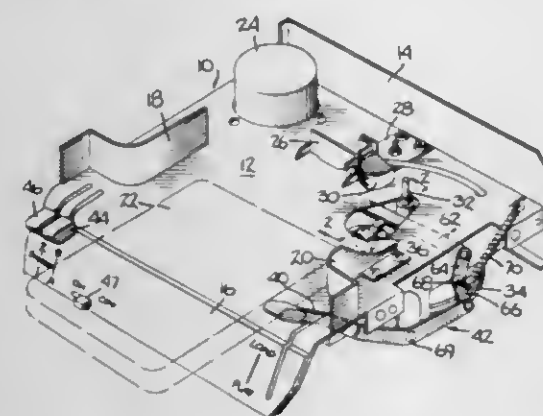
Charles L. Townsend, Cherry Hill, and Jared M. McGowan, Moorestown, N.J., assignors to Telepro Industries Incorporated, Cherry Hill, N.J., a corporation of New Jersey

Filed Apr. 23, 1965, Ser. No. 450,284

U.S. Cl. 179-100.2

Int. Cl. G11b 5/00

7 Claims



Cartridge type playback instrument having adjustable pick-up head for engaging a first pair of tracks when in one position and a second pair of tracks when in a second position and switching means for playing either track of said pair of tracks individually or in combination with the other track of said pair of tracks.

3,420,966

ELECTRICAL TAPE-SLIDE SYNCHRONIZING SYSTEM

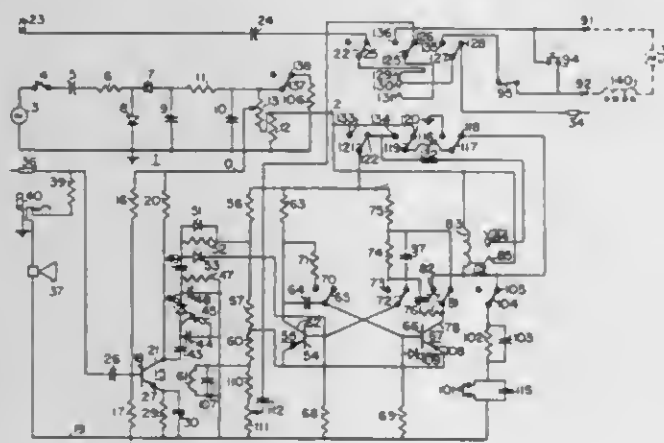
James T. Wright, 6913 Halbrecht Ave., Van Nuys, Calif. 91409

Filed Sept. 13, 1965, Ser. No. 486,766

U.S. Cl. 179-100.2

Int. Cl. G11b 5/00; G03b 23/00

8 Claims



1. In an audio-visual apparatus for automatically changing pictures exhibited by an intermittently operable picture projector by means of change signals recorded upon an audio tape,

said apparatus being selectively operable for applying said change signals to said audio tape, the combination of:

- electrical means to reproduce electrical variations corresponding to audible sounds from said tape,
- an amplifier connected to said electrical means,
- a filter connected to said amplifier to pass a frequency high in the useful range of said audible sounds,
- a multivibrator,
- first circuit means,
- second circuit means,
- switching means to selectively connect said multivibrator with said first circuit means to operate said multivibrator as a free running oscillator at said frequency high in the useful range of said audible sounds for recording change signals upon said tape,

and to selectively connect said multivibrator with said second circuit means to operate said multivibrator as a monostable multivibrator and to connect said monostable multivibrator to said filter to produce an electrical pulse for automatically changing one of said pictures.

3,420,967

DISC RECORDING AND REPRODUCING SYSTEM

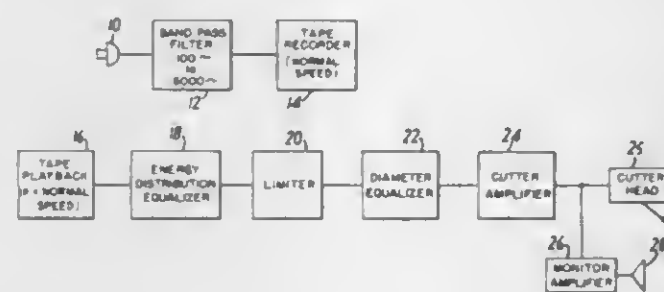
Peter C. Goldmark, Stamford, Conn., assignor to Columbia Broadcasting System, Inc., New York, N.Y., a corporation of New York

Filed July 1, 1963, Ser. No. 291,915

U.S. Cl. 179-100.4

Int. Cl. G11b 3/00

2 Claims



The system of this invention provides means for recording information upon a disc, in less time than the playback time, by multiplying the normal frequency of the input information signal and the normal speed of the cutter turntable by a common factor. Signal input frequencies are filtered so that the high frequencies of the multiplied signal do not exceed the frequency range of the recording apparatus. The system also provides records having narrow playing grooves and wider lead-in grooves, and reproducing apparatus with a pick-up arm mounted to move only in the plane of the record and counterbalanced to be insensitive to shock and sudden accelerations.

3,420,968

SERVICE OBSERVING SYSTEM

Bruce C. Hays, Omaha, Nebr., assignor to American Telephone and Telegraph Company, New York, N.Y., a corporation of New York

Filed Aug. 20, 1965, Ser. No. 481,247

U.S. Cl. 179-175.2

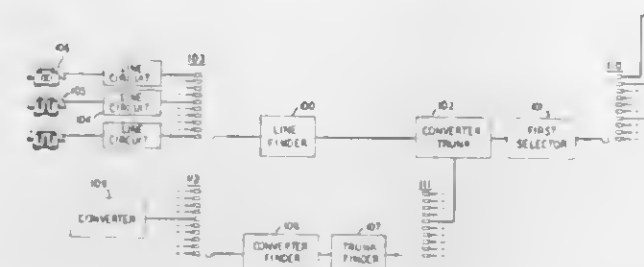
Int. Cl. H04m 3/22

16 Claims

A telephone system is disclosed having service observing equipment which is accessible from a conventional telephone station. The service observing equipment is

rendered operative to authorized persons by a special "unlocking" signal, while other signals will disable the

means and in alignment with and extending into each of said push button cavities for guiding and restricting the movement of said springs, each of said push buttons having an integral contact portion for actuating said switch means when said button is at the inner position.



3,420,970

PROGRAM CONTROL DEVICE

Thomas W. Bannon, Jr., East Moline, Ill., assignor to Ametek, Inc., New York, N.Y., a corporation of Delaware

Filed July 20, 1966, Ser. No. 566,505

U.S. Cl. 200-38

Int. Cl. H01h 43/10

3 Claims

service observing equipment to prevent its use by unauthorized persons.

3,420,969

MULTIPLE PUSHBUTTON SWITCH

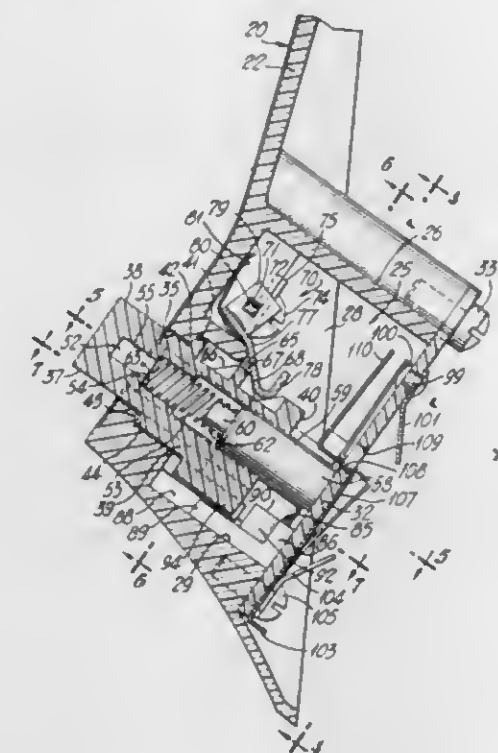
Margaret M. Edwards, Milwaukee, and James B. Cockroft, Wauwatosa, Wis., assignors to John Oster Manufacturing Co., Milwaukee, Wis., a corporation of Wisconsin

Filed Nov. 25, 1966, Ser. No. 596,962

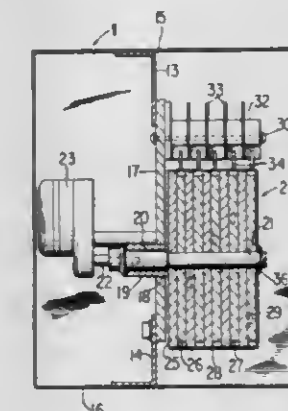
U.S. Cl. 200-5

Int. Cl. H01h 9/26; H01b 3/20; H01h 9/20

17 Claims



1. A multiple push button electrical switch comprising a housing having a plurality of outwardly extending channels each of which is adapted for receiving in sliding relationship a push button so that said push buttons are slidable between an outer and inner position, each of said push buttons molded from plastic material and formed with an integral stop portion for limiting the outwardly movement thereof with respect to said housing, a latch plate pivotally mounted within said housing and spring means biasing said plate toward said push buttons, switch means in said housing disposed for actuation by said push buttons when said buttons are slid to the inner position, each of said push buttons being provided with an integral cam portion which cooperates with said latch plate whereby said latch plate can hold said push buttons in the inner position and the inwardly movement of any of said push buttons can cause its said cam portion to pivot said latch plate sufficiently for releasing said push buttons in the inner position, each of said push buttons formed with a longitudinally extending cavity facing inwardly toward said housing, a spring disposed within each of said push button cavities for biasing them outwardly, a post supported by said housing adjacent said switch



A program control for laundry machines including a housing having a mounting plate for cantileverly supporting a cylindrical drum with circumferential grooves therein. Switch means adjacent the drum and having switch fingers extending therefrom whereby rotation of the drum causes the fingers to enter the grooves to operate the switch means.

3,420,971

CIRCUIT BREAKER APPARATUS

Marcel Aupetit, Rueil-Malmaison, France, assignor to La Telemecanique Electrique, Nanterre, Seine, France, a company of France

Filed June 16, 1965, Ser. No. 464,287

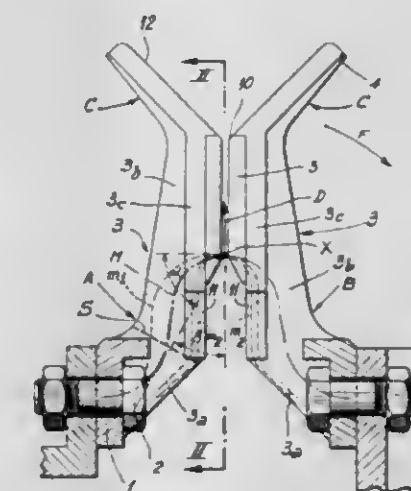
Claims priority, application France, June 22, 1964,

979,205; May 13, 1965, 16,966

U.S. Cl. 200-144

Int. Cl. H01h 33/00; H01h 9/30

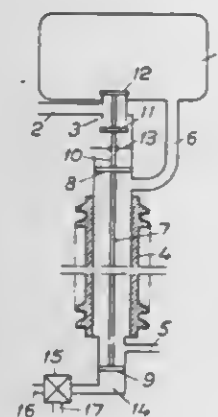
5 Claims



A high load circuit breaker wherein the geometry of the contact members causes the electromagnetic forces generated by current flow to have a resultant in a direction to inherently drive an arc positively toward the end of contact members thereby eliminating extraneous means to this end including channel-shaped contact members having channel flanges directed away from each other,

protruding contact segments on the contact members, and a longitudinal median slot dividing the contact members into two half-arms and the segments into two half segments.

3,420,972
HIGH VOLTAGE GAS BLAST CIRCUIT BREAKER
 Walter Pucher, Ludvika, Sweden, assignor to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden
 Filed June 1, 1966, Ser. No. 554,476
 Claims priority, application Sweden, June 1, 1965, 7,124/65
 U.S. Cl. 200—148
 Int. Cl. H01h 33/82

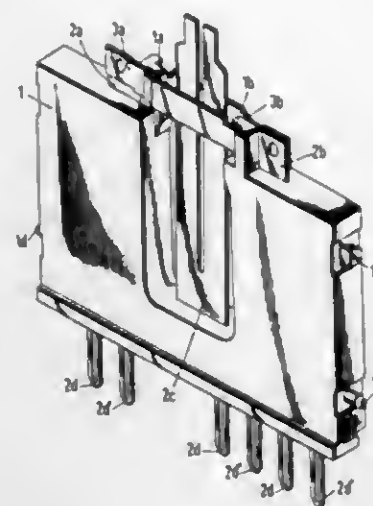


1. An operating device for a high voltage gas blast circuit breaker; said high voltage gas blast circuit breaker including a support; a conductive chamber supported from said support; a passage for control of the circuit breaker; valve means for selectively connecting said passage to the interior of the conductive chamber and to free air; an operating device connected to said valve means; said operating device including an insulation rod extending downwardly from said conductive chamber; first and second pistons connected to upper and lower portions, respectively of said rod; cylinder means receiving said first and second pistons; and high pressure gas supply means connected to said cylinder means intermediate said first and second pistons and to said conductive chamber; said insulation rod between said first and second pistons being prestressed by the pressure of said gas supply means acting against said first and second pistons; said valve means including a movable valve member exposed to the pressure within said conductive chamber, and operating means connected to the bottom of said rod for moving said rod upwardly to move said valve member in a direction which causes opening of the circuit breaker.

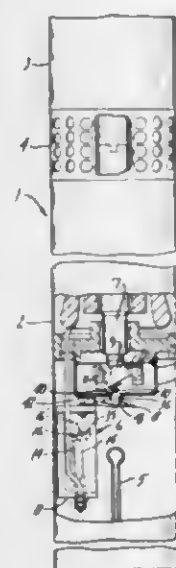
3,420,973
ADJUSTMENT-FREE PREASSEMBLED CONTACT UNIT FOR MULTIPLE CONTACT RELAYS WHICH MAY BE COMPLETELY PREFABRICATED BY MECHANICAL OPERATIONS
 Josef Fischer, Herber Krautwald, and Helmut Schedele, Munich, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany
 Filed Apr. 20, 1967, Ser. No. 632,287
 Claims priority, application Germany, Apr. 26, 1966, S 103,404

U.S. Cl. 200—166
 Int. Cl. H01h 1/36; H01h 1/12; H01h 9/02
 An adjustment-free preassembled contact unit for multiple contact relays, in which a contact unit is positively supported in a tensioned U-shaped carrier rail, the contact unit comprising a preassembled structure having a central movable contact spring and spring supports for the cooperating contact springs, together with the con-

necting lugs therefor which are produced from a common metal strip, and i.e. in a common plane, said element being embedded in a plate-like body of insulating material, the cooperating contact springs attached to said spring carriers extending at right angles with respect thereto, and extending in prestressed relation in recesses formed in the plate-like body.



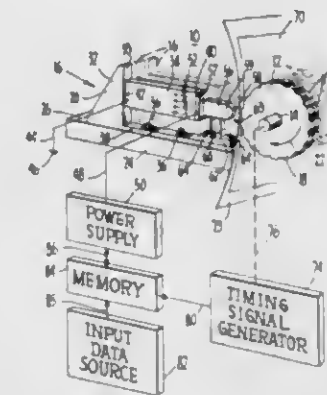
3,420,974
SEALED SWITCH UNIT
 Howard W. Rike, Kettering, Ohio, assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
 Filed Apr. 26, 1967, Ser. No. 633,762
 U.S. Cl. 200—168
 Int. Cl. H01b 9/02



A submersible motor-pump has a start winding connected in circuit through a centrifugally actuated hermetically sealed switch. A centrifugally actuated and pivotally mounted actuator is secured to the shaft and actuates a switch lever. The actuator is enclosed within a cover member having an opening aligned with the end of the lever. The switch includes a pair of leaf spring contact arms in the housing and integral contacts extend through sealed housing openings. The lever is L-shaped and one arm is mounted in one end of the housing to move the contact arms and the second arm terminates in a flanged button aligned with the cover opening. The first arm of the lever is centrally secured to a flexible gasket and diaphragm which is clamped between a pair of plate members, the outer one of which seals the adjacent end of the housing. The clamping plates are provided with openings somewhat larger than the L-shaped switch arm and with recesses surrounding the opening in the faces abutting the

diaphragm. The diaphragm serves to seal the opening as the hinge permits pivotal movement of the arm in response to retraction of the actuator from the flanged button. The flanged button then serves to essentially close the opening.

3,420,975
ELECTROSTRICTIVE ACTUATOR
 Louis C. Thayer, San Jose, Calif., assignor to Friden, Inc., a corporation of Delaware
 Filed Mar. 24, 1966, Ser. No. 537,199
 U.S. Cl. 200—181
 Int. Cl. H01b 57/00
 I. A switch comprising:
 a pair of members;

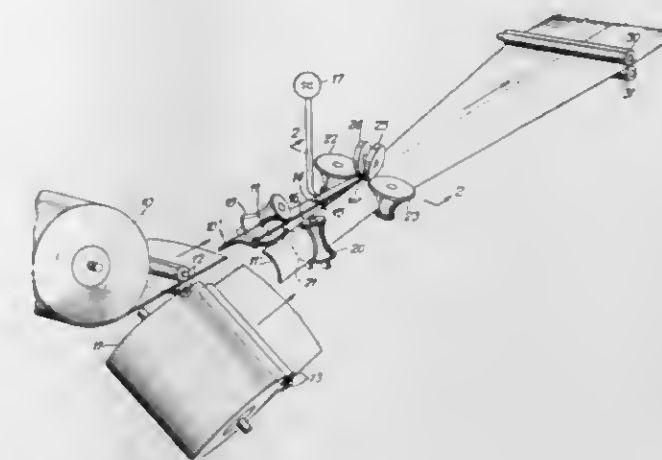


said members being movable relative to each other between a first position wherein said members are in contact with each other, and a second position wherein said members are out of contact with each other;
 one of said members being an electrostrictive means responsive to an electrical signal for expanding its dimensions;
 said members reacting with each other upon expansion of said electrostrictive means to impart a momentum to one of said members, said momentum imparting relative displacement to said members from their first position to their second position;
 one of said members being provided with a first electrically conductive element; and
 a second electrically conductive element, said second element being mounted in a location wherein said first and second electrically conductive elements make electrical contact with each other when said members are in one of said positions, and wherein said first and second electrically conductive elements are out of electrical contact with each other when said members are in the other one of their positions.

3,420,976
METHODS AND APPARATUS FOR WELDING WIDE METAL STRIPS TOGETHER
 Jack Morris, Monsey, Morton Gerald Yuter, Hempstead, Wallace C. Rudd, Larchmont, and Richard J. Allen, Jr., Eastchester, N.Y., assignors to American Machine & Foundry Company, New York, N.Y., a corporation of New Jersey
 Filed June 19, 1964, Ser. No. 376,446
 U.S. Cl. 219—102
 Int. Cl. B23k 11/02

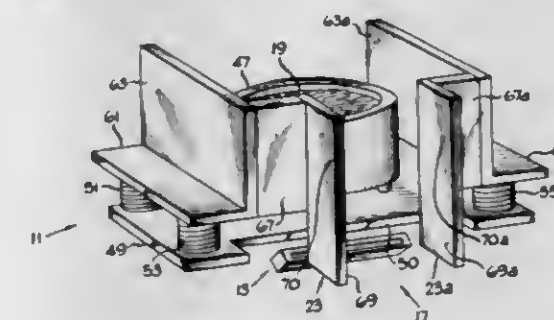
A method and apparatus for welding together two relatively wide elongated sheet metal strips in which the strips are advanced along converging paths forming a V-shaped gap, and high frequency electrical current is applied to the marginal portions in advance of the weld point to heat the facing surfaces to welding temperature. The marginal portions are curved transversely of the general

plane of the strip to impart curved cross-sections and thereby having convex curved surfaces adjacent said edge portion. At the weld point the edge portions are forced into contact with each other by restraining the strips



against movement in the direction of their widths while pressing against the convex surface of each strip in a direction transverse thereof at the weld point to change the curvature of the marginal portions to bring the edge portions into contact.

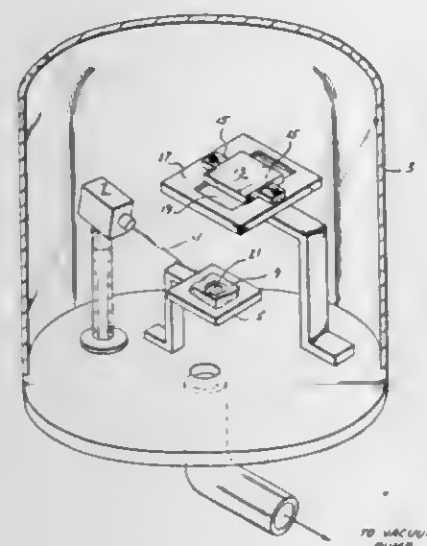
3,420,977
ELECTRON BEAM APPARATUS
 Charles W. Hanks, Orinda, Jack D. Merrill, Richmond, and Harold A. Peterson, Concord, Calif., assignors, by mesne assignments, to Air Reduction Company, Incorporated, a corporation of New York
 Filed June 18, 1965, Ser. No. 464,968
 U.S. Cl. 219—121
 Int. Cl. B23k 9/08; H05b 7/18



An electron beam gun assembly for heating a target including a source for emitting an electron beam and a magnetic lens for establishing a transverse magnetic field in the path of the electron beam for deflecting and focusing the electron beam onto the surface of the target. The source is positioned rearwardly of the target and is isolated therefrom. The magnetic lens includes a first magnetic field of increasing strength in the initial path of the electron beam, and a second magnetic field of substantially constant strength between the first magnetic field and the target.

3,420,978
PRETREATMENT METHOD FOR ANTI-WETTABLE MATERIALS
 James E. Webb, Administrator of the National Aeronautics and Space Administration with respect to an invention of Clyde M. Adams, Jr., and Stanley Weiss, both of Lexington, Mass.
 Filed June 30, 1965, Ser. No. 468,655
 U.S. Cl. 219—121
 Int. Cl. B23k 9/00; B23k 1/04
 Brazing processes may be conducted on materials having difficult-to-wet surface characteristics such as beryl-

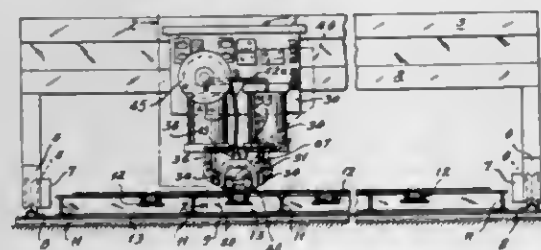
lium by initially treating the surface to be brazed with a vapor deposited coating of titanium or zirconium, approximately two to five microns thickness, applied in a



vacuum environment. Subsequently, any appropriate braze filler such as aluminum may be used, also in a vacuum, to complete the braze joint.

3,420,979
SUBMERGED ARC WELDING APPARATUS
John W. Gowan, Arnold, Mo., assignor to St. Louis Shipbuilding-Federal Barge, Inc., St. Louis, Mo., a corporation of Missouri
Filed June 7, 1965, Ser. No. 461,892
U.S. Cl. 219—125
Int. Cl. B23k 9/12; B23k 9/18; H05b 1/00

8 Claims



Automatic welding apparatus for submerged arc welding work along a seam comprising a backing trough having resiliently supported side walls forming a channel along one side of the weld seam and having backing media therein, means to support the work with the seam over said backing trough, welding means for welding along the seam, and means coacting with said welding means to provide localized pressure against said work in the area of the seam by compressing said backing trough to force the backing media against the underside of said seam beneath the welding means.

3,420,980
METHOD AND MATERIAL FOR HARD-SURFACING
Carmine Annunziata, Bayonne, and Robert H. Lee, Lakewood, N.J., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed July 22, 1966, Ser. No. 567,080
U.S. Cl. 219—146
Int. Cl. B23k 35/22

7 Claims

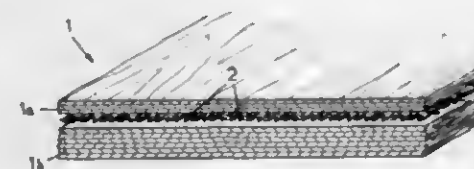
1. A consumable electrode for electric arc welding comprising a steel sheath containing a welding composition comprising from about 5 to about 30 weight percent

of at least one aluminum-bearing ingredient taken from the class of aluminum and alloys of aluminum; from about 5 to about 20 percent by weight of at least one deoxidizer taken from the class consisting of ferromanganese-silicon, ferromanganese, ferrosilicon, zirconium-silicon, calcium silicon, ferroaluminum-silicon, alkali metals and alkaline earth metals; from about 5 to about 30 percent by weight of at least one titanium-bearing compound taken from the class consisting of titanium, titanium oxide, titanium suboxide, ferrotitanium and alkali and alkaline earth metal titanates; and from about 5 to about 70 percent by weight iron powder said ingredients comprising between 10 and 50 percent by weight of the total weight of the electrode.

3,420,981
LAMINATED HEATING PANEL AND TABLES EQUIPPED THEREWITH
Christian Jacques Emile Joseph Martinet, Paris, France, assignor to EPM International, Levallois-Perret, France
Filed Feb. 14, 1966, Ser. No. 527,210
Claims priority, application France, Mar. 22, 1965, 10,240

U.S. Cl. 219—218
Int. Cl. H05b 1/00

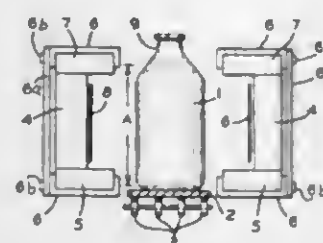
8 Claims



A heating panel for use in curing concrete comprising electrically conductive strips of base-metal cloth mounted between a thin layer and a relatively thick rigid layer of insulating material, said layers being permanently fastened together by metallic fasteners having thin flat heads.

3,420,982
PREVENTION OF MOISTURE CONDENSATION ON CHILLED, FILLED BOTTLES
Nathaniel E. Hager, Jr., Lancaster, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Nov. 15, 1966, Ser. No. 594,528
U.S. Cl. 219—388
Int. Cl. F27d 11/12

2 Claims



1. Apparatus for heating filled, chilled glass bottles which comprises conveying means for transporting bottles insulated heating element supports positioned along each edge of said conveying means, a metallic foil heating element adapted to supply heat to bottles on said conveying means mounted on each of said supports and having a width equal to the height of the body portion of the bottles to be heated, said heating elements having a heat capacity per unit of line length less than about 0.05 that of the filled bottles to be heated, a shield positioned above each said heating element to prevent thermal radiation from said heater from striking the unfilled neck portion of the filled bottles to be heated, electrical power supply means for maintaining the temperature of said heating ele-

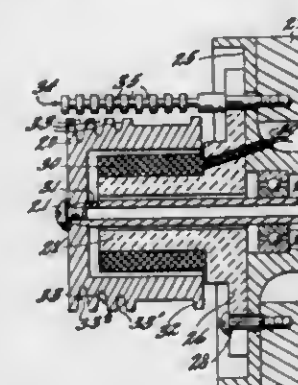
ments in the range 1200°–1800° F., and cut-off means for shutting off the power to said heating elements when said conveying means stops.

3,420,983
ROTATING DRUM HEATER FOR SYNTHETIC YARN

Henry W. McCard, 208 Rodman Ave., Jenkintown, Pa. 19046, and Donald H. Ross, Township Line Road, Chalfont, Pa. 18914

Filed Sept. 21, 1966, Ser. No. 580,978
U.S. Cl. 219—388
Int. Cl. F27b 7/00

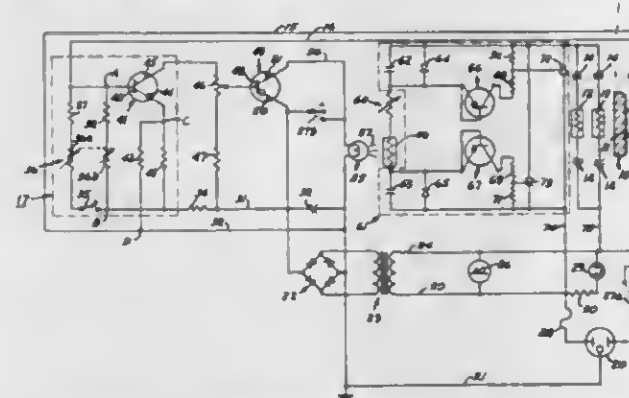
4 Claims



A device for continuously heat treating running lengths of heat treatable synthetic yarn, having a housing, a shaft rotatable within the housing, a hollow heat conductive metal drum mounted on the shaft and adapted to receive a plurality of turns of yarn fed onto the drum at one end and removed from the other end, the drum having a series of grooves of changing circumference starting near the center and progressively decreasing in diameter toward the take off end of the drum in accordance with change in length in the yarn as it is heated, a heating element mounted to the housing about the shaft within the hollow of the drum and a post mounted on the housing for longitudinally separating the turns of yarn about the drum.

3,420,984
RADIANT HEATER DEVICE
Josef U. Berkl and Gaybert B. Little, Redondo Beach, Calif., assignors to HI-Shear Corporation, Torrance, Calif., a corporation of California
Filed Feb. 18, 1966, Ser. No. 528,557
U.S. Cl. 219—502
Int. Cl. H05b 1/02

7 Claims

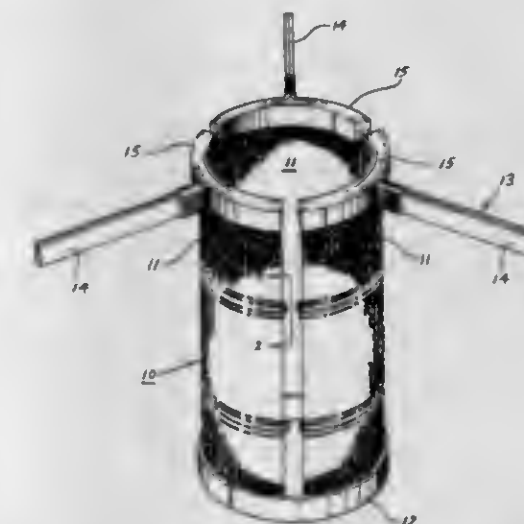


1. A heater comprising: an electric heating lamp; a sensor having a resistance which is a function of its temperature; a bridge circuit including the sensor; a first transistor connected to said bridge circuit whose bias is responsive to bridge balance and imbalance; a second transistor controlled by said first transistor; a second lamp of the class which produces luminar energy as a function of voltage applied thereto; said second lamp being connected in series with said second transistor to a source of electrical energy, the energy level being determined by said second transistor as a function of the condition of

the first transistor; a light-dependent resistor positioned so as to be responsive to luminar energy from said second lamp, the resistance of said light-dependent resistor being a function of the luminar intensity impinging thereon; an adjustable resistance in series connection with said light-dependent resistor; a phase-type SCR power control connected to said adjustable resistance and light-dependent resistor, and including a pair of oppositely disposed silicon controlled rectifiers in parallel connection with each other in a power circuit to the said heating lamp; and a mode selector switch so disposed and arranged as to be adapted selectively to provide maximum power to said adjustable resistance thereby to bypass control of the sensor and bridge, whereby intensity of the illumination of the second lamp determines what portion, if any, of an AC power wave will be transmitted by the SCR's to the heating lamp, thereby to control the heat delivered thereby when the mode selector switch does not bypass the sensor and bridge, and whereby heat delivered is controlled by the adjustable resistance when the mode selector switch bypasses the sensor and bridge.

3,420,985
ELECTRIC HEATING ELEMENT
Ingvar F. Andersen and Richard D. Brew, Concord, N.H., assignors to Richard D. Brew Co., Inc., Concord, N.H., a corporation of New Hampshire
Filed July 8, 1966, Ser. No. 563,890
U.S. Cl. 219—553
Int. Cl. H05b 3/10; H05b 3/66; H01c 3/00

8 Claims



An electric heating element for high temperature furnaces comprising a plurality of refractory-metal filamentary conductors in side-by-side contiguous relation. The element is non-woven in construction forming an opaque radiant surface when viewed perpendicularly to that surface; yet being optically transparent when viewed from a point remote from a line of perpendicularity thereby providing means for out-gassing when used in vacuum environments.

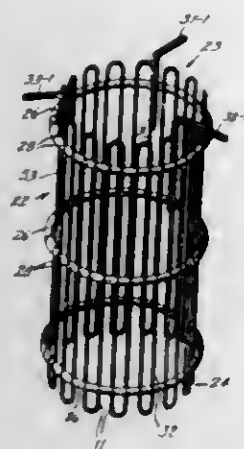
3,420,986
ELECTRIC MULTIPHASE TUBULAR HEATING STRUCTURE HAVING HOLLOW REFRACTORY CONDUCTORS AND ALL TERMINALS AT ONE STRUCTURE END
Alfred Pohler and Gerolf Strohmeler, Reutte, Austria, assignors to Schwarzkopf Development Corporation, New York, N.Y., a corporation of New York
Filed Dec. 19, 1966, Ser. No. 602,755
Claims priority, application Austria, Dec. 21, 1965, A 11,493/65

U.S. Cl. 219—553
Int. Cl. H05b 3/10; H05b 3/34; H05b 3/54

6 Claims

Electric heating structures wherein a plurality of elongated thin wires are interlaced into hollow conductors which are combined into an elongated hollow tubular

heater structure having an axial length greater than the tubular width and all terminal ends at one axial end thereof. The terminal ends of the hollow heater structure are joined into a heating circuit for connection to heating current source. Intermediate portions of the elongated hollow conductors are supported by either one or more



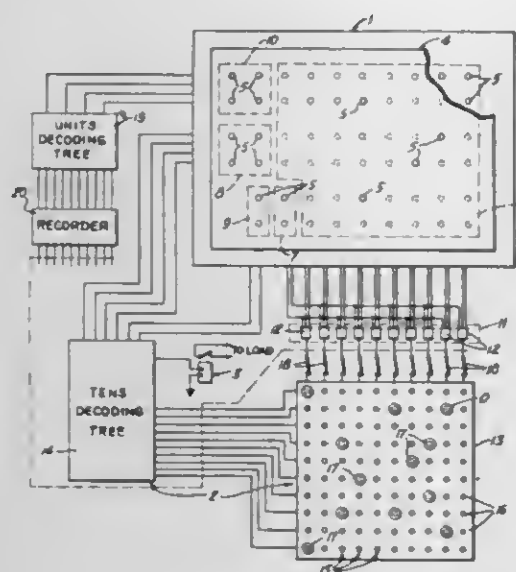
transversely extending other hollow heating conductors or by at least one transversely extending elongated insulating support. In a very effective tubular heating structure of the invention formed of a plurality of such hollow conductors, each heater phase thereof is formed of a plurality of such hollow axially extending conductors connected in series with each other.

3,420,987

CODED CONTROL APPARATUS AND METHOD
Timothy H. Houle, Wauwatosa, Wis., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York

Filed July 6, 1964, Ser. No. 380,378
U.S. Cl. 235-61.7
Int. Cl. G06c 21/00

9 Claims



A punched card code system for controlled dispensing of gasoline wherein the customers are grouped, with each group having a common code portion and a unique portion. Two punch decoder units decode the several sections and the outputs are connected in series through a plug board matrix having vertical lines connected to one decoder and horizontal lines connected to the second decoder, the support for the lines has an opening at each junction for releasable insertion of a diode pin. Removal of a pin removes the particular customer and prevents

withdrawing of gasoline. A switch is connected in each of the group lines from the first decoder to the vertical matrix lines for group disconnection.

3,420,988

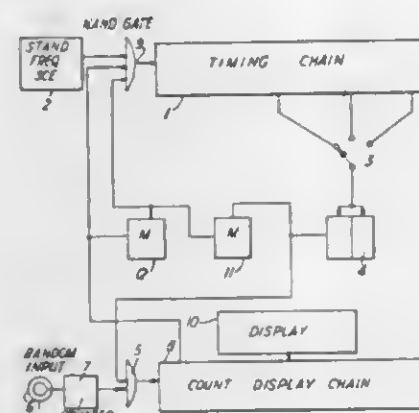
DIGITAL COUNTING EQUIPMENTS

Robert William Hunt, Eric Lindsay Jones, and Peter Bonner, London, England, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed May 17, 1965, Ser. No. 456,248
Claims priority, application Great Britain, May 25, 1964, 21,564/64

U.S. Cl. 235-92
Int. Cl. G06f 1/02

4 Claims



Digital counting equipment whereby intervals of predetermined duration between triggering pulses derived from a standard frequency source form the time basis by which the range and the counting period are automatically determined. The range is indicated by a movable decimal point on the display the position of which is proportional to elapsed time, and the duration of the counting period is additionally dependent on the most significant digit being filled prior to a predetermined maximum number of time intervals for any one counting period being reached. The display means includes a warning device activated whenever a count exceeds a predetermined limit, and an additional digit to permit a change in range other than simultaneously with the count display reading the most significant digit.

3,420,989

SYNCHRONIZER FOR DIGITAL COUNTERS

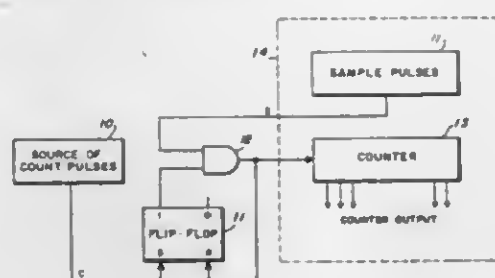
Robert H. Sapp, Baltimore, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed July 16, 1965, Ser. No. 472,744

U.S. Cl. 235-92

Int. Cl. G06f 3/00; H03k 17/00

2 Claims



A synchronizer for causing a counter to operate in a fixed sequence with respect to a computer system includes a source of sample pulses, a source of count pulses unsynchronized with the sample pulses and a memory device set by the count pulses suitably connected so that when the memory device is set, a sample pulse will step the counter and reset the memory device.

3,420,990

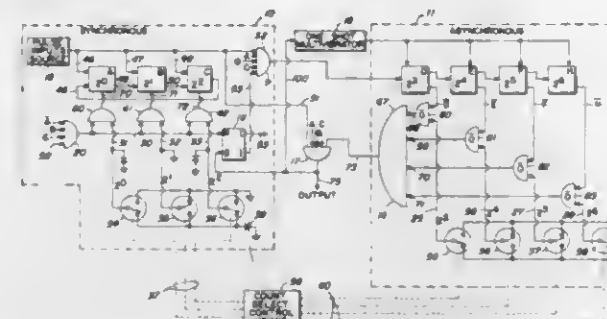
HYBRID COUNTER

John J. Andrea, Marion, Noel E. Hogue and James C. Meier, Cedar Rapids, Iowa, assignors to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed Mar. 23, 1966, Ser. No. 536,797

U.S. Cl. 235-92
Int. Cl. G06f 1/00

12 Claims



1. A hybrid counter constructed to recycle every Mth count and comprising:
 - a first recycling counting means comprise of a plurality of high-speed counting stages;
 - a second recycling counting means comprised of a plurality of low-speed counting stages;
 - connecting means for supplying the Nth count position of said first counting means to the input of said second counting means;
 - means responsive to a predetermined count P of said second counting means and a predetermined count of said first counting means to produce an output pulse;
 - first resetting means responsive to said output pulse to reset the stages of said second counting means to a predetermined count position R;
 - said predetermined count of said first counting means being selected to occur after said predetermined count P by an interval of time greater than that required for said second counting means to be reset to count position R.

3,420,991

ERROR DETECTION SYSTEM

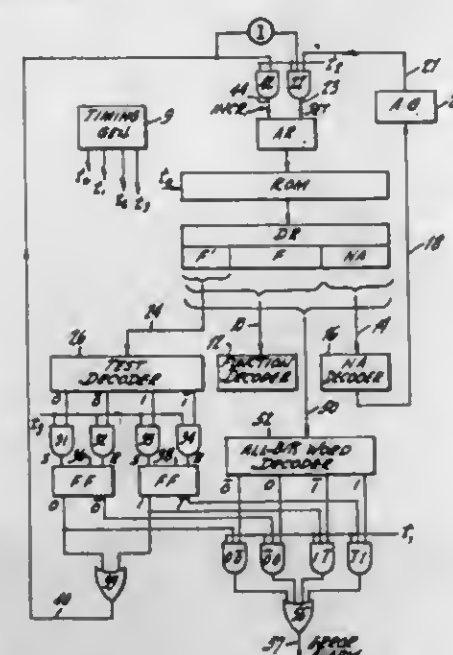
Andrew T. Ling, Collingswood, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Apr. 29, 1965, Ser. No. 451,916

U.S. Cl. 235-153

Int. Cl. G06c 25/00

14 Claims



A computer error detection system, which is more economical than parity-type systems, for use with a read-only memory or other apparatus which cyclically handles

information words (consisting of mixed "1's" and "0's"), a test word (consisting for example of all "0's") and an inverted test word (consisting of all "1's"). Each word handled contains an indication of the type of word which will follow. An error alarm is generated if the word being handled is not the type indicated by the previous word. The system detects erroneous presence and erroneous absence of electrical signal at all bit positions throughout the system.

3,420,992

BINARY ADDER EMPLOYING NEGATIVE RESISTANCE DIODES

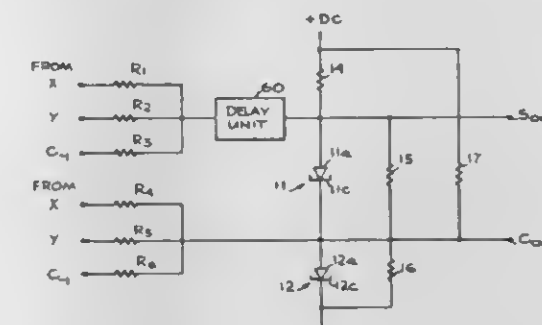
Samuel Nissim and John P. Francis, Malibu, Calif., assignors to The Bunker-Ramo Corporation, Stamford, Conn., a corporation of Delaware

Filed Dec. 27, 1965, Ser. No. 516,228

U.S. Cl. 235-176

Int. Cl. H03k 23/36; G06f 3/00

9 Claims



A binary adder circuit for providing sum and carry output information. The circuit is comprised of first and second tunnel diodes connected in series, each switchable between a high-current low-voltage "0" state and a low-current high-voltage "1" state. The first and second tunnel diodes respectively provide carry and sum output information in response to three input signals applied thereto. The carry tunnel diode is biased to switch to its "1" state only when two or more "1" input signals are applied thereto. The number of "1" input signals required to switch the sum tunnel diode to a "1" state depends on the state of the carry tunnel diode.

3,420,993

REDUNDANT ANALOG FAILURE CORRECTION AND DETECTION PROCESS AND APPARATUS

Billy S. Chamberlain, Johnson City, Byron J. Shinn, Vestal, and Luther D. Sunderland, Apalachin, N.Y., assignors to General Electric Company, a corporation of New York

Filed Nov. 23, 1964, Ser. No. 413,271

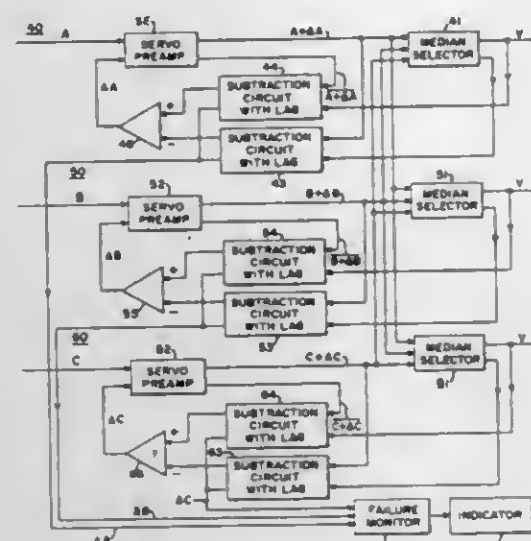
U.S. Cl. 235-184

Int. Cl. G06g 7/02

6 Claims

An active filtering process which automatically balances the three branch analog signals (or analog derived signals) of a triply redundant data processing system toward the median signal value, thereby reducing the output signal jump which would otherwise occur when the median signal fails and a new median signal is selected by the triply redundant system. Furthermore, this balancing process is designed to provide a slow transition to the unbalanced value of this new median signal, while at the same time rapidly balancing the non-median signals. Another feature of this process, which is essential for good response in feedback and automatic control, is that the basic control signal is not filtered (bandpass limited) by the balancing process, only the difference or offset between the non-median and median signals is effectively filtered or smoothed to provide the desired gradual transition from the previous to the new median values.

Some representative analog and pulse width mechanizations of this balancing process are illustrated to-



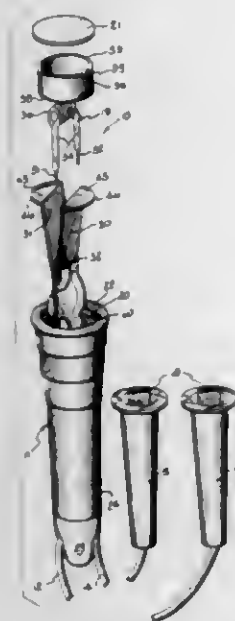
gether with an out-of-limit or failure detection circuit which is readily incorporated in the balancing process.

3,420,994 TIMING LIGHT

Harvey E. Hanson, Glenview, Ill., assignor to Sonoco Manufacturing Inc., Chicago, Ill., a corporation of Illinois

Filed Dec. 30, 1966, Ser. No. 606,326
U.S. Cl. 240-11.4
Int. Cl. G07g 1/00; G01r 13/42

12 Claims



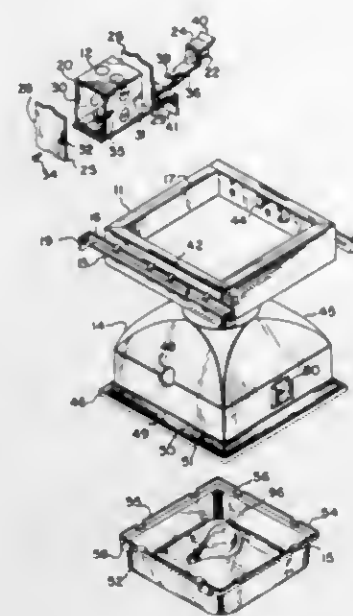
1. In a timing light, an elongated tubular body having a wall forming an interior socket accessible through an opening at one end of the body, a bulb having electrodes inserted through the open end and disposed within the socket, a lens snap fitted into the open end at the tubular body to close its open end and permitting observation of the flashing of the bulb, a pair of electrical leads extending through at least one aperture at the other end of the body and connected to the electrodes, and a combined bulb holding and lead anchoring means in the form of a pair of strips engaging the wall of the socket alongside edges of the strips and lying side by side with opposed faces on opposite sides of said bulb, said strips having apertures receiving said leads.

3,420,995 SELF-LOCKING LATCH

Bruce Patten Duncel, Stone Mountain, Ga., assignor, by mesne assignments, to Lithonia Lighting, Inc., Atlanta, Ga.

Filed Oct. 22, 1965, Ser. No. 502,038
U.S. Cl. 240-78
Int. Cl. F21s 1/06; E05c 5/00

6 Claims



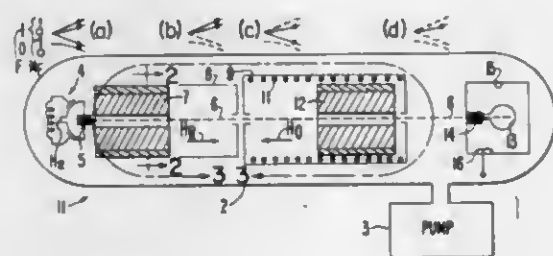
A self-locking latch for holding a lighting fixture within a mounting frame. Serrated or saw-toothed edges on the latch are biased to project through slots in the fixture for engaging a flange on the mounting frame. After the fixture is inserted into the mounting frame, a screw extending through a flange on the fixture and threaded into the latch is turned to pull the fixture tightly into the frame to make the latch difficult to release.

3,420,996 ATOMIC BEAM MASER HAVING IMPROVED ENERGY STATE SELECTION TO PROVIDE INCREASED SHORT TERM STABILITY

Jacques P. Vanler, Beverly, Mass., assignor, by mesne assignments, to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California

Filed Aug. 8, 1966, Ser. No. 571,092
U.S. Cl. 250-41.3
Int. Cl. H01s 1/00; G01n 27/78

5 Claims



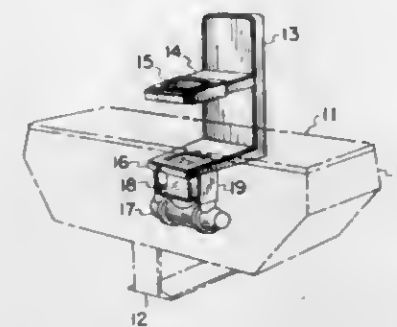
The atomic beam in a maser apparatus is passed through an energy state selecting system which inverts undesired field dependent atoms from the upper to the lower hyperfine energy state and removes these atoms from the beam. Inversion is achieved by subjecting the atoms to a D.C. magnetic field reversal. Only the desired field independent atoms reach the maser storage bulb, so that power output is increased by a factor of about 200 and short term frequency stability is increased by a factor of about 14.

3,420,997 FLUOROSCOPIC X-RAY TUBE MOUNTING FOR A TILTABLE X-RAY TABLE TO PREVENT MISALIGNMENT

Robert J. Mueller, Brookfield, Wis., assignor to General Electric Company, a corporation of New York

Filed Oct. 31, 1966, Ser. No. 590,898
U.S. Cl. 250-57
Int. Cl. H01j 5/48; H01j 37/22

3 Claims



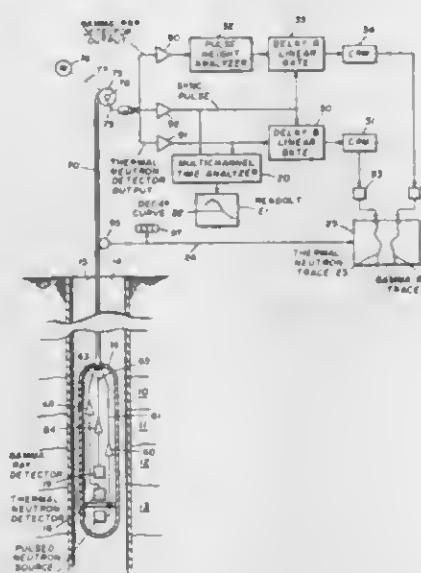
An X-ray tube casing and collimator are fastened together and suspended on spaced-apart flexible members from the bottom part of a spot-film tower that extends into the X-ray table. When the table and tube casing are tilted to a vertical position, the flexible members bend slightly to form a parallelogram with the axis of the tube casing in which case the X-ray beam shifts in a plane parallel with its original plane and not at an angle that would amplify misalignment with a fluoroscopic device which is at the other end of the tower above the table.

3,420,998 USE OF GAMMA RAY AND THERMAL NEUTRON WELL LOGS TO CORRECT MACROSCOPIC ABSORPTION CROSS SECTION MEASUREMENTS

William R. Mills, Jr., Dallas, Tex., assignor to Mobil Oil Corporation, a corporation of New York

Filed Sept. 17, 1965, Ser. No. 488,137
U.S. Cl. 250-83.3
Int. Cl. H01j 39/32

6 Claims



The specification discloses a technique and system for producing and utilizing gamma ray and thermal neutron logs to correct macroscopic absorption cross section measurements obtained in pulsed neutron well logging operations. In the embodiment disclosed, there is provided a well logging system including a pulsed neutron source, a thermal neutron detector, and a gamma ray detector for obtaining the thermal neutron and gamma ray logs. The macroscopic absorption cross section meas-

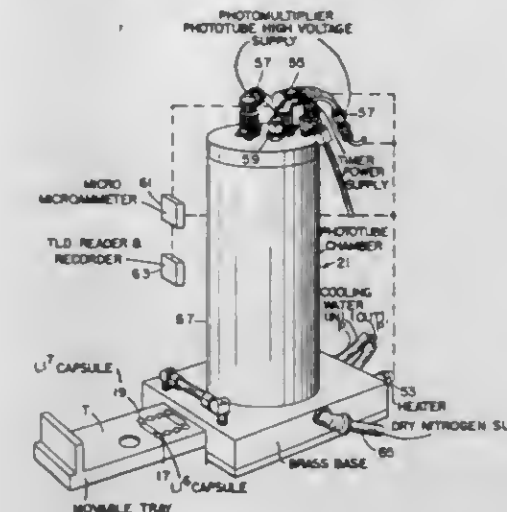
urements are obtained from thermal neutrons detected. Correction is carried out by forming the ratio between the thermal neutron and gamma ray logs and multiplying this ratio by the macroscopic absorption cross section measurements.

3,420,999 THERMOLUMINESCENT TISSUE EQUIVALENT DOSIMETER

Carl H. Distenfeld, Mattituck, N.Y., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed May 11, 1966, Ser. No. 550,089
U.S. Cl. 250-83.1
Int. Cl. G01n 21/16; G01n 21/38

2 Claims

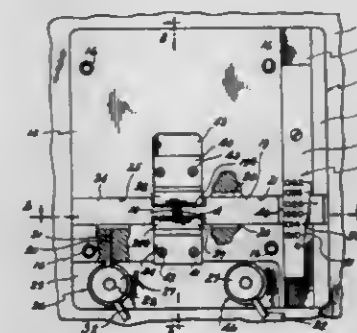


Integrating dosimeter system in which gamma ray sensitive and neutron sensitive, integrating, thermoluminescent materials are shielded by and spaced from polyethylene to provide radiation equivalent man monitoring of mixed field radiation flux. Also, specific apparatus is provided for automatic remote operation in which separate gamma ray sensitive, integrating, thermoluminescent materials are separately shielded by borated and unborated polyethylene to distinguish between thermal and high energy gamma rays.

3,421,000 WORKPIECE SUPPORT AND MASK ASSEMBLIES FOR RADIATION BACKSCATTER MEASURING INSTRUMENTS

Sidney U. Lieber, Bayside, and William D. Hay, Peekskill, N.Y., assignors to Unit Process Assemblies, Inc., Woodside, N.Y., a corporation of New York

Filed Oct. 22, 1965, Ser. No. 502,015
U.S. Cl. 250-105
Int. Cl. H01j 1/52



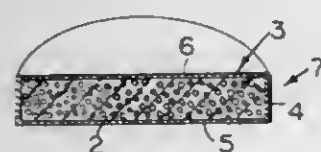
1. In a radiation backscatter measuring instrument, the combination of a workpiece support and mask assembly comprising a plate and means on said plate defining an exposure opening which opens through the plate and which includes at least one member movable parallel to

the plane of the plate to vary the effective area of said opening, said means defining the opening having raised surfaces along edges of said opening to engage and accurately locate a work piece at one side of said plate, and a holder containing a source of radiation supported within said opening by said means defining the opening to direct radiation toward said one side of the plate for impingement against a workpiece located by said raised surfaces and exposed to the radiation at said opening and a detector disposed at the other side of said plate for reception of radiation backscattered from said workpiece through said opening.

3,421,001 RADIOISOTOPIC HEAT SOURCE AND METHOD OF PRODUCTION

Joseph J. Fitzgerald, Winchester, and Gordon L. Brownell, Weston, Mass., assignors to Iso/Serve, Inc., Cambridge, Mass., a corporation of Massachusetts

Filed Mar. 16, 1964, Ser. No. 352,725
U.S. Cl. 250—106
Int. Cl. G21b 5/00



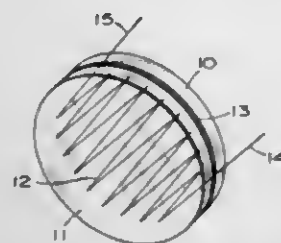
10. A nonradioactive encapsulation heat source adapted to be converted by exposure to neutron flux to an isotope fueled heat source, comprising:

a wafer of a stable compressed sintered isotope having a cross section of greater than 5 barns to thermal neutrons and a half life in excess of 100 days, said wafer entirely contained and enclosed in a sealed capsule of material which has a melting point in excess of 2300° C., is nonreactive with said compound, is capable of being joined to said isotope, has a cross section of less than .2 barn to thermal neutrons, and a half life of less than 3 days.

3,421,002 THIN FILM MAGNETIC LIGHT MODULATOR

Martin Berger, East Brunswick, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed May 27, 1964, Ser. No. 370,643
U.S. Cl. 250—199
Int. Cl. H04b 9/00



1. An electromagnetic radiation modulator comprising in combination:

- an enclosure means having the property wherein at least one plane thereof is capable of passing a beam of electromagnetic radiation therethrough;
- a relatively thin film of magnetic metallo-polymeric, ferromagnetic particles formed from the reaction of unsaturated polymers with Group VIII transition metal carbonyls held within said enclosure means in such manner so as to intersect said beam of electromagnetic radiation;
- electrical conducting means held within said enclosure means so as to be embedded within said thin

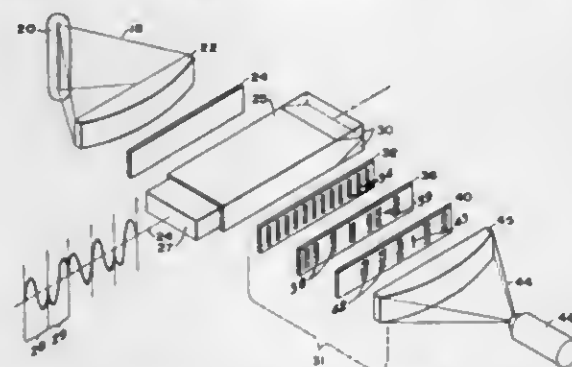
film of magnetic metallo-polymeric, ferromagnetic particles for at least a portion of the area wherein said thin film intercepts said electromagnetic radiation, said electrical conducting means being so arranged and constructed so as to generate a magnetic field in said area of said thin film when an electrical current is passed through said electrical conducting means;

wherein the transmissibility of said thin film for said electromagnetic radiation will change as a function of the electrical current being passed through said conducting means.

3,421,003 APPARATUS AND METHOD FOR OPTICAL SIGNAL PROCESSING

Gerald J. Pratt, Brooklyn, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Mar. 17, 1965, Ser. No. 440,502
U.S. Cl. 250—199
Int. Cl. H04b 9/00; G02f 1/24; G02l 1/28

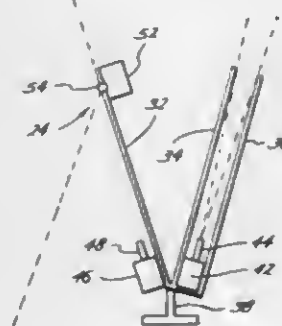


An optical correlator for providing an output signal which is indicative of a correlation between an electrical signal and a predetermined code sequence. The electrical signal is used to generate an acoustic wave in an isotropic birefringent medium. A beam of collimated circularly polarized light is phase modulated by the acoustic wave in the birefringent medium. The phase modulated light is converted to intensity modulated light by an analyzer which is designed in accordance with the predetermined code. The light output from the analyzer is coupled to a photo detector from which a maximum signal is obtained when the acoustic wave correlates with the code sequence.

3,421,004 SOLAR OPTICAL TELESCOPE DOME CONTROL SYSTEM

Kenneth D. Cashlon, P.O. Box 161, Friendswood, Tex. 77546

Filed Aug. 31, 1967, Ser. No. 665,676
U.S. Cl. 250—203
Int. Cl. G01j 1/20; G01c 17/34; G01c 21/02



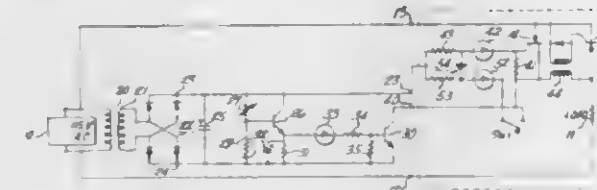
A dome control system utilizes a plurality of sun vanes mounted externally of the dome. The vanes are placed so as to keep two cadmium selenide cells in the shadow

when the sun is shining through the shutter of the dome. At a predetermined time, the dome shutter will open and a telescope will start tracking. When the sun illuminates the dome the dome will rotate until the sun illuminates the telescope. As the sun approaches the western edge of the shutter, the shadow line of the sun vanes begin to illuminate the western cell which starts the dome to rotate to the west until the dome illuminates the eastern cell which stops the dome rotation. Means are also provided so that should the sun be obscured by the clouds, the dome does not rotate until the sun reappears; then the dome will rotate until it is properly aligned with the sun.

3,421,005 AMBIENT LIGHT CONTROLLED SOLID STATE RELAY

Edward S. Baker, Seattle, Wash., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware

Filed Jan. 6, 1966, Ser. No. 519,076
U.S. Cl. 250—206
Int. Cl. H01j 39/12; G01j 1/00; H03k 3/26

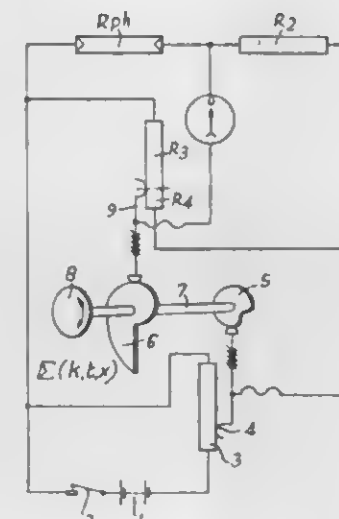


The present invention relates to an improved system for controlling the flow of current to a load in accordance with ambient light intensity. Load current control devices in series circuit with a load are controlled in accordance with the resistance of a light dependent device through the use of an isolation circuit which draws little or no current when there is no current to the load. A voltage sensitive device such as a Shockley diode which conducts only after its threshold voltage has been exceeded, and yet remains conductive thereafter even though the voltage thereacross is reduced below the threshold, interconnects two control transistors which are connected between the load control circuit and the light dependent device.

3,421,006 PHOTOMETER WITH METER RESPONSE ADJUST- MENT COUPLED TO THE BRIDGE ADJUSTER

Erich Hahn, Dresden, Germany, assignor to Veb Pentacon Dresden Kamera- und Kinowerke, Dresden, Germany

Filed Oct. 31, 1966, Ser. No. 590,991
U.S. Cl. 250—210
Int. Cl. H01j 39/12



1. An electric measuring appliance with bridge circuit, especially for photoelectric exposure meters, in which the tapping of the tuning resistor is variable by a sliding

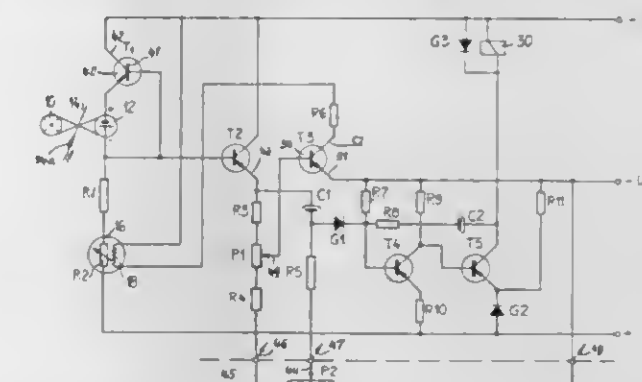
contact, wherein the sliding contact is coupled with the potentiometer slider of a voltage divider which varies the feed voltage of the bridge circuit.

3,421,007 PHOTOELECTRIC AMPLIFIER CIRCUIT WITH COMPENSATION FOR GRADUAL ILLUMI- NATION CHANGES

Hermann Schwartz, Adliswil, Switzerland, assignor to Siegfried Peyer, Baech, Switzerland, a citizen of Switzerland

Filed May 24, 1965, Ser. No. 458,199
Claims priority, application Switzerland, May 28, 1964, 6,964/64

U.S. Cl. 250—214
Int. Cl. H01j 39/12; G01n 21/30; H03f 1/30

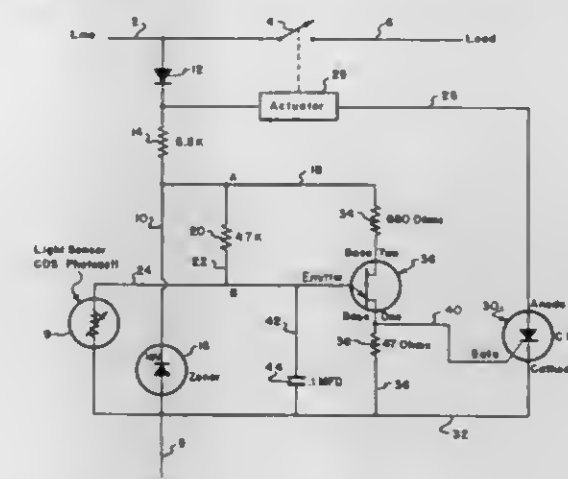


A photoelectric transistorized amplifier circuit is disclosed particularly for use in an electronic yarn cleaner. The inventive amplifier circuit is characterized by the features that for the purpose of compensating for gradual or noninstantaneous changes in the illumination conditions at the photoelectric transducer, a variable impedance is arranged in the signal current circuit of the amplifier circuit wherein the impedance can be changed with a certain time delay in response to the operating conditions prevailing at a control or regulating circuit which, in turn, response to deviations in the magnitude of the signal voltage in the signal current circuit from a reference value.

3,421,008 PHOTOELECTRIC CONTROL DEVICE FOR STREET LIGHTS

Mark B. Shaw, Mount Vernon, N.Y., assignor to Tork Time Controls, Inc., Mount Vernon, N.Y., a corporation of New York

Filed July 13, 1966, Ser. No. 564,810
U.S. Cl. 250—214
Int. Cl. H01j 39/12



1. In a photoelectrically controlled system for street lights and other loads including a load switching means for opening and closing a circuit from a current supply line to a load terminal in response to changes in ambient light conditions, in which said switching means includes

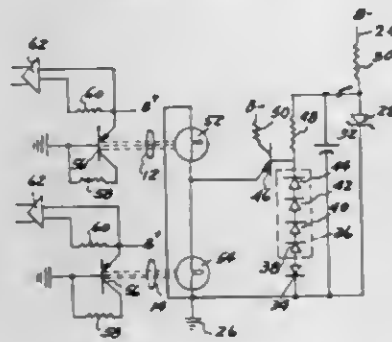
an actuator located in a triggering circuit connected into and responsive to a light sensor, the improvement comprising a diode connected between the current supply line and the actuator, a controlled rectifier connected anode-to-cathode from said actuator into a neutral line, and a solid state unijunction transistor connected through a resistance to the output of said diode and into the gate of said rectifier.

3,421,009
TEMPERATURE COMPENSATED
PHOTOSENSOR SYSTEM

Felix P. Caruthers, 6400 Navajo Court,
Birmingham, Mich. 48010

Filed June 14, 1966, Ser. No. 557,433

U.S. Cl. 250-217 5 Claims
Int. Cl. H01j 39/12; G02f 1/28

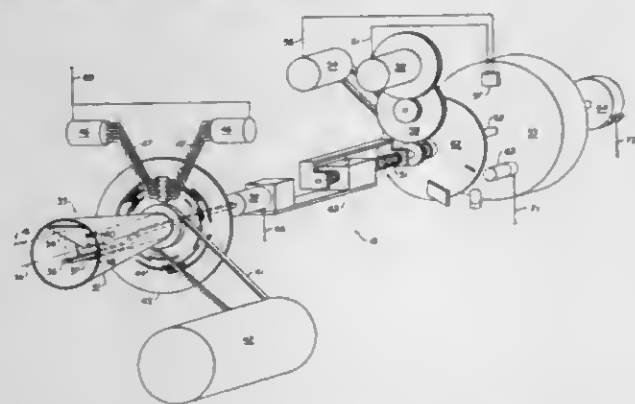


An optical system, including a lamp and a photosensitive device, provides an output responsive to the input from the lamp. The power supply for the lamp includes temperature sensitive compensating elements.

3,421,010
SPIRAL SCANNING SYSTEM EMPLOYING ROTARY AND RECIPROCATING MIRRORS FOR AUTOMATIC DATA MEASURING PROJECTORS
Fred L. Toby, Berkeley, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Jan. 26, 1966, Ser. No. 523,514

U.S. Cl. 250-219 6 Claims
Int. Cl. G01n 21/30; H01j 3/16



1. Apparatus for use in conjunction with a computer in scanning and measuring the particle tracks of single-vertex type nuclear events in filmed bubble chamber data comprising, in combination, a film projector for projecting an image which contains the single-vertex event track to be measured, a scanning periscope disposed to view said image, said scanning periscope having a rotating image viewing element comprising a first mirror viewing said image and being provided with a second mirror for viewing the reflected image from said first mirror, means for translating one of said first and second mirrors of said periscope with respect to the other along the mutual optical axis thereof whereby said periscope traces a path across a radial portion of said image for tracing a spiral scanning path centered on said single-vertex event on said image, position indicating means responsive to the in-

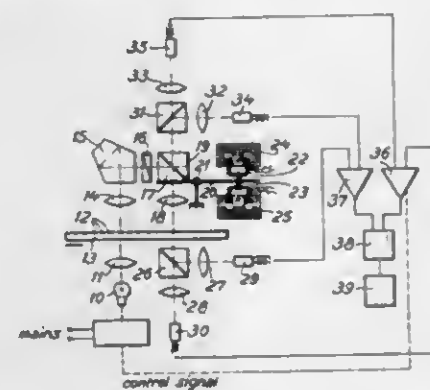
stantaneous position of said periscope along said spiral scanning path, a photoelectric element disposed to receive the light from said image which is transmitted from said second mirror and producing an output indicative of momentary changes in light intensity due to the presence of an increment of event track in said image, and an information register for receiving data from said position indicating means and from said photoelectric element for subsequent analysis by said computer.

3,421,011
INCREMENTAL TRANSDUCER COMPRISING
GRATING TRAVERSED BY LIGHT RAY A
PLURALITY OF TIMES

Fromund Hock, Wetzlar, Germany, assignor to
Ernst Leitz G.m.b.H., Wetzlar, Germany

Filed July 6, 1967, Ser. No. 651,419
Claims priority, application Germany, July 16, 1966,
L 54,090

U.S. Cl. 250-231 3 Claims
Int. Cl. G01d 5/34



In a photoelectric incremental transducer either having a grating which is projected on a second and reflecting grating or having one reflecting grating which is projected onto itself, means are disclosed for suppressing the D-C portions of the position defining signals by generating a four-phase electrical rotatory field.

The transducer comprises in known manner a polarizing beam doubling element, e.g. a Wollaston prism and a—preferably electro-magnetically operated—reflecting element adapted to reflect the two beams obtained from said beam doubling element onto said reflecting grating and, in turn, to two photoelectric receivers for generating position defining signals. As said beam splitting element a beam splitting cube is employed, said cube being adapted to transmit the light reflected by the lines of said reflecting grating to a polarizing beam splitter. The latter reflects the light onto two additional photoelectric receivers the output signals of which are counter-phased to said position defining signals, thereby generating the above mentioned four-phase electrical rotatory field. The four generated signals are conducted in pairs to two push-pull amplifiers with a high common mode rejection wherein the D-C portions of said signals are suppressed.

3,421,012
DISPLACEMENT MEASURING ENCODER WITH
UNIFORMLY DISTRIBUTED FLUX MEANS
AND COEXTENSIVE FLUX INTERRUPTING
MEANS

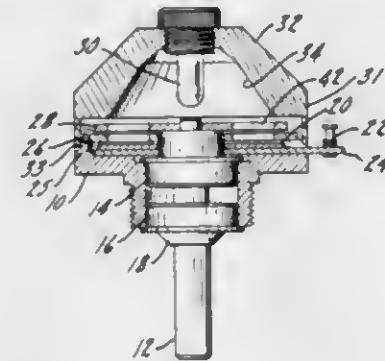
Clark E. Johnson, Jr., 60 Pinecroft Road,
Weston, Mass. 02193

Continuation-in-part of application Ser. No. 522,155,
Jan. 21, 1966. This application Sept. 8, 1966, Ser.
No. 578,433

U.S. Cl. 250-233 14 Claims
Int. Cl. G01d 5/34; G01j 3/00; G01n 21/00

A displacement encoder having a source of flux and a detector spaced from the source of flux. Positioned between the source of flux and the detector are a pair of

flux interrupters. The source of flux provides generally uniform flux over the area of one of the interrupters with the two interrupters being generally co-extensive and having generally the same area as the detector. One of the flux interrupters is arranged for movement relative to the source and to the detector with each of the interrupters having alternate areas with differing flux transmissive



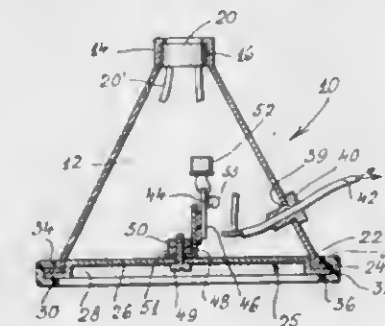
qualities. The number of output pulses provided by the detector in a given amount of movement of one of the interrupters is related to the number of flux transmissive areas of one quality on one interrupter multiplied by the total number of flux transmissive areas of the same quality on the other interrupter, and divided by the greatest factor common to both numbers.

3,421,013
LIGHT RESPONSIVE DEVICE FOR AUTOMAT-
ICALLY CONTROLLING A LOAD

Richard D. Angelari, 334 W. 71st St.,
New York, N.Y. 10023

Filed Aug. 1, 1966, Ser. No. 569,392

U.S. Cl. 250-239 1 Claim
Int. Cl. H01j 39/12



A light responsive device for automatically turning a load on and off is disclosed. The device has a tapered housing disengageably mounted on a base plate and held by a flexible grooved ring. A photoelectric cell is mounted at the narrow top of the housing. Electrical control circuitry is mounted inside the housing on the base plate and is connected in circuit with the photoelectric cell. The circuitry is accessible for servicing by removing the ring and separating the housing and base plate.

3,421,014
APPARATUS FOR CONTROLLING OPERATION
OF TURBOGENERATOR UNDER EMERGENCY
CONDITIONS IN THE POWER SYSTEM

Boris Petrovich Moorganov, 2nd Avtozavodsky proyezd,
3a, Apt. 19, Moscow, U.S.S.R.

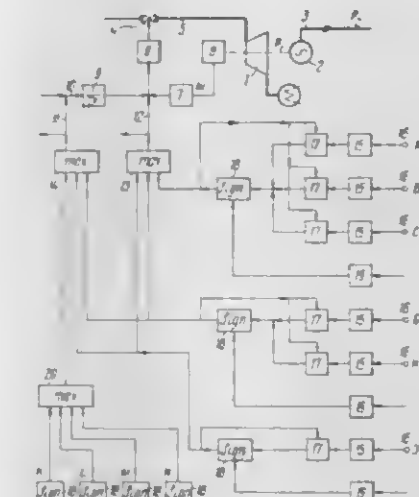
Continuation-in-part of application Ser. No. 278,928,
May 8, 1963. This application Aug. 29, 1967, Ser.
No. 664,096

U.S. Cl. 290-40 23 Claims
Int. Cl. H02p 9/04; F02n 11/06

A system for carrying out control over the power of the prime mover (turbogenerator) in proportion to a change in the power of the electric generator under emergency conditions, caused by disconnection of the generator from the mains, short-circuiting and other disturb-

ances, as well as limitation of the turbogenerator power down to a permissible value in case the latter is at variance with the turbogenerator current power, resulting from a change in the composition of the operating equipment or non-permissible deviation of the values under control by means of a multi-channel system.

The first group of channels is designed for controlling power under emergency conditions. In this case a signal indicative of the generator power is used for formulating the laws of control, said signal being supplied to a real differentiating link, for instance, an amplifier having an integrating reverse connection with the alternating time constant. Then the signal is supplied to the dead zone controlled by the means for varying said zone in accordance with the signals of changes in the plant operating and emergency conditions. To provide the optimal quality of the transition process, this group of channels employs a signal proportioned to the power of the turbogenerator.

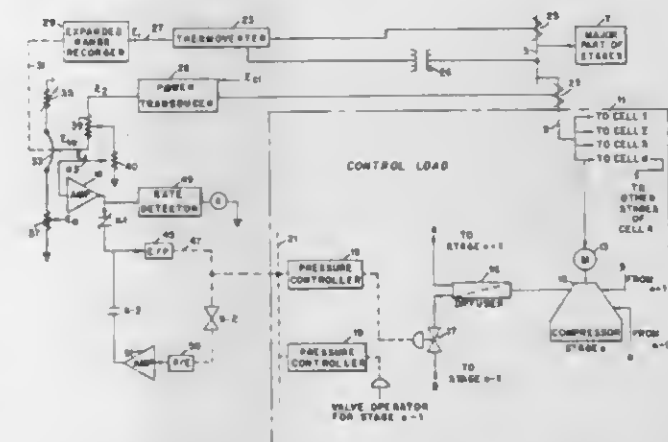


The second group of channels is used to limit the power in accordance with the outer signals. In this case the control signal is supplied to the means for separating the maximum signal and, when acting upon the servomotor of the control valves drive, is substituted with a signal from the synchronizer. The increased precision of the control signals generation is ensured by means of the employment of correcting devices.

3,421,015
ELECTRICAL LOAD CONTROLLER
Egbert M. Jones, Evansville, Ind., and Richard J. Thomas,
Paducah, Ky., assignors to the United States of America
as represented by the United States Atomic Energy
Commission

Filed Oct. 5, 1967, Ser. No. 673,223

U.S. Cl. 307-34 6 Claims
Int. Cl. H02j 1/04; 3/14



A system adapted to monitor the total electrical power consumption of a diffusion plant and to offset changes in plant load so as to maintain the total power consump-

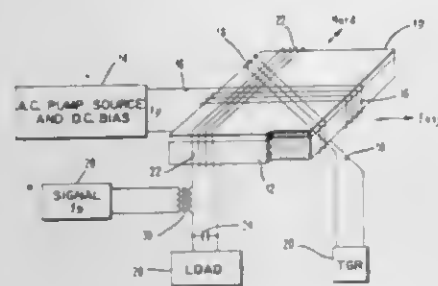
tion at a preselected value. The system adjusts the power consumption of a selected group of diffusion stages as required to offset changes in load in the remainder of the plant. Adjustment of the power consumption of these stages is effected by an electro-pneumatic control system which varies the process gas flow through the stages.

3,421,016

THREE STATE PARAMETRIC OSCILLATOR
William E. Flannery, Norristown, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed June 8, 1962, Ser. No. 201,169
U.S. Cl. 307—88
Int. Cl. H03f 9/00

9 Claims



1. In combination, an anisotropic thin magnetic film having an easy axis and a hard axis of magnetization, a first winding inductively coupled to said hard axis, a pump source coupled to said first winding, a second winding inductively coupled to said easy axis, an output means coupled to said second winding, a third winding inductively coupled to said film along an axis displaced from said hard axis, and means for applying control signals to said third winding to control the production of oscillations in said second winding.

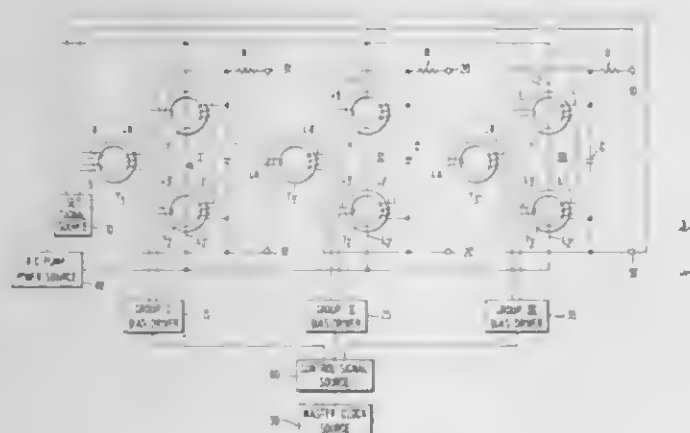
3,421,017

SYSTEM FOR THE CONTROL OF PARAMETRIC OSCILLATIONS

George H. Barnes, West Chester, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed May 7, 1964, Ser. No. 365,664
U.S. Cl. 307—88
Int. Cl. H03k 17/60

8 Claims



The present disclosure describes a system for the cyclic excitation of a plurality of parametrons wherein the initiation and subsequent termination of parametric oscillations is performed by gated transistor current drivers which selectively provide a first amplitude of DC bias required for

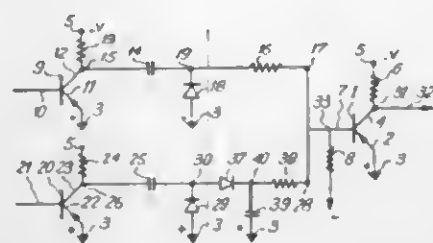
oscillations and a second amplitude of DC bias, which is preferably greater than that required for oscillations and at which latter amplitude oscillations do not occur.

3,421,018

AND TYPE FAIL-SAFE LOGIC CIRCUIT
Gérard Martin, Villemomble, France, assignor to Compagnie des Freins et Signaux Westinghouse, Paris, France

Filed Jan. 5, 1965, Ser. No. 423,521
Claims priority, application France, Jan. 8, 1964, 959,624; Feb. 12, 1964, 963,433
U.S. Cl. 307—218

5 Claims



Fail-safe AND gate, comprising a first transistor connected across a direct current source and having an output circuit. At least two control circuits each of which is connected to the control electrode of the first transistor by a separate resistor and each of which includes a second transistor connected across a direct current source and having its control electrode connected to an individual source of recurrent alternating signals independent of the output of the output circuit, and one or each control circuit also comprising a capacitor having one of its plates connected to the output electrode of the associated second transistor and its other plate connected to the control electrode of the first transistor through the associated resistor, and a rectifier device connected between the electrode of the second transistor connected to a reference potential and the junction between the capacitor and the resistor.

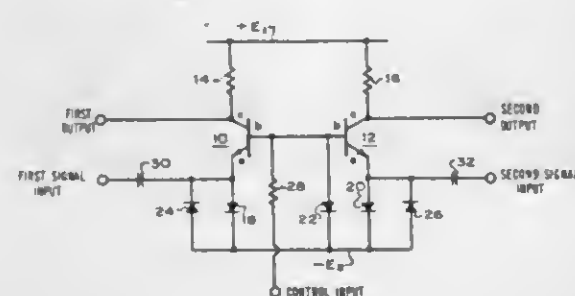
3,421,019

FAST TRANSISTION AND GATE

Ralph R. Reiser, San Jose, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California

Filed July 9, 1965, Ser. No. 470,734
U.S. Cl. 307—218
Int. Cl. H03k 19/22

7 Claims



Two transistors having their bases connected in common are biased to a nonconductive signal condition. Separate diodes are connected between the emitters of these transistors and a source of reference potential. These diodes are poled so that each transistor is biased to a conductive signal condition in response to application of an input signal to its emitter and a control signal to its base. Another diode is connected between the bases of both transistors and the source of reference potential to prevent the transistors from conducting in response to application of the control signal alone.

3,421,020

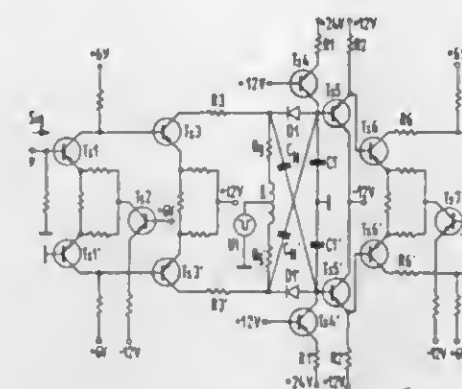
STEP VOLTAGE GENERATOR

Otmar Ringelbaan, Munich-Neubaug, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany

Filed May 25, 1966, Ser. No. 552,886
Claims priority, application Germany, May 28, 1965, S 97,357

U.S. Cl. 307—227
Int. Cl. H03k 6/06; 4/02

15 Claims



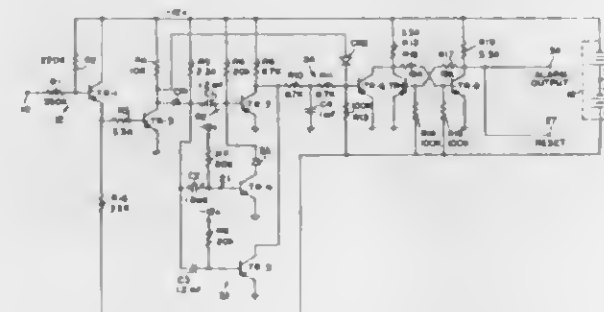
A step voltage generator for converting an analogue signal into step signals and which is symmetrical and can be constructed with one-way switches.

3,421,021

PULSE CODE SIGNAL DISTORTION MONITOR
James Edward Britt, Annandale, Va., assignor to Pulse Communications, Inc., Alexandria, Va., a corporation of Virginia

Filed July 20, 1965, Ser. No. 473,473
U.S. Cl. 307—234
Int. Cl. H03k 5/20

9 Claims



A binary pulse code signal distortion monitoring circuit which analyzes each unit length pulse of one binary state, but not necessarily the other, and which provides an indication, or alarm condition, if any unit length pulse is longer than or shorter than an ideal unit length pulse, plus or minus, respectively, of a pre-established tolerable distortion threshold.

3,421,022

SIGNALLING CIRCUIT ARRANGEMENT

Jean-Jacques Lauprete, Perreux-sur-Marne, Val-de-Marne, France, assignor to Societe Industrielle Bull-General Electric (Societe Anonyme), Paris, France

Filed Sept. 17, 1965, Ser. No. 487,991
Claims priority, application France, Oct. 19, 1964, 991,901

U.S. Cl. 307—235
Int. Cl. H03k 5/20

10 Claims

A circuit arrangement which is adapted to detect and store an input signal received at an input terminal, which signal has a relatively long rising front edge and is not

synchronized with respect to clock pulses received at another input terminal. A threshold trigger circuit, including a tunnel diode, may be triggered in response to a



sufficiently long input signal due to the action of an integrating circuit, with the result that parasitic signals shorter than the duration of a clock pulse are ignored by the circuit arrangement.

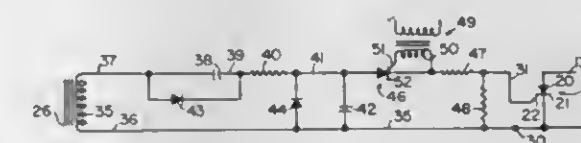
3,421,023

CONTROLLED RECTIFIER TRIGGER CIRCUIT COMPRISING SCR AND PLURAL STORAGE MEANS FOR DISCHARGING THROUGH SCR AND MAINTAINING CONDUCTION DURING POSITIVE ANODE VOLTAGE

Warren C. Fry, Connellsville, Pa., assignor to General Equipment and Manufacturing Company, Louisville, Ky., a corporation of Kentucky

Filed June 6, 1966, Ser. No. 555,381
U.S. Cl. 307—252
Int. Cl. H03k 17/60; 17/74

9 Claims



1. A control circuit providing control current to a controlled rectifier having an anode, a control electrode, and a cathode, said control circuit comprising a first and a second energy storage means, means for charging said storage means during negative half cycles of supply power, circuit means including a controlled discharge device connecting said energy storage means to the control and cathode electrodes for discharging the storage means through said electrodes, means in said circuit means for limiting the discharge current of at least said second energy storage means, and means for supplementing said second storage means to continue current flow to said control and cathode electrodes during positive half cycle of the supply power, whereby said controlled rectifier may be held in conduction independently of its load characteristics.

3,421,024

BISTABLE MAGNETIC DEVICE

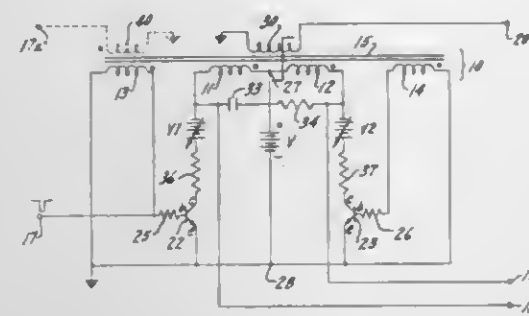
Wilmer C. Anderson, Greenwich, and Frank P. Rennie, Stamford, Conn., assignors to General Time Corporation, New York, N.Y., a corporation of Delaware

Filed July 31, 1963, Ser. No. 299,010
U.S. Cl. 307—282
Int. Cl. H03k 3/26

11 Claims

A bistable multivibrator formed of two transistor switches controlling current flow through a pair of saturating windings on a common core having two saturation states. A pair of feedback windings are individually connected across the inputs of the switches so that once the core begins to switch toward a given saturation state, a voltage is induced in one of the feedback windings, closing its associated switch, until the core has reached that state. Successive input pulses, either of the same

or of alternating polarity, alternately induce a triggering voltage in a respective one of the feedback windings so that every input pulse reverses the saturation state of the



core and produces a signal of constant volt-second content available at the output circuits of the transistor switches or at an output winding on the core.

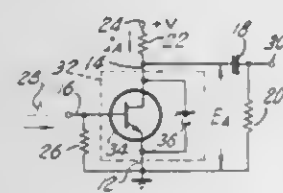
3,421,025

HIGH-SPEED AVALANCHE SWITCHING CIRCUIT
Walter B. Mitchell, Danbury, and Ronald C. Taylor, Brookfield, Conn., assignors to National Semiconductor Corporation, Danbury, Conn.

Filed Mar. 18, 1966, Ser. No. 535,589

U.S. Cl. 307-283
Int. Cl. H03k 3/26

5 Claims



A high speed semiconductor switching circuit including an avalanche transistor having a major current-carrying path with a S-negative impedance characteristic and a voltage regulating device connected across the major current-carrying path of the avalanche transistor, the regulating voltage of said regulating device being lower than the minimum break-down voltage which can be applied to the major current-carrying path of the avalanche transistor.

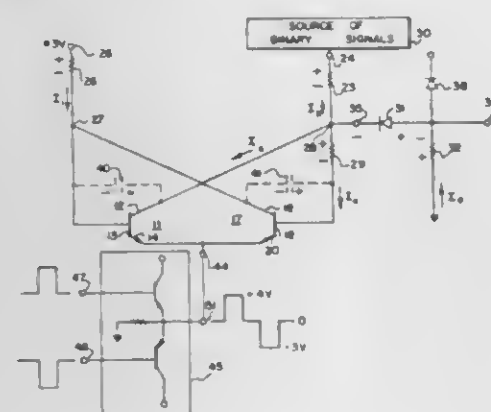
3,421,026

MEMORY FLIP-FLOP

Herbert Stopper, Phoenix, Ariz., assignor to General Electric Company, a corporation of New York
Filed June 29, 1964, Ser. No. 378,726

U.S. Cl. 307-289
Int. Cl. H03k 3/26

23 Claims



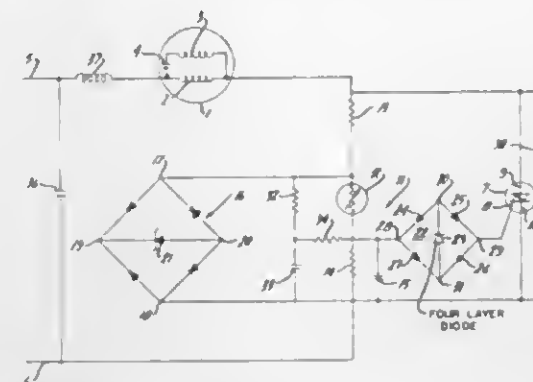
A pair of transistors are cross-coupled to form a memory flip-flop. The emitters of the transistors are coupled to a source of synchronizing pulses and the collector of one of the transistors is coupled to a source of data signals.

3,421,027
CONTROL FOR DYNAMOELECTRIC MACHINE HAVING A PAIR OF CAPACITIVE TIMING CIRCUITS INTERCONNECTED TO CONTROL FIRING OF A TRIGGERED SWITCH

John T. Maynard, New Berlin, Wis., and Johnny Dah-Chun Yu, Dayton, Ohio, assignors to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed Oct. 22, 1965, Ser. No. 500,967

U.S. Cl. 307-293
Int. Cl. H03k 17/26

3 Claims



This disclosure relates to a motor connected to the power lines in series with a "Triac" switch having a firing terminal or gate to establish the conductive state during a half cycle of an alternating current input. A trigger signal is generated by a timing circuit including a thermistor connected in a series with a capacitor. A resistor is connected in parallel with the capacitor. A voltage regulator is connected across the timing circuit. An additional resistor in series with a capacitor is connected in parallel with the thermistor and the first capacitor with a resistor connecting the top sides of the two capacitors. A full wave diode bridge circuit includes a "Diac" diode between the direct current terminals and the input terminals connected between the junction of the capacitor and the thermistor and the "Triac" switch gate.

3,421,028

STATIC PROTECTIVE RELAY SYSTEM

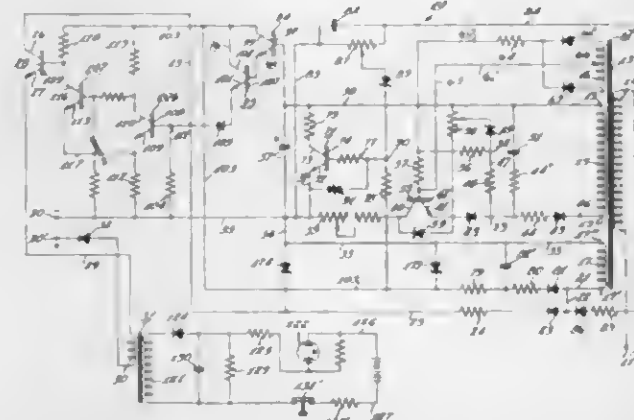
John Baude, Milwaukee, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed Nov. 24, 1959, Ser. No. 855,214

U.S. Cl. 307-293

Int. Cl. H03k 17/26; 17/28

23 Claims



1. An electric circuit comprising a source of electric pulses, an electric pulse storage device, a transistor switching means for connecting said source of pulses to said storage device, an interruptible shunting means connected across said storage device, and means for triggering said switching means into conduction and interrupting said shunting means comprising a sensing device connected across said source of pulses for passing current only upon said pulses exceeding a predetermined voltage, said sensing device upon conduction triggering said switching.

means to connect said source of pulses to said storage device and interrupt said shunting means across said storage device causing said storage device to assume an electrical charge, said storage device being charged at a rate depending on the volt second characteristics of said pulses passed by said sensing device.

3,421,029

BISTABLE CIRCUIT EMPLOYING NEGATIVE RESISTANCE SEMICONDUCTOR DIODES

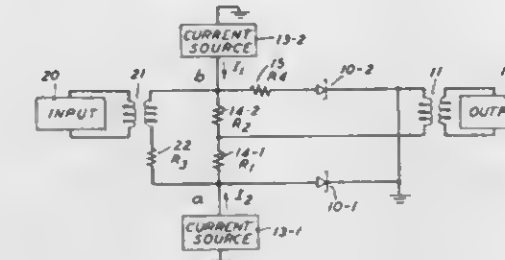
William C. G. Ortel, New York, N.Y., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 17, 1965, Ser. No. 514,507

U.S. Cl. 307-322

Int. Cl. H03k 3/26; 19/10; 23/14; 23/36

6 Claims



A bistable circuit suitable for use as a counter is constructed with two negative resistance diodes connected in a common cathode configuration. The diodes are preferably fabricated on a single semiconductive wafer. The characteristic curve of one of the diodes is adjusted by a padding resistor, and the diodes are biased to the same state by individual current sources.

3,421,030

RAMP-CONTROLLED SELECTION CIRCUIT FOR SIMULTANEOUSLY ENABLED NEGATIVE RESISTANCE DEVICES

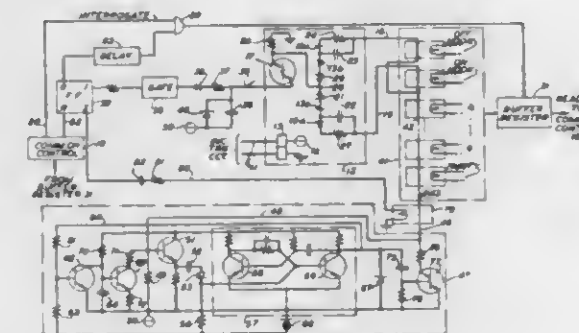
Milton L. Embree, Laureldale, Pa., and Arthur V. Haag and Dietrich Vedder, Columbus, Ohio, assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Aug. 23, 1965, Ser. No. 481,831

U.S. Cl. 307-324

Int. Cl. H03k 3/26; 19/08; 19/12; 23/14

5 Claims



1. In a circuit for controlling the current in plural impedance devices, said devices having a predetermined range of sustaining current requirements, each of said devices lapsing into a nonconducting condition when its current falls below its individual sustaining current level, means enabling a plurality of said devices for the conduction of current, means controllably limiting the magnitude of the total current in said enabled devices, a timing circuit, means responsive to the initial flow of current in said limiting means and in said enabled devices actuating said timing circuit, and

3,421,031

MONOCRYSTALLINE DIRECTIONAL SONIC TRANSDUCER

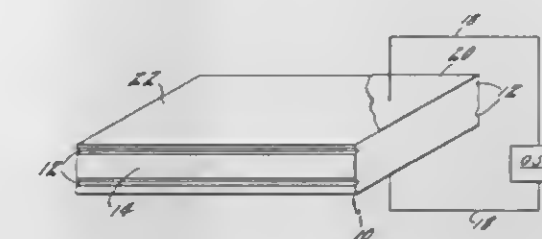
Herbert G. Aas, East Hartford, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Nov. 23, 1966, Ser. No. 596,697

U.S. Cl. 310-8.5

Int. Cl. H04r 17/00

5 Claims



1. A transducer comprising a single orthogonal crystal having a pair of rectangular major surfaces separated by edge surfaces with a V-shaped groove in each of two opposite ones of said edge surfaces, said grooves being parallel with said major surfaces, and a pair of electrodes attached to said major surfaces.

3,421,032

SYNCHRONOUS REACTION MOTOR WITH DEAD-SHAFT ROTOR MOUNT

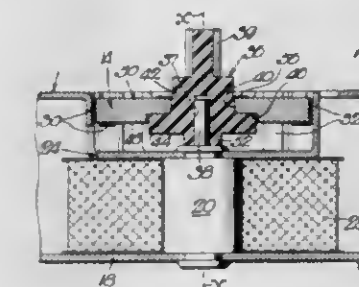
Walter Koblbagen, Elgin, Ill., assignor to Amphennl Corporation, Broadview, Ill., a corporation of Delaware

Filed May 17, 1966, Ser. No. 550,684

U.S. Cl. 310-164

Int. Cl. H02k 19/00; 21/04

11 Claims

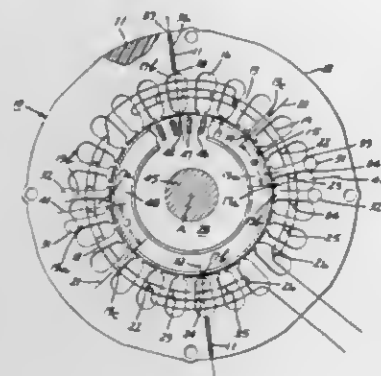


1. In a synchronous reaction motor, the combination with a field including field poles arranged circularly about an axis, and a coil acting when energized to excite said field; of a dead-shaft rotor mount having a fixed shaft about said axis, a bushing part having a bearing recess turnably received on said shaft and a cylindrical surface concentric with said axis, a permanent-magnet rotor part having poles and a central aperture turnably received on said cylindrical surface of said bushing part, and rigid shoulders on said parts, respectively, being in each other's path on relative rotation between said parts and having play between them for free relative rotational movement between said parts over a limited range but acting as a solid drive coupling between said parts at either end of their free-motion range.

3,421,033
SINGLE-PHASE INDUCTION ELECTRIC MOTOR
 William R. Hoffmeyer, Holland, Mich., assignor to
 General Electric Company, a corporation of New
 York

Filed June 7, 1966, Ser. No. 555,731
 U.S. Cl. 310-172
 Int. Cl. H02k 17/10

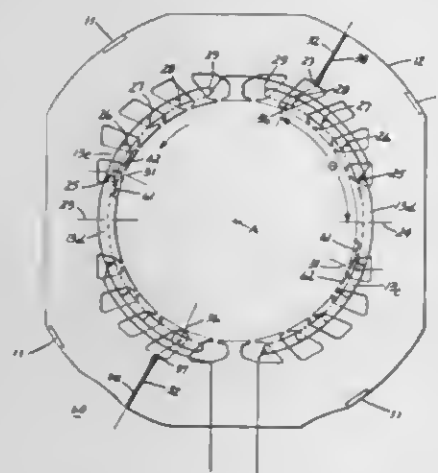
6 Claims



1. In a single phase induction electric motor having a rotatable member, a stator comprising a core formed of magnetizable material having a yoke section and having a plurality of spaced apart teeth sections joined to said yoke section to provide a plurality of coil accommodating slots, said teeth sections including terminations remote from said yoke section forming a bore for receiving the rotatable member; and a number of coil groups disposed in the slots, with each coil group spanning a number of teeth sections and having a coil group axis; at least one preselected tooth section in each spanned number having magnetic restriction means in spaced relation to the associated termination thereof; and said preselected tooth section being located in the region of a quadrature axis disposed at a desired electrical angle with respect to the coil group axis in the direction opposite to the rotational direction of the rotatable member.

3,421,034
SINGLE-PHASE INDUCTION ELECTRIC MOTOR
 Doran D. Hershberger, Sycamore, Ill., assignor to General
 Electric Company, a corporation of New York
 Continuation-in-part of application Ser. No. 555,732,
 June 7, 1966. This application Dec. 13, 1967, Ser.
 No. 697,546
 U.S. Cl. 310-172
 Int. Cl. H02k 17/10

16 Claims



Maximum efficiencies in excess of 40% and satisfactory starting torques are capable of being attained in single phase induction electric motors without need for start windings, among other advantageous features. To

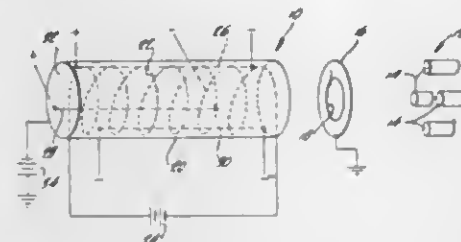
achieve these ends, a stator has coil groups which form at least two magnetic poles and includes a direct axis having maximum permeance disposed away from the polar axes between 20° and 70° in the direction of rotation of the secondary member. The quadrature axis of minimum permeance is displaced approximately 90 electrical degrees from the direct axis. The core has certain magnetic restrictions located either in the yoke section in the vicinity of the direct axes, or at their air gap with a high resistivity in the vicinity of the quadrature axes, or at both locations. Moreover, the ratio of the quadrature axis magnetizing reactance to the direct axis magnetizing reactance should be in the range from 0.25 to and including 0.70. These interrelationships produce an unusually effective phase shift in the flux components and a good balance of starting and running performances.

3,421,035
TUBULAR ION SOURCE FOR HIGH EFFICIENCY ION GENERATION

Wilson M. Brubaker, Arcadia, Calif., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois

Filed July 27, 1966, Ser. No. 568,175
 U.S. Cl. 313-63
 Int. Cl. H05h 5/60

9 Claims



An ion source for use with non-magnetic mass analyzers. The source utilizes a tubular housing in which is located one or more elongated filaments for generating and directing electrons transversely of the axis of the enclosure. Additional electrodes for establishing a potential gradient in the direction of the outlet end of the source are also included. In one embodiment of the source the potential gradient generating electrodes are arranged and energized to simulate the potential gradient in the interior of two concentric spheres whose center is located at the exit aperture from the source.

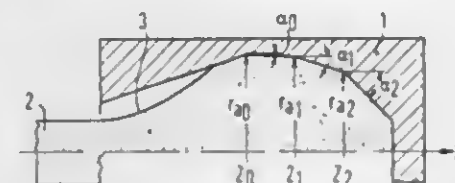
3,421,036
VARYING INNER DIAMETER COLLECTOR ELECTRODE FOR AN ELECTRON BEAM TUBE, PARTICULARLY HIGH POWERED TRAVELLING-WAVE TUBES

Roland Wolfram, Munich, Germany, assignor to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany

Filed Sept. 21, 1966, Ser. No. 581,097
 Claims priority, application Germany, Sept. 21, 1965,
 S 99,535

U.S. Cl. 313-89
 Int. Cl. H01j 29/10

4 Claims



1. An electron beam tube, such as a travelling-wave tube of high power, with a cup-shaped collector electrode for receiving the electron beam, which collector electrode is arranged coaxially with the beam axis and pos-

sesses a rotationally symmetrical inner space which has a varying inner diameter, and in which the electron beam steadily diverges concentrically to the beam axis, characterized in that the contour lines of the inner space of the collector electrode follow approximately the differential equation

$$\alpha(z) = \frac{dr_a}{dz} = r_a(z) \cdot \frac{\varphi_b(z)}{r_b(z)} - r_b^2(z) \frac{n_{zul} \pi}{N_0}$$

in which equation N_0 is the direct-current power contained in the electron beam at its entrance into the collector electrode, n_{zul} is the permissible power density during electron impact on the inner wall of the collector electrode, z is a coordinate in longitudinal direction of the collector electrode, r_a represents the respective inner radius of the collector electrode, α represents the respective angle between the inner wall of the collector electrode and the beam axis, r_b represents, as function of z , the respective beam radius, considered as if the edge of the electron beam would diverge, without hindrance after impacting the collector electrode, and φ_b represents the appropriate angle between the beam edge and beam axis.

3,421,037
ELECTROLUMINESCENT DEVICE AND DIELECTRIC MEDIUM THEREFOR

Joseph J. Dymon, Flushing, N.Y., assignor to General Telephone & Electronics Laboratories Incorporated, a corporation of Delaware

Filed July 11, 1966, Ser. No. 564,175
 U.S. Cl. 313-108
 Int. Cl. H01b 3/42; F21k 2/00; C09k 1/00

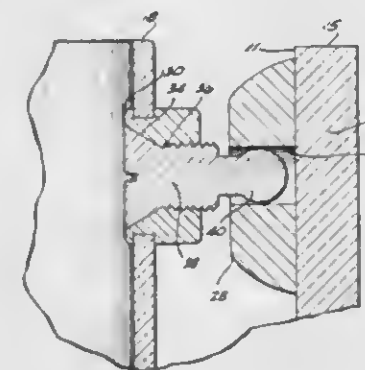
7 Claims

A dielectric medium for use as a phosphor embedment in electroluminescent lamps consisting of a mixture of cyanoethylcellulose and poly-2,2,2-trifluoroethyl vinyl ether dissolved in a solvent system consisting of acetone, dimethylformamide and tetrahydrofuran. Electroluminescent lamps employing this dielectric medium exhibit excellent adhesion to conductive glass surfaces as well as good brightness and long lamp life.

3,421,038
STORAGE MESH RING ASSEMBLY SUPPORT
 Edward T. MacKenzie, Ramona, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Oct. 3, 1966, Ser. No. 583,839
 U.S. Cl. 313-286
 Int. Cl. H01j 1/96; H01j 19/50

1 Claim



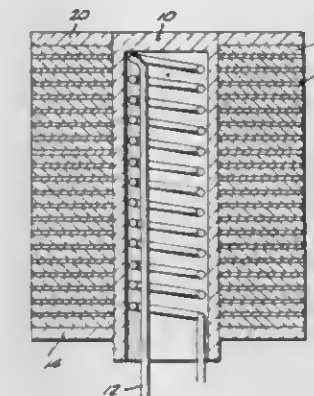
The invention is directed to a novel mounting arrangement for supporting a ring assembly in the front envelope of an electron tube adjacent the viewing screen. Three equally-spaced abutments each defining a central cavity are placed on the inner peripheral wall of the tube adjacent the front viewing screen. Bosses are provided on the ring spaced to align with the abutments. Demountable elements are securable to the bosses and include a radially-extending segment for manual deposit in the cavity of the abutment and for manual disassembly.

3,421,039
THERMIONIC CATHODE HAVING EMISSIVE MATERIAL AND METALLIC PATHS WHICH SPUTTER AWAY AT THE SAME RATE

Wolfgang Knauer and Hayden E. Gallagher, Malibu, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Jan. 3, 1966, Ser. No. 518,081
 U.S. Cl. 313-339
 Int. Cl. H01j 1/20; 19/14

9 Claims



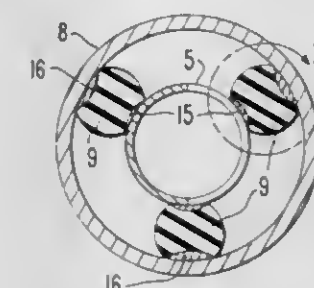
In a thermionic cathode, the thermionic emissive material is separated by electrically conductive paths. The emissive material is sufficiently thin to prevent excessive resistive heating from current flowing through the metallic paths and thence through the emissive material to the emissive surface. Furthermore, the metallic paths are sufficiently thin that they are sputtered away under ion bombardment at substantially the same rate as the emissive material.

3,421,040
CIRCUIT SUPPORT FOR MICROWAVE TUBES EMPLOYING SHAPED DIELECTRIC SUPPORTS RODS TO CAPTURE A DUCTILE MATERIAL AT THE SUPPORT JOINTS

Lester M. Winslow, Manotai View, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Nov. 3, 1966, Ser. No. 591,798
 U.S. Cl. 315-3.5
 Int. Cl. H01j 25/34

10 Claims



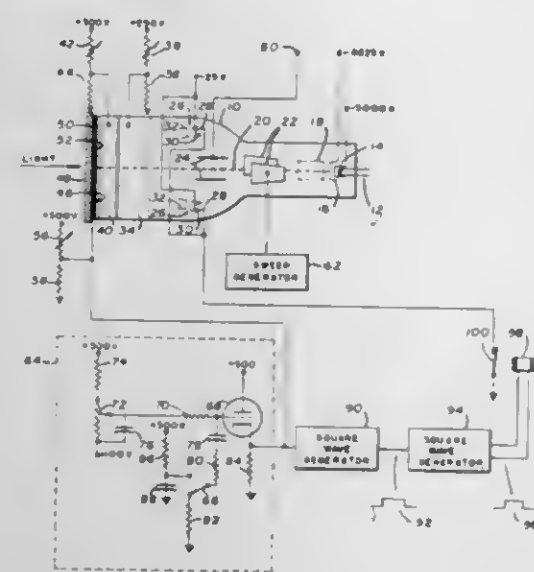
1. In a microwave tube apparatus, means for forming and projecting a beam of electrons over a beam path, means for collecting and dissipating the energy of the beam, means forming a microwave circuit disposed along the beam path in energy exchanging relation with the beam, means forming a support structure for supporting said microwave circuit, means forming an electrically insulative structure disposed between said circuit and said support structure for supporting said circuit from said support structure, means forming a ductile thermally conductive pad abutting said circuit, and said insulative structure having an inwardly dished surface facing said ductile pad capturing said ductile pad therewithin to form a thermally conductive support joint from said circuit through said pad and insulative structure to said support structure, whereby conduction cooling of said circuit through said insulative structure to said support structure is enhanced.

3,421,041 CHARGE IMAGE STORAGE METHOD AND APPARATUS

Charles B. Gibson, Jr., Portland, Oreg., assignor to Tektronix, Inc., Beaverton, Oreg., a corporation of Oregon

Filed Dec. 7, 1966, Ser. No. 599,862
U.S. Cl. 315—12
Int. Cl. H01j 29/41

18 Claims



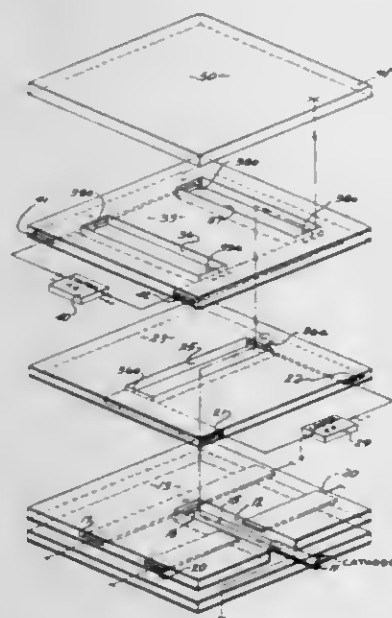
The deflected electron beam of a bistable storage tube is used for "writing" charge information on the tube's bistable dielectric storage target, while the tube's flood beam is employed for maintaining written and non-written areas at different stable potential levels. For enhanced writing sensitivity, the storage target electrode is supplied a voltage causing the target to pass through a writing threshold level, at which time the flood beam is temporarily discontinued for retaining the target in a sensitive condition near such writing threshold level.

3,421,042 ELECTRON BEAM SCANNER UTILIZING LABYRINTH STRUCTURE

Donald E. Hultberg, Venice, Calif., assignor to Northrop Corporation, Beverly Hills, Calif., a corporation of California

Filed Apr. 27, 1967, Ser. No. 634,220
U.S. Cl. 315—12
Int. Cl. H01j 29/41

12 Claims



A labyrinth structure is formed from a series of plate members forming dynodes which are stacked one on top of the other. Each of such plates has a channel or plurality of channels or apertures formed therein and on top of the uppermost plate is an electron target. At the very

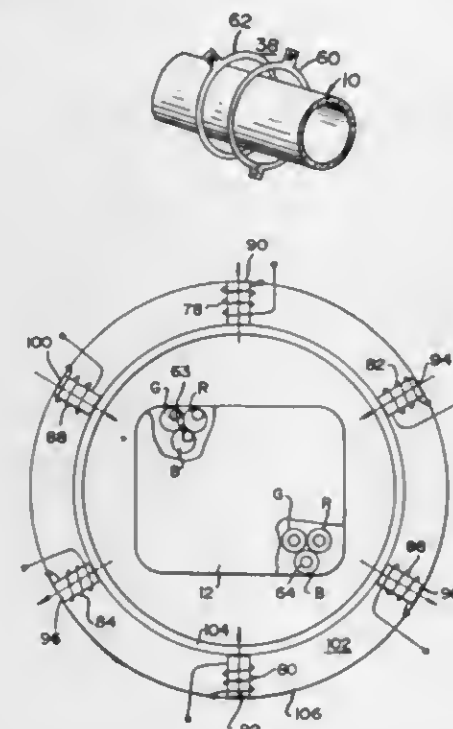
bottom-most portion of the labyrinth structure, a point source of electrons is installed. Separate switching means is connected to the opposite ends of the channels of each of the plates which allows an electron accelerating potential to be alternatively switched to one or the other of the ends of each of such channels. In this fashion, the electron beam is directed through the labyrinth to any particular desired portion of the target in accordance with the control signals fed to the switching means.

3,421,043 METHOD AND APPARATUS FOR ADJUSTING PURITY

Ernest C. Macintyre, Jr., Villa Park, and Robert B. Hansen, Arlington Heights, Ill., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Apr. 28, 1967, Ser. No. 634,529
U.S. Cl. 315—13
Int. Cl. H01j 29/50

11 Claims



The method includes rotating at least one of the electron beams in a cathode ray tube along the beam's axial path so that it may illuminate other than its associated fluorescent dots on the tube screen. During rotation, the axial path of the beam is shifted by purity magnets or the like, in a direction to minimize illumination by the one beam of other than its associated dots. When the rotation is then terminated, there is a maximum guard band surrounding the areas of associated dots illuminated by the one beam over the entire screen.

3,421,044 METHOD AND MEANS FOR SELECTING CHARACTER INCLINATION IN CATHODE RAY TUBE DISPLAYS

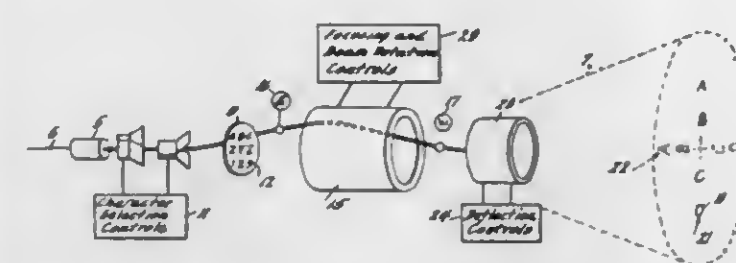
Clayton E. Murdock, Donald J. Pugh, and Robert H. Compton, San Diego, Calif., assignors to Stromberg-Carlson Corporation, Rochester, N.Y., a corporation of Delaware

Filed Apr. 21, 1967, Ser. No. 632,815
U.S. Cl. 315—14
Int. Cl. H01j 29/56

15 Claims

This disclosure provides for control of displays produced by cathode ray tubes such as electron beams formed into shape or deflection patterns of different alphabetic symbols and generating a display in some such visible form as a presentation on a phosphor screen. Control of the rotation of the beam thus shaped takes place as it passes through the tube so that the inclination of the characters on the display may be chosen at will

to form for example vertical and horizontal lines. In particular, a plus/minus 45 degree beam rotation of the nominal beam orientation takes place to provide a 90 degree inclination shift of produced characters without change in the beam focus when the beam is rotated by



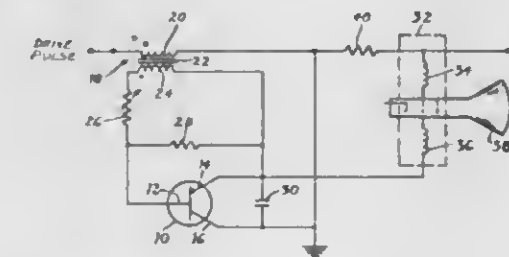
an electromagnetic coil. This change of inclination of characters is described in connection with different cathode ray tube embodiments having magnetic and electrostatic convergence means, character size controls and multiple function electromagnetic coils serving to converge, focus, and rotate the beam.

3,421,045 PULSED MAGNETIC DEFLECTION CIRCUIT

Karl B. Kinast, Westwood, N.J., assignor by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Apr. 6, 1965, Ser. No. 446,137
U.S. Cl. 315—27
Int. Cl. H01j 29/70

1 Claim



A distortion-free deflection circuit for producing an accurate, continuously variable, television type raster of any arbitrary shape and having symmetry about its vertical axis on electromagnetically deflected CRT's. It eliminates the need for high frequency power amplification required in prior art devices. It employs a novel modulated power supply having a feedback amplifier in the modulating voltage circuit.

3,421,046 PUSH-PULL ELECTRON BEAM POSITIONING SYSTEM

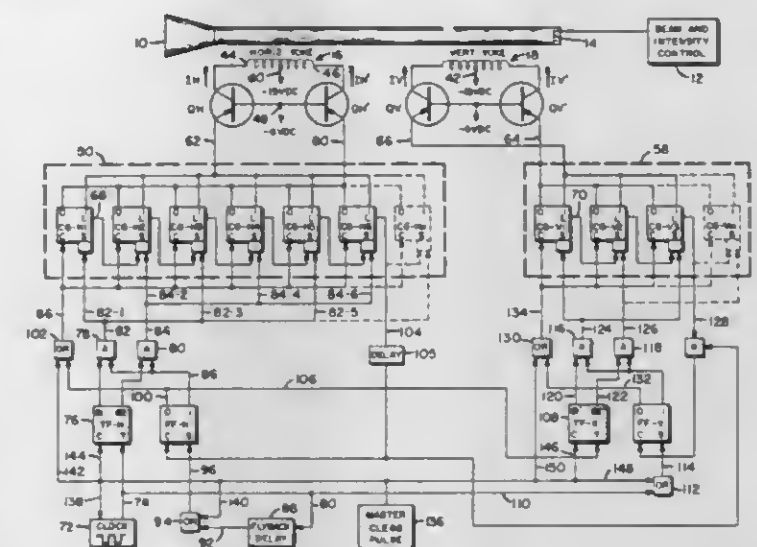
Thomas L. Eycbaner, Minneapolis, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Sept. 2, 1966, Ser. No. 576,883
U.S. Cl. 315—27
Int. Cl. H01j 29/70

10 Claims

An electromagnetic electron beam positioning system which provides extremely linear deflection circuitry for accurate positioning of an electron beam is described. The system includes circuitry utilizing a push-pull yoke in combination with a double-ended deflection circuit arrangement to maintain high operational speed and good position linearity for gross beam positioning. The deflection circuit comprises a plurality of latched current generators, each capable of providing like increments of current, coupled in a stepping counter configuration. The Set output terminals of each of the latched current generators are coupled in common to a first current summing amplifier at one end of the deflection coil, and the Clear terminals are coupled to a second current summing amplitude at the other end of the deflection coil. As

the stages of the counter are sequentially Set, additional increments of current are supplied to the first summing



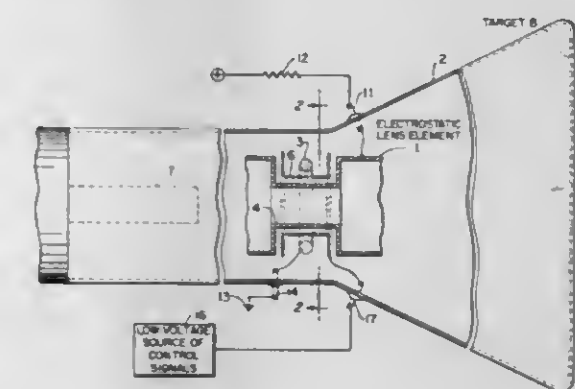
amplifier and simultaneously subtracted from the second summing amplifier.

3,421,047 CATHODE-RAY TUBE CONTROL CIRCUITRY

Charles R. Corpew, La Mesa, Calif., assignor to Stromberg-Carlson Corporation, Rochester, N.Y., a corporation of Delaware

Filed Mar. 17, 1965, Ser. No. 440,487
U.S. Cl. 315—30
Int. Cl. H01j 29/52

15 Claims



A cathode-ray tube including, in addition to the electron gun, a triode amplifier electrode structure enclosed within the evacuated envelope, the plate of the triode amplifier being a generally cylindrical metal electrode which serves also as an element of an electrostatic lens for focusing the main beam of the cathode-ray tube, so that small signals applied to the grid of the triode amplifier cause large voltage swings of the electrostatic lens electrode.

3,421,048 COLOR-SELECTION MASK AND POST-DEFLECTION FOCUS ASSEMBLY FOR A COLOR TUBE

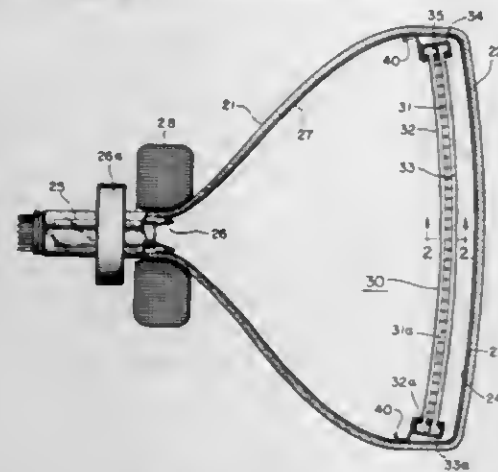
John A. Christensen, Glen Ellyn, Ill., assignor to The Rauland Corporation, Chicago, Ill., a corporation of Illinois

Filed Aug. 18, 1967, Ser. No. 661,601
U.S. Cl. 315—31
Int. Cl. H01j 29/56

9 Claims

A three color picture tube has a screen formed of a repeating series of phosphor strips having in each series strips that emit red, blue and green light. The parallax mask for color selection is a grid of vertically disposed wires and an electrically conductive mesh is placed on opposite sides of and spaced from the wire grid. These three elements serve as lens electrodes with the mesh electrodes maintained at the potential of the screen but the grid electrode established at a lower potential chosen to

provide, in conjunction with the mesh electrodes, a system of converging electron lenses which focuses an electron beam passing through the assembly onto selected portions of the screen.



3,421,049 SEQUENCING DEVICE FOR DISPLAYING LIGHTING

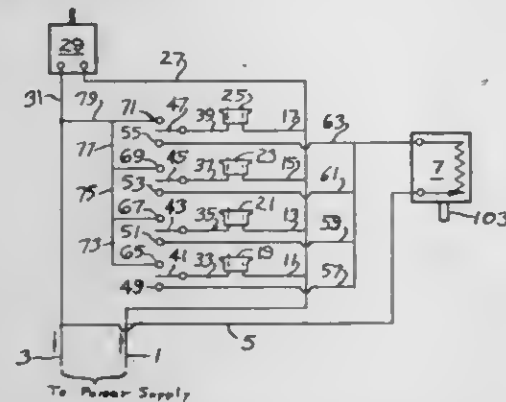
Lloyd B. Logan, 4884 Bessie Ave.,
St. Louis, Mo. 63115

Filed Dec. 6, 1965, Ser. No. 512,275

U.S. Cl. 315-211

Int. Cl. H05b 37/02; 37

7 Claims



1. A sequencing device for a plurality of electric light circuits comprising a resistance varying device, a plurality of normally open double throw switches, each of said switches having a first contact connected direct to one of said circuits and a second contact connected to the corresponding circuit through said resistance varying device, and means for sequentially actuating said switches between their normally open position and said first and second contacts, and additional means for actuating said resistance varying device to vary its resistance when said switch is closed through said second contact.

3,421,050 METHOD OF AND APPARATUS FOR SUSPENDING PARTICLES IN A CONDUIT

Robert L. Topper, William W. Cofield, and Amos F. Williams, Houston, Tex., Raymond C. Foster, Garden City, N.Y., and Herman N. Woebecke, Waltham, Albert W. Goldman, Newton, and Alexander Kusko, Newton Center, Mass., assignors, by direct and mesne assignments, to Transcontinental Gas Pipeline Corporation, Houston, Tex., a corporation of Delaware

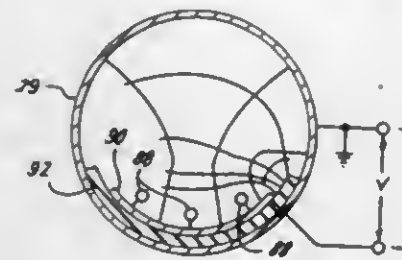
Continuation-in-part of application Ser. No. 349,299,
Mar. 4, 1964. This application Apr. 23, 1965, Ser.
No. 451,695

U.S. Cl. 317-3
Int. Cl. H05f 3/00

17 Claims

In combination with a conduit having a gaseous carrier therein for transporting particles through the conduit, an electrical system for electrically maintaining the particles in suspension in the gas by electrically charging the particles, and providing an electrical field for levitating the

charged particles. Electrically charging particles, being moved along a conduit in a gaseous carrier, by corona charging, induction charging, or friction charging, and providing electrical means parallel to the conduit for applying an electrical field for overcoming the gravitational effect on said particles. Upper and lower electrodes in the conduit for providing an electrical field therein and intermediate electrodes between said upper and lower



electrodes with selected voltages applied to the intermediate electrodes to control the electrical field distribution within the conduit. An electrical power supply mounted within a pressurized region in communication with the conduit. Maintaining dielectric particles in a gaseous suspension in a conduit by coating the particles with an electrically conductive coating whereby the particles can be charged by friction.

3,421,051 STEEP WAVE FRONT SENSING CIRCUIT

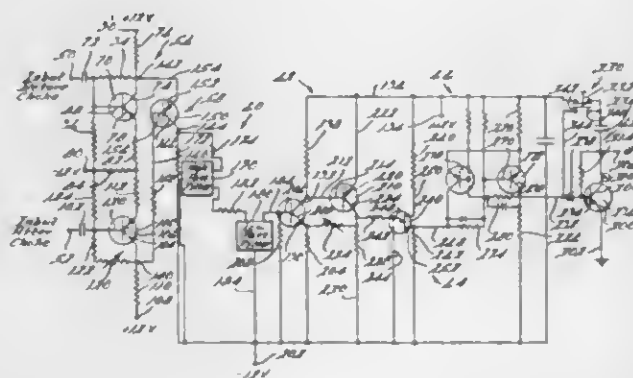
Rudolf E. Six, Harper Woods, Mich., assignor to The Udylite Corporation, Warren, Mich., a corporation of Delaware

Filed Mar. 3, 1966, Ser. No. 531,417

U.S. Cl. 317-23

Int. Cl. H02h 5/00

10 Claims



An electrical circuit for sensing a preselected range of steepness of a wave front, the circuit being connected to sense the wave front across an inductor and the circuit including a differential amplifier and a band pass filter arrangement.

3,421,052 DEVICE FOR INDICATING FAULTS IN DIFFERENT PARTS OF A DIRECT CURRENT NETWORK, WHICH PARTS ARE CONNECTED TO EACH OTHER

Bertil Hammarlund, Ludvika, Sweden, assignor to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a Swedish corporation

Filed Oct. 13, 1965, Ser. No. 495,381

Claims priority, application Sweden, Dec. 19, 1964,

15,425/64

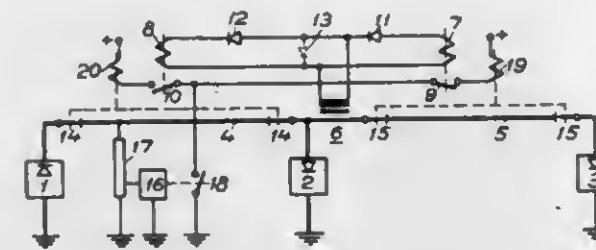
U.S. Cl. 317-26

Int. Cl. H02h 3/28

6 Claims

In a D.C. network comprising two or more parts, selective fault indicating means comprising one or more current deriving means are inserted in the network. Said current deriving means are responsive to discharge cur-

rents between the different parts of the network in case of a fault in a part of the network. Each of said current deriving means has one or two output signal means re-



3,421,053 TUMBLER SYSTEM TO PROVIDE RANDOM MOTION

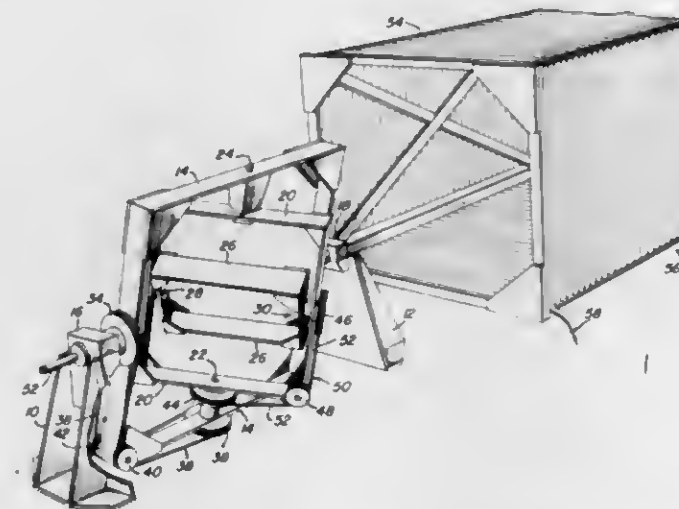
George A. Rinard, Columbia, Mo., and John D. Watson, Bellevue, Wash., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Sept. 14, 1965, Ser. No. 487,344

U.S. Cl. 317-157.5

Int. Cl. H01f 13/00

10 Claims



A tumbling apparatus having three rotating mutually perpendicular frames, each frame being driven from the drive shaft of the outermost frame. Objects to be demagnetized are positioned on the innermost frame within a slowly varying AC magnetic field, said field amplitude being controllable so that reduction of the amplitude of the field while said objects to be demagnetized tumble therethrough resulting in removal of remanent magnetization.

3,421,054 BISTABLE BORON SEMICONDUCTOR OR SWITCHING DEVICE

Hermann Helmberger and Wolfgang Dietz, Munich, Fritz Gutberlet, Burghausen-upper Bavaria, and Hans Herrmann and Hans Wittmann, also known as Johann Wittmann, Munich, Germany, assignors to Consortium fur Elektrochemische Industrie G.m.b.H., Munich, Germany, a corporation of Germany

Filed May 11, 1965, Ser. No. 454,945

Claims priority, application Germany, May 14, 1964,
C 32,914; July 28, 1964, C 33,915

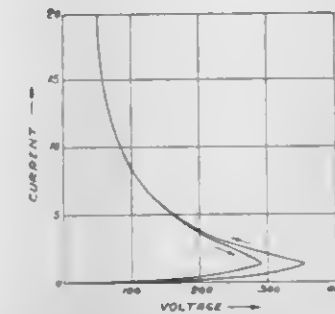
U.S. Cl. 317-234

Int. Cl. H01l 3/00

4 Claims

The invention provides a bistable semiconductor de-

vice for switching and controlling direct and alternating currents, comprising an elementary boron semiconductor



element which has no P-N junction and to which at least two electrodes are directly attached.

3,421,055 STRUCTURE AND METHOD FOR PREVENTING SPURIOUS GROWTHS DURING EPITAXIAL DEPOSITION OF SEMICONDUCTOR MATERIAL

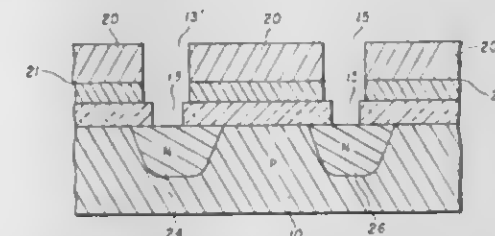
Kenneth E. Bean, Richardson, and Paul S. Gleim, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Oct. 1, 1965, Ser. No. 492,166

U.S. Cl. 317-234

Int. Cl. H01l 3/00; 5/00

12 Claims



This specification discloses an improvement in a method of fabricating a semiconductor device, the improvement being characterized by the placing of a second mask of semiconductor material over a first thin film mask, such as silicon oxide, before epitaxially depositing semiconductor material through aligned apertures in both the first and second masks, and subsequently removing the second mask before completing the fabrication of the semiconductor device. By this improvement, spurious growths, both through pin holes in the thin film mask and as protrusions on the thin film mask, are prevented.

3,421,056 THIN WINDOW DRIFTED SILICON, CHARGED PARTICLE DETECTOR

Theodore E. Fessler, Berea, Albert B. Smith, Shaker Heights, and John S. Vincent, Parma, Ohio, assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Original application Sept. 6, 1963, Ser. No. 307,269, now Patent No. 3,310,443, dated Mar. 21, 1967. Divided and this application Dec. 20, 1966, Ser. No. 603,396

U.S. Cl. 317-234

Int. Cl. H01l 3/12; 5/00

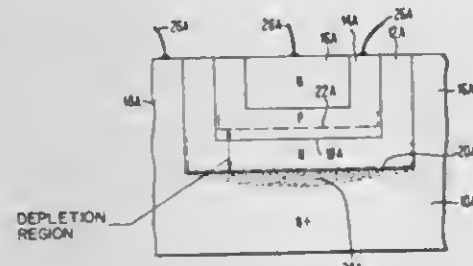
3 Claims



1. A thick junction radiation detector comprising: a silicon body having an n-type material and a p-type material exactly compensated throughout to provide an intrinsic silicon; and a thin layer of rectifying contact material coating said intrinsic silicon body to provide a radiation detector having uniform energy resolution.

3,421,057

HIGH SPEED SWITCHING TRANSISTOR AND FABRICATION METHOD THEREFOR
Orest Bilous, Beacon, Paul P. Castrucci, Poughkeepsie, N.Y., and Tommy D. Clark, Ames, Iowa, assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Aug. 23, 1965, Ser. No. 481,590
U.S. Cl. 317-235 7 Claims
Int. Cl. H011 3/12; H011 7/02; H011 7/44

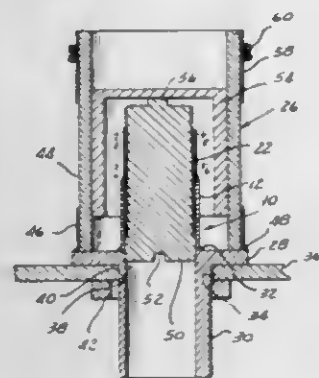


A high speed transistor structure having a low resistivity sub-collector substrate of a first conductivity type on which a high resistivity, epitaxial collector layer of said first conductivity type is formed, a base of opposite type conductivity and an emitter of said first conductivity type being formed in said collector by double diffusion. The high resistivity collector region between the base and sub-collector has a controlled thickness equal to the depletion width in said collector at the operating voltage of the transistor. In this transistor structure, the carriers injected from the emitter through the base rapidly traverse the collector and base into the sub-collector. Thus, few majority carriers are trapped in the collector region after turn-off and delay in switching due to majority carrier storage is minimized.

3,421,058

TRIMMER CAPACITOR

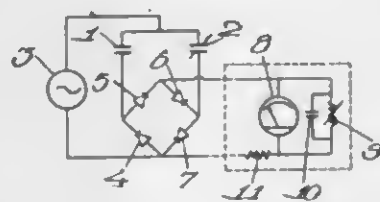
Nelson Berman, Far Rockaway, N.Y., assignor to JFD Electronics Co. Division of Stratford Retreat House, Brooklyn, N.Y., a corporation of New York
Filed Oct. 21, 1965, Ser. No. 499,553
U.S. Cl. 317-249 6 Claims
Int. Cl. H01g 5/00; F16b 29/00



A device for varying a circuit parameter in response to relative movement between elements in which one of the elements is carried by a screw having threads with a major diameter and with a minor diameter supported for movement in a sleeve having a wall with a generally smooth external surface and having a thickness slightly greater than half the difference between the major and minor diameters, and an inner diameter approximately equal to said minor diameter and internal threads complementary to said screw threads together with longitudinal wall ribs for biasing the sleeve threads into engagement with the screw threads in a radial direction.

ELECTRIC REMOTE CONTROL SYSTEM FOR SUPERVISING A VARIABLE PHYSICAL MAGNITUDE

Tetsuo Takabashi, 7345 Kugenuma, Fujisawa-shi, Kanagawa-ken, Japan
Filed Nov. 24, 1964, Ser. No. 413,425
Claims priority, application Japan, Dec. 14, 1963, 38/67,192; Mar. 28, 1964, 39/16,971; June 3, 1964, 39/31,123
U.S. Cl. 318-18 4 Claims
Int. Cl. G05b 1/00; 3/00

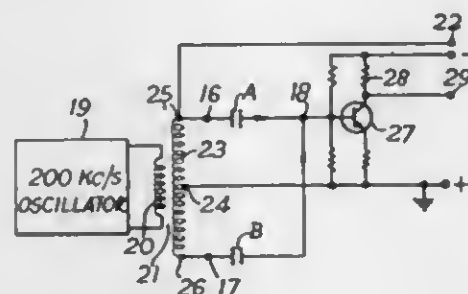


There is disclosed an electric control system for supervising a variable physical magnitude by remote control. The control system comprises a constant A-C voltage source having two terminals, a reference circuit component and a variable circuit component responsive to changes in the physical magnitude to be supervised. Each of the two circuit components has two terminals, one terminal of each component being connected to one terminal of said voltage source. A four-arm rectifying bridge, all rectifiers of which pass current in the same direction, is connected at two of its opposite points to the other terminals of the circuit components and at one of its remaining points to the other terminal of the voltage source. A compensating impedance means and an indicating means for indicating the physical magnitude are serially connected between said one point of the bridge and the remaining point thereof. A second impedance means is connected in parallel with the compensating impedance means for varying the indicated range of the physical magnitude.

3,421,060

APPARATUS FOR STABILISING SHIPS

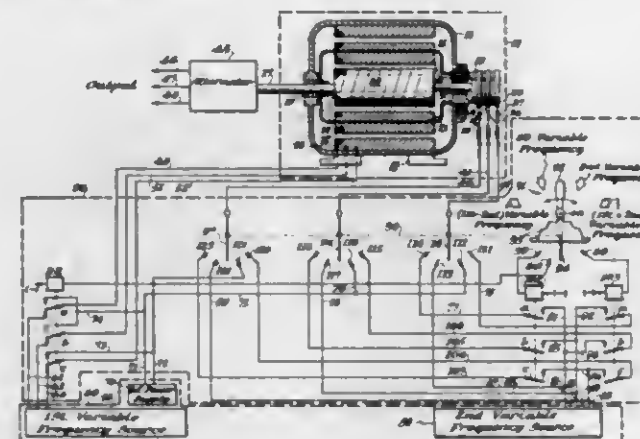
John A. Irvine, Penicuik, Midlothian, Scotland, assignor to Findlay, Irvine Limited, Penicuik, Midlothian, Scotland
Filed June 1, 1965, Ser. No. 460,242
Claims priority, application Great Britain, Oct. 27, 1964, 43,810/64
U.S. Cl. 318-18 13 Claims
Int. Cl. G05b 11/00; H02p 1/00; B63b 39/00



For stabilising a ship against roll a U-tube filled with mercury and provided with electrodes to form a differential capacitor is arranged in a circuit between an oscillator and a phase-sensitive detector. Changes in phase upon variation of the differential capacitor caused by roll of the ship are applied to actuate a servo for correcting the roll.

3,421,061

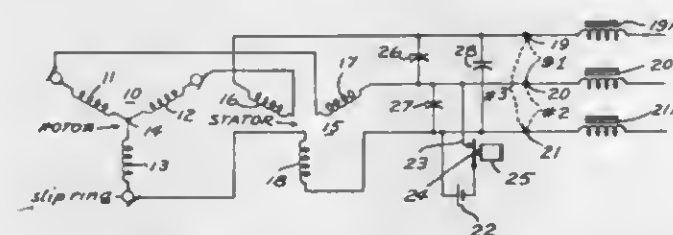
MULTIFREQUENCY RECEIVING SIGNAL SUMMING MULTIPHASE INDUCTION MOTOR
George W. Baughman, Swissvale, Pa.
(7503 W. Hutchinson Ave., Pittsburgh, Pa. 15218)
Filed Apr. 5, 1966, Ser. No. 540,395
U.S. Cl. 318-172 16 Claims
Int. Cl. H02p 1/46



This invention relates to a signal summing multiphase induction motor which has an output shaft, the rotational speed of which is a function of the algebraic sum of a plurality of signals of varying frequencies delivered to the summing motor. A signal generating unit provides a plurality of variable frequency signal outputs as well as a neutral or direct current signal output. The delivery of these outputs from the signal generating unit to the signal summing motor is controlled by a signal selection control unit.

3,421,062

ELECTRICAL POLYPHASE MACHINE HAVING STATOR AND ROTOR WINDINGS CONNECTED IN SERIES TO POLYPHASE SUPPLY
Richard K. Dickey, San Luis Obispo, Calif., assignor to The Technical Material Corporation, Mamaroneck, N.Y., a corporation of New York
Filed July 28, 1964, Ser. No. 385,719
U.S. Cl. 318-187 18 Claims
Int. Cl. H02p 5/28



1. In a doubly fed alternating current machine of the synchronous-induction kind, the combination of a rotor having a single primary inductor winding, a stator having a single secondary inductor winding, means to connect said windings in effective series relation to an alternating current line; and voltage storing means connected to said series connected windings and correlated with the leakage reactance to maintain excitation of the machine after starting thereof.

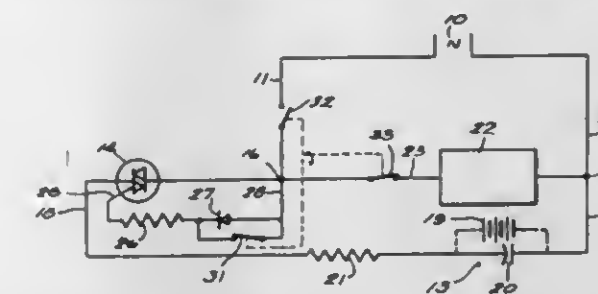
3,421,063

RECTIFIER AND CONTROLLER INCLUDING TRIAC SWITCH

Herbert J. Reinke, 2220 S. 82nd St., Milwaukee, Wis. 53219
Continuation-in-part of application Ser. No. 503,844, Oct. 23, 1965. This application Nov. 22, 1967, Ser. No. 685,130
U.S. Cl. 318-203 27 Claims
Int. Cl. H02p 1/40

This disclosure relates to apparatus for rectifying AC to DC and for controlling the imposition of DC on a

load. The rectifier includes a triac and switching means for selectively connecting the rectifier to the AC to charge

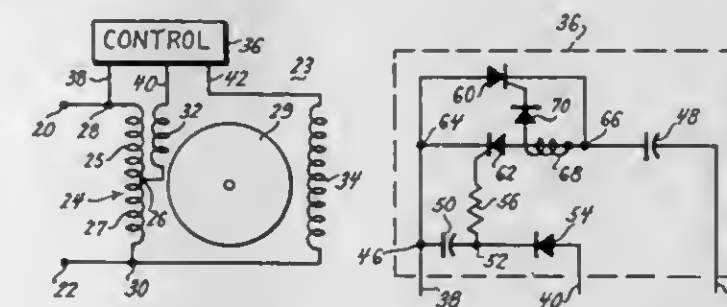


a DC power storage element and to the load to impose its charge on the load. The apparatus is advantageously used to dynamically brake an AC electric motor.

3,421,064

ELECTRIC MOTOR THAT DEENERGIZES STARTING WINDING THEREOF WHEN DIFFERENCE BETWEEN VOLTAGES ACROSS RUNNING AND STARTING WINDINGS THEREOF CHANGES AS ROTOR SPEED INCREASES

Graham R. Phillips, University City, Mo., assignor to Century Electric Company, St. Louis, Mo., a corporation of Missouri
Filed Mar. 25, 1966, Ser. No. 537,354
U.S. Cl. 318-220 6 Claims
Int. Cl. H02p 5/28

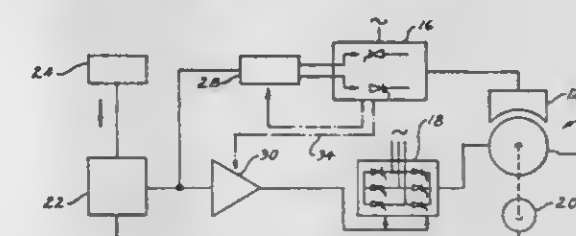


A control winding of an electric motor is magnetically coupled to the main winding of that motor; and those windings coact to develop a voltage difference which causes a selectively-conductive element to energize the starting winding of that motor until the rotor of that motor attains a predetermined speed and thereafter coact to provide a difference voltage which permits that selectively-conductive element to deenergize that starting winding.

3,421,065

APPARATUS FOR CONTROLLING THE SPEED OF DIRECT CURRENT ELECTRIC MOTORS

Lucio Stabile, Milan, Italy, assignor to Vanguard U.S., Millbrae, Calif.
Filed Sept. 23, 1964, Ser. No. 398,588
Claims priority, application Italy, Oct. 4, 1963, 20,370/63
U.S. Cl. 318-327 10 Claims
Int. Cl. H02p 5/00; H02k 27/20; G05b 5/01



Method and apparatus for controlling the speed of direct current electric motors wherein electric energy is made available to the armature of a motor in an amount proportional to an error signal formed by taking the difference between a reference signal and a speed signal and wherein electric energy is made available to the field

of the motor at a generally constant level but of a polarity dependent on whether or not the error signal is due to the speed of the motor being less than or greater than the speed called for by the reference signal together with means for absorbing energy delivered by the motor when operating with a reversed field inducing speed reduction of the motor.

3,421,066

DIRECT CURRENT POWER SUPPLY SYSTEM FOR EMERGENCY LIGHTING SYSTEMS AND THE LIKE

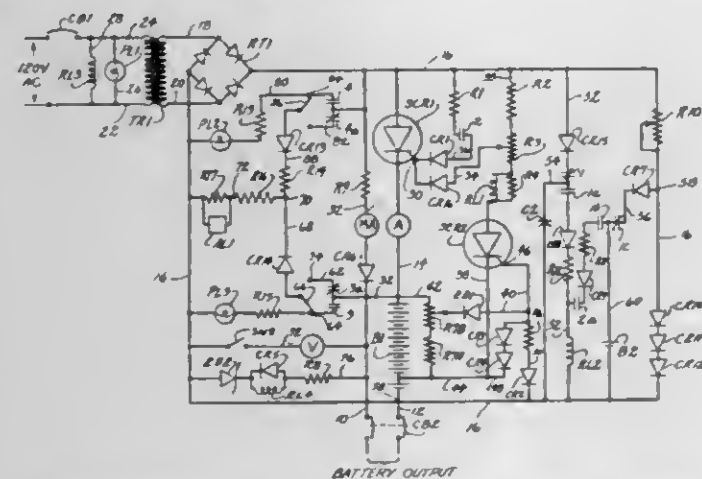
Daniel M. Flynn, Hampden, Stanley J. Bandoski, Jr., Springfield, and William R. Clow, Agawam, Mass., assignors to Hampden Engineering Company, East Longmeadow, Mass., a corporation of Massachusetts

Filed Mar. 31, 1966, Ser. No. 539,042

U.S. Cl. 320-6

25 Claims

Int. Cl. H02j 7/10; H01m 45/04



An emergency DC power supply system including a supply battery, a charging circuit therefor and AC and DC monitoring circuits. The charging circuit provides a fast charge, a second charge proportionate to the fast charge, and a trickle charge. A control battery is charged during the fast charge and discharges to regulate the proportionate second charge. The control battery also supplies energy to maintain circuit elements in condition for the second charge.

3,421,067

BATTERY CHARGE CONTROLLER UTILIZING COULOMETER

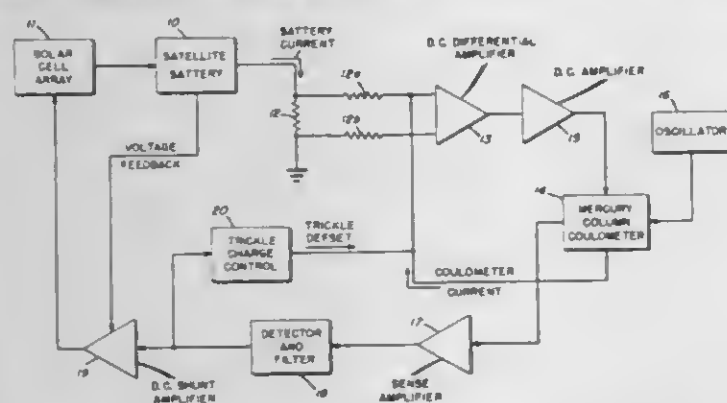
Louis Wilson and Arthur F. Hogrefe, Silver Spring, Md., assignors to the United States of America as represented by the Secretary of the Navy

Filed June 24, 1966, Ser. No. 560,958

U.S. Cl. 320-14

8 Claims

Int. Cl. H02j 7/00; H01m 45/04



The present invention relates to improved battery charge control circuitry, including a coulometer, which provides closed loop control of the charging of the battery solely on an ampere hour basis. The proposed circuitry includes a current regulating feedback loop which insures that the coulometer is always energized at a fixed fraction of the battery current, both charge and discharge, so that the coulometer accurately measures the

state of charge of the battery. The coulometer measurement is then used to cause the battery to be charged at a maximum available current rate until a charge exactly equal to a previous discharge has been accomplished. Additionally, the coulometer detects when the battery has been returned to its fully charged condition and then automatically reduces the charging current to a predetermined trickle value.

3,421,068

TRICKLE CHARGE VOLTAGE STABILIZATION NICKEL-CADMIUM BATTERY

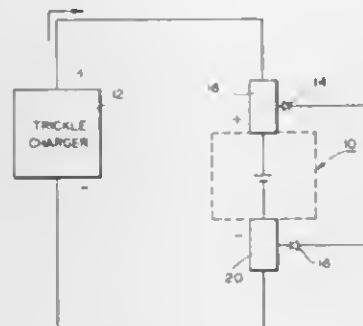
Charles W. Van Marter, Syracuse, N.Y., assignor to General Electric Company, a corporation of New York

Filed May 27, 1966, Ser. No. 553,429

U.S. Cl. 320-31

10 Claims

Int. Cl. H02j 7/04; H02j 7/10



To prevent overcharge of a nickel-cadmium battery the terminals are shunted with silicon diodes connected in series to provide a cumulative forward breakdown potential level slightly below the cumulative overcharge potential of the cells within the battery that are shunted by the diodes. The forward breakdown potential of the silicon diodes and the overcharge potential of nickel-cadmium cells vary similarly as a function of temperature. The diodes may be mounted in a terminal recess for thermal equilibration with the battery.

ERRATUM

For Class 320-48 see:
Patent No. 3,421,142

3,421,069

REGULATED POWER SUPPLY INCLUDING A BLOCKING OSCILLATOR AND TRIGGER MEANS TO TURN OFF THE OSCILLATOR

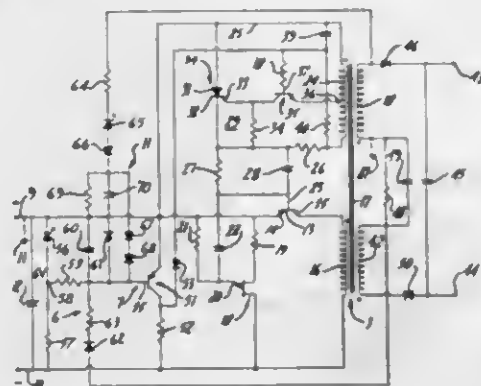
Floyd M. Minks, Campbellport, Wis., assignor, by mesne assignments, to Brunswick Corporation, Chicago, Ill., a corporation of Delaware

Filed Aug. 4, 1966, Ser. No. 570,244

U.S. Cl. 321-2

25 Claims

Int. Cl. H02m 3/22



The present disclosure relates to a blocking oscillator including a feedback winding connected to the base-

emitter elements of a blocking oscillator transistor. A silicon controlled rectifier is connected across the input of the feedback winding. A current and/or voltage output sensor is connected to the gate of the controlled rectifier.

3,421,070

ON-OFF CONTROL OF SCR REGULATED POWER SUPPLY

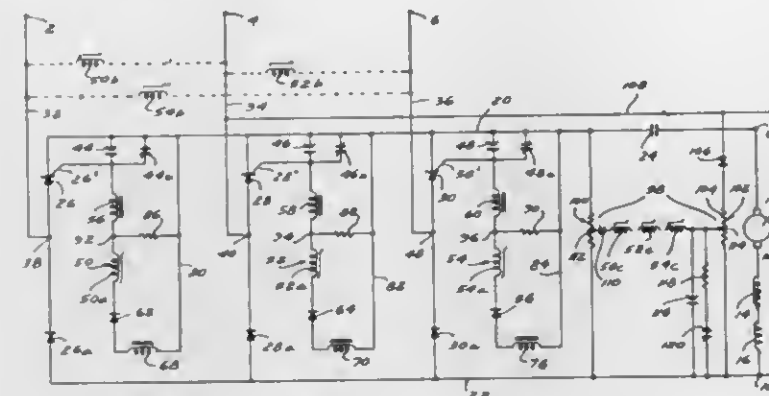
James P. Ettinger, Ridgefield, Conn., assignor to Electric Regulator Corporation, Norwalk, Conn., a corporation of New York

Filed Mar. 7, 1967, Ser. No. 621,271

U.S. Cl. 321-11

12 Claims

Int. Cl. H02m 1/18



In a power supply utilizing controlled rectifiers, means are provided for opening and closing an output switch in proper timed relation with overriding control of the regulation circuit so that the output switch is always opened and closed when the output is in a reduced, and preferably zero, status.

3,421,071

RECTIFIER FOR ACCELERATOR MAGNETS

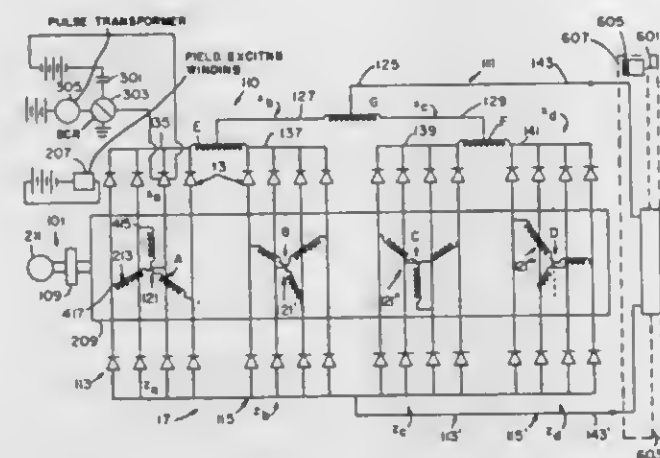
Richard L. Cassel, Port Jefferson, N.Y., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Mar. 28, 1966, Ser. No. 538,918

U.S. Cl. 321-26

3 Claims

Int. Cl. H02m 7/00



Power supply for high energy, alternating gradient, accelerator magnets wherein alternating current from a motor generator is rectified and supplied to the magnets for providing respective increasing and constant voltages during first and second intervals with low ripple and low power requirements. The motor generator has four three element Y windings, and these windings each have input and output leads each with first and second parallel connected rectifiers, including rectifiers connected to the center of the Y's, that are sequentially alternately triggered to share the current of the Y's for simulating twenty-four phase rectification to produce low ripple.

3,421,072

MECHANICALLY SIMULATING ELECTRONIC SIGNAL CHOPPER

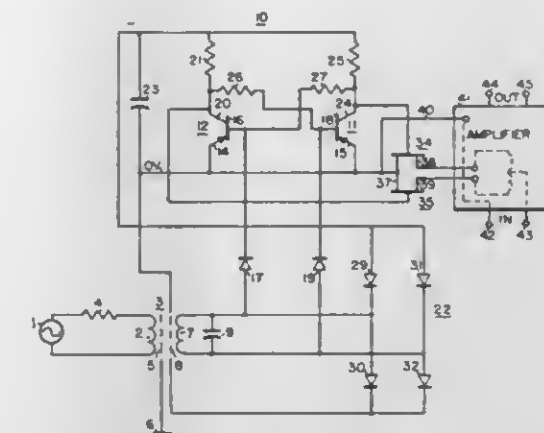
Frank J. Woolam, Tarzana, Calif., assignor to Valid Data Corporation, Calabasas, Calif., a corporation of California

Filed Aug. 18, 1966, Ser. No. 573,376

U.S. Cl. 321-45

10 Claims

Int. Cl. H02m 7/44; 7/68



An electrical chopper suited as a replacement for a mechanical chopper. A relaxation oscillator having oppositely phased outputs is driven from oscillatory means through an impedance and at least one biased diode. Preferably an FET transistor is connected to each of the oppositely phased outputs of the relaxation oscillator to alternately gate the output circuit of the chopper. A shielded transformer is preferably interposed between the oscillatory means and the relaxation oscillator. The chopper may be self-powered by a rectifier also connected to the transformer. Appropriate output connections provide either a break-before-make or a make-before-break sequence.

3,421,073

VOLTAGE TAP CHANGING APPARATUS

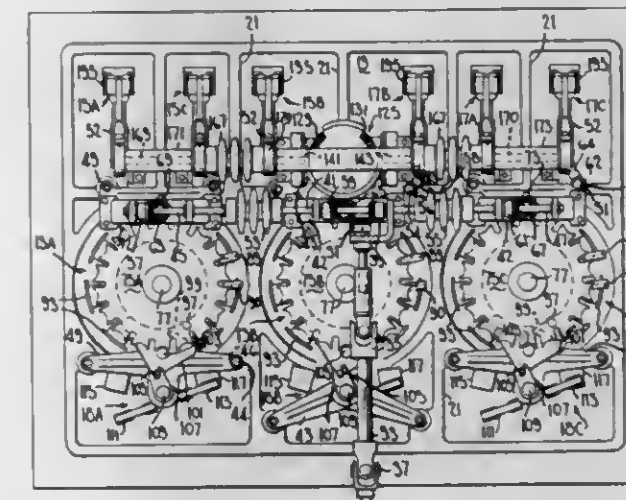
Chester W. Perkins, Armstrong Mills, Ohio, assignor to Central Transformer Corporation, Pine Bluff, Ark., a corporation of Arkansas

Filed Oct. 7, 1966, Ser. No. 585,028

U.S. Cl. 323-43.5

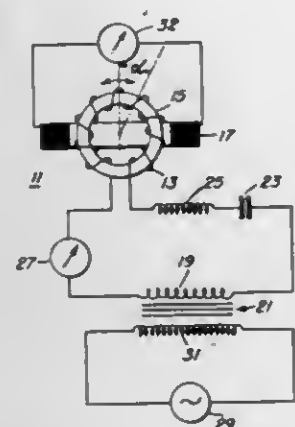
19 Claims

Int. Cl. H02p 13/06; H02m 5/12



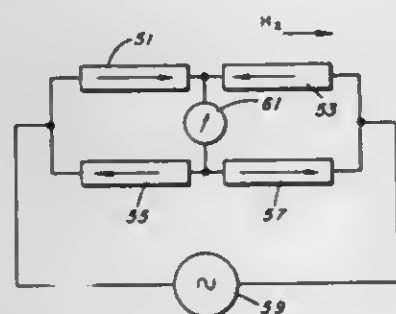
switches are driven in proper sequential relationship with the operation of the tap changing switch through an intermittent motion drive including a large driving gear and a pair of smaller pinion gears which are coupled to the load transfer switches, the driving gear having teeth at spaced sectors around its periphery for causing the load transfer switches to be opened and closed during respective portions of its rotation.

3,421,074
ADJUSTABLE RING-CORE MAGNETOMETER WITH HIGH SENSITIVITY
William A. Geyger, deceased, late of Takoma Park, Md., by Ella Geyger, executrix, Takoma Park, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed July 29, 1965, Ser. No. 477,085
U.S. Cl. 324-43 5 Claims
Int. Cl. G01r 33/02



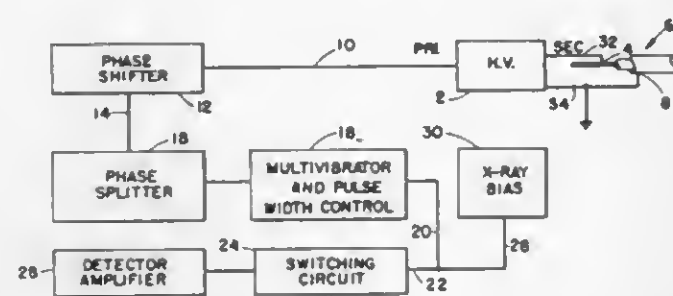
A ring core magnetometer which uses a toroidal core in combination with a primary A.C. winding mounted thereon. The combination is made rotatable with respect to a diametrically disposed secondary winding in order to provide a minimized residual output voltage. Alternatively, two ring shape cores with serially connected A.C. windings mounted thereon are made rotatably adjustable within a common diametrically disposed secondary winding.

3,421,075
THIN FILM MAGNETOMETER USING THIN FILM COATED CONDUCTORS
Henry S. Belson, Adelphi, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed May 27, 1966, Ser. No. 554,293
U.S. Cl. 324-43 6 Claims
Int. Cl. G01r 33/02; G11h 5/00; G03g 1/08



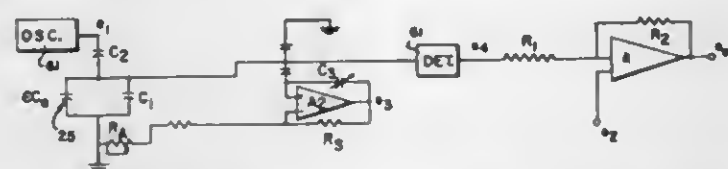
A thin film magnetometer which employs the use of a conductor(s) coated with thin films of ferromagnetic material. When placed in an external magnetic field the inductance of the thin film coated conductor(s) will vary in accordance with the magnitude of the external magnetic field and thus give an indication thereof.

3,421,076
CABLE SCANNING METHOD AND APPARATUS WHEREIN CORONA DISCHARGE IS DETECTED ONLY AT APPROXIMATELY PEAK VALUES OF AN APPLIED VOLTAGE
David Eigen, Passaic, N.J., assignor to The Okonite Company, Passaic, N.J., a corporation of Delaware
Filed Oct. 3, 1966, Ser. No. 583,747
U.S. Cl. 324-54 19 Claims
Int. Cl. G01r 31/12



The invention relates to a cable inspection method and apparatus wherein an alternating voltage is applied to the cable to cause ionization to occur in any dielectric discontinuities within the cable insulation. A corona discharge detector is synchronized with the applied alternating voltage so that the detector is operable to detect any corona discharge in the cable insulation only during intervals when the alternating voltage is approximately at a peak value.

3,421,077
DENSITY MEASUREMENT DEVICE FOR CRYOGENIC FLUIDS AND OTHER NON-POLAR FLUIDS
Frederick F. Liu, Northridge, and Ted W. Berwin, Arlington, Calif., assignors to Quantum Dynamics, Inc. (Electronics Laboratories Division), Tarzana, Calif., a corporation of California
Filed Sept. 24, 1963, Ser. No. 311,182
U.S. Cl. 324-61 3 Claims
Int. Cl. G01r 27/26



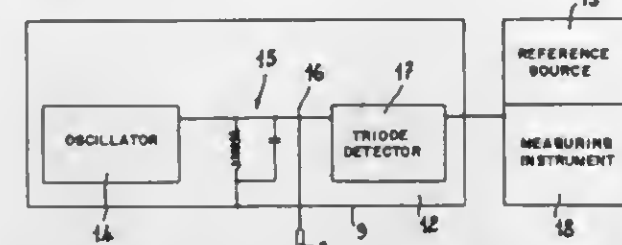
1. A device for measuring the density of a fluid comprising:
an oscillator;
a capacitive network connected with said oscillator and comprising a first measuring capacitor located in said fluid to form a portion of the network affected by the dielectric constant of the fluid and a second adjustable capacitor connected in parallel with said first capacitor;
means for converting the peak-to-peak amplitude of the voltage across said first capacitor to a corresponding D-C voltage level;
computer means receiving said D-C voltage and electrically solving the Clausius-Mossotti equation to obtain a voltage proportional to the density of said fluid; said Clausius-Mossotti equation being

$$\rho \text{ (density)} = K_2 \frac{\epsilon - 1}{\epsilon + 2}$$

where K_2 is a constant whose value depends upon the nature of said fluid and ϵ is the dielectric constant of said fluid;
said computing means comprising:
an operational amplifier having first and second input terminals and connected with said D-C voltage at said first input terminal through a resistor;

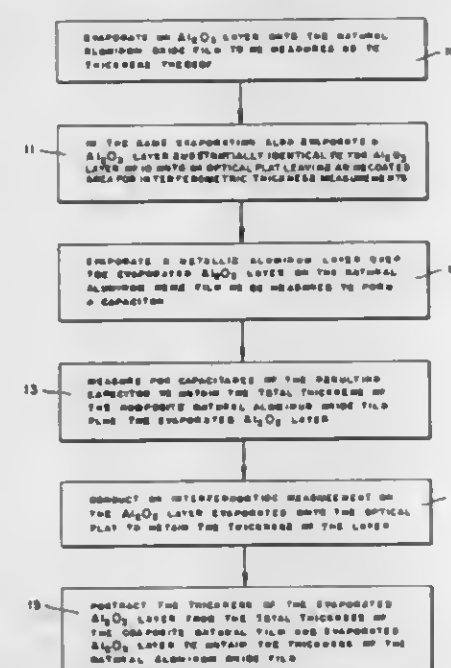
a fixed voltage input connected with said second input terminal of said amplifier; and
a feedback line between said output voltage and said first input terminal and containing a second resistance.

3,421,078
METHOD AND APPARATUS FOR MEASURING THE THICKNESS OF AN INSULATING LAYER BY VARIATION OF THE DIELECTRIC OF A CONDENSER USING A CONTACTING ELECTRODE
Guy Albert Corman, Lyon, France, assignor to Verrerie Souchon-Neuvesel, Societe Anonyme, Lyon, Rhone, France
Filed Jan 7, 1966, Ser. No. 519,260
Claims priority, application France, Jan. 13, 1965, 45,505
U.S. Cl. 324-61 3 Claims
Int. Cl. G01r 27/26



A method and apparatus for measuring the thickness of an insulating layer by means of a condenser constituted by a metal part provided with a perforation and an electrode passing through the perforation in an electrically insulated condition. The electrode is subjected to a difference in voltage with reference to the metal part and when an insulating layer whose thickness is to be measured is applied to the end of the electrode and perpendicularly thereto, the modification in capacity between the electrode and metal part can be measured by an instrument adapted to directly indicate the thickness of the insulating layer.

3,421,079
MEASURING THIN FILM THICKNESS USING INTERFEROMETRIC-CAPACITANCE TECHNIQUE
Harold E. Bennett, Jean M. Bennett and Edmond J. Ashley, China Lake, Calif., assignors to the United States of America as represented by the Secretary of the Navy
Filed Apr. 26, 1966, Ser. No. 546,154
U.S. Cl. 324-61 7 Claims
Int. Cl. G01r 27/26; G01n 21/00; G01j 3/00



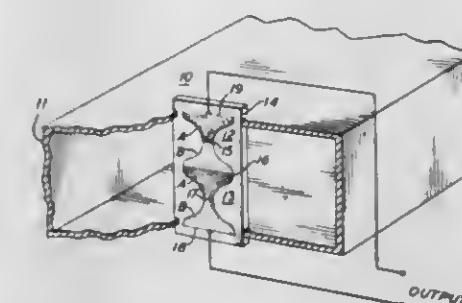
A method for measuring thin film thicknesses of metal or semiconductor oxide films, such as those which form spontaneously on metals in air or a similar atmosphere using an interferometric-capacitance technique.

3,421,080
LINEAR VELOCITY MEASURING DEVICE FOR RAM PISTONS
Edwin T. Lightcap, Succasunna, N.J., assignor, by mesne assignments, to Caldwell Research Corporation, Livingston, N.J., a corporation of New Jersey
Filed Oct. 21, 1966, Ser. No. 588,611
U.S. Cl. 324-70 8 Claims
Int. Cl. G01r 11/00



1. A velocity measuring device for ram pistons comprising: a shaft secured to the ram and slidably positioned in a cylinder for movement with the ram, said shaft having two annular channels spaced along the length of the shaft; two magnetic sensing devices secured to and spaced along the length of the cylinder and positioned adjacent to the shaft for sensing the passage of the channels when the ram is moved relative to the cylinder; a cathode ray oscilloscope including a focussed electron beam, a fluorescent screen, a first deflection means for moving the electron beam horizontally, and a second deflection means for moving the electron beam vertically; a first coupling means between one of the sensing devices and said first deflection means for starting the electron beam to move in a horizontal direction when one of said channels passes the sensing device; and a second coupling means between the other sensing device and the second deflection means for moving the electron beam in a vertical direction when the other annular channel passes the other sensing device.

3,421,081
THERMOELECTRIC DETECTOR USING A SERIES-CONNECTED THERMOPILE
Martin V. Schneider, Middletown, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 28, 1963, Ser. No. 305,071
U.S. Cl. 324-95 12 Claims
Int. Cl. G01r 23/04; G01r 25/02



The use of a thermopile as a sensitive high frequency power detector is described. By connecting the n thermocouples of the thermopile in series with respect to both the high frequency wavepath and the thermoelectric voltages

that are generated, an n -fold increase in the detector signal-to-noise ratio is realized. Alternate hot and cold junctions are obtained by shaping the materials used to generate the thermoelectric voltages.

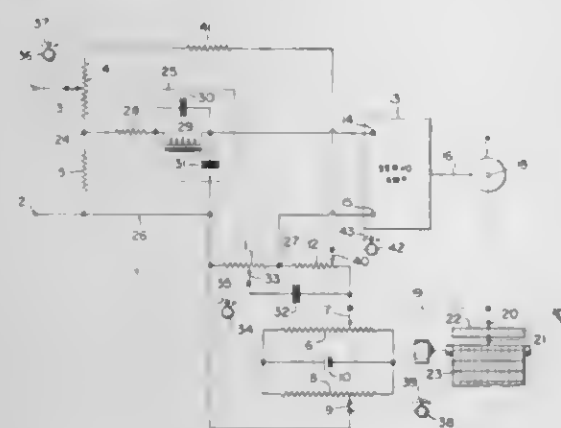
3,421,082

REBALANCING VOLTMEETER HAVING VOLTAGE RESPONSIVE ERROR SENSING MEANS AND MEANS TO BUCK OUT CURRENT DRAWN BY AN INPUT IMPEDANCE

William F. Newbold, Springfield Township, Pa., assignor to Honeywell Inc., a corporation of Delaware
Filed Jan. 8, 1964, Ser. No. 336,527

U.S. Cl. 324-99
Int. Cl. G01r 17/06

10 Claims



Apparatus including a slidewire automatically adjusted to the balance position wherein its voltage balances a voltage to be measured. An attenuator connected across the source of the latter voltage permits adjustment of the measuring span. An adjustable compensating connection between the attenuator and the slidewire passes through the attenuator a current from the slidewire which follows the position of the slidewire and is proportioned to prevent any flow of current from the source through the attenuator when the slidewire is in the balance position.

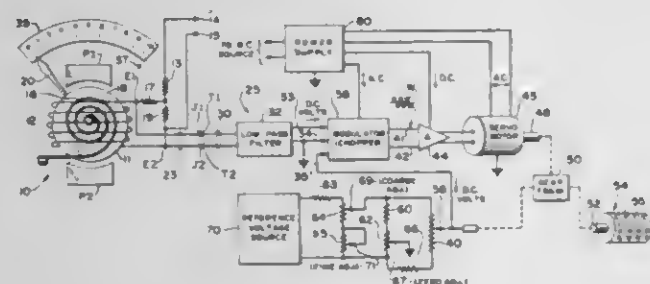
3,421,083

DIGITAL INDICATING DEVICE FOR DC VOLTAGE SOURCE

Seymour Bosworth, Plainview, and Jerome Zauderer, Brooklyn, N.Y., assignors to Abbey Electronics Corp., Westbury, N.Y., a corporation of New York
Filed Mar. 19, 1965, Ser. No. 441,127

U.S. Cl. 324-99
Int. Cl. G01r 17/06

10 Claims



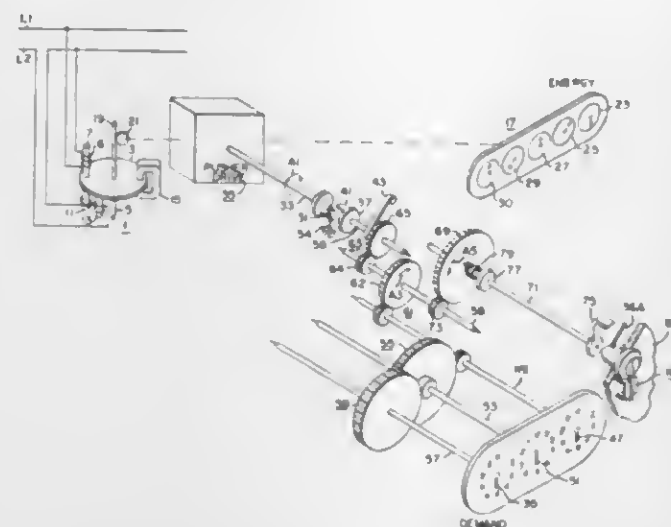
A digital indicating adapter for a d'Arsonval meter or other DC voltage source has a modulator to which DC voltage is applied. The modulator produces a square peaked alternating voltage output in response to the applied DC voltage. The alternating voltage is applied to a digital indicating device to produce digital indications corresponding to the applied DC voltage. The digital indicating device can be a multiple disk counter with a servo motor connected to the counter to drive it, the servo motor being driven by the modulator.

3,421,084 DECADE DIAL TYPE MAXIMUM DEMAND METER

Eugene C. Benbow and Earl L. Burnette, Raleigh, N.C., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 5, 1964, Ser. No. 401,559

U.S. Cl. 324-103
Int. Cl. G01r 19/16

8 Claims



The small arcuate movement of a demand meter pusher element is geared up to present large arcuate movement to a decade dial. Resetting is provided by means of a spring linked gear driving the gearing up mechanism and the decade dial backwards.

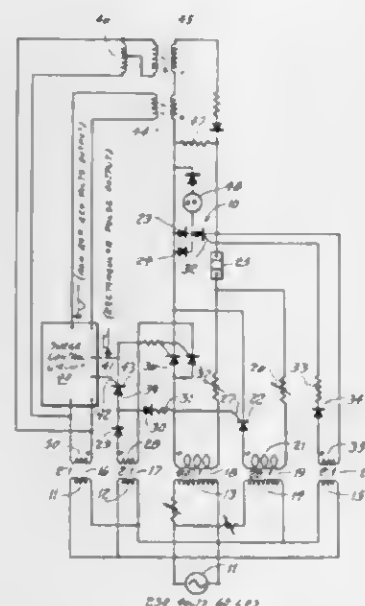
3,421,085

CIRCUIT FOR SURGE CURRENT TESTING OF SILICON CONTROLLED RECTIFIERS

John M. Erickson, Garden City, and John Fairweather, Uniondale, N.Y., assignors to the United States of America as represented by the Secretary of the Navy
Filed June 16, 1966, Ser. No. 559,054

U.S. Cl. 324-158
Int. Cl. G01r 11/00

4 Claims



A circuit for generating and applying to a silicon controlled rectifier (SCR) a non-recurrent surge current and non-repetitive peak reverse voltage. The circuit includes gated SCR's and transformers for providing the timing and phase relationships required.

3,421,086

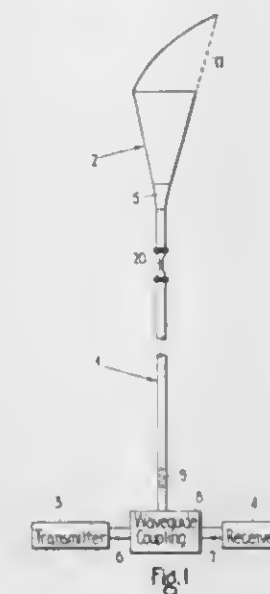
MODE SUPPRESSING FILTERS IN AERIAL FEEDERS

Albert E. Medford, Nuneaton, and Bernard Wilson, Coventry, England, assignors to The General Electric Company Limited, London, England, a British company

Filed Mar. 1, 1966, Ser. No. 531,005
U.S. Cl. 325-24

8 Claims

Int. Cl. H04b 1/44; H04p 1/16



In an aerial feeder provided by a waveguide of circular cross-section that is required to pass waves in the dominant H_{11} mode, there are two filters which are located one adjacent each end of the waveguide and which are arranged to pass waves in the dominant mode but to suppress unwanted modes, particularly E_{11} . One of these filters is a portion of waveguides of reduced cross-section to reflect waves of unwanted modes while the other has resistive elements to absorb such waves.

ERRATUM

For Class 325-149 see:
Patent No. 3,421,095

3,421,087

CURRENT SUPPLY FOR TRANSMITTERS

Rudiger Schünemann, Berlin-Halensee, and Oskar Sippekamp, Berlin, Germany, assignors to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany

Continuation of application Ser. No. 294,916, July 15, 1963. This application Oct. 23, 1967, Ser. No. 678,156

Claims priority, application Germany, July 19, 1962, S 80,486

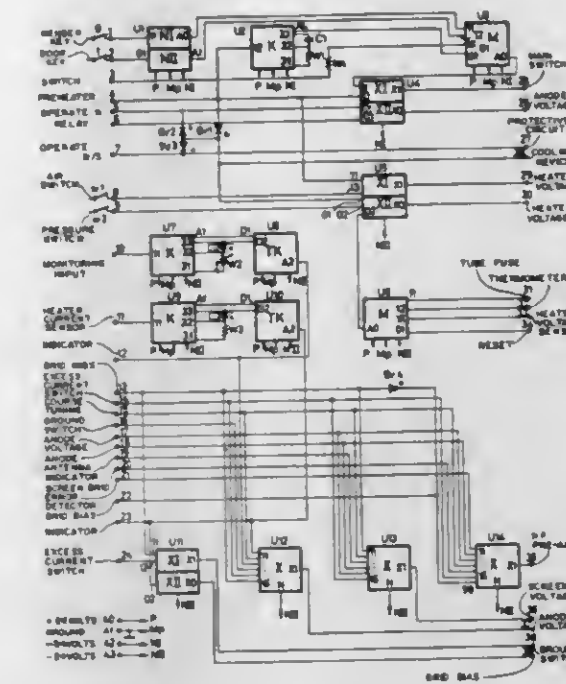
U.S. Cl. 325-151

7 Claims

Int. Cl. H04b 1/04; H04b 1/66; H02b 7/20

Semiconductor logic circuits are used to control the application of power to the various stages of a transmitter. Three control states may be selected for preheating (warmup), operation at one-third power and operation at full power. The application of plate, bias and heater voltages is controlled by an assembly of "and" gates whose inputs are responsive to the presence of the supply volt-

ages and to abnormal condition sensors such as a loss of cooling air pressure, excess screen grid, or plate current



and tuning errors. Personnel protection is also effected through the use of door and danger switches.

3,421,088

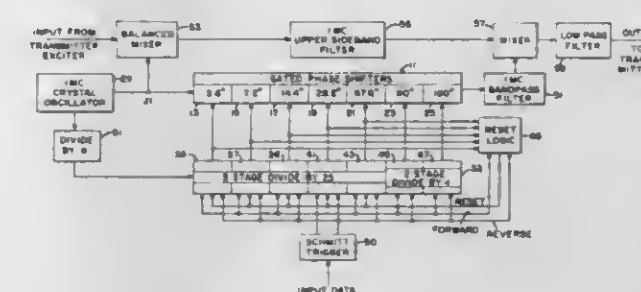
FREQUENCY SHIFT KEYING BY DRIVING INCREMENTAL PHASE SHIFTER WITH BINARY COUNTER AT A CONSTANT RATE

Ernest J. Salley and William H. Jones, Oklahoma City, Okla., assignors to General Electric Company, a corporation of New York

Filed Nov. 4, 1964, Ser. No. 408,920
U.S. Cl. 325-163

14 Claims

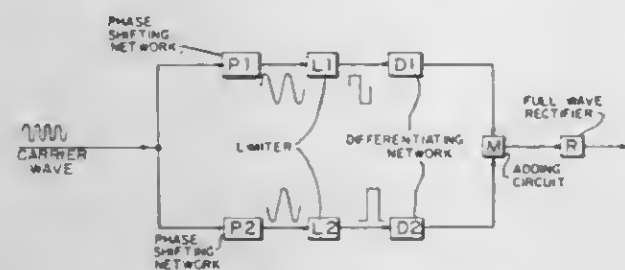
Int. Cl. H04b 1/04; H04l 27/24; H03c 3/00



A frequency shift modulation arrangement is disclosed in which the carrier is phase-shifted in such small repetitive increments as to result in a "phase continuous" frequency-shifted output signal. This is achieved by means of a series of sequentially connected gated phase shifters which are capable of selectively shifting the phase of a reference signal in differing increments of a binary progression. The gated phase shifters are respectively controlled or gated by a series of sequentially connected binary divider stages in such a way that the instantaneous phase shift through the series is $K\phi$ where K is a binary number in the counter and ϕ is the phase shift through the first phase shifter, this providing an orderly progression of phase shift at a steady rate as determined by a constant frequency drive signal. The direction of this change in phase shift is determined by the binary level of the input data signal. The output of the phase shift network which has thus been shifted in frequency is mixed with a carrier signal, thus producing the desired phase continuous frequency shift modulation of the carrier signals.

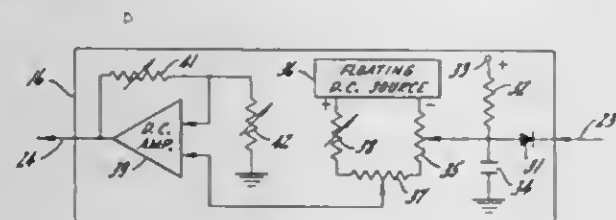
3,421,089
CIRCUITS FOR REDUCING DISTORTION IN A DEMODULATOR FOR DATA TRANSMISSION
 Evangelo Lyghouois, Milan, Italy, assignor to Società Italiana Telecomunicazioni Siemens S.p.A.
 Filed Apr. 5, 1965, Ser. No. 445,359
 Claims priority, application Italy, Apr. 7, 1964, 7,571/64

U.S. Cl. 325—320 6 Claims
 Int. Cl. H04b 1/16; H04b 1/10; H03b 1/04



A circuit for reducing fortuitous telegraph distortion in telegraphic signals for data transmission comprises parallel circuits occurring at the receiving side of a telegraphic system. The code pulses modulate in frequency a carrier having a sine wave form in which the incoming modulated signal is collectively fed into two parallel shifting networks, each including a phase-shift network having an output signal fed into a clipper which reduces the signal carrier wave form to substantially square wave form. The output of each is then fed into a differentiating network, and the two outputs of the differentiating network are fed to a common adding network in which the positive and negative pulses of the input signals of the two phase-shift networks are combined in proper relationship to each other with respect to the time interval of the transmission. The output of the adding network is then fed into a rectifier network where all pulses have the same polarity and a frequency double that of the input sine form signal.

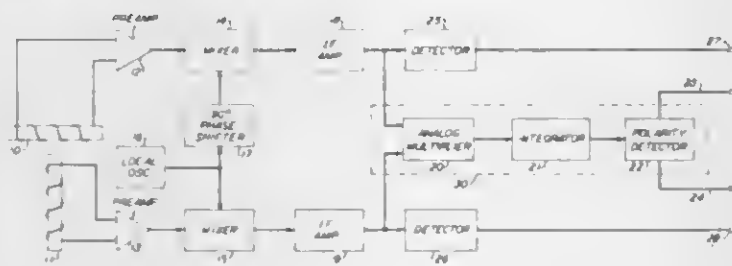
3,421,090
CONTROL SYSTEM FOR PROVIDING AUTOMATIC FREQUENCY TRACKING OF A CARRIER SIGNAL IN AN UNSYMMETRICALLY FREQUENCY MODULATED VIDEO RECEIVER SYSTEM
 Tom L. Fitch, Donald W. McMillan, and Lance E. Rigin, Indianapolis, Ind., assignors to the United States of America as represented by the Secretary of the Navy
 Filed Apr. 19, 1965, Ser. No. 449,343
 U.S. Cl. 325—346 2 Claims
 Int. Cl. H04b 1/06



An automatic frequency tracking circuit for enabling an FM video receiver to track the carrier frequency of an unsymmetrically modulated video signal having repetitive extreme signal conditions such as horizontal or vertical synchronizing pulses, utilizing a solid state diode detector, a tuner, and a D.C. amplifier. The detector produces a D.C. voltage, referenced to ground potential, proportional to the voltage level of the repetitive extreme signal conditions (sync pulses) which always maintain a fixed relationship with respect to the video receiver discriminator center frequency. The tuner adds algebraically a voltage proportional to the desired carrier

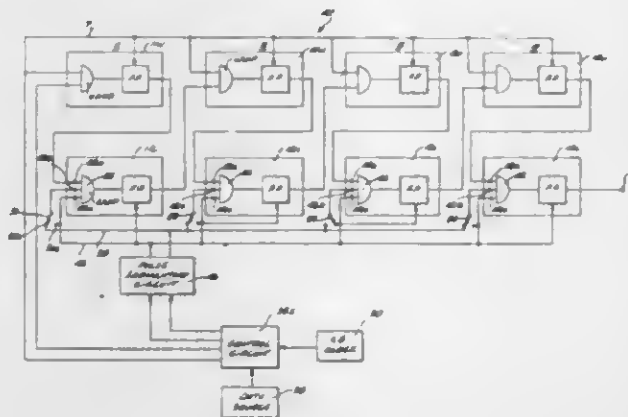
frequency to the detector output voltage, and this combined voltage is amplified in the D.C. amplifier to produce the automatic frequency control voltage to control the video receiver system local oscillator to produce the desired tracking of the unsymmetrically modulated video signal.

3,421,091
DETECTING CIRCUIT FOR CIRCULARLY POLARIZED WAVES
 Walter L. Brown, Berkeley Heights, and Gabriel L. Miller, Westfield, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
 Filed Apr. 26, 1965, Ser. No. 450,988
 U.S. Cl. 325—363 10 Claims
 Int. Cl. H04b 1/10



A receiving system for detecting electromagnetic wave energy propagated in the circularly polarized mode is disclosed. The system utilizes two orthogonal antennas, the output of one of which is shifted ninety degrees. The two signals are then multiplied together with the result that only orthogonally polarized input components produce product with nonzero D.C. averages. The sense of polarization determines the polarity of the D.C. level produced. Thus the system discriminates strongly against wave energy transmitted in modes other than the circularly polarized mode.

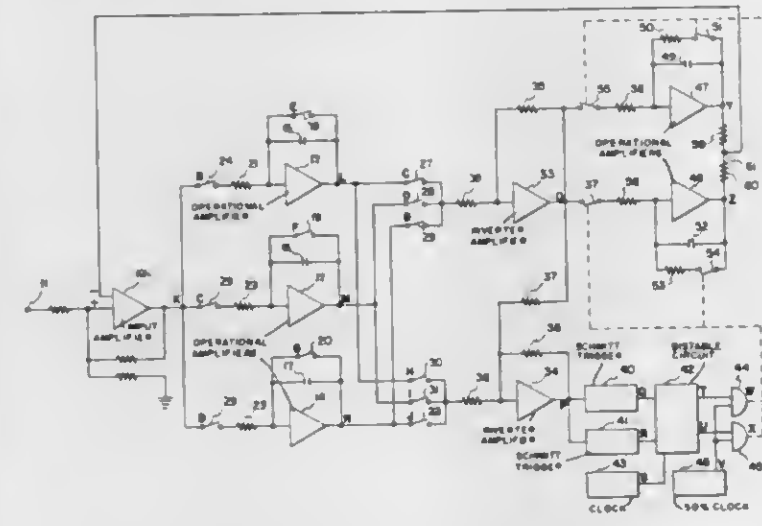
3,421,092
MULTIRANK MULTISTAGE SHIFT REGISTER
 Robert W. Bower, Palos Verdes, and Richard F. Stewart, Los Angeles, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
 Filed Oct. 22, 1965, Ser. No. 502,225
 U.S. Cl. 328—37 22 Claims
 Int. Cl. H03k 19/00; H03k 19/34; H03k 19/36



A dual rank multistage shift register including a control circuit and a pulse segmenting circuit. The control circuit is coupled to each stage of at least one rank of the shift register and responds to clock pulses, data signals and command signals for synchronously setting the ranks of the register so that all stages of the same rank are set to the same state. The pulse segmenting circuit includes at least a first segmented line and a first complementary line with the lines being selectively coupled to each stage of at least one rank of the register. The

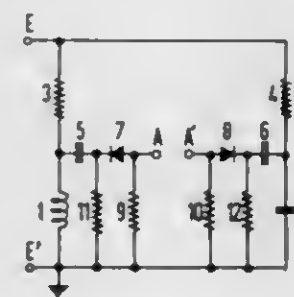
pulse segmenting circuit responds to command signals and at least one of the clock pulses for segmenting at least one of the clock pulses to provide on the first segmented line and the first complementary line one of the clock pulses and the complement thereof, respectively, so as to set the stages in at least one rank to selected states.

3,421,093
DETECTOR FOR PULSE CODE MODULATED SIGNALS WITH FEEDBACK FOR BASELINE CORRECTION
 Karl Hinrichs, Fullerton, and Perry A. Diederich, Orange, Calif., assignors to Beckman Instrument, Inc., a corporation of California
 Filed Nov. 12, 1965, Ser. No. 507,318
 U.S. Cl. 329—104 8 Claims
 Int. Cl. H03k 9/00



A pulse code modulated signal detector having a baseline tracking loop in which an input amplifier is provided with a plurality of integrating, holding and summing circuits connected to its output for action over successive overlapping time periods. First and second sample and hold circuits sample and store the voltage level of each positive and negative bit respectively over a number of bit periods. An average value circuit detects the average of the sample and hold circuits which is fed back to the input amplifier to correct for baseline offset.

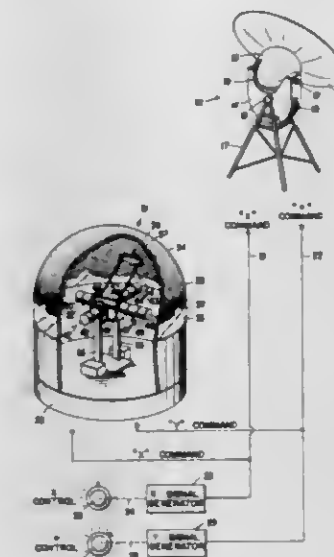
3,421,094
DISCRIMINATOR WITH LINEAR CHARACTERISTIC CURVE UTILIZING A BRIDGE CIRCUIT HAVING A BRANCH CONTAINING AN INDUCTIVE REACTOR AND A BRANCH CONTAINING A CAPACITIVE REACTOR
 Josef Gammel, Munich, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany
 Filed Aug. 18, 1965, Ser. No. 482,324
 Claims priority, application Germany, Aug. 20, 1964, S 92,737
 U.S. Cl. 329—137 5 Claims
 Int. Cl. H03d 3/02



A discriminator circuit having the input voltage thereof fed over high-ohmic resistances into an inductive reactor

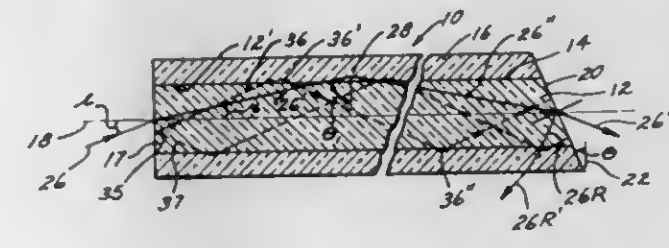
and a capacitive reactor, wherein the voltages appearing at the inductive reactor and at the capacitive reactor are rectified and combined into a differential voltage.

3,421,095
CONTINUOUS HEMISPHERICAL CONTOUR LIMIT SWITCH FOR ANTENNA
 Fred W. Hardaway, Arlington, Tex., assignor to Collias Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
 Filed May 26, 1966, Ser. No. 553,217
 U.S. Cl. 325—149 6 Claims
 Int. Cl. H04b 1/02; H04b 9/00; H01q 3/00



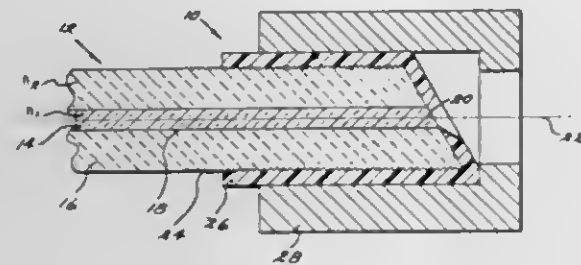
A model antenna is slaved to a primary antenna. A light source and light detector are mounted on the model antenna. When the light beams pass through the light transmissive area of the antenna dome, the interlock circuit is broken and the primary antenna is disconnected from the transmitter.

3,421,096
LASER LIGHT-AMPLIFYING STRUCTURES AND THE LIKE
 Charles J. Koester, South Woodstock, Conn., assignor, by mesne assignments, to American Optical Company, Southbridge, Mass., a corporation of Delaware
 Filed Aug. 3, 1966, Ser. No. 570,016
 U.S. Cl. 330—4.3 3 Claims
 Int. Cl. H01s 3/00



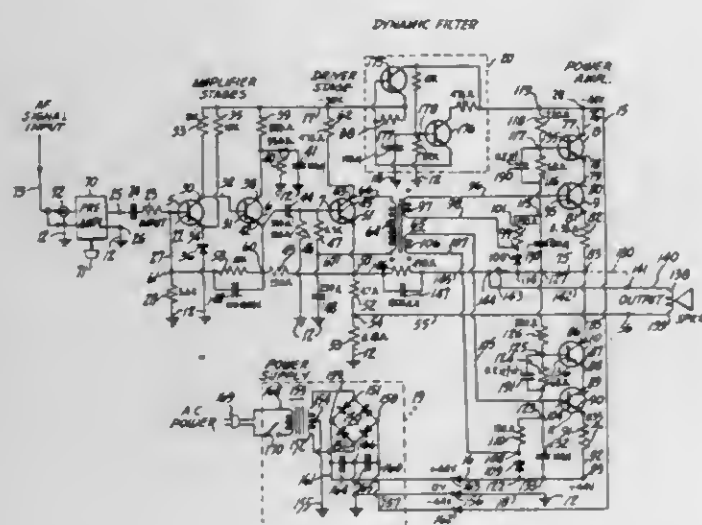
Thin elongated fiber laser amplifier component comprising a core of transparent laser material of predetermined refractive index and absorbing cladding of relatively lower index in surrounding relation thereto, said component having its opposite ends so angularly disposed relative to a cross-section through said component adjacent thereto and relative to the refractive indices of core and cladding as to effect a resonant laser cavity structure between said end surfaces for optical energy travelling at large angles of deviation within said core and relative to axis of component while simultaneously providing amplification for optical signal at laser emission wavelengths entering and travelling through said component at lesser angles of deviation.

3,421,097
LASER AMPLIFIER HAVING ANGULARLY DISPOSED REFLECTION REDUCING END SURFACE
 Charles J. Koester, South Woodstock, Conn., and Elias Snitzer, Sturbridge, Mass., assignors, by mesne assignments, to American Optical Company, Southbridge, Mass., a corporation of Delaware
 Filed Mar. 25, 1963, Ser. No. 267,711
 U.S. Cl. 330—4.3
 Int. Cl. H01s 3/00



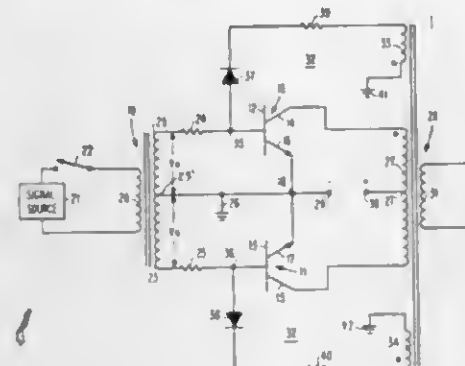
Elongated laser amplifier construction comprising thin, elongated core of solid, moldable laser material and cladding of solid, moldable, transparent material of lesser index than that of core and having, one or both end surfaces thereof, optically finished and predeterminedly sloped or bevelled in accordance with the core and cladding index relationship therebetween to provide increased light amplification.

3,421,098
SIGNAL TRANSLATING SYSTEM
 Michael S. Fisber, Flemington, N.J., assignor to Radio Corporation of America, a corporation of Delaware
 Filed July 19, 1965, Ser. No. 472,945
 U.S. Cl. 330—15
 Int. Cl. H03f 3/26



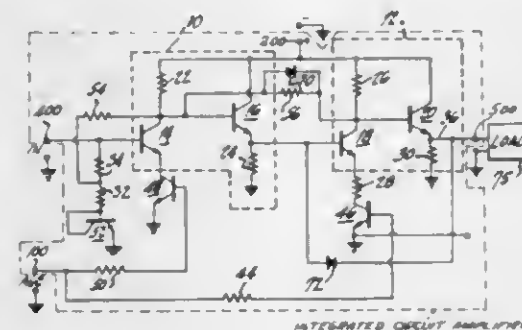
Two series coupled transistors are connected in a power amplifier stage, with the first operating in a common-emitter mode driving the second operating in a common-base mode, and with a signal output load circuit connected in series coupling relation with the two transistors. A voltage divider network is provided for applying biasing potentials to the transistors, and a pair of series connected capacitors are coupled in shunt relation with separate portions of the divider network so as to cause the second transistor, and then the first, to be successively driven into saturation in response to input signals applied to the first transistor, as a result of which, maximum power is deliverable to the output load.

3,421,099
SEMICONDUCTOR PUSH-PULL CIRCUITS UTILIZING MINORITY CARRIER STORAGE EFFECTS
 Francis L. O'Malley, Owego, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
 Filed Mar. 25, 1966, Ser. No. 537,536
 U.S. Cl. 330—15
 Int. Cl. H03f 3/26; H03f 1/38



A semiconductor push-pull circuit which employs a feedback means which in response to a signal produced by the respective minority carrier storages of the semiconductor devices maintains the off semiconductor device in a non-conducting condition during the storage time of the other semiconductor device when the latter is placed in a turned-off condition by the input signal and vice versa.

3,421,100
DIRECT COUPLED AMPLIFIER INCLUDING TWO-STAGE AUTOMATIC GAIN CONTROL
 Kiamil Giontzeneli, Somerville, N.J., assignor to Radio Corporation of America, a corporation of Delaware
 Filed Nov. 10, 1966, Ser. No. 593,510
 U.S. Cl. 330—19
 Int. Cl. H03f 3/42

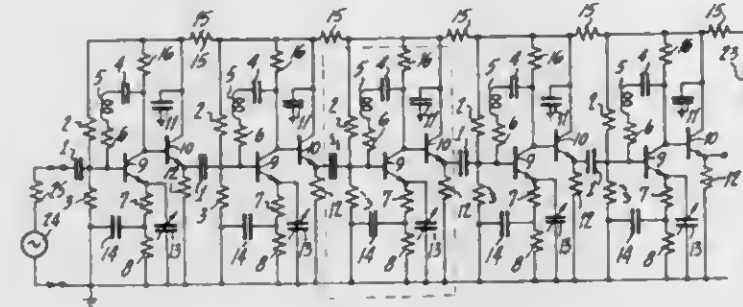


Automatic gain control apparatus for signal receiving systems which does not upset the operating point stability of direct coupled integrated circuit amplifiers included as a part thereof includes a circuit for providing automatic gain control action to a first stage of a multi-stage direct coupled amplifier and for off-setting at a second stage the changes in direct current flowing through a load included therein brought about by the gain control action, the off-set being in such a manner as to additionally provide automatic gain control to the second amplifier stage.

3,421,101
BROAD BAND HIGH GAIN VIDEO AMPLIFIER
 Laurance C. Drew, Danvers, and Harold F. Klog, Dracut, Mass., assignors to Radio Corporation of America, a corporation of Delaware
 Filed June 22, 1965, Ser. No. 466,027
 U.S. Cl. 330—20
 Int. Cl. H03f 3/68; H03f 1/34; H03f 1/22

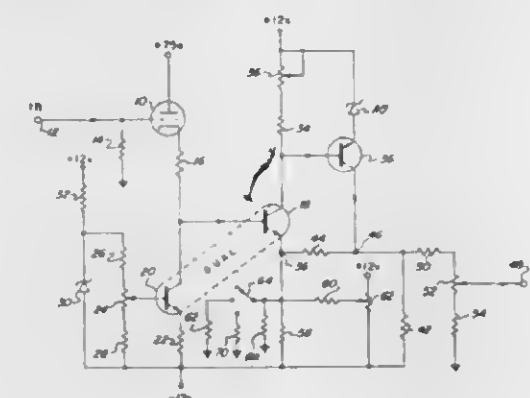
Disclosed is a high gain wide bandwidth cascaded multi-stage transistor video amplifier, each stage of which

has substantially the same gain and substantially the same bandwidth. The output of each stage is coupled to the input of the next subsequent stage by an emitter follower which has its input coupled directly to the output of the preceding stage. In addition an emitter follower couples the output of the last stage to the output of the amplifier. Each stage is provided with both adjustable high fre-



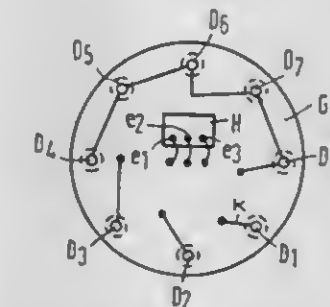
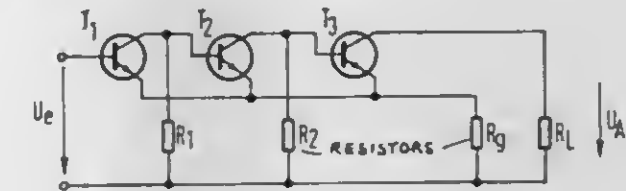
quency current peaking negative current feedback and mid-frequency flattening negative voltage feedback to thereby provide a wide bandwidth with a sharp high frequency roll-off. The disclosed transistor video amplifier is unusual in that its overall bandwidth is substantially the same as the bandwidth of a single stage thereof, although the total gain of the amplifier is substantially equal to the product of the gains of the cascaded stages.

3,421,102
DIRECT COUPLED TEMPERATURE COMPENSATED AMPLIFIER
 Roland E. Andrews, Portland, Oreg., assignor to Tektronix, Inc., Beaverton, Oreg., a corporation of Oregon
 Filed June 10, 1965, Ser. No. 462,833
 U.S. Cl. 330—23
 Int. Cl. H03f 3/04; H03k 1/12



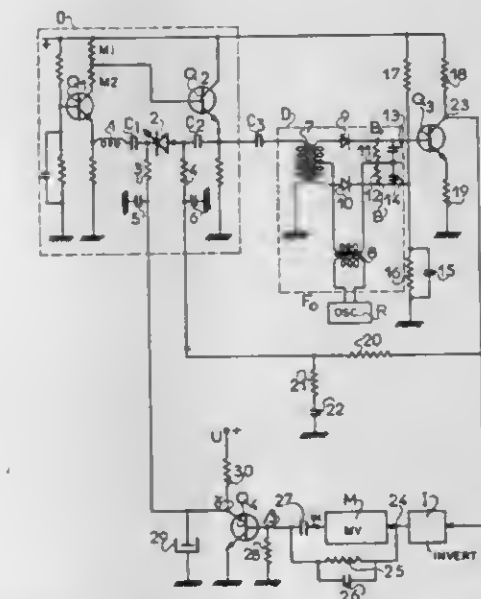
A temperature compensated direct coupled amplifier is described in which a compensating transistor having a D.C. reference voltage applied to its base reduces thermal drift in the output voltage of such amplifier. The collector of the compensating transistor is connected to the base of a common emitter amplifier transistor and through one load resistor to the cathode of a cathode follower amplifier tube. The emitter of the compensating transistor is connected to another load resistor which is substantially equal to the sum of such one load resistor and the internal cathode-to-anode resistance of the tube to provide such compensating transistor with a voltage gain of -1. This, together with maintaining the transistors at the same temperature, such as by providing them in a common housing, causes a reduction of the thermal drift to about 0.2 millivolt per degree centigrade over a temperature range of -15° to -55° C.

3,421,103
SEMICONDUCTOR INTEGRATED TRANSISTOR CASCADE FOR AMPLIFYING PURPOSES
 Wolfgang Nolde, Palo Alto, Calif., assignor to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany
 Filed Aug. 2, 1966, Ser. No. 569,694
 Claims priority, application Germany, Aug. 4, 1965, S 98,622
 U.S. Cl. 330—28
 Int. Cl. H03f 1/34



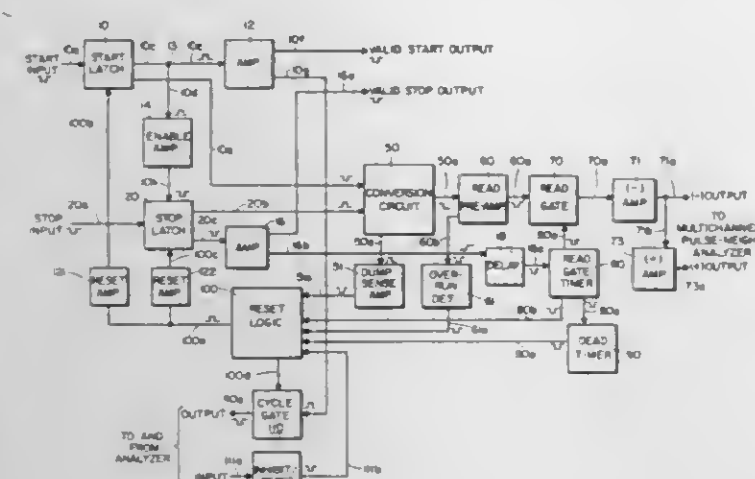
In a transistor cascade amplifier integrated circuit, a metal wire is electrically connected between the emitter of one of the transistors and a metal base plate. A feedback resistor is electrically connected between the emitter and a feed-through pin of the base plate. The feed-through pin insulated from the base plate is electrically connected to the base plate via a metal wire having an electrical resistance which is such that the total feedback resistance has a desired magnitude.

3,421,104
FREQUENCY CONTROL SYSTEM WITH SEARCH SWEEP
 Lucien Babany, Blanc-Mesnil, and Didier Bernadet, Courcelles-S-Viosnes, France, assignors to CIT-Compagnie Industrielle des Telecommunications, Paris, France, a corporation of France
 Filed Aug. 2, 1966, Ser. No. 569,687
 Claims priority, application France, Aug. 5, 1965, 27,398
 U.S. Cl. 331—4
 Int. Cl. H03b 3/04; H03b 5/00



A frequency control system including a main variable frequency oscillator and a reference oscillator connected to a phase discriminator, a sweep oscillator connected to

input circuit and to initiate an interval timing sequence to allow the output of a conversion means to appear at the output of the system. The system also provides for the



analog storage of a converted signal by the conversion means together with sensing means for detecting the absence of a timely stop signal as well as reset logic to drive both input means to reset.

3,421,114

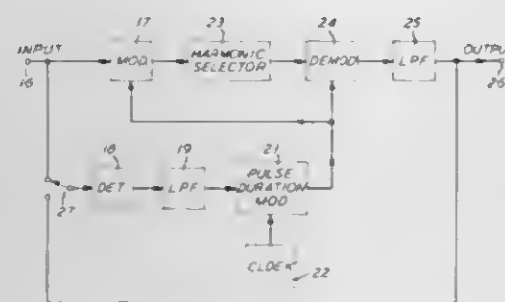
ATTENUATOR APPARATUS EMPLOYING VARIABLE DUTY CYCLE MODULATION

Thomas W. Eddy, Whippany, and George E. Harrington, Chatham, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 22, 1965, Ser. No. 501,579

U.S. Cl. 332-9
Int. Cl. H03k 7/00

9 Claims



Selected attenuation of an information carrying input signal is accomplished with low distortion by modulating the signal with a pulse train signal of variable duty ratio. A specifically predetermined sideband of the resulting modulated signal is isolated so that selected variations in the duty ratio result in the desired attenuation. The duty ratio may be controlled by the level of the input signal itself to create an automatic gain control circuit.

3,421,115

MICROWAVE COUPLING STRUCTURE AND TRANSMISSION LINE

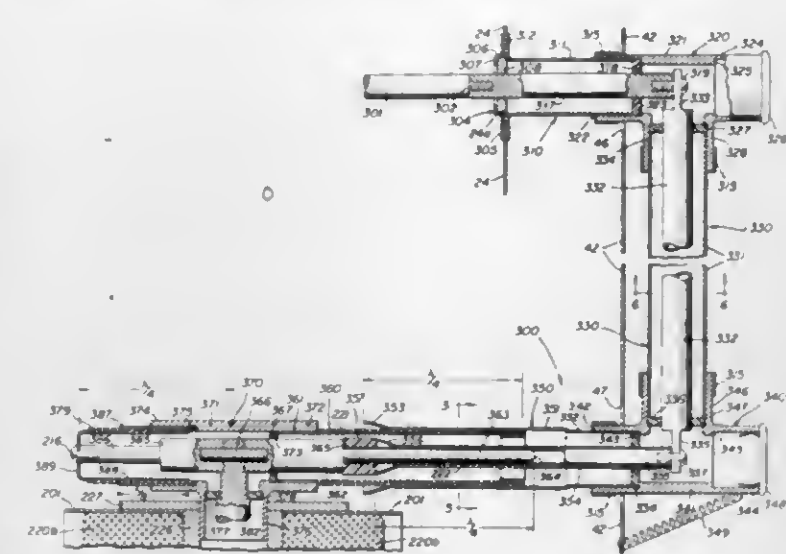
James E. Staats, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Original application Nov. 23, 1966, Ser. No. 596,519, and a continuation-in-part of application Ser. No. 181,144, Mar. 20, 1962. Divided and this application June 12, 1967, Ser. No. 656,977

U.S. Cl. 333-1
Int. Cl. H01p 5/00

15 Claims

There is disclosed a combination electric and electronic range including a cooking cavity defined by a metal liner, a first machinery compartment below the liner and a second machinery compartment to the rear of the liner defined by the casing for the range and

baffles arranged around the liner; the generator for electronic cooking is disposed in the lower machinery compartment and has the output thereof connected to the cooking cavity by a transmission line disposed in the machinery compartments; the transmission line is readily



disassembled from the rear of the range and includes transformer portions and filter portions accommodating the application of DC potentials through certain portions thereof while preventing introduction of RF energy into supplies of the DC potentials.

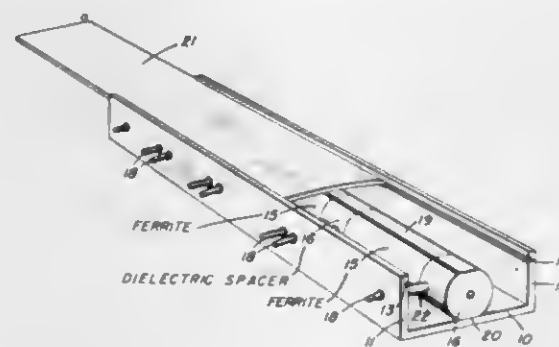
3,421,116

UTILIZING A RESILIENT WAVEGUIDE WALL

Joe Frank, Adelphi, and Charles A. Shipley, Laurel, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed Dec. 13, 1966, Ser. No. 601,832

U.S. Cl. 333-24.1
Int. Cl. H03b 5/00; H01p 3/12

7 Claims



Generally speaking, the present invention relates to microwave phase shifters and more particularly pertains to a latching ferrite phase shifter structure which is relatively inexpensive to manufacture and easy to assemble, requires low switching current and yet is efficient in operation. More specifically, the proposed phase shifter comprises a waveguide containing a plurality of aligned latching type ferrite elements, of varying lengths and adapted to be pulsed in digital fashion, to impart variable phase shift to input microwave energy. Each of the ferrite elements has a substantially circular cross-section and is formed (for example, by extrusion) with a central bore adapted to receive a control wire; the circular cross-section of the ferrite having the effect of permitting complete saturation of the ferrite with minimum control pulse current in the control wire. The phase shifter is moreover constructed such that good physical contact exists between the waveguide and the ferrites in order to reduce spikes in both insertion loss and voltage standing wave ratio. The proposed phase shifter is particularly adapted for use in a phased array antenna system.

3,421,117

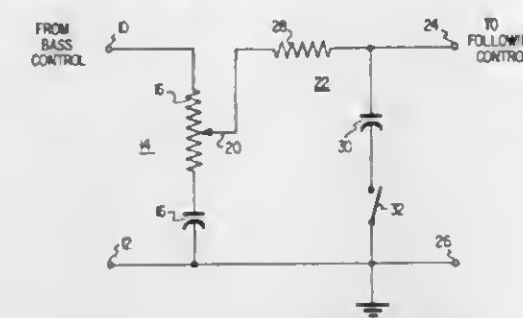
VARIABLE SCRATCH FILTER CIRCUIT

John Stephen Grout, Decatur, Ill., assignor to General Electric Company, a corporation of New York
Filed May 24, 1965, Ser. No. 458,099

U.S. Cl. 333-28

Int. Cl. H03h 5/00; H03h 1/00

5 Claims



For a sound reproducing system having a treble control, a variable scratch filter circuit is provided. This variable scratch filter circuit comprises a resistor connected at one end to a potentiometer wiper arm of the treble control, and a capacitor connected between the other end of the resistor and ground. As the treble control potentiometer is operated to balance the loudness of the reproduced sound, the resistance of the RC scratch filter circuit is increased, thereby lowering the frequency of the so-called roll-off corner of the scratch filter.

3,421,118

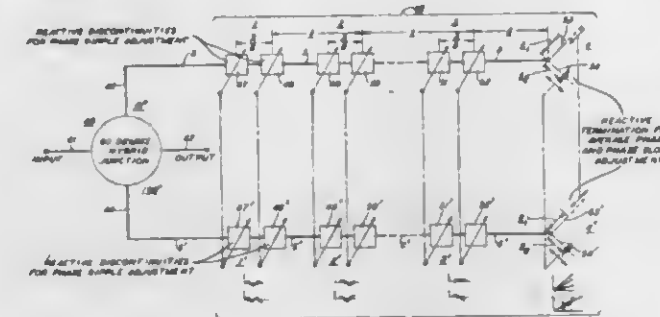
ADJUSTABLE PHASE EQUALIZER

Rudolf S. Engelbrecht, Bernardsville, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed July 1, 1965, Ser. No. 468,742

U.S. Cl. 333-28

Int. Cl. H03h 5/02

7 Claims



This application describes a phase equalizer capable of generating any arbitrary frequency-phase characteristic. In accordance with one embodiment of the invention, the input signal is divided into two equal components by means of a 3 dB quadrature coupler. Each of the two signal components is then coupled to one of two identical reactive networks. The latter are essentially delay lines with adjustable discontinuities longitudinally disposed therealong. The reflected signal components are recombined in the coupler. The phase characteristic of the device is varied by adjusting the magnitude of the discontinuities. In a second embodiment, a three port circulator and a single network are used.

3,421,119

HYBRID DISTRIBUTED-LUMPED-CONSTANT DELAY LINE

Milton Zerklin, Fairlawn, N.J., assignor to Fairchild Camera and Instrument Corporation, a corporation of Delaware
Filed Mar. 29, 1965, Ser. No. 443,270

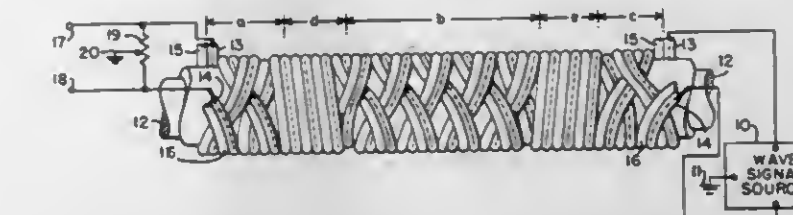
U.S. Cl. 333-29

Int. Cl. H03b 7/30

9 Claims

A hybrid distributed-lumped-constant delay line for connection to a balanced electrical circuit having an

electrical neutral comprises a plurality of single-layer, coaxial, longitudinally extending delay-line sections. Each of the delay-line sections includes two interlaced coaxial substantially helical insulated windings adapted to be connected in paraphase, the windings having substantially identical dimensions and substantially identical electrical constants relative to the electrical neutral of the line. The two windings have equal and opposite helix angles. A



plurality of multilayer windings are individually interposed between and serially connected between adjacent pairs of the delay-line sections. Alternatively, a plurality of capacitance elements are individually interposed between and electrically connected to adjacent pairs of the delay-line sections. A conductive sheath surrounding and insulated from the windings forms an electrical neutral for the delay line.

3,421,120

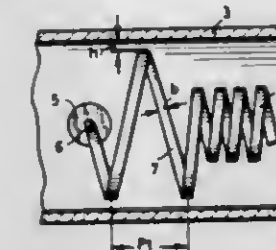
ARRANGEMENT FOR WIDE-BAND COUPLING OF THE SPIRAL LINE OF A TRAVELLING-FIELD SPIRAL TUBE TO A COAXIAL LINE

Roland Liebscher, Pöng, near Munich, and Arnulf Rothner, Munich, Germany, assignors to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany
Filed July 9, 1964, Ser. No. 381,585

U.S. Cl. 333-31

Int. Cl. H03h 7/30

3 Claims



An arrangement for the wide-band coupling of the main spiral line of a travelling-wave tube with an essentially metallic tubular vacuum-tight envelope to a coaxial line, serving for the feed-in or lead-off of high-frequency energy, mounted perpendicularly to the tube, with the outer conductor of the coaxial line being extended to and merged in the metallic envelope, while the inner conductor of the coaxial line is conductively connected over the transformation spiral with the last coil of the main spiral characterized by the feature that the pitch and diameter of the transformation spiral is greater than that of the main spiral, said transformation spiral comprising at least one section and having, at least section-wise, constant pitch, said transformation spiral comprising a conductor having substantially uniform cross-sectional dimensions throughout its length.

3,421,121

WIDE BANDWIDTH PHASE EQUALIZATION FILTER NETWORK

Joseph Burnswieg, Jr., Los Angeles, Bert J. Fairbanks, Canoga Park, and Albert A. Rolstead, Torrance, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Aug. 13, 1965, Ser. No. 479,384

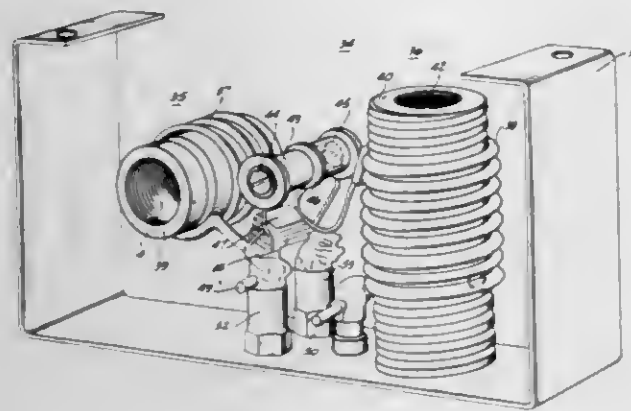
U.S. Cl. 333-75

Int. Cl. H01b 7/08; H03h 5/00

7 Claims

The filter network comprises a plurality of cascaded individual bridged-T filter circuits forming an all-pass

network. Each circuit utilizes inductive-capacitive filter arrangement having low resistance and the plurality of circuits are physically arranged to have a minimum of inductive and capacitive coupling. The physical arrange-



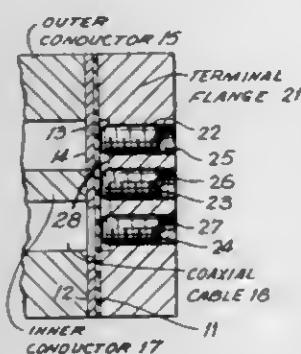
ment is geometric to obtain low insertion loss, specified circuit loading and the low reflection losses. Each bridged-T circuit operates at a particular frequency of the incoming signal. The invention provides a greater than fifty percent bandwidth phase equalization.

3,421,122
MINIATURE ADJUSTABLE HIGH FREQUENCY RESONANT CIRCUIT UNIT
Yukio Ito, Tokyo, and Hidemitsu Komizo, Kawasaki-shi, Japan, assignors to Fujitsu Limited, Kawasaki, Japan, a corporation of Japan

Filed Sept. 29, 1966, Ser. No. 582,993
Claims priority, application Japan, Sept. 30, 1965, 40/61,103

U.S. Cl. 333—82
Int. Cl. H01p 7/00; H01p 1/00; H01p 3/00

6 Claims



1. A miniature adjustable high frequency resonant circuit unit, comprising:
printed circuit means including extremely small dimensioned resonant circuit components in resonant circuit connection functioning as a resonant circuit in a broad range of frequencies, said printed circuit means comprising a dielectric plate having electrically conductive sections printed thereon, said conductive sections including a strip-like portion which functions as an inductor, one of said conductive sections functioning as a capacitor plate; and
adjusting means in operative proximity with said printed circuit means for varying the values of said resonant circuit components thereby to vary the characteristics of said resonant circuit, said adjusting means comprising flange means fixedly mounted in operative proximity with said printed circuit means and adjusting members movably mounted in said flange means for movement toward and away from determined points on said printed circuit means, one of said adjusting members being movable toward and

away from the strip-like portion of said printed circuit means and another of said adjusting members being movable toward and away from the capacitor plate of said printed circuit means.

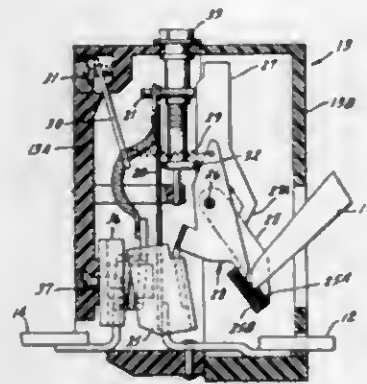
3,421,123
ELECTRIC CIRCUIT BREAKER WITH MAGNETIC TRIPPING MEANS

Joseph F. Johnson, Plainville, and Robert W. Laubheimer, Farmington, Conn., assignors to General Electric Company, a corporation of New York

Filed June 19, 1967, Ser. No. 646,983

U.S. Cl. 335—35
Int. Cl. H01h 75/12; H01h 77/04; H01h 81/00

5 Claims



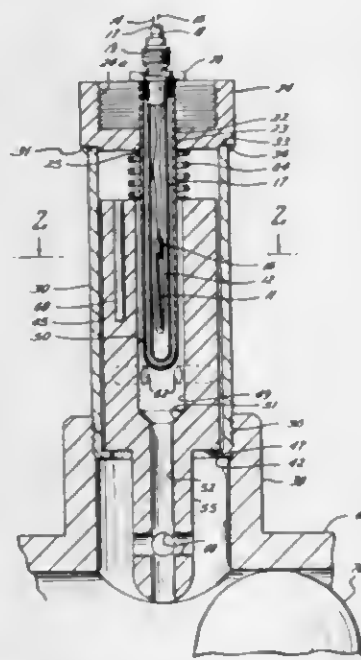
A latch-trip type electric circuit breaker, including a thermal-magnetic current responsive tripping device; the tripping device includes a generally channel-shaped field piece, a confronting generally channel-shaped armature, a cylindrical core member carried by the field piece between the two members, and an energizing coil surrounding the core; a bimetallic strip extends between the end of the core member and armature and is so located with respect to the air gaps between the field piece and the armature that although some leakage flux goes through the bimetallic member, all the flux, including such leakage flux, goes across the working air gaps of the magnetic assembly, whereby to provide a compact and sensitive thermal-magnetic trip assembly.

3,421,124
DETECTOR SWITCH
Joseph V. Kidd, 725 International Blvd., Houston, Tex. 77024

Filed Mar. 17, 1967, Ser. No. 624,045

U.S. Cl. 335—205
Int. Cl. H01h 9/00

6 Claims



The disclosure is of a novel detector switch, useful for indicating the passage or presence of an object coming

into contact with the switch. The detector utilizes magnetic forces to open and close the switch contacts.

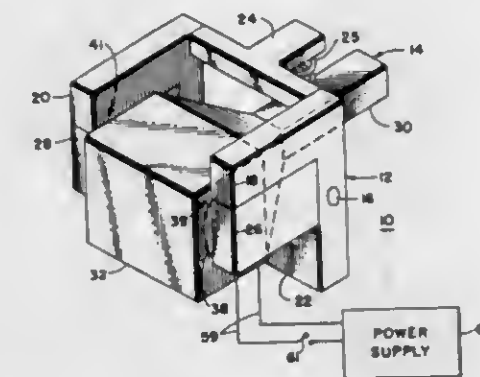
3,421,125
SOLENOID ACTUATED DEVICE

Charles A. Sandoval, Albuquerque, N. Mex., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Mar. 9, 1967, Ser. No. 623,182

U.S. Cl. 335—253
Int. Cl. H01f 7/08

4 Claims



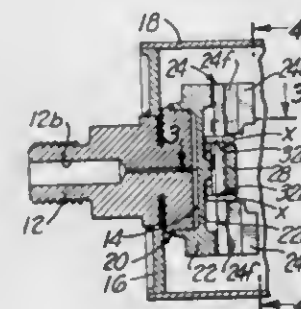
A solenoid actuated device having a core or armature member transversely disposed between the pole pieces of a magnetizable member and rotatable with respect thereto, said armature member initially locked in a position laterally disposed from the axis of the pole pieces to form a reluctance air gap therewith by longitudinally movable portions of said armature member forming a second reluctance air gap and means for energizing the solenoid to unlock the device and pull the armature member between the pole pieces.

3,421,126
VARIABLE RELUCTANCE TRANSDUCER
John E. Ames, Jr., Riverside Calif., assignor to Bourns, Inc., a corporation of California

Filed May 8, 1967, Ser. No. 636,868

U.S. Cl. 336—30
Int. Cl. H01f 21/02; H01f 21/06; G01 9/00

7 Claims



A transducer for transducing changes of a physical quantity (such as a pressure difference exhibited at opposite faces of a deformable diaphragm) into corresponding changes of an A.C. signal, in which transducer the diaphragm or like sensor is mechanically connected to rock a magnetic armature in the form of an I-core relative to a stationary magnetic E-core to change the magnetic reluctance of magnetic flux paths linking the core and armature, the mechanical connections being direct and substantially lossless, and the core having energizing input coil means comprising a primary coil, and output signal coil means formed by sets of secondary coils,

the output connected to a closed-loop A.C. series system using a reference voltage supplied by one output coil set and a produced signal voltage produced by another secondary coil set and the signal varying according to sensor displacements, the voltages being useful in an adjustable summing network comprising a null indicator which gives a null indication when the displacement-representing voltage signal equals a prescribed or determinable fraction of the reference voltage signal.

3,421,127
MULTIPLE-PART SPOOL, ESPECIALLY FOR RELAYS

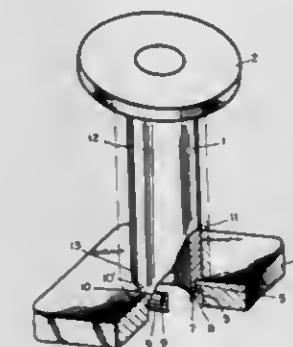
Josef Fischer and Erwin Müller, Munich, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany

Filed Mar. 29, 1967, Ser. No. 626,744

Claims priority, application Germany, Mar. 31, 1966, S 102,956

U.S. Cl. 336—208
Int. Cl. H01f 27/30

4 Claims



A multiple-part spool particularly for relay coils, utilizing an inner tube and two cooperable end flange members, at least one of which is an individual part and subsequently assembled with the assembled coil and/or copper damping tube, in which at least one end of the tube is provided with a groove in its outer periphery which is adapted to receive a cooperable portion of the flange member to be mounted thereon, at least one of the mating parts comprising a deformable plastic material which may be temporarily deformed sufficiently during assembly to permit the same.

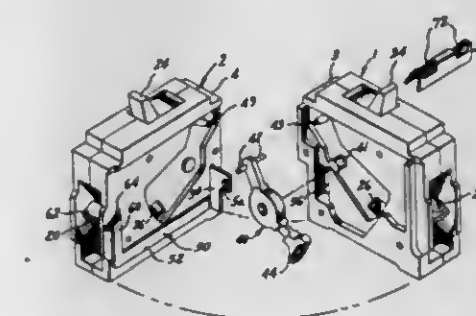
3,421,128
SERIES-CONNECTED ELECTRICAL CIRCUIT BREAKER ASSEMBLY

Keith W. Klein, Simsbury, Conn., assignor to General Electric Company, a corporation of New York

Filed May 17, 1966, Ser. No. 550,800

U.S. Cl. 337—35
Int. Cl. H01h 61/00; H01h 9/26

7 Claims



An electric circuit breaker assembly comprising a pair of separately enclosed circuit breakers mounted side-by-

side, with handles ganged together for simultaneous operation; the assembly includes an incoming terminal at one end, means connecting the contacts of the two circuit breakers in series, and an outgoing terminal at the other end, whereby a unitary circuit breaker is provided having an interrupting capacity substantially higher than either of the individual circuit breakers.

3,421,129

MULTIPOLE CIRCUIT BREAKER WITH SLIDING CONTACT ACTUATOR AND SWINGING LATCH PLATE

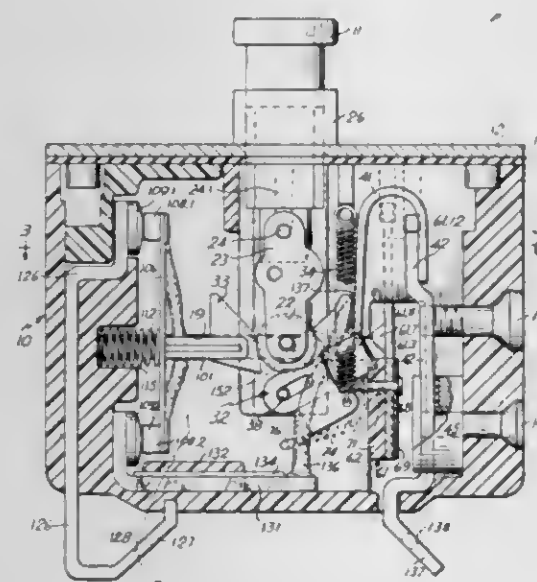
Lawrence W. Brackett, Sr., Georgetown, Mass., assignor to Wood Electric Corporation, Lyon, Mass., a corporation of Massachusetts

Filed June 3, 1966, Ser. No. 555,065

U.S. Cl. 337—35

Int. Cl. H01h 41/00

5 Claims



1. In a multipole circuit breaker comprising within a housing a plurality of fixed and corresponding movable contact means, an actuating motion for the movable contact means with a sliding cam member, a swinging cam member, and a wedging member therebetween, and with locking means for the swinging cam member capable of retaining the motion in normal operating conditions, and a plurality of detector and trip mechanisms separately sensitive to an abnormal condition in any one pole for releasing the locking means of the actuating motion upon occurrence of such abnormal condition,

the improvement which comprises:

a contact actuator supporting movable contact means for a plurality of poles, extending between the actuating motion and the corresponding fixed contact means for said plurality of poles and including a sliding bar carrying said movable contact means, being supported on the housing and having said sliding cam member attached thereto for control of the movable contact means by said wedging member during normal operating condition;

a swinging plate interposed between said detector and trip mechanisms and said actuating motion and carrying said locking means for the swinging cam member; and

biasing means for opening the contacts by moving the sliding bar upon release of the locking means by abnormal conditioning of any one of said plurality of detector and trip mechanisms.

FUSE AND DISCONNECT DEVICE FOR MOUNTING INSIDE A HIGH VOLTAGE BUSHING

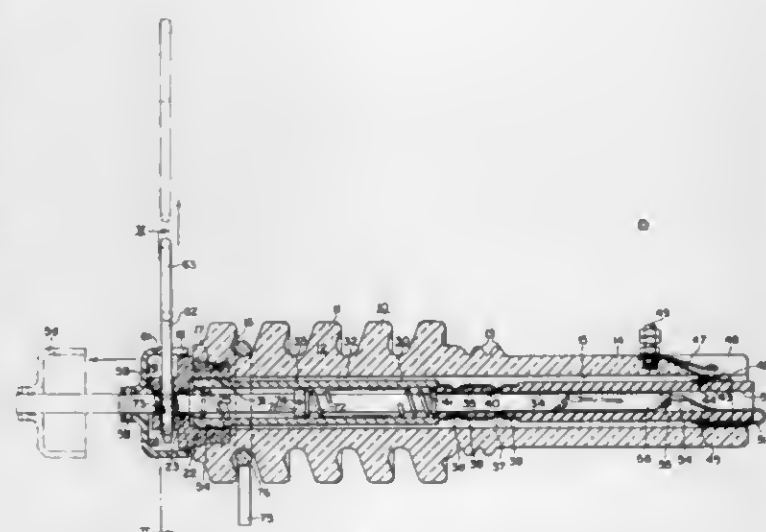
Merrill G. Leonard, Brookfield Township, Fowler County, Ohio, and Leonard L. Wright, Sharon, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Oct. 12, 1964, Ser. No. 403,105

U.S. Cl. 337—157

Int. Cl. H01h 71/20; 73/24

22 Claims



A combination fuse and disconnect device wherein the removal of a pin releases a tensioned spring to snap the fuse and open the circuit. Another embodiment utilizes a latch which when unlatched provides for breaking the fuse wire. A further embodiment utilizes a key to release the tubular structure containing the fusible element.

3,421,131

THERMOSTAT ASSEMBLY

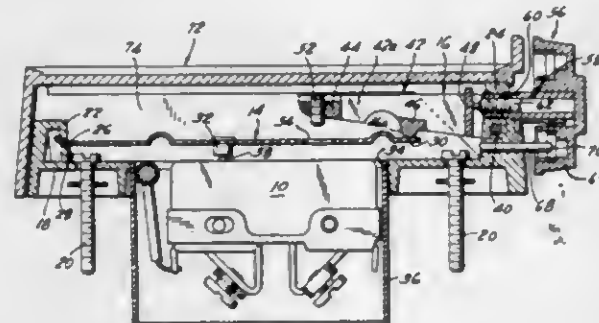
Joseph K. Moyer and Robert N. Levinn, Catskill, N.Y., assignors to American Thermostat Corporation, South Cairo, N.Y., a corporation of New York

Filed June 5, 1967, Ser. No. 643,680

U.S. Cl. 337—338

Int. Cl. H01h 37/52

25 Claims



Means are provided in a bimetal thermostat assembly for adjusting the initial position of the bimetal, thereby to control the temperature at which the bimetal actuates one or more switches associated therewith, by means of a movable arm which, in one extreme position, engages the strip at a point such as to reduce the effective bendable length of the strip, and in the same position the arm substantially directly engages a second switch in order to provide added security of circuit control.

3,421,132

SHEAR LOAD CELL

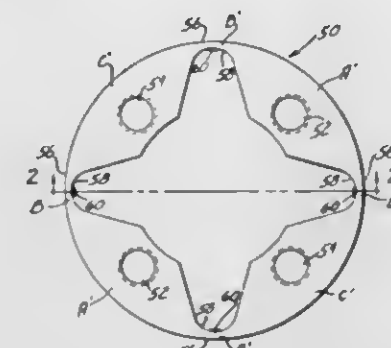
Edgar J. Jones, Weston, Mass., assignor to Instron Corporation, Canton, Mass., a corporation of Massachusetts

Original application Feb. 17, 1965, Ser. No. 433,351, now Patent No. 3,320,569. Divided and this application Jan. 19, 1967, Ser. No. 623,786

U.S. Cl. 338—5

Int. Cl. G01l 1/22

8 Claims



A cylindrical strain gauge shear load cell with an axial central cavity and circumferentially spaced loading, support and intermediate thinner gauge portions.

3,421,133

MOUNTING BRACKET FOR ELECTRICAL COMPONENT

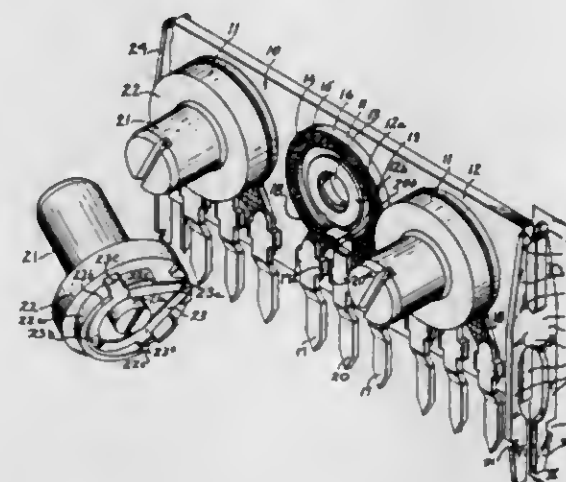
John D. van Benthusen and Jack A. English, Elkhart, Ind., assignors to CTS Corporation, Elkhart, Ind., a corporation of Indiana

Filed Mar. 2, 1967, Ser. No. 620,186

U.S. Cl. 338—174

Int. Cl. H01c 5/02; H01c 1/02; H02b 1/04

9 Claims



A metal mounting bracket having a pair of spaced resilient arms grippingly engaging a flat electrically insulated base of an electrical component and interlocking the mounting bracket normal to the base. A panel-engaging means depending from the mounting bracket secures the component to a panel.

3,421,134

ELECTRICAL CONNECTOR

James W. Mayo, Newport News, and James E. Michael, Hampton, Va., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed June 2, 1965, Ser. No. 460,876

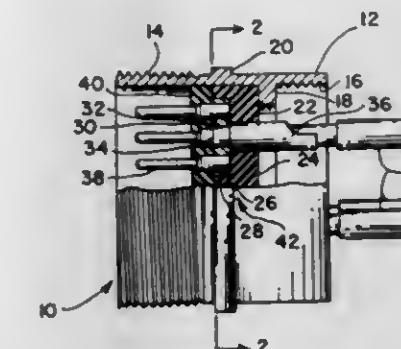
U.S. Cl. 339—150

Int. Cl. H01r 25/06

3 Claims

This invention relates to an electrical adaptor for distributing current to several electrical circuits from a lesser number of electrical circuits. It comprises a cylindrical

housing having external threads on one end and internal threads on the other. A plurality of distributor plates hav-



ing a single contact protruding from one side and a plurality of contacts protruding from the other are positioned between insulators mounted within the casing.

3,421,135

TERMINAL BOARD CLIP

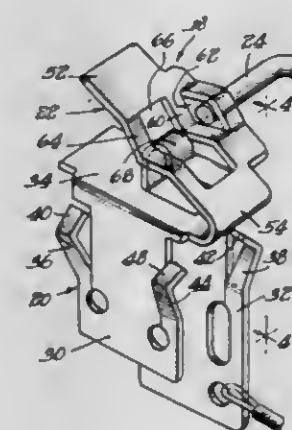
Edmund J. Soltysik, Chicago, and Francis E. Ryder, Des Plaines, Ill., assignors to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware

Filed Mar. 31, 1967, Ser. No. 627,422

U.S. Cl. 339—217

Int. Cl. H01r 9/12; H01r 35/00

10 Claims



This application discloses a sheet metal clip having a shank portion adapted to be snapped into an aperture of an electrically nonconductive supporting panel, said shank including fingers which are laterally yieldable to permit insertion of the shank in a work aperture to spring outwardly automatically upon complete insertion, and thus secure the shank against unauthorized removal from the panel, the portion of the clip oppositely disposed from the shank having means for detachably receiving the free extremity of an electrical conductor.

3,421,136

ELECTRICAL CONTACT AND EDGE CONNECTOR HAVING SUCH A CONTACT

Thomas William Bowley, Bramcote, and Leslie Haynes Smith, West Bridgford, England, assignors to United-Carr Incorporated, Boston, Mass., a corporation of Delaware

Continuation-in-part of application Ser. No. 523,380, Jan. 27, 1966. This application Mar. 9, 1967, Ser. No. 634,013

Claims priority, application Great Britain, Feb. 1, 1965, 4,236/65; Mar. 14, 1966, 11,047/66

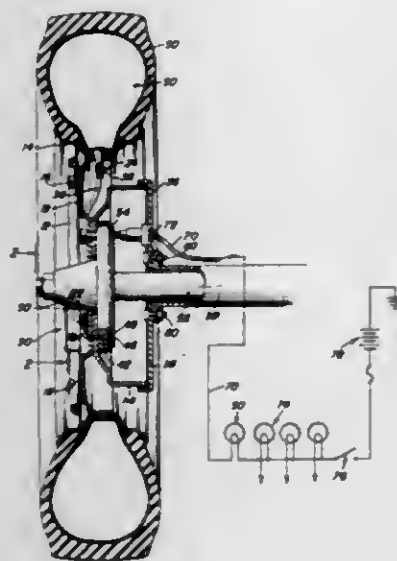
U.S. Cl. 339—217

Int. Cl. H01r 9/08

5 Claims

A printed circuit molded edge connector in which the contact assemblies are inserted from the rear and retained in such a position by a spring detent particularly

adapted to have air disposed therein under pressure slightly lower than the air pressure within the associated tire, the attachment also including pressure differential actuated switch means in fluid transfer relation with said



chamber and tire and operative, in response to a reduction of air pressure in said tire, to less than the pressure in said chamber, to actuate an associated electrical signal circuit.

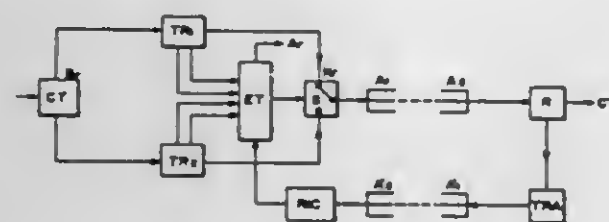
3,421,145

ELECTRONIC PROCESSOR WHICH PERFORMS SWITCHING OPERATIONS BETWEEN PLURAL TRANSMITTERS IN RESPONSE TO CIRCUIT CONDITIONS

Luigi Sarati, Milan, Italy, assignor to Società Italiana Telecomunicazioni Siemens S.p.A.
Filed Aug. 4, 1965, Ser. No. 477,195
Claims priority, application Italy, Aug. 4, 1964, 17,024/64

U.S. Cl. 340—147
Int. Cl. H04q 1/00

4 Claims



1. An electronic computer for performing switching operations and alarm operations in a transmitter-receiver system, said system including a first transmitter, a second transmitter, a receiver, a switch responsive to said computer for connecting one of said transmitters to said receiver, an alarm, each said transmitter including power-loss indicating means and continuity-loss indicating means and said receiver including an error indicating means, said computer including means responsive to said power-loss indicating means, said continuity-loss indicating means and said error indicating means to operate one of said switch and said alarm according to Boolean algebra equation:

$$\begin{aligned} \text{Alarm} &= (W_1 + C_1) \cdot (W_2 + C_2) \\ \text{Switch to TR}_2 &= (W_1 + C_1) \cdot (W_2 + \bar{C}_2) \\ \text{Switch to TR}_1 &= (W_2 + C_2) \cdot (W_1 + \bar{C}_1) \end{aligned}$$

where W_1 and C_1 are power loss and continuity loss indications for said first transmitter and W_2 and C_2 are power loss and continuity loss indications for said second transmitter.

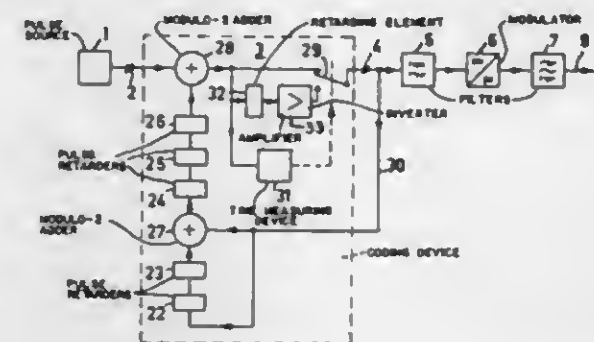
TRANSMISSION SYSTEMS FOR THE TRANSMISSION OF PULSES

Leo Eduard Zegers and Jan Kullman, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Feb. 8, 1965, Ser. No. 430,988
Claims priority, application Netherlands, Feb. 8, 1964, 6401057

U.S. Cl. 340—167
Int. Cl. H04q

6 Claims



A pulse transmission system for synchronizing pulses in which the pulse sequence is coded before transmission, and decoded after reception, and in which the receiver recovers clock pulses before decoding. The coder and decoder each include a plurality of pulse-retarding devices and modulo-2 adders interconnected to provide an output that is the modulo-2 sum of an input pulse and retarded pulses.

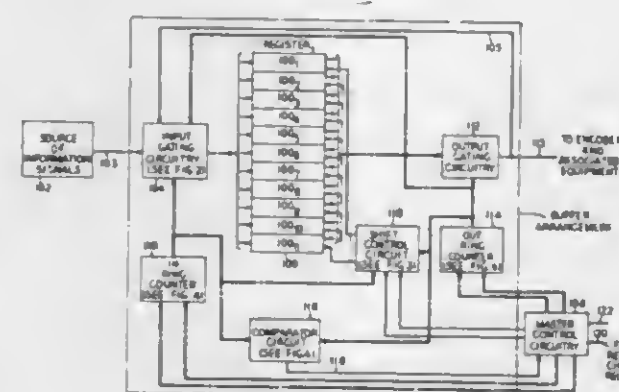
3,421,147

BUFFER ARRANGEMENT

Herbert O. Burton, Little Silver, N.J., Lorin P. McRae, Tucson, Ariz., and William J. Wolf, Jr., New Shrewsbury, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed May 7, 1965, Ser. No. 454,125
U.S. Cl. 340—172.5
Int. Cl. G11b 13/00

13 Claims



A buffer arrangement including a multidigit register is adapted to be included in an error detection and retransmission system of the type in which information words are supplied from a source at constant digit and word rates. In a first or normal mode of operation, information words are continuously abstracted from storage locations of the register at a relatively high digit rate but at the same constant word rate at which words are applied to the register from the source. The abstraction of words from register locations is characterized by a predetermined out-of-phase relationship with respect to the application of words thereto. In a second or retransmission mode of operation, the predetermined out-of-phase relationship is altered and words are abstracted from the register at the same relatively high digit rate but at a word rate that is higher than the aforementioned constant rate. Words are

abstracted from the register at the higher word rate during and subsequent to a so-called retransmission interval. Upon re-establishment of the predetermined out-of-phase relationship, the arrangement is restored to its normal mode of operation.

3,421,148

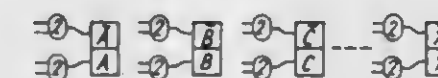
DATA PROCESSING EQUIPMENT

George Aneurin Howells and Geoffrey Allen Hunt, Aldwyck, London, England, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 16, 1965, Ser. No. 525,000
Claims priority, application Great Britain, Nov. 16, 1964, 46,533/64

U.S. Cl. 340—172.5
Int. Cl. G11b 13/00

4 Claims



Digital data processing equipment, utilizing binary coded data in the form of an error detecting and correcting code, wherein any detected single errors are automatically corrected by the complementation of all error-free digits, with the erroneous digit being inhibited from complementation, and there is included a digit also subject to error detection and correction which indicates whether the accompanying digits are in normal or complemented form.

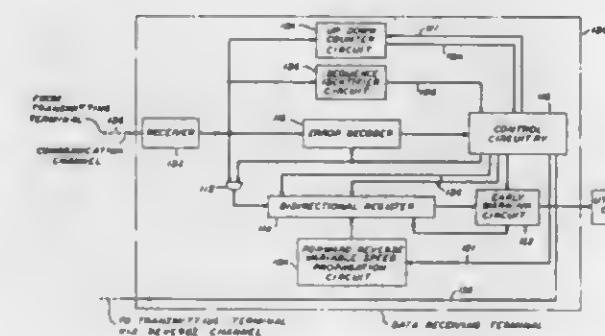
3,421,149

DATA PROCESSING SYSTEM HAVING A BIDIRECTIONAL STORAGE MEDIUM

Ernest R. Kretzmer, Holmdel, Paul Mecklenburg, Fort Lee, Donald W. Rice, Neptune, and William Ryan, Red Bank, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Apr. 6, 1966, Ser. No. 540,703
U.S. Cl. 340—172.5
Int. Cl. G11b 13/00

13 Claims



Data sequences are controlled to propagate along a bidirectional storage medium in the forward and reverse directions at relatively low and high speeds, respectively. Low-speed propagation in the forward direction is effective to move the sequences toward an output circuit associated with the arrangement, whereas high-speed reverse propagation is effective to cause one or more of the sequences to be erased. A counter is associated with the medium for counting the number of digits included in a data sequence applied to the medium and for thereby indicating in effect the number of reverse shifts required to clear the medium of a sequence that is to be erased. The arrangement also includes early-warning circuitry coupled to the medium for applying a signal derived from a forward propagating sequence to the output circuit just prior to the appearance at the output end of the medium of the first digit of the sequence.

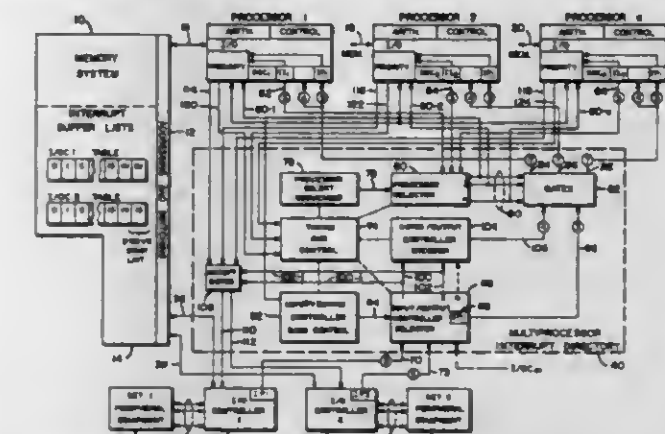
3,421,150

MULTIPROCESSOR INTERRUPT DIRECTORY

Ralph A. Quosig, St. Paul, and Norman L. Viss, Savage, Minn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Aug. 26, 1966, Ser. No. 575,345
U.S. Cl. 340—172.5
Int. Cl. G11b 13/00

17 Claims



An interrupt directory circuit arrangement in a multiprocessor system for assigning priority-ordered tasks to be performed in the system to the most readily available processor is described. Circuitry for selecting the highest priority task, and circuitry for selecting the most interruptible processor are illustrated. The processors in the system include circuitry for accepting or rejecting the task assignment made by the interrupt directory circuitry.

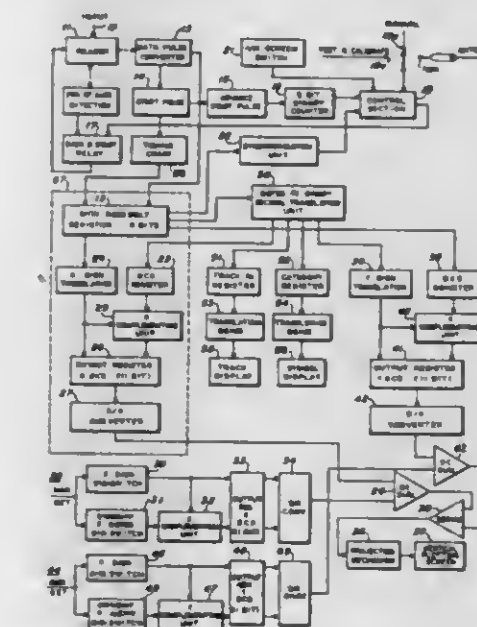
3,421,151

CODED DATA TRANSLATION SYSTEM

Howard F. Wong, San Diego, Donald W. Liddell, La Mesa, and William F. Vollmer, Jr., San Diego, Calif., assignors to the United States of America as represented by the Secretary of the Navy

Filed Nov. 18, 1966, Ser. No. 595,540
U.S. Cl. 340—172.5
Int. Cl. G11b 13/00; G08b 23/00; G01s 9/00

9 Claims



1. A coded data translation system for visually displaying information contained in coded digital data signals comprising:
means for converting said coded digital data signals to coded serial data pulses;
assembly register means for accepting and arranging predetermined groups of said coded serial data pulses in parallel data processing order;
means for decoding quantitative data contained in certain of said coded data pulses within each said predetermined groups, said means being operative to decode pulse data in parallel for producing signals representing quantitative data in decimal form;

means operative in synchronism with said decoding means and responsive to certain other of said coded data pulses within said predetermined groups for developing an output signal indicative of the algebraic sign of the quantitative data in each said group; digital-to-analog conversion means for generating an analog output signal commensurate with said signals representing quantitative data in decimal form; means for producing a visual indication having a location correlated to said analog output signal; register means connected to said decoding means for receiving ancillary coded data signals associated with each said predetermined group; translating means for decoding said ancillary coded data signals; and display means for visually presenting the information contained in said decoded ancillary data.

3,421,152

LINEAR SELECT MAGNETIC MEMORY SYSTEM AND CONTROLS THEREFOR

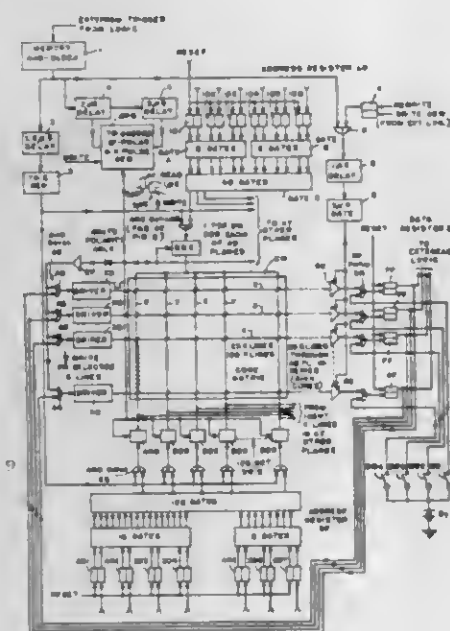
William J. Mahoney, Darien, Conn., assignor to American Machine & Foundry Company, a corporation of New Jersey

Filed Mar. 23, 1964, Ser. No. 353,975

U.S. Cl. 340-174

13 Claims

Int. Cl. G11b 5/00



This invention relates to a linear selection write-read magnetic core matrix having two conductors through each core one of which is a time-shared read-write conductor coupled to receive read and write signals wherein during the write mode; that is for a core to change its magnetic state, both windings must carry cooperative currents; and, during the read mode, current is applied to only one of the windings.

3,421,153

THIN FILM MAGNETIC MEMORY WITH PARAMETRON DRIVER CIRCUITS

William J. Bartik, Jenkintown, Woo Fong Chow, Horsham, and Edward N. Schwartz, Philadelphia, Pa., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed July 28, 1964, Ser. No. 385,569

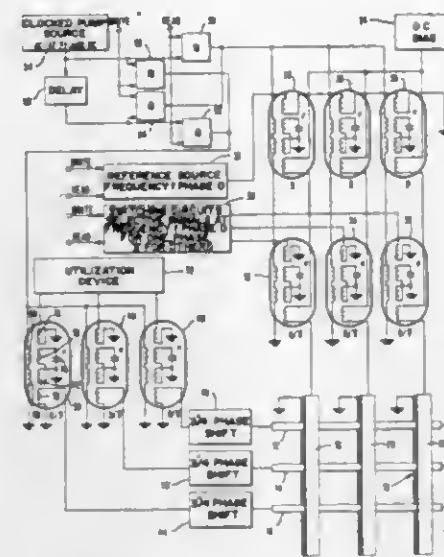
U.S. Cl. 340-174

7 Claims

Int. Cl. G11b 5/00; H01f 27/42

A magnetic memory system is provided which has a plurality of plated wires arranged in rows and a plurality of orthogonally positioned conductive straps which surround the plated wires. A first plurality of parametrons each coupled to a respective conductive strap is used to

selectively excite the plated wires and a second plurality of parametrons each coupled to a respective plated wire



is used to receive signals from the plated wires or to deliver switching signals thereto.

3,421,154

OPTICAL MEMORY SYSTEM

Klaus D. Bowers, Summit, and Jack A. Morton, South Branch, N.J., assignors to Bell Telephone Laboratories Incorporated, New York, N.Y., a corporation of New York

Filed Aug. 9, 1965, Ser. No. 478,153

U.S. Cl. 340-174

10 Claims

Int. Cl. G11b 5/00



1. In combination, a film of magnetic material having first and second stable states, first and second conductors overlying said film in spaced apart positions, means providing low and relatively high potentials to said first and second conductors respectively, a plurality of conductive loops connecting said first and second conductors, each of said loops coupling a portion of said film and providing alternative current paths between said conductors, each of said conductive loops including first and second open circuits therein, and means for selectively closing said first and second open circuits in response to an optical signal for selectively storing said first and second stable states in the coupled portions of said film.

3,421,155

MAGNETIC STORE

Hans Glock, Germering, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany

Filed Sept. 29, 1965, Ser. No. 491,083

Claims priority, application Germany, Sept. 30, 1964, S 93,509

U.S. Cl. 340-174

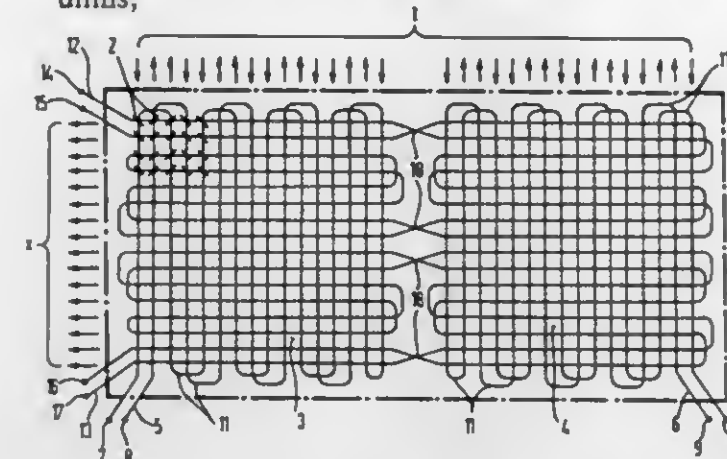
4 Claims

Int. Cl. G11b 5/00

1. A storer operating according to the coincident-current principle having at least one storage plane, said storage plane having a plurality of magnetic storage cells arranged in rows and columns, each of said storage cells connected with at least one row conductor, one column conductor, an inhibit conductor, and a sense conductor, said storer comprising:

each storage plane subdivided into a plurality of equal-sized like-shaped fields, each of said fields having at

least one sense conductor oriented substantially parallel to said rows or columns and perpendicular to the general direction of said inhibit conductor having the beginning and the end thereof at the same position so that portions thereof that are equally far remote from the beginning and the end thereof have oppositely-directed current in adjacent rows or columns;



said sense conductors oriented to extend through two adjacent fields of said storage plane to provide only four two-conductor crossings in the gap between two of said fields; and each of said conductors of the storage plane begin and end directly on the border of said plane.

3,421,156

SELF-CHECKING DETECTOR

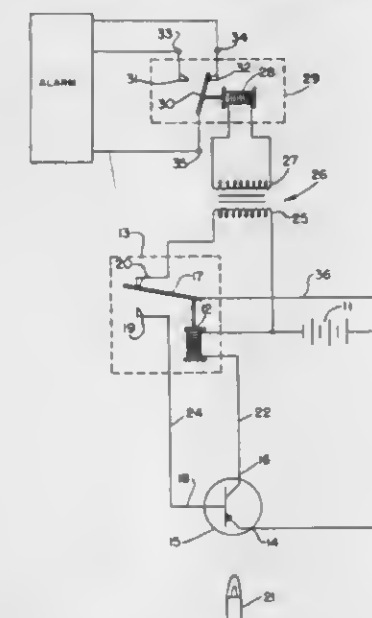
William G. Rowell, Milton, Mass., assignor to Technical Marketing Associates, Inc., Concord, Mass., a corporation of Massachusetts

Filed Dec. 18, 1964, Ser. No. 419,385

U.S. Cl. 340-228

6 Claims

Int. Cl. G08b 21/00; H03k 3/42; H03k 19/14



1. A condition monitoring apparatus comprising a single pole double throw relay, a DC power source and

a phototransistor having its collector series connected through the relay coil to the negative terminal of the power source, its emitter connected to the positive terminal of the power source and its base connected to a normally open contact of the relay such that upon application of energy causing said phototransistor to reduce its internal resistance said relay coil closes said contact and applies a positive voltage pulse to said base shutting off said phototransistor and increasing its internal resistance which in turn opens said contact whereby the described cycle continues to repeat so long as said energy is applied to said phototransistor.

3,421,157

LAMP OUTAGE DETECTOR

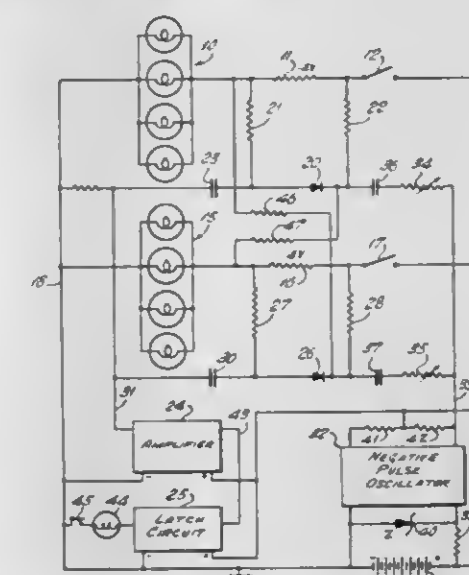
Carl E. Atkins, Montclair, N.J., assignor, by mesne assignments, to Wagner Electric Corporation, South Bend, Ind., a corporation of Delaware

Filed Jan. 24, 1966, Ser. No. 522,618

U.S. Cl. 340-251

10 Claims

Int. Cl. G08b 21/00; B60q 1/02

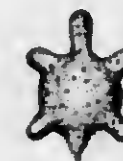


1. A lamp outage detector for providing a signal when any one of a group of lamps does not pass current when electrical power is applied comprising; a first group of lamps; a second group of lamps; a source of direct current power connected to said groups by respective switches; a first sampling resistor connected in series with the source of power and the first group of lamps; a second sampling resistor connected in series with the source of power and the second group of lamps; a semiconductor diode coupled to each sampling resistor by a coupling circuit which applies a reverse bias to the diode; an alternating current oscillator connected to each of said diodes for applying negative pulses thereto, said pulses normally having amplitudes which are less than the reverse bias on the diode; a latch circuit coupled to said diodes for actuation when a lamp in any one of said groups fails to pass current when its switch is closed; and in indicator means connected to said latch circuit for giving an indication when said latch circuit is operated.

DESIGNS

JANUARY 7, 1969

213,084
SNACK FOOD PRODUCT
 Charles W. King, Minneapolis, Minn., assignor to General Mills, Inc., a corporation of Delaware
 Filed Nov. 24, 1967, Ser. No. 9,546
 Term of patent 14 years
 U.S. Cl. D1—16
 Int. Cl. D1—01



213,087
DOUBLE BUCKLE FOR TWIN SAFETY BELTS
 Wolf-Dieter Klink, Staufenstrasse 8, Lindach, near Schwabisch Gmund, Germany
 Filed Aug. 1, 1967, Ser. No. 8,080
 Term of patent 14 years
 U.S. Cl. D2—408
 Int. Cl. D2—08



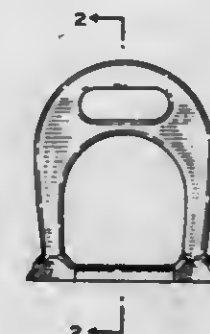
213,085
SPORTING SAFETY HELMET
 Marlin H. Wyckoff, Redondo Beach, Calif., assignor to Sierra Engineering Co., Sierra Madre, Calif., a corporation of California
 Filed Apr. 22, 1968, Ser. No. 11,567
 Term of patent 14 years
 U.S. Cl. D2—231
 Int. Cl. D2—03



213,088
SAFETY BELT BUCKLE
 Wolf-Dieter Klink, Staufenstrasse 8, Lindach, near Schwabisch Gmund, Germany
 Filed Aug. 1, 1967, Ser. No. 8,077
 Term of patent 14 years
 U.S. Cl. D2—408
 Int. Cl. D2—08



213,086
SHOE ORNAMENT
 Etienne Aigner, New York, N.Y., assignor to The Villager, Inc., Philadelphia, Pa., a corporation of Delaware
 Filed Sept. 27, 1967, Ser. No. 8,763
 Term of patent 14 years
 U.S. Cl. D2—315
 Int. Cl. D2—04



213,089
BOTTLE
 Howard Ross Justice II, 830 SW. 2nd St., Boca Raton, Fla. 33432
 Filed Apr. 24, 1967, Ser. No. 6,797
 Term of patent 3½ years
 U.S. Cl. D9—64
 Int. Cl. D9—01



213,090

BOTTLE OR SIMILAR ARTICLE

Charles De Flandre, New York, N.Y., assignor to Walton-Richardson Co., Newark, N.J., a corporation of New Jersey

Filed June 15, 1967, Ser. No. 7,488

Term of patent 14 years

U.S. Cl. D9—100

Int. Cl. D9—01



213,091

BOTTLE

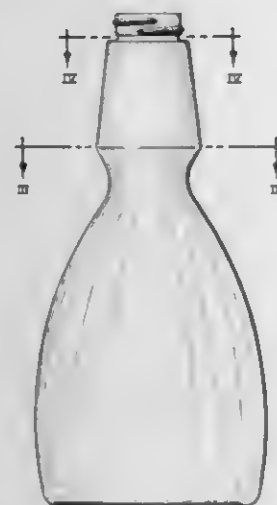
David G. Hills, Collinsville, Conn., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed Feb. 16, 1968, Ser. No. 10,597

Term of patent 14 years

U.S. Cl. D9—115

Int. Cl. D9—01



213,092

BOTTLE

Alan Burrough, Manor Garden, Henley-on-Thames, England, assignor to James Burrough Ltd., London, England

Filed Sept. 27, 1967, Ser. No. 8,755

Term of patent 14 years

Claims priority, application Great Britain Apr. 24, 1967, 931,060

U.S. Cl. D9—159

Int. Cl. D9—01



213,093

TRAY

Donald J. Thomas, St. Louis, Mo., assignor to Burger Chef Systems, Inc., Indianapolis, Ind., a corporation of Indiana

Filed Oct. 16, 1967, Ser. No. 9,016

Term of patent 14 years

U.S. Cl. D9—185

Int. Cl. D9—04



213,094

CUP

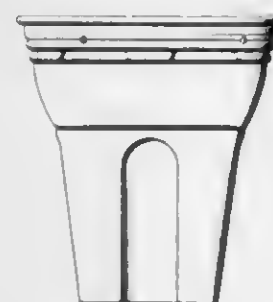
Paul Davis, 18 Parsons Drive, Swampscott, Mass. 01907

Filed Feb. 27, 1968, Ser. No. 10,748

Term of patent 14 years

U.S. Cl. D9—220

Int. Cl. D9—04



213,095

BUILDING

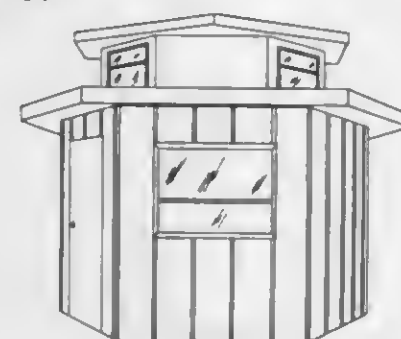
Carl H. Bender, 3116 NW. 61 Terrace, Oklahoma City, Okla. 73112

Filed Nov. 30, 1967, Ser. No. 9,593

Term of patent 3 1/2 years

U.S. Cl. D13—1

Int. Cl. D25—04



213,096

TELEPHONE BOOTH

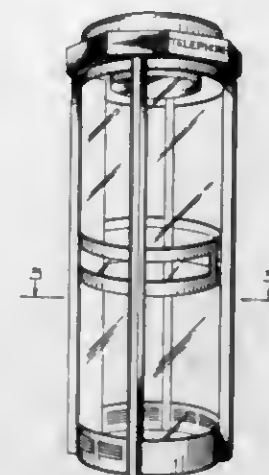
James F. Antonio and Floyd L. Antonio, Denver, Colo., assignors to Essco Products Company, Denver, Colo.

Filed Jan. 18, 1968, Ser. No. 10,208

Term of patent 14 years

U.S. Cl. D13—1

Int. Cl. D25—04



213,097

HANDRAIL

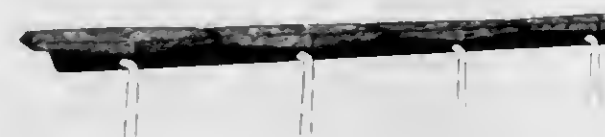
Louis Blum and William J. Horgan, Jr., Pittsburgh, Pa., assignors to Blumcraft of Pittsburgh, Pittsburgh, Pa., a firm

Filed Dec. 19, 1967, Ser. No. 9,846

Term of patent 14 years

U.S. Cl. D13—7

Int. Cl. D25—01



213,098

HOSPITAL CART

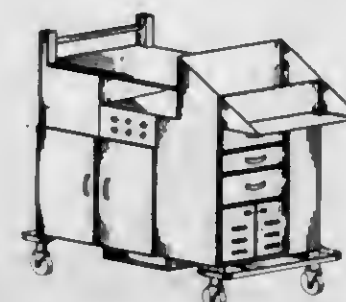
Mary Lorentia Kocon, % Sacred Heart Hospital, 9th and Wilson Streets, Chester, Pa. 19013

Filed Apr. 1, 1968, Ser. No. 11,233

Term of patent 14 years

U.S. Cl. D14—3

Int. Cl. D12—02



213,099

MOBILE RADIO ANTENNA OR THE LIKE

James W. Shirey, Lakeland, Mich., assignor to L-Coll Research, Brighton, Mich., a partnership of Michigan

Filed Oct. 9, 1967, Ser. No. 8,914

Term of patent 14 years

U.S. Cl. D14—6

Int. Cl. D12—14



213,100

BLADE FOR A VEHICLE WINDSHIELD WIPER

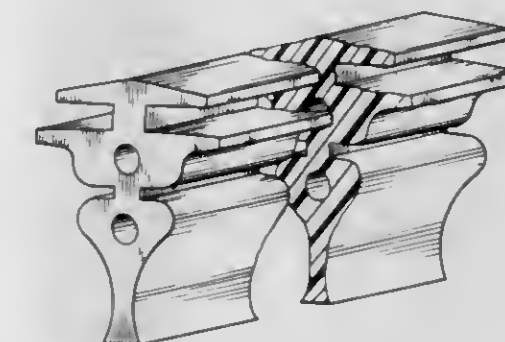
Edward Rickett, 7355 S. Elait St., Littleton, Colo. 80120

Filed Jan. 22, 1968, Ser. No. 10,239

Term of patent 14 years

U.S. Cl. D14—6

Int. Cl. D12—14



213,101

CRANKCASE DRIP PAN

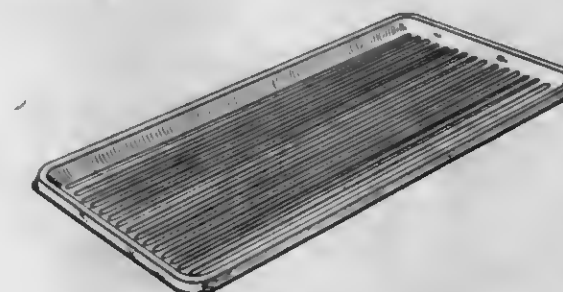
Joseph C. Delk, Jr., 1825 Raleigh Road, Asheboro, N.C. 27203

Filed Mar. 20, 1968, Ser. No. 11,076

Term of patent 14 years

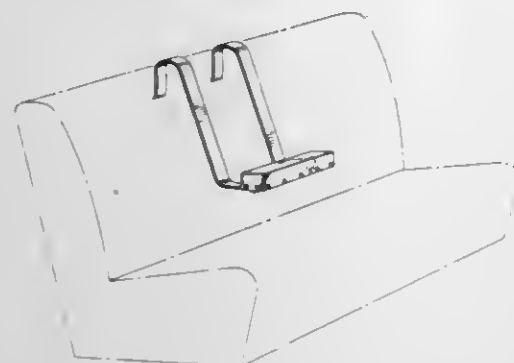
U.S. Cl. D14—6

Int. Cl. D12—14



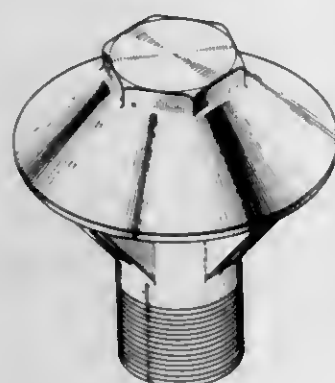
213,102
VEHICLE ARMREST
 Milton A. Berg, Winlock, Wash. 98596
 Filed Nov. 3, 1967, Ser. No. 9,267
 Term of patent 14 years

U.S. Cl. D15—8
 Int. Cl. D12—14



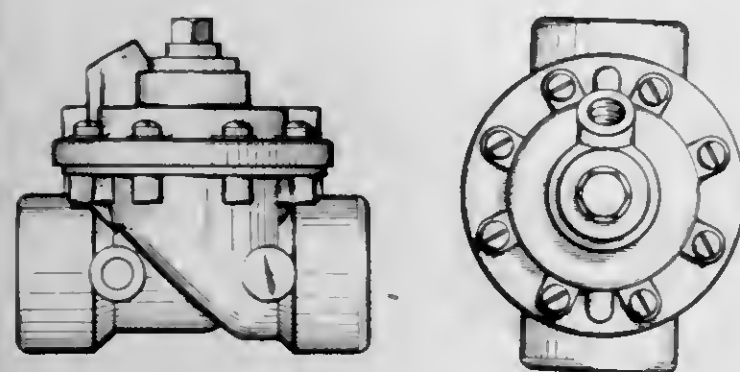
213,103
DIFFUSER FOR LIQUID AERATION OR THE LIKE
 Billy S. Washburn, St. Charles, Ill., assignor to Bowser, Inc., Chicago, Ill., a corporation of Indiana
 Filed Dec. 4, 1967, Ser. No. 9,615
 Term of patent 14 years

U.S. Cl. D23—4
 Int. Cl. D23—01



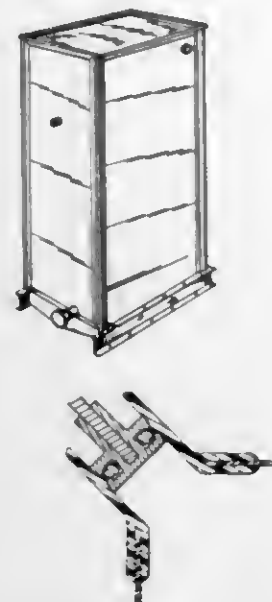
213,104
REMOTE CONTROL VALVE
 Richard Townsend, Santa Ana, Calif., assignor to Donald G. Griswold, Newport Beach, Calif.
 Filed Oct. 20, 1966, Ser. No. 4,357
 Term of patent 3½ years

U.S. Cl. D23—19
 Int. Cl. D23—01



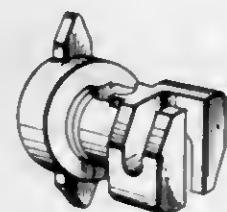
213,105
HEAT EXCHANGE UNIT
 James W. McGuffey, Lansing, Mich., assignor to Tranter Manufacturing, Inc., Lansing, Mich., a corporation of Michigan
 Filed Oct. 23, 1967, Ser. No. 9,123
 Term of patent 14 years

U.S. Cl. D23—72
 Int. Cl. D23—03



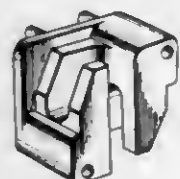
213,106
FENCE POST WIRE INSULATOR
 Richard J. Baatz, Edgerton, Minn., assignor of one-third to Pawnee Corporation, a corporation of Minnesota
 Filed Jan. 16, 1968, Ser. No. 10,182
 Term of patent 14 years

U.S. Cl. D26—10
 Int. Cl. D13—03



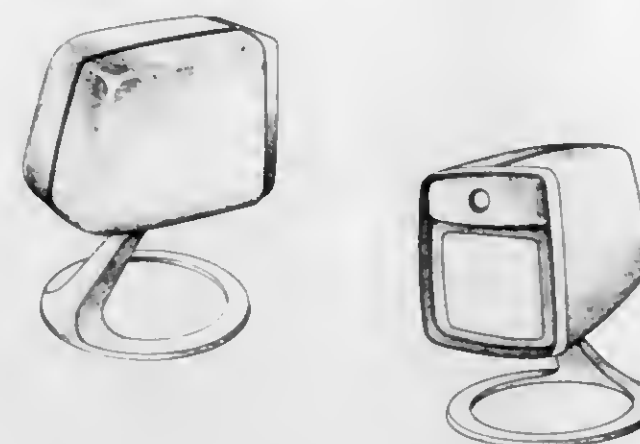
213,107
WIRE MOUNTING INSULATOR
 Richard J. Baatz, Edgerton, Minn., assignor of one-third to Pawnee Corporation, a corporation of Minnesota
 Filed Jan. 16, 1968, Ser. No. 10,185
 Term of patent 14 years

U.S. Cl. D26—10
 Int. Cl. D13—03



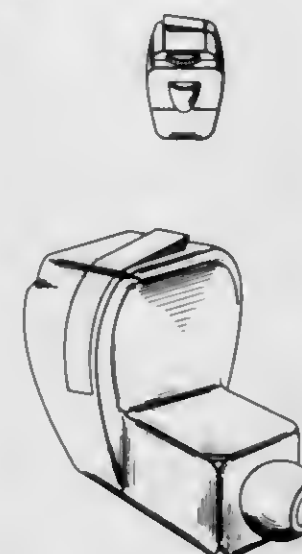
213,108
VIDEOTELEPHONE TRANSCEIVER
 Henry Dreyfuss, South Pasadena, Calif., and Rembert R. Stokes, Middletown, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
 Filed Nov. 24, 1967, Ser. No. 9,548
 Term of patent 14 years

U.S. Cl. D26—14
 Int. Cl. D14—03



213,109
HEARING AID
 David E. Young, Winter Park, Fla., assignor to Electone Hearing Aid Company, a corporation of Florida
 Filed Feb. 1, 1968, Ser. No. 10,412
 Term of patent 14 years

U.S. Cl. D26—14
 Int. Cl. D24—04



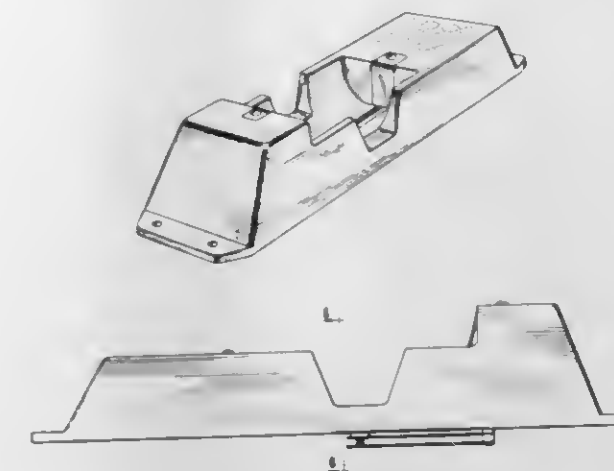
213,110
CLEANER FOR PHONOGRAPH RECORDS
 Tadao Shimon, 971 Oaza Utsuishi, Shimonoseki-shi, Japan
 Filed Apr. 3, 1968, Ser. No. 11,290
 Term of patent 14 years

U.S. Cl. D26—14
 Int. Cl. D4—01



213,111
BATTERY CHARGER
 Daniel L. Jaffe, Bethesda, Md., assignor to Technological Products, Inc., Rockville, Md.
 Filed Mar. 20, 1968, Ser. No. 11,068
 Term of patent 14 years

U.S. Cl. D26—15
 Int. Cl. D13—02



213,112
FENCE POST
 Dale A. Neidhardt, New Salem, N. Dak. 58563
 Filed Jan. 26, 1968, Ser. No. 10,324
 Term of patent 14 years

U.S. Cl. D28—1
 Int. Cl. D25—01



213,113
FENCE POST
 Dale A. Neidhardt, New Salem, N. Dak. 58563
 Filed Jan. 26, 1968, Ser. No. 10,328
 Term of patent 14 years

U.S. Cl. D28—1
 Int. Cl. D25—01



213,114
SHELF

Bernard Rzetelny, Brooklyn, N.Y., assignor to Furniture Production Systems, Inc., Brooklyn, N.Y., a corporation of New York

Filed Aug. 24, 1967, Ser. No. 8,372
Term of patent 14 years

U.S. Cl. D33—3
Int. Cl. D6—01

213,115
TIE RACK

Harry G. Miller, 22 Grandview Ave., Spring Valley, N.Y. 10977

Filed Jan. 22, 1968, Ser. No. 10,284
Term of patent 14 years

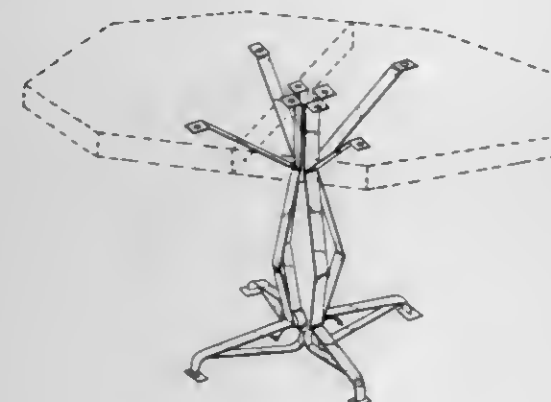
U.S. Cl. D33—8
Int. Cl. D6—01

213,116
TABLE

Robert E. Kjer Jakobsen, Compton, Calif., assignor to Schlumberger Limited (Schlumberger N.V.), New York, N.Y., a corporation of the Netherlands Antilles

Filed Dec. 29, 1967, Ser. No. 9,976
Term of patent 14 years

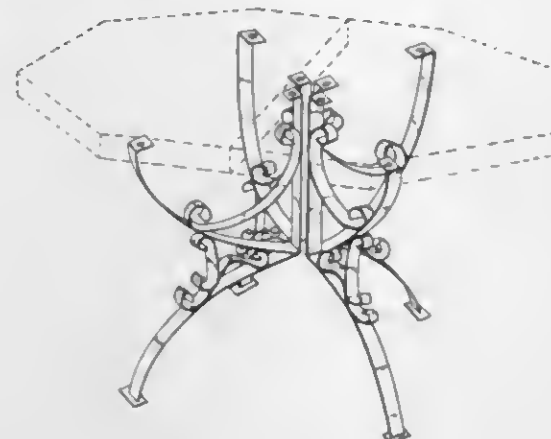
U.S. Cl. D33—14
Int. Cl. D6—01

213,117
TABLE

Robert E. Kjer Jakobsen, Compton, Calif., assignor to Schlumberger Limited (Schlumberger N.V.), New York, N.Y., a corporation of the Netherlands

Filed Dec. 29, 1967, Ser. No. 9,977
Term of patent 14 years

U.S. Cl. D33—14
Int. Cl. D6—01

213,118
PUTTER

Tomohiro Onaka, 5 2-chome Higashitajima, Fujioka, Prefecture, Japan

Filed Nov. 24, 1967, Ser. No. 9,521
Claims priority, application Japan Sept. 28, 1967
Term of patent 3½ years

U.S. Cl. D34—5
Int. Cl. D21—03



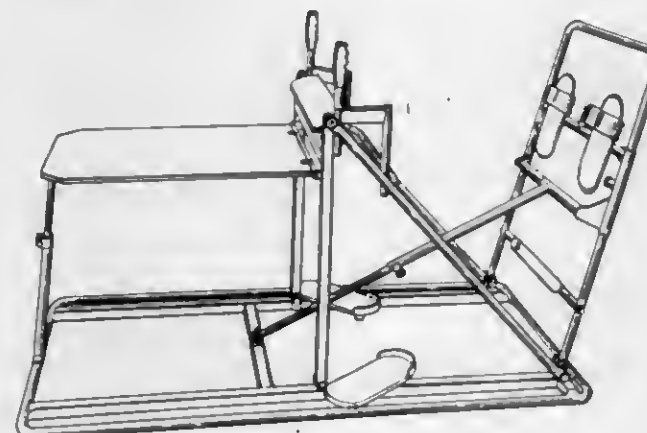
213,119

PHYSICAL EXERCISING APPLIANCE

Harry Burns, Blacksmiths Arms, Thornwood, Epping, England

Filed Dec. 6, 1967, Ser. No. 9,668
Term of patent 14 years

U.S. Cl. D34—5
Int. Cl. D21—03

213,120
GOLF PUTTER

Robert J. Mader, 1218 Arlington, Torrance, Calif. 90501

Filed May 9, 1968, Ser. No. 11,869
Term of patent 14 years

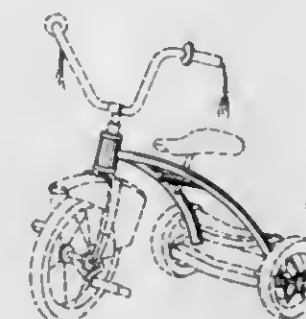
U.S. Cl. D34—5
Int. Cl. D21—03

213,121
VELOCIPÈDE

Alexander B. Musichuk, Parma, Ohio, assignor to The M. T. & D. Company, a corporation of Ohio

Filed Jan. 8, 1968, Ser. No. 10,074
Term of patent 14 years

U.S. Cl. D34—15
Int. Cl. D12—11



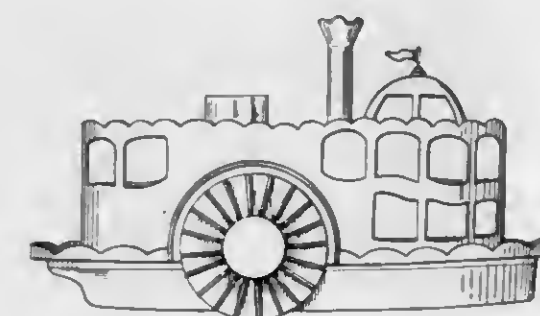
213,122

AMPHIBIOUS TOY BOAT

Willis M. Lakin, Santa Fe, N. Mex., assignor to Marlin Toy Products, Inc., Horicon, Wis., a corporation of Illinois

Filed Mar. 6, 1968, Ser. No. 10,873
Term of patent 14 years

U.S. Cl. D34—15
Int. Cl. D21—02

213,123
PICKUP GAME PIECE

Clyde L. Anderson, White Bear, Minn., assignor to Gould-Cargill & Company, Inc., Minneapolis, Minn., a corporation of New York

Filed Mar. 28, 1968, Ser. No. 11,181
Term of patent 14 years

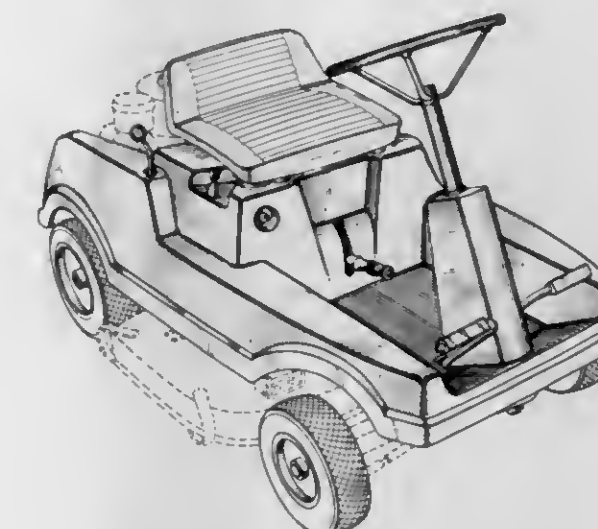
U.S. Cl. D34—15
Int. Cl. D21—01

213,124
RIDING LAWNMOWER

Theodore H. Koerber, Barrington, and Robert A. Skyer, Chicago, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware

Filed Nov. 13, 1967, Ser. No. 9,379
Term of patent 14 years

U.S. Cl. D40—1
Int. Cl. D8—01

213,125
LAWNMOWER CHUTE

William R. Smith, McDonough, and Wallace A. Hanson, Jr., Riverdale, Ga., assignors to McDonough Power Equipment, Inc., McDonough, Ga.

Filed Mar. 29, 1968, Ser. No. 11,197
Term of patent 14 years

U.S. Cl. D40—1
Int. Cl. D8—01



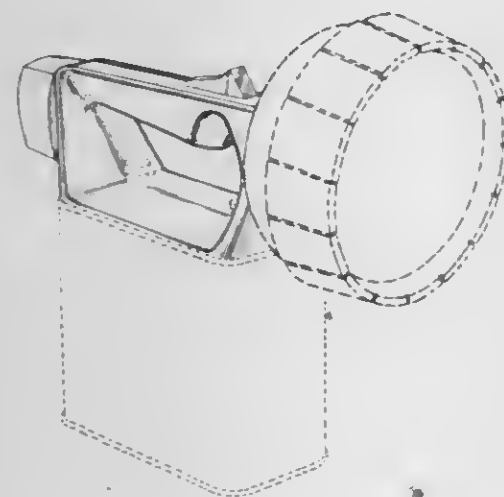
213,126
COMBINED HANDLE AND REAR FLASHER FOR
AN ELECTRIC LANTERN

Donald Wayne Doman, Janesville, Wis., assignor to
Clevite Corporation, Cleveland, Ohio, a corpora-
tion of Ohio

Filed Feb. 21, 1968, Ser. No. 10,675

Term of patent 14 years

U.S. Cl. D48—24
Int. Cl. D26—04



213,127
LAMP POST
Peter A. Schork, Jr., 26136 Rose Road,
Westlake, Ohio 44091
Filed Oct. 31, 1967, Ser. No. 9,224
Term of patent 14 years

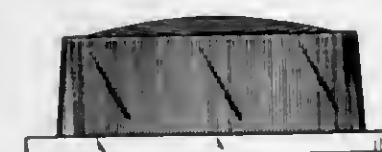
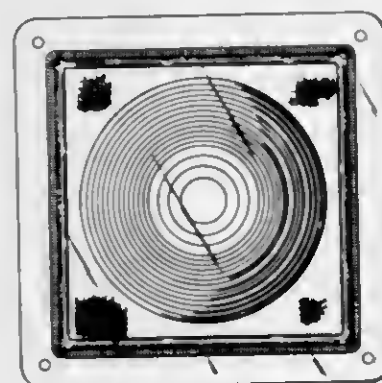
U.S. Cl. D48—31
Int. Cl. D26—03



213,128
VEHICLE LAMP LENS
David O. Chase and Roderick F. Bunyea, Skaneateles,
N.Y., assignors to R. E. Dietz Company, Syracuse,
N.Y., a corporation of New York
Continuation of design applications Ser. No. 5,683,
Feb. 3, 1967, Ser. No. 6,012, Mar. 1, 1967, Ser. No.
6,716, Apr. 14, 1967, Ser. No. 7,148, May 16, 1967,
and Ser. No. 7,492, June 16, 1967. This application
Dec. 1, 1967, Ser. No. 10,176

Term of patent 14 years

U.S. Cl. D48—32
Int. Cl. D12—14



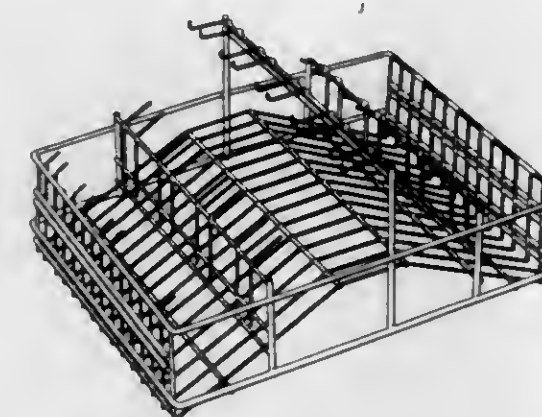
213,129
GLOVE AND BOOT WARMER-DRIER FIXTURE
James G. Schenck, Castle Shannon, Pa.
(450 Miranda Road, Pittsburgh, Pa. 15234)
Filed Dec. 5, 1967, Ser. No. 9,646
Term of patent 14 years

U.S. Cl. D49—1
Int. Cl. D7—06



213,130
GLASS HOLDING RACK FOR A DISHWASHER
Walter J. Keen, Lower Hutt, New Zealand, assignor to
Dishmaster Appliances Limited, Wellington, New
Zealand, a corporation of New Zealand
Filed Oct. 27, 1967, Ser. No. 9,190
Claims priority, application New Zealand June 9, 1967
Term of patent 14 years

U.S. Cl. D49—1
Int. Cl. D7—06



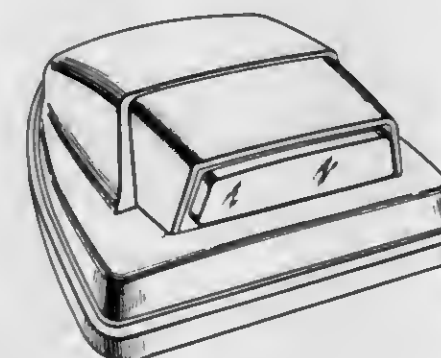
213,131
LAUNDRY SORTER
John J. Hamilton, Cincinnati, Ohio, assignor to Hamilton
Cosco, Inc., Columbus, Ind., a corporation of Indiana
Filed Apr. 12, 1968, Ser. No. 11,438
Term of patent 14 years

U.S. Cl. D49—8.2
Int. Cl. D7—06



213,132
SUCTION CLEANER CASING
Carroll M. Gantz, North Canton, and Joseph T. Sestak,
Canton, Ohio, and Robert H. Hose, Mountainside, N.J.,
assignors to The Hoover Company, North Canton, Ohio,
a corporation of Delaware
Filed Dec. 13, 1967, Ser. No. 9,769
Term of patent 14 years

U.S. Cl. D49—14
Int. Cl. D7—06



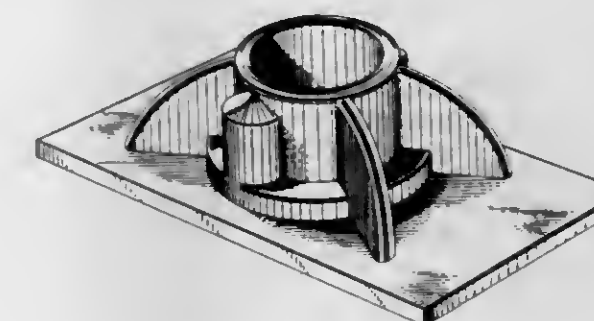
213,133
SENSING HEAD FOR STACKED CORRUGATED
COUNTER
Robert C. Sheriff, Round Lake Beach, Ill., assignor to
Spartanics, Ltd., a corporation of Illinois
Filed Nov. 6, 1967, Ser. No. 9,288
Term of Patent 14 years

U.S. Cl. D52—1
Int. Cl. D10—99



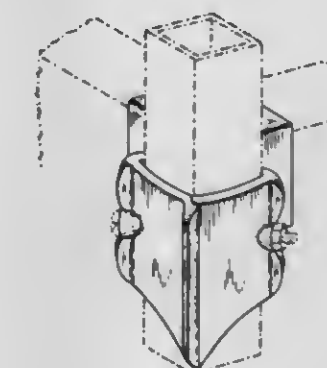
213,134
REINFORCING BOSS FOR LADDER
CONSTRUCTION
James A. Merritt, Livermore, and James A. Wedin,
Pleasanton, Calif., assignors, by mesne assign-
ments, to Hexcel Corporation, Dublin, Calif., a
corporation of California
Filed Jan. 25, 1968, Ser. No. 10,300
Term of patent 14 years

U.S. Cl. D54—1
Int. Cl. D8—03



213,135
CORNER RAILING MOUNT
Sherman J. Shore, Pittsburgh, Pa., assignor to Napco,
Inc., Pittsburgh, Pa., a corporation
Filed Apr. 5, 1968, Ser. No. 11,314
Term of patent 14 years

U.S. Cl. D54—1
Int. Cl. D8—03



213,136

FORK OR SIMILAR ARTICLE OF FLATWARE

Siro R. Toffoloo, Meriden, Conn., assignor to The International Silver Company, Meriden, Conn., a corporation of Connecticut

Filed Dec. 18, 1967, Ser. No. 9,814

Term of patent 14 years

U.S. Cl. D54—12
Int. Cl. D7—03



213,137

FORK OR SIMILAR ARTICLE OF FLATWARE

Siro R. Toffoloo, Meriden, Conn., assignor to The International Silver Company, Meriden, Conn., a corporation of Connecticut

Filed Dec. 29, 1967, Ser. No. 9,993

Term of patent 14 years

U.S. Cl. D54—12
Int. Cl. D7—03



213,138

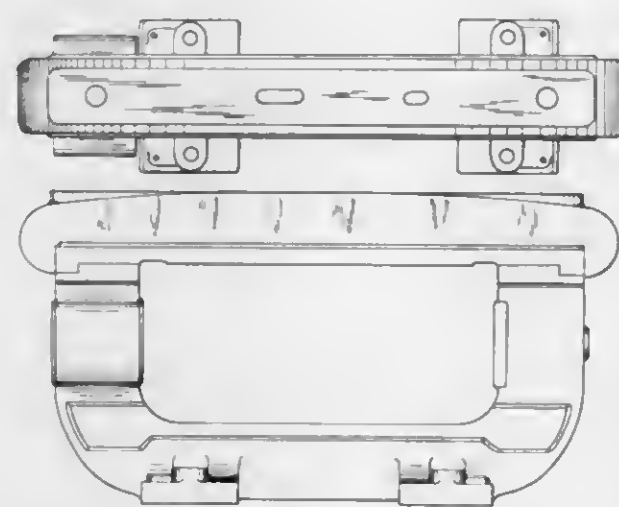
RUBBER MILL FRAME

James T. Matsuoka, Brecksville, Ohio, assignor, by mesne assignments, to Stewart Bolling & Co., Inc., Cleveland, Ohio, a corporation of Ohio

Filed July 20, 1967, Ser. No. 7,900

Term of patent 14 years

U.S. Cl. D55—1
Int. Cl. D15—05



213,139

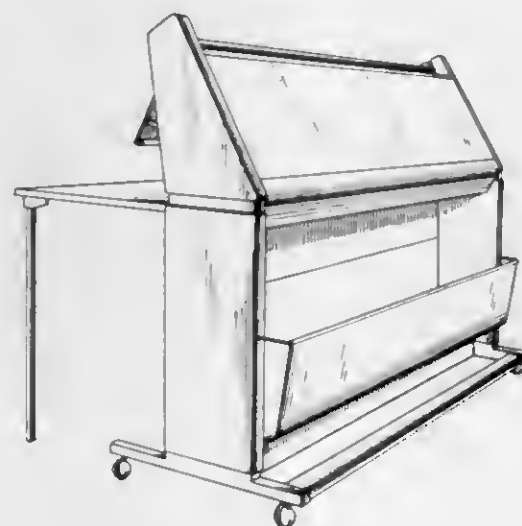
LINEN INSPECTION MACHINE

Thomas Brendgord, Fairview, Pa., and Jon W. Wehrenberg, Ellington, N.Y., assignors to American Sterilizer Company, a corporation of Pennsylvania

Filed Dec. 4, 1967, Ser. No. 9,616

Term of patent 14 years

U.S. Cl. D55—1
Int. Cl. D15—05



213,140

WRAPPING PAPER OR SIMILAR ARTICLE

Nathan Shapira, 555/308 Westwood Plaza, Los Angeles, Calif. 90024

Substituted for abandoned design application Ser. No. 521, Jan. 7, 1966. This application Aug. 9, 1967, Ser. No. 8,203

Term of patent 14 years

U.S. Cl. D59—2
Int. Cl. D5—03



213,141

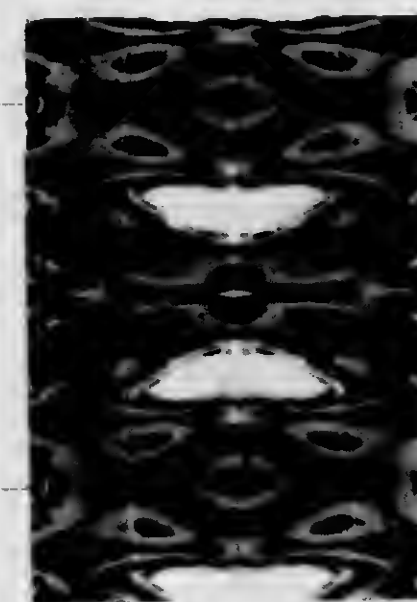
WRAPPING PAPER OR SIMILAR ARTICLE

Nathan Shapira, 555/308 Westwood Plaza, Los Angeles, Calif. 90024

Substituted for abandoned design application Ser. No. 520, Jan. 7, 1966. This application Aug. 9, 1967, Ser. No. 9,390

Term of patent 14 years

U.S. Cl. D59—2
Int. Cl. D5—03



213,142

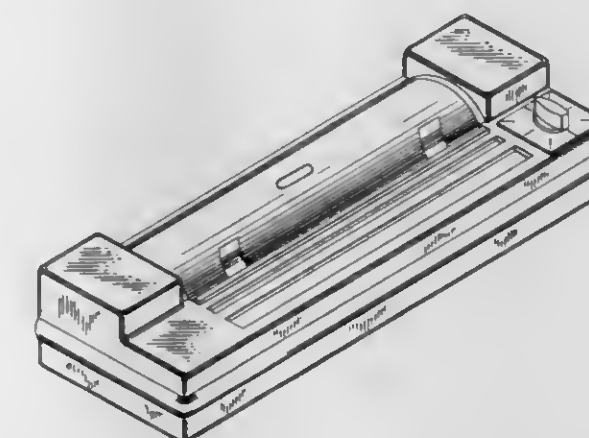
PHOTOCOPY MACHINE

Joseph M. Rait, Snyder, N.Y.
(1100 Amherst St., Buffalo, N.Y. 14216)

Filed July 1, 1966, Ser. No. 2,895

Term of patent 7 years

U.S. Cl. D61—1
Int. Cl. D16—05



213,143

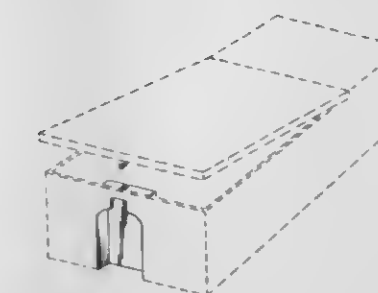
BOND BOX

Eldon C. Higgins, Cedar Rapids, Iowa, assignor to Lefebvre Corporation, Cedar Rapids, Iowa, a corporation of Iowa

Filed July 31, 1967, Ser. No. 8,062

Term of patent 14 years

U.S. Cl. D69—1
Int. Cl. D29—99



213,144

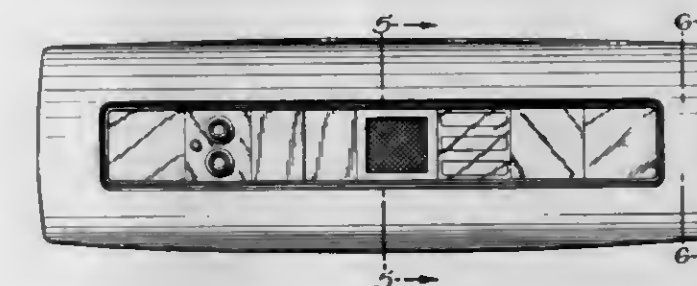
UTILITIES MODULE FOR AIRCRAFT
CABIN INTERIOR

Richard W. Kraus, Claymont, and Jules G. Rondepierre, Wilmington, Del., assignors to Atlantic Aviation Corporation, Wilmington, Del., a corporation of Delaware

Filed Dec. 13, 1967, Ser. No. 9,763

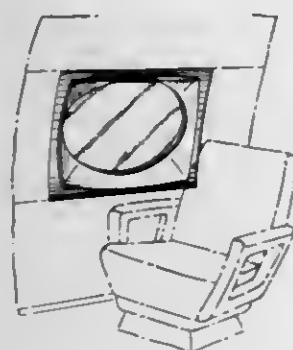
Term of patent 14 years

U.S. Cl. D71—1
Int. Cl. D12—07



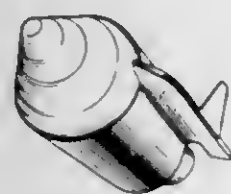
213,145
COMBINED WINDOW FRAME AND SHADE FOR AIRCRAFT CABIN INTERIOR
 Richard W. Kraus, Claymont, and Jules G. Rondeplere, Wilmington, Del., assignors to Atlantic Aviation Corporation, Wilmington, Del., a corporation of Delaware
 Filed Dec. 13, 1967, Ser. No. 9,764
 Term of patent 14 years

U.S. Cl. D71—1
 Int. Cl. D12—07



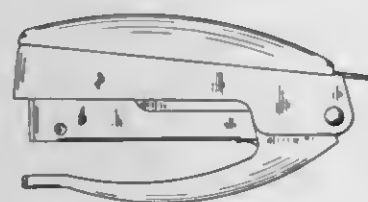
213,146
AEROSPACE VEHICLE OR SIMILAR ARTICLE
 Burton Barnett, Los Alamitos, Frederick Raymes, Los Angeles, and Thomas Sackinger, Hacienda Heights, Calif., assignors to North American Rockwell Corporation
 Filed Nov. 13, 1967, Ser. No. 9,355
 Term of patent 14 years

U.S. Cl. D71—1
 Int. Cl. D12—07



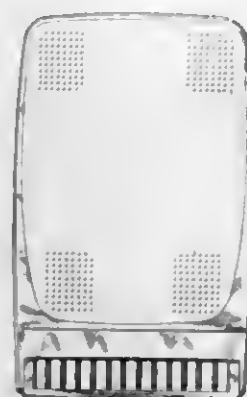
213,147
STAPLING PLIER OR SIMILAR ARTICLE
 John J. Power, Westbury, N.Y., assignor to Swingline, Inc., Long Island City, N.Y., a corporation of New York
 Filed July 20, 1967, Ser. No. 7,899
 Term of patent 14 years

U.S. Cl. D74—1
 Int. Cl. D8—02



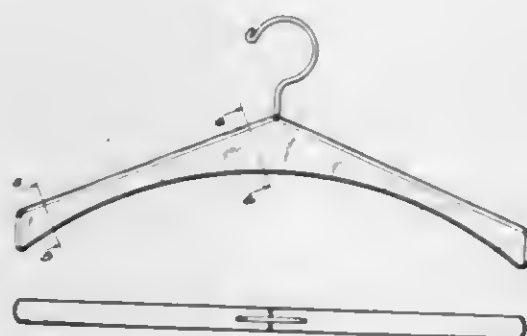
213,148
TELEPHONE INDEX
 Johan Samuel Zandelln, Gammelgardsvagen 23, Stockholm K, Sweden
 Filed Aug. 29, 1967, Ser. No. 8,415
 Term of patent 14 years

U.S. Cl. D74—1
 Int. Cl. D19—02



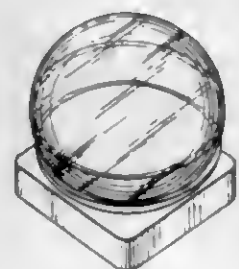
213,149
COAT HANGER
 Robert W. Schier, Northfield, Ill., assignor to Krueger Metal Products, Inc., Green Bay, Wis., a corporation of Wisconsin
 Filed Mar. 18, 1968, Ser. No. 11,029
 Term of patent 14 years

U.S. Cl. D80—8
 Int. Cl. D6—07



213,150
DISPLAY STAND
 Francis W. McBain, 3605 Riverside Drive, Crystal Lake, Ill. 60014
 Filed Nov. 22, 1967, Ser. No. 9,514
 Term of patent 14 years

U.S. Cl. D80—9
 Int. Cl. D20—02



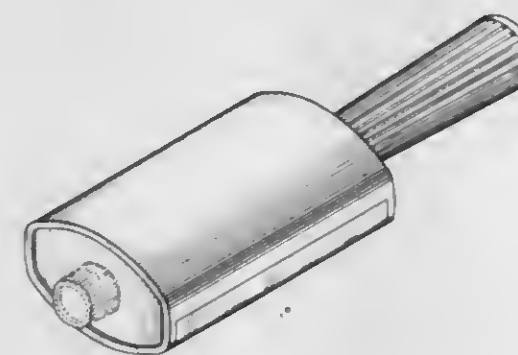
213,151
LOCKABLE DISPLAY RACK FOR FLOOR CLEANING EQUIPMENT AND THE LIKE
 Glen L. Groth, 26 Andrew Drive, Tiburon, Calif.
 Filed Dec. 14, 1967, Ser. No. 9,772
 Term of patent 14 years

U.S. Cl. D80—10
 Int. Cl. D6—01



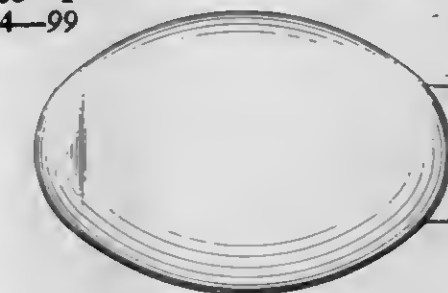
213,152
ELECTRIC MASSAGER
 Douglas W. Anderson, Palatine, Ill., assignor to Burgess Vibrocrafters, Inc., Grayslake, Ill., a corporation of Delaware
 Filed Mar. 8, 1968, Ser. No. 10,899
 Term of patent 14 years

U.S. Cl. D83—1
 Int. Cl. D24—02



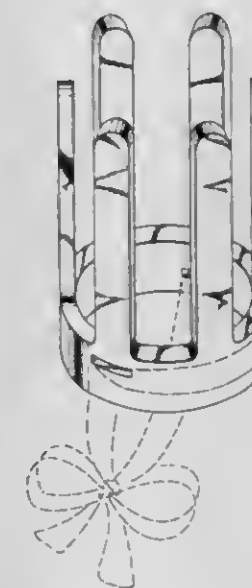
213,153
HAND GRIP FOR A BUST DEVELOPER
 Jack Vincent Feather, 11293 Kerrigan Drive, Oakland, Calif. 94605
 Continuation-in-part of design application Ser. No. 8,940, June 27, 1967. This application Feb. 23, 1968, Ser. No. 11,037
 Term of patent 14 years

U.S. Cl. D83—1
 Int. Cl. D24—99



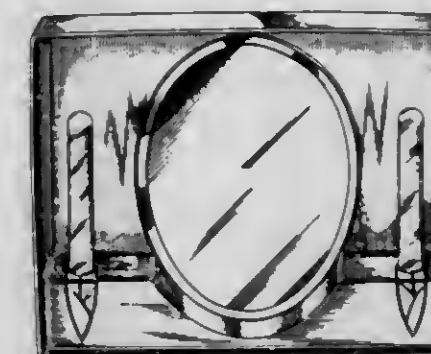
213,154
ANTI-THUMB SUCKING DEVICE
 Thomas E. Allen, 106 W. 16th St., Mount Pleasant, Tex. 75455
 Filed Apr. 18, 1968, Ser. No. 11,513
 Term of patent 14 years

U.S. Cl. D83—1
 Int. Cl. D24—99



213,155
MIRROR
 Anthony N. D'Elia, Riverdale, and Edward M. Stolarz, Yorktown Heights, N.Y., assignors to Rayex Corporation, Flushing, N.Y., a corporation of New York
 Filed Oct. 30, 1967, Ser. No. 9,212
 Term of patent 7 years

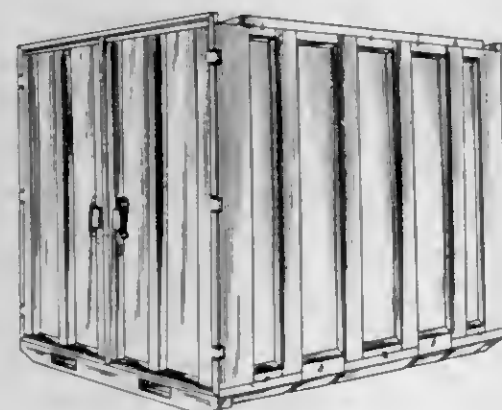
U.S. Cl. D86—10
 Int. Cl. D28—03



**213,156
FREIGHT CONTAINER**

Pierre Detanger, Neuilly-sur-Seine, France, assignor to Societe Intercontinentale des Containers S.I.C., Paris, France, a company of France
Filed Sept. 22, 1966, Ser. No. 3,969
Term of patent 3½ years

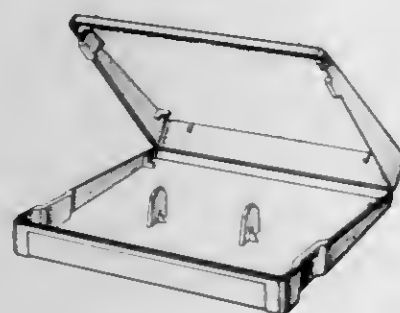
Claims priority, application France Mar. 24, 1966
U.S. Cl. D87—1
Int. Cl. D9—05



**213,157
TAPE CASSETTE CONTAINER**

Robert S. Wallace, 2706 S. Robertson Blvd., Los Angeles, Calif. 90034
Filed Nov. 22, 1967, Ser. No. 9,513
Term of patent 3½ years

U.S. Cl. D87—1
Int. Cl. D3—99



**213,158
HANDBAG CLOSURE CLASP**

Etlenne Aigner, New York, N.Y., assignor to The Villager, Inc., Philadelphia, Pa., a corporation of Delaware
Filed Sept. 27, 1967, Ser. No. 8,758
Term of patent 14 years

U.S. Cl. D87—2
Int. Cl. D8—03



**213,159
INFORMATION CHART**

George Nemett, 6290 Sunset Blvd., Los Angeles, Calif. 90028
Filed Aug. 14, 1967, Ser. No. 8,251
Term of patent 14 years

U.S. Cl. D87—5
Int. Cl. D3—02

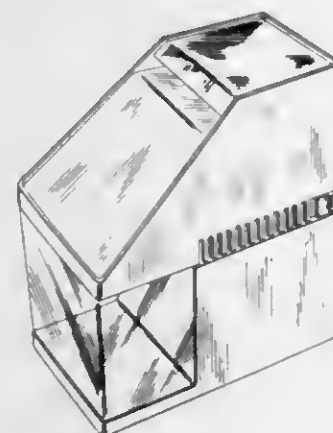


**213,160
ELECTRIC ICE CRUSHER**

Daniel E. McCue, Huntington Beach, Calif., assignor to Rival Manufacturing Company, a corporation of Missouri

Filed Feb. 12, 1968, Ser. No. 10,547
Term of patent 14 years

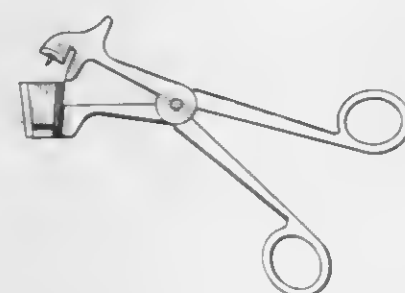
U.S. Cl. D89—1
Int. Cl. D7—05



**213,161
FRUIT SEGMENT SQUEEZER**

Royal E. Coons, 306-A Park St., Alhambra, Calif. 91801
Filed Feb. 15, 1968, Ser. No. 10,591
Term of patent 14 years

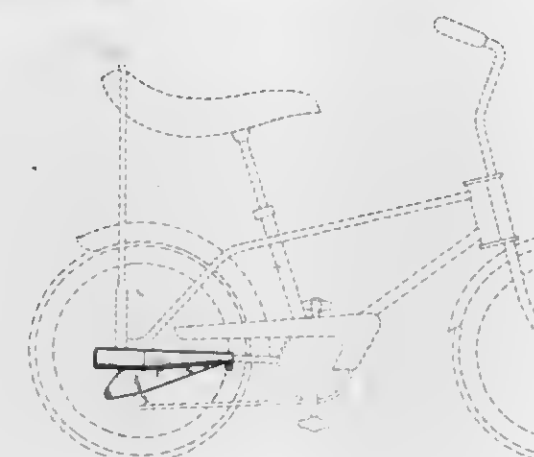
U.S. Cl. D89—1
Int. Cl. D7—02



**213,162
BICYCLE GEAR PROTECTOR**

Larry Goldmeier, Great Neck, N.Y.
(200 5th Ave., New York, N.Y. 10010)
Filed Mar. 1, 1968, Ser. No. 10,798
Term of patent 7 years

U.S. Cl. D90—1
Int. Cl. D12—14



**213,163
MOTORCYCLE HANDLEBAR**

Frank G. Stone, Los Angeles County, Calif., assignor of one-half to Peter Mead, Canoga Park, Calif.

Filed Apr. 3, 1968, Ser. No. 11,280
Term of patent 14 years

U.S. Cl. D90—11
Int. Cl. D12—14



**213,164
SODA DRAFT ARM OR SIMILAR ARTICLE**

James R. Reichow, Edina, Minn., assignor to The Cornelius Company, Anoka, Minn., a corporation of Minnesota

Filed Jan. 16, 1968, Ser. No. 10,184
Term of patent 14 years

U.S. Cl. D94—3
Int. Cl. D15—12



**213,165
ELECTRIC SHAVER**

Melvin H. Boldt, Glenview, Ill., assignor to Schick Electric Inc., Lancaster, Pa., a corporation of Delaware

Filed Jan. 16, 1968, Ser. No. 10,180
Term of patent 14 years

U.S. Cl. D95—3
Int. Cl. D28—03



LIST OF DESIGN PATENTEEES

TO WHOM

PATENTS WERE ISSUED ON THE 7TH DAY OF JANUARY, 1969

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

- Alger, Etienne, to The Villager, Inc. Shoe ornament. 213,086, 1-7-69, Cl. D2—315.
- Alger, Etienne, to The Villager, Inc. Handbag closure clasp. 213,153, 1-7-69, Cl. D87—2.
- Allen, Thomas E. Anti-thumb sucking device. 213,154, 1-7-69, Cl. D33—1.
- American Sterilizer Co.: See—
- Brendgord, Thomas, and Whrenberg. 213,139.
- Anderson, Clyde L., to Gould-Cargill & Co. Pick-up game piece. 213,123, 1-7-69, Cl. D34—15.
- Anderson, Douglas W., to Burgess Vibrocrafters, Inc. Electric massager. 213,152, 1-7-69, Cl. D83—1.
- Antonio, Floyd L.: See—
- Antonio, James F., and F. L. 213,096.
- Antonio, James F., and F. L., to Esaco Products Co. Telephone booth. 213,096, 1-7-69, Cl. D13—1.
- Atlantic Aviation Corp.: See—
- Kraus, Richard W., and Rondeplere. 213,144.
- Kraus, Richard W., and Rondeplere. 213,145.
- Baatz, Richard J., 1/2 to Pawnee Corp. Fence post wire insulator. 213,107, 1-7-69, Cl. D26—10.
- Baatz, Richard J., 1/2 to Pawnee Corp. Wire mounting insulator. 213,107, 1-7-69, Cl. D26—10.
- Barnett, Burton, F. Raymes, and T. A. Sackinger, to North America Rockwell Corp. Aerospace vehicle or similar article. 213,146, 1-7-69, Cl. D71—1.
- Bell Telephone Laboratories, Inc.: See—
- Dreyfuss, Henry, and Stokes. 213,108.
- Bender, Carl H. Building. 213,095, 1-7-69, Cl. D13—1.
- Berg, Milton A. Vehicle arm rest. 213,102, 1-7-69, Cl. D15—8.
- Blum, Louis, and W. J. Horgan, Jr., to Blumcraft of Pittsburgh. Railing. 213,007, 1-7-69, Cl. D13—7.
- Blumcraft of Pittsburgh: See—
- Blum, Louis, and Horgan. 213,097.
- Boldt, Melvin H., to Schick Electric Inc. Electric shaver. 213,145, 1-7-69, Cl. D95—3.
- Bolling, Stewart & Co., Inc.: See—
- Matsuoka, James T. 213,138.
- Bowser, Inc.: See—
- Washburn, Billy S. 213,103.
- Brendgord, Thomas, and J. W. Whrenberg, to American Sterilizer Co. Linen inspection machine. 213,139, 1-7-69, Cl. D55—1.
- Bunyea, Roderick F.: See—
- Chase, David O., and Bunyea. 213,128.
- Burger Chef Systems, Inc.: See—
- Thomas, Donald J. 213,093.
- Burgess Vibrocrafters, Inc.: See—
- Anderson, Douglas W. 213,152.
- Burns, Harry. Physical exercising appliance. 213,119, 1-7-69, Cl. D34—5.
- Burrough, Alan, to James Burrough, Ltd. Bottle. 213,092, 1-7-69, Cl. D9—159.
- Burrough, James, Ltd.: See—
- Burrough, Alan. 213,092.
- Chase, David O., and R. F. Bunyea, to R. E. Dietz Co. Vehicle lamp lens. 213,128, 1-7-69, Cl. D48—32.
- Clevite Corp.: See—
- Doman, Donald W. 213,126.
- Cocoa, Royal E. Fruit segment squeezer. 213,161, 1-7-69, Cl. D89—1.
- Cornelius Co., The: See—
- Reichow, James R. 213,164.
- Davis, Paul. Cup. 213,094, 1-7-69, Cl. D9—220.
- De Flandre, Charles, to Walton-Richardson Co. Bottle or similar article. 213,090, 1-7-69, Cl. D9—100.
- D'Ella, Anthony N., and E. M. Stolarz, to Rayex Corp. Mirror. 213,155, 1-7-69, Cl. D86—10.
- Delk, Joseph C., Jr. Crankcase drip pan. 213,101, 1-7-69, Cl. D14—6.
- Detanger, Pierre, to Societe Intercontinentale des Containers S.I.C. Freight container. 213,156, 1-7-69, Cl. D87—1.
- Dietz, R. E., Co.: See—
- Chase, David O., and Bunyea. 213,128.
- Dishmaster Appliances Ltd.: See—
- Keen, Walter J. 213,130.
- Doman, Donald W., to Clevite Corp. Combined handle and rear flasher for an electric lantern. 213,126, 1-7-69, Cl. D48—24.
- Dreyfuss, Henry, and R. R. Stokes, to Bell Telephone Laboratories, Inc. Videotelephone transceiver. 213,108, 1-7-69, Cl. D26—14.
- Electone Hearing Aid Co.: See—
- Young, David E. 213,109.
- Esaco Products Co.: See—
- Antonio, James F., and F. L. 213,096.
- Feather, Jack V. Hand grip for a hust developer. 213,153, 1-7-69, Cl. D83—1.
- Furniture Production Systems, Inc.: See—
- Rzetelny, Bernard. 213,114.
- Gantz, Carroll M., J. T. Sestak, and R. H. Hose, to The Hoover Co. Suction cleaner casing. 213,132, 1-7-69, Cl. D49—14.
- General Mills, Inc.: See—
- King, Charles W. 213,084.
- Goldmeier, Larry. Bicycle gear protector. 213,162, 1-7-69, Cl. D90—1.
- Gould-Cargill & Co., Inc.: See—
- Anderson, Clyde L. 213,123.
- Griswold, Donald G.: See—
- Townsend, Richard. 213,104.
- Groth, Glen L. Lockable display rack for floor cleaning equipment and the like. 213,151, 1-7-69, Cl. D80—10.
- Hamilton, Cosco, Inc.: See—
- Hamilton, John J. 213,131.
- Hamilton, John J., to Hamilton Cosco, Inc. Laundry sorter. 213,131, 1-7-69, Cl. D49—8.2.
- Hanson, Wallace A., Jr.: See—
- Smith, William R., and Hanson. 213,125.
- Hexcel Corp.: See—
- Merritt, James A., and Wedin. 213,134.
- Higgins, Eldon C., to Lefebure Corp. Bond box. 213,143, 1-7-69, Cl. D68—1.
- Hills, David G., to Monsanto Co. Bottle. 213,091, 1-7-69, Cl. D9—113.
- Hoover Co., The: See—
- Gantz, Carroll M., Sestak, and Hose. 213,132.
- Horgan, William J., Jr.: See—
- Blum, Louis, and Horgan. 213,097.
- Hose, Robert H.: See—
- Gantz, Carroll M., Sestak, and Hose. 213,132.
- International Harvester Co.: See—
- Koeber, Theodore H., and Skyer. 213,124.
- International Silver Co., The: See—
- Toffolon, Siro R. 213,136.
- Toffolon, Siro R. 213,137.
- Jaffe, Daniel L., to Technological Products, Inc. Battery charger. 213,111, 1-7-69, Cl. D26—15.
- Jakobsen, Robert E. K., to Schlumberger Ltd. (Schlumberger N.V.). Table. 213,116, 1-7-69, Cl. D33—14.
- Jakobsen, Robert E. K., to Schlumberger Ltd. (Schlumberger N.V.). Table. 213,117, 1-7-69, Cl. D33—14.
- Justice, Howard R., II. Bottle. 213,089, 1-7-69, Cl. D9—64.
- Keen, Walter J., to Dishmaster Appliances Ltd. Glass holding rack for a dishwasher. 213,130, 1-7-69, Cl. D49—1.
- King, Charles W., to General Mills, Inc. Snack food product. 213,084, 1-7-69, Cl. D1—16.
- Klink, Wolf-Dieter. Double buckle for twin safety belts. 213,087, 1-7-69, Cl. D2—408.
- Klink, Wolf-Dieter. Safety belt buckle. 213,088, 1-7-69, Cl. D2—408.
- Koon, Mary L. Hospital cart. 213,098, 1-7-69, Cl. D14—3.
- Koeber, Theodore H., and R. A. Skyer, to International Harvester Co. Riding lawn mower. 213,124, 1-7-69, Cl. D40—1.
- Kraus, Richard W., and J. G. Rondeplere, to Atlantic Aviation Corp. Utilities module for aircraft cabin interior. 213,144, 1-7-69, Cl. D71—1.
- Kraus, Richard W., and J. G. Rondeplere, to Atlantic Aviation Corp. Combined window frame and shade for aircraft cabin interior. 213,145, 1-7-69, Cl. D71—1.
- Krueger Metal Products, Inc.: See—
- Schler, Robert W. 213,149.
- Lakin, Willis M., to Marlin Toy Products, Inc. Amphibious toy boat. 213,122, 1-7-69, Cl. D34—15.
- L-Coll Research: See—
- Shirley, James W. 213,099.
- Lefebure Corp.: See—
- Higgins, Eldon C. 213,143.
- M. T. & D. Co.: See—
- Musichuk, Alexander B. 213,121.
- Mader, Robert J. Golf putter. 213,120, 1-7-69, Cl. D34—5.
- Marlin Toy Products, Inc.: See—
- Lakin, Willis M. 213,122.
- Matsuoka, James T., to Stewart Bolling & Co., Inc. Rubber mill frame. 213,138, 1-7-69, Cl. D55—1.
- McBain, Francis W. Display stand. 213,150, 1-7-69, Cl. D80—9.
- McQue, Daniel E., to Rival Mfg. Co. Electric ice crusher. 213,160, 1-7-69, Cl. D89—1.
- McDonough Power Equipment, Inc.: See—
- Smith, William R., and Hanson. 213,125.
- McGuffey, James W., to Tranter Mfg., Inc. Heat exchange unit. 213,105, 1-7-69, Cl. D23—72.
- Mead, Peter: See—
- Stone, Frank G. 213,163.
- Merritt, James A., and J. A. Wedin, to Hexcel Corp. Reinforcing boss for ladder construction. 213,134, 1-7-69, Cl. D54—1.
- Miller, Harry G. Tie rack. 213,115, 1-7-69, Cl. D33—8.
- Monsanto Co.: See—
- Hills, David G. 213,091.
- Musichuk, Alexander B., to M. T. & D. Co. Velocipede. 213,121, 1-7-69, Cl. D34—15.
- Napco, Inc.: See—
- Shore, Sherman J. 213,135.
- Neldhardt, Dale A. Fence post. 213,112, 1-7-69, Cl. D28—1.
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Brown, Cicero C. Well anchor or packer. 3,420,306. 1-7-69, Cl. 160-120.

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Butler, Charles H. Underwater placer mining method and apparatus. 3,420,576. 1-7-69, Cl. 299-8.

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Cashion, Kenneth D. Solar optical telescope dome control system. 3,421,004. 1-7-69, Cl. 250-203.

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- Dorfman, Edwin, and C. T. Bean, Jr., to Hooker Chemical Corp. Process for preparing perfluoroalkylthiolimides. 3,420,884, 1-7-69, Cl. 260-566.
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Kionast, Karl B., to United States of America, Navy. Pulsed magnetic detection circuit. 3,421,045, 1-7-69, Cl. 315-27.

King, Aden J., to Klog Laboratories, Inc. Getter assembly. 3,420,593, 1-7-69, Cl. 316-30.

King, Harold F.: See—
Drew, Laurence C., and King. 3,421,101.

Klog Laboratories, Inc.: See—
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Kingston, Arthur W. Sound film apparatus. 3,420,004, 1-7-69, Cl. 352-20.

Kipping, Vernon L. Wide field photography and projection. 3,420,605, 1-7-69, Cl. 352-80.

Kircher, Paul J., to Westinghouse Electric Corp. Circuit to indicate presence of charging current. 3,421,142, 1-7-69, Cl. 320-48.

Kirk, Morris P., & Son, Inc.: See—
Larrieu, Leslie J. 3,420,661.

Kirkhof Mfg. Corp.: See—
O'Brien, Robert E. 3,420,004.

Kirkpatrick, Henry O., to Cummins Engine Co. Roof mounted automobile heat exchanger. 3,420,294, 1-7-69, Cl. 165-41.

Kirkpatrick, Kenneth L., to Deere & Co. Steering improvements for duplex disk tiller. 3,420,316, 1-7-69, Cl. 172-288.

Kiras, Voldemar, and J. C. Park, to Allied Chemical Corp. Purification of toluenediamine mixtures by vacuum distillation. 3,420,752, 1-7-69, Cl. 203-94.

Kirschneck, Helmut, G. Von Flock, and M. Quasdvilg, to Farbenfabriken Bayer Aktiengesellschaft. Process for treating a textile material with an aqueous antistatic and handle-improving composition and the aqueous treating composition. 3,420,703, 1-7-69, Cl. 117-139.5.

Kiseinikov, Vladimir N.: See—
Vinoogradov, Alexander S., Kapustin, Maxjutenko, Kiseinikov, Borisov, and Mazalov. 3,419,940.

Kiss, Emil P., and H. C. Onyx, to Pace Winders, Inc. Automatic tube cutting machine. 3,420,127, 1-7-69, Cl. 82-83.

Kitzinger, Joseph A. Education aid for use in developing abilities in the identification and manipulation of numbers or other indicia. 3,419,972, 1-7-69, Cl. 35-31.

Klaus, Arthur, to Elastic G.m.b.H. Stapling device for closing sample bags of touch material. 3,420,426, 1-7-69, Cl. 227-71.

Kleer-Vu Industries, Inc.: See—
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Klein, Keith W., to General Electric Co. Series-connected electrical circuit breaker assembly. 3,421,128, 1-7-69, Cl. 200-116.

Kleingers, Alfred B., Jr., to The Interstate Folding Box Co. Display carton for tubs or bottles. 3,420,362, 1-7-69, Cl. 206-45.14.

Klockner-Humboldt-Deutz A.G.: See—
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Jansen, Wilhelm, and Bollmann. 3,420,394.

Knauer, Wolfgang, and H. E. Gallagher, to Hughes Aircraft Co. Thermionic cathode having emissive material and metallic paths which sputter away at the same rate. 3,421,039, 1-7-69, Cl. 313-339.

Knight, Geoffrey P., to The Ever Ready Co. (Great Britain) Ltd. Round cells and batteries made therefrom. 3,420,714, 1-7-69, Cl. 136-107.

Knight, George R., Jr.: See—
Bridges, Thomas F., Knight, and Peony. 3,420,396.

Knizla, Klaus, to L. & C. Steinhilber, G.m.b.H. Circuit for a regenerative preheating. 3,420,212, 1-7-69, Cl. 122-1.

Knupper, Hans: See—
Wirth, Wolf-Dieter, Knupper, Schellhammer, Schoon, and Scholeremann. 3,420,835.

Kobayashi, Saboro. Centrifugal torque converter. 3,420,345, 1-7-69, Cl. 192-103.

Kobiella, Robert J., to Signode Corp. Strap feed and tensioning mechanism. 3,420,158, 1-7-69, Cl. 100-2.

Kobulek, Werner, to Berg Mfg. & Sales Co. Reducing valve for front axle brake cylinders. 3,420,256, 1-7-69, Cl. 137-102.

Kockums Mekaniska Verkstads Aktiebolag: See—
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Koester, Charles J., to American Optical Co. Laser light-amplifying structures and the like. 3,421,096, 1-7-69, Cl. 330-4.3.

Koester, Charles J., and E. Snitzer, to American Optical Co. Laser amplifier having angularly disposed reflection reducing end surface. 3,421,097, 1-7-69, Cl. 330-4.3.

Kohler, John J., and L. A. Ross, to Olin Mathieson Chemical Corp. N,N'-sulfonyl bis(aryl carbamates) and (thiocarbamates). 3,420,867, 1-7-69, Cl. 260-455.

Kohlhaas, Rudolf: See—
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Kohmann, Willy, to Klenzle Apparate G.m.b.H. Print member actuators with lost motion coupling means. 3,420,165, 1-7-69, Cl. 101-93.

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Kosmach, Fred C., R. C. Mooney, and D. B. Moritz, to Waco Seafoam & Shoring Co., Division of Bliss & Lauglin Industries, Inc. Knockdown scaffolding. 3,420,030, 1-7-69, Cl. 52-637.

Kozawa, Shichibei, to Shimadzu Selsakusho Ltd. Photometer for comparing scattered with transmitted light. 3,420,609, 1-7-69, Cl. 356-104.

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Kraft, Wilbur P. Combination metering, check and shut-off valve. 3,420,493, 1-7-69, Cl. 251-82.

Kramer, Hans H. A., G. Messwarb, and W. Denk, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Reaction product of polyvinyl phosphonic acid and p-phenylene-diamine. 3,420,805, 1-7-69, Cl. 260-80.

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Kren, John G., J. Regh, and D. K. Seto, to International Business Machines Corp. Technique for obtaining isolated integrated circuits. 3,419,950, 1-7-69, Cl. 29-578.

Kretzmer, Ernest R., P. Mecklenburg, D. W. Rice, and W. Ryan, to Bell Telephone Laboratories, Inc. Data processing system having a bidirectional storage medium. 3,421,149, 1-7-69, Cl. 340-172.5.

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Kudlaty, Walter J., and P. Heinrich, to Marvel Engineering Co. Filter with automatic bypass-shutoff. 3,420,375, 1-7-69, Cl. 210-90.

Kuffer, Clarence G., to Valve Corp. of America. Leakproof dispensing container. 3,420,415, 1-7-69, Cl. 222-193.

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Kuhn, Hans H., to Deering Milliken Research Corp. Heat sealable yarn and fabric. 3,420,731, 1-7-69, Cl. 161-52.

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Kuo, Charles C. Y., to Bell Telephone Laboratories, Inc. Technique for fabrication of printed circuit resistors. 3,420,706, 1-7-69, Cl. 117-227.

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Kwasniewski, Edward D., and H. E. Barton, to The Carborundum Co. Felt cleaner for paper making machine. 3,420,736, 1-7-69, Cl. 162-274.

Kwikform Ltd.: See—
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Kyowa Hakkō Kogyo Co., Ltd.: See—
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Noguchi, Yuichi, Nakajima, Jun, and Nakanishi. 3,420,744.

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Shiga, Akio. 3,420,678.

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Lammb, Arn N.: See—
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Langhein, Gerhard, and F. Melninger, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Dye-stuffs metal-complex. 3,420,812, 1-7-69, Cl. 260-148.

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Leary, Joseph A.: See—
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Lewis, Edmond S., Jr., to Corning Glass Works. Method of drawing glass articles. 3,420,649, 1-7-69, Cl. 65-66.

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- Lightcap, Edwin T., to Caldwell Research Corp. Linear velocity measuring device for ram pistons. 3,421,080, 1-7-69, Cl. 324-70.
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- Lily-Tulip Corp.: See—
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- Ling, Andrew T., to Radio Corp. of America. Error detection system. 3,420,991, 1-7-69, Cl. 235-153.
- Linker, Roy E. Windshield wiper assembly. 3,419,932, 1-7-69, Cl. 15-250.66.
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- Long, Robert B., to Esso Research and Engineering Co. Complexes of copper compounds with acetylides. 3,420,862, 1-7-69, Cl. 260-438.1.
- Lorenz, Walter, to Farbenfabriken Bayer Aktiengesellschaft. 3,4-dihydro-4-oxo-1,2,3-benzotriazine-3-yl-ethyl phosphoric acid phosphoric acid esters. 3,420,829, 1-7-69, Cl. 260-248.
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- Ludwig, Bernard J., J. Diamond, and W. A. Skinner, Jr., to Carter-Wallace, Inc. Propane dithiols. 3,420,890, 1-7-69, Cl. 260-609.
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- Baler, Robert J., and Mack. 3,420,072.
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- Magin, Adam. Collapsible cabin boat. 3,419,920, 1-7-69, Cl. 10-2.
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- Majnarich, John J. Process for extracting antinflammatory and hypcholesterolemic principle from plant sources and the product produced thereby. 3,420,935, 1-7-69, Cl. 424-195.
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- Malherbe, Edward P., to Evereat & Jennings, Inc. Fences for wheeled stretchers and beds. 3,419,022, 1-7-69, Cl. 5-331.
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- Martin, Harold E., to H. H. Robertson Co. Prefabricated panel unit. 3,420,029, 1-7-69, Cl. 52-594.

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Mathis, Clyde H., and Siedenstrang. 3,320,808.
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3,419,912	3,420,262	3,420,764	3,420,187	3,420,560	3,420,375
3,419,922	3,420,270	3,420,766	3,420,195	3,420,725	3,420,386
3,419,924	3,420,273	3,420,768	3,420,336	3,420,910	3,420,397
3,419,928	3,420,283	3,420,793	3,420,431	3,420,936	3,420,415
3,419,931	3,420,284	3,420,794	3,420,437	3,420,953	3,420,428
3,419,945	3,420,285	3,420,830	3,420,440	3,420,989	3,420,432
3,419,963	3,420,289	3,420,833	3,420,490	3,420,378	3,420,441
3,419,969	3,420,301	3,420,853	3,420,581	3,420,439	3,420,455
3,419,970	3,420,307	3,420,873	3,420,601	3,420,542	3,420,460
3,419,971	3,420,309	3,420,889	3,420,624	3,420,578	3,420,480
3,419,973	3,420,331	3,420,898	3,420,675	3,420,623	3,420,491
3,419,978	3,420,333	3,420,914	3,420,688	3,420,696	3,420,513
3,419,979	3,420,354	3,420,915	3,420,720	3,420,995	3,420,528
3,419,983	3,420,366	3,420,918	3,420,723	3,419,919	3,420,529
3,419,997	3,420,385	3,420,939	3,420,747	3,419,939	3,420,533
3,420,006	3,420,390	3,420,941	3,420,760	3,419,962	3,420,579
3,420,010	3,420,392	3,420,946	3,420,787	3,419,975	3,420,585
3,420,013	3,420,398	3,420,949	3,420,851	3,419,988	3,420,591
3,420,020	3,420,413	3,420,966	3,420,867	3,419,989	3,420,665
3,420,040	3,420,420	3,420,975	3,420,920	3,419,994	3,420,741
3,420,046	3,420,422	3,420,977	3,420,924	3,420,014	3,420,771
3,420,063	3,420,434	3,420,984	3,420,926	3,420,025	3,420,902
3,420,066	3,420,462	3,420,992	3,420,967	3,420,027	3,420,905
3,420,077	3,420,466	3,421,010	3,421,024	3,420,030	3,420,909
3,420,078	3,420,470	3,421,019	3,421,025	3,420,037	3,420,930
3,420,085	3,420,474	3,421,035	3,421,031	3,420,070	3,420,947
3,420,089	3,420,475	3,421,038	3,421,070	3,420,079	3,420,948
3,420,090	3,420,489	3,421,039	3,421,096	3,420,113	3,420,970
3,420,096	3,420,492	3,421,040	3,421,097	3,420,142	3,420,994
3,420,098	3,420,493	3,421,042	3,421,123	3,420,150	3,421,032
3,420,102	3,420,495	3,421,044	3,421,128	3,420,158	3,421,034
3,420,128	3,420,496	3,421,047	3,421,137	3,420,180	3,421,043
3,420,129	3,420,530	3,421,049	3,421,152	3,420,182	3,421,048
3,420,130	3,420,555	3,421,062	3,420,072	3,420,191	3,421,117
3,420,132	3,420,561	3,421,072	3,420,209	3,420,209	3,421,135
3,420,138	3,420,587	3,421,077	3,420,795	3,420,222	3,421,139
3,420,172	3,420,594	3,421,079	3,420,824	3,420,255	3,421,143
3,420,175	3,420,600	3,421,092	3,420,233	3,420,257	3,420,029
3,420,202	3,420,605	3,421,093	3,420,338	3,420,259	3,420,143

18 : 3,420,190	26 : 3,420,001	34 : 3,420,201	36 : 3,420,151	39 : 3,420,291	42 : 3,420,758
3,420,193	3,420,004	3,420,231	3,420,184	3,420,292	3,420,773
3,420,335	3,420,045	3,420,235	3,420,194	3,420,293	3,420,803
3,420,395	3,420,051	3,420,237	3,420,210	3,420,303	3,420,878
3,420,499	3,420,071	3,420,264	3,420,228	3,420,346	3,420,903
3,420,534	3,420,118	3,420,287	3,420,232	3,420,362	3,420,911
3,420,552	3,420,125	3,420,319	3,420,276	3,420,363	3,420,982
3,420,654	3,420,166	3,420,332	3,420,282	3,420,369	3,420,983
3,420,693	3,420,168	3,420,391	3,420,337	3,420,389	3,421,016
3,420,825	3,420,188	3,420,399	3,420,360	3,420,405	3,421,017
3,420,826	3,420,192	3,420,400	3,420,396	3,420,454	3,421,023
3,420,874	3,420,205	3,420,401	3,420,412	3,420,461	3,421,030
3,420,879	3,420,260	3,420,410	3,420,424	3,420,463	3,421,061
3,421,015	3,420,279	3,420,433	3,420,449	3,420,473	3,421,082
3,421,090	3,420,348	3,420,546	3,420,464	3,420,485	3,421,140
3,421,107	3,420,355	3,420,595	3,420,509	3,420,502	3,421,153
3,421,108	3,420,356	3,420,611	3,420,515	3,420,508	43 : 3,421,109
3,421,133	3,420,403	3,420,673	3,420,520	3,420,510	44 : 3,419,908
19 : 3,419,974	3,420,417	3,420,692	3,420,525	3,420,538	3,420,024
3,420,148	3,420,459	3,420,697	3,420,532	3,420,559	3,420,310
3,420,238	3,420,482	3,420,698	3,420,537	3,420,589	3,420,377
3,420,317	3,420,486	3,420,707	3,420,540	3,420,625	3,420,467
3,420,325	3,420,524	3,420,710	3,420,545	3,420,626	3,420,881
3,420,567	3,420,535	3,420,711	3,420,574	3,420,638	45 : 3,419,966
3,420,990	3,420,547	3,420,716	3,420,593	3,420,646	3,420,343
20 : 3,419,923	3,420,548	3,420,761	3,420,608	3,420,659	3,420,640
3,420,288	3,420,549	3,420,763	3,420,633	3,420,684	3,420,731
3,420,372	3,420,566	3,420,770	3,420,645	3,420,689	3,421,124
3,420,404	3,420,571	3,420,772	3,420,649	3,420,694	46 : 3,420,108
3,420,798	3,420,580	3,420,776	3,420,653	3,420,751	3,420,564
21 : 3,420,026	3,420,644	3,420,781	3,420,656	3,420,754	3,420,479
3,420,254	3,420,658	3,420,784	3,420,657	3,420,886	47 : 3,419,935
3,420,427	3,420,712	3,420,809	3,420,664	3,420,944	3,420,124
3,420,618	3,420,742	3,420,816	3,420,666	3,420,945	3,420,245
3,420,717	3,420,838	3,420,817	3,420,667	3,420,974	3,420,278
3,421,115	3,420,871	3,420,831	3,420,670	3,421,056	3,420,297
22 : 3,420,323	3,420,887	3,420,832	3,420,674	3,421,073	3,420,620
3,420,631	3,420,937	3,420,836	3,420,685	3,421,130	3,420,663
3,420,699	3,421,009	3,420,841	3,420,719	3,421,142	48 : 3,419,934
3,420,700	3,421,033	3,420,854	3,420,726	3,421,992	3,419,949
3,420,701	3,421,051	3,420,855	3,420,729	3,420,093	3,419,959
3,420,708	27 : 3,419,960	3,420,857	3,420,736	3,420,183	3,419,976
3,420,837	3,419,987	3,420,858	3,420,743	3,420,296	3,419,990
3,420,916	3,420,022	3,420,860	3,420,752	3,420,298	3,419,995
23 : 3,420,021	3,420,062	3,420,861	3,420,753	3,420,300	3,420,095
24 : 3,419,958	3,420,203	3,420,862	3,420,807	3,420,344	3,420,099
3,419,964	3,420,221	3,420,875	3,420,810	3,420,563	3,420,223
3,419,972	3,420,512	3,420,890	3,420,811	3,420,586	3,420,229
3,420,012	3,420,597	3,420,894	3,420,818	3,420,634	3,420,265
3,420,015	3,420,662	3,420,896	3,420,840	3,420,713	3,420,294
3,420,033	3,420,732	3,420,897	3,420,845	3,420,722	3,420,299
3,420,109	3,420,767	3,420,904	3,420,847	3,420,748	3,420,302
3,420,177	3,420,866	3,420,917	3,420,868	3,420,907	3,420,304
3,420,217	3,420,877	3,420,919	3,420,884	3,420,908	3,420,305
3,420,387	3,421,046	3,420,925	3,420,891	3,420,913	3,420,306
3,420,430	3,421,150	3,420,927	3,420,900	3,421,088	3,420,308
3,420,504	28 : 3,420,144	3,420,932	3,420,901	3,421,110	3,420,324
3,420,514	29 : 3,420,060	3,420,933	3,420,921	41 : 3,420,219	3,420,382
3,420,582	3,420,236	3,420,938	3,420,929	3,421,041	3,420,408
3,420,690	3,420,353	3,420,952	3,420,942	3,421,102	3,420,419
3,420,691	3,420,376	3,420,954	3,420,957	42 : 3,419,911	3,420,423
3,420,739	3,420,416	3,420,955	3,420,976	3,419,913	3,420,477
3,420,746	3,420,484	3,420,956	3,420,993	3,419,918	3,420,483
3,420,775	3,420,650	3,420,958	3,420,999	3,419,950	3,420,498
3,420,940	3,420,681	3,420,959	3,421,000	3,420,018	3,420,523
3,420,989	3,420,715	3,420,960	3,421,003	3,420,031	3,420,526
3,421,067	3,420,728	3,420,961	3,421,008	3,420,035	3,420,572
3,421,074	3,420,864	3,420,963	3,421,013	3,420,039	3,420,619
3,421,075	3,420,870	3,420,965	3,421,029	3,420,052	3,420,628
3,421,105	3,420,872	3,420,980	3,421,037	3,420,080	3,420,637
3,421,116	3,420,979	3,420,991	3,421,057	3,420,082	3,420,682
25 : 3,419,929	3,421,049	3,421,002	3,421,058	3,420,083	3,420,730
3,419,944	3,421,053	3,421,045	3,421,068	3,420,084	3,420,757
3,420,007	3,421,064	3,421,076	3,421,071	3,420,086	3,420,769
3,420,008	31 : 3,419,986	3,421,080	3,421,083	3,420,087	3,420,791
3,420,101	3,420,968	3,421,081	3,421,085	3,420,127	3,420,799
3,420,250	33 : 3,419,910	3,421,091	3,421,099	3,420,146	3,420,808
3,420,290	3,419,921	3,421,098	3,421,131	3,420,160	3,420,828
3,420,352	3,420,075	3,421,100	37 : 3,420,117	3,420,173	3,420,906
3,420,364	3,420,985	3,421,114	3,420,196	3,420,199	3,420,912
3,420,503	34 : 3,419,909	3,421,118	3,420,243	3,420,247	3,420,928
3,420,518	3,419,916	3,421,119	3,420,615	3,420,266	3,420,998
3,420,521	3,419,917	3,421,147	3,420,802	3,420,269	3,421,004
3,420,558	3,419,932	3,421,149	3,420,827	3,420,322	3,421,050
3,420,596	3,419,938	3,421,154	3,421,084	3,420,357	3,421,055
3,420,680	3,419,982	3,421,157	39 : 3,419,914	3,420,371	3,421,095
3,420,686	3,420,034	35 : 3,420,019	3,419,920	3,420,381	3,421,141
3,420,687	3,420,036	3,420,179	3,419,927	3,420,388	49 : 3,419,985
3,420,778	3,420,061	3,420,478	3,419,947	3,420,406	3,420,059
3,420,792	3,420,065	3,420,569	3,419,951	3,420,407	3,420,249
3,420,865	3,420,088	3,420,639	3,419,952	3,420,414	3,420,469
3,420,996	3,420,091	3,420,745	3,420,009	3,420,445	3,420,632
3,421,001	3,420,104	3,421,125	3,420,016	3,420,487	3,420,695
3,421,012	3,420,110	3,421,144	3,420,055	3,420,497	51 : 3,420,028
3,421,066	3,420,111	36 : 3,419,930	3,420,058	3,420,500	3,420,069
3,421,101	3,420,116	3,419,937	3,420,105	3,420,506	3,420,174
3,421,106	3,420,119	3,419,956	3,420,155	3,420,511	3,420,241
3,421,113	3,420,133	3,419,961	3,420,169	3,420,556	3,420,252
3,421,129	3,420,134	3,419,967	3,420,171	3,420,565	3,420,429
3,421,132	3,420,135	3,419,993	3,420,206	3,420,588	3,420,465
3,421,156	3,420,141	3,419,998	3,420,213	3,420,641	3,420,471
26 : 3,419,942	3,420,159	3,420,002	3,420,218	3,420,652	3,420,505
3,419,953	3,420,161	3,420,054	3,420,234	3,420,671	3,420,522
3,419,954	3,420,197	3,420,120	3,420,242	3,420,706	3,420,576
3,419,957	3,420,198	3,420,131	3,420,253	3,420,724	3,420,613
3,419,977	3,420,200	3,420,147	3,420,280	3,420,735	3,420,707

51 : 3,420,765 3,420,950 3,421,021 3,421,134	53 : 3,420,452 3,420,488 3,420,517 3,420,570 3,420,638 3,420,043 3,420,314	54 : 3,420,749 3,420,785 55 : 3,419,933 3,419,999 3,420,032 3,420,041 3,420,042	55 : 3,420,121 3,420,157 3,420,227 3,420,313 3,420,361 3,420,393 3,420,402	55 : 3,420,457 3,420,481 3,420,536 3,420,584 3,420,679 3,420,863 3,420,969	55 : 3,420,987 3,420,997 3,421,027 3,421,028 3,421,063 3,421,069
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Design Patents

6 : 213,085 213,104 213,108 213,116 213,117 213,120 213,134 213,140 213,141 213,146 213,151 213,153 213,157	6 : 213,159 213,160 213,161 213,163 8 : 213,096 213,100 9 : 213,091 213,136 213,137 10 : 213,144 213,145 12 : 213,089	12 : 213,109 13 : 213,125 17 : 213,103 213,124 213,133 213,149 213,150 213,152 19 : 213,143 24 : 213,111 25 : 213,094	26 : 213,099 213,105 27 : 213,084 213,106 213,107 213,123 213,164 29 : 213,093 35 : 213,122 36 : 213,086 213,090 213,114	36 : 213,115 213,128 213,142 213,147 213,155 213,158 213,162 37 : 213,101 38 : 213,112 39 : 213,113 213,121 213,127	39 : 213,131 213,132 213,138 40 : 213,095 42 : 213,097 213,098 213,129 213,135 213,139 48 : 213,154 53 : 213,102 55 : 213,126
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U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

January 7, 1969

Volume 858

Number 1

TRADEMARKS
NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 392,613 (A & P SUPER-RIGHT), The Great Atlantic & Pacific Tea Company, Inc., Bacon; **Reg. No. 501,830 (A & P AND DESIGN)**, same, Fresh eggs; **Reg. No. 505,372 (A & P)**, same, Canned tomatoes, pumpkin, beets, spinach, asparagus tips, corn, lima beans, succotash, peas, green beans, squash, cherries, pears, apricots, peaches, pineapple, sauerkraut, and applesauce; **Reg. No. 508,773 (A & P BREAD)**, same, Bread; **Reg. No. 511,772 (A & P)**, same, Dried apricots and peaches, canned grapefruit sections, and canned grapefruit juice; **Reg. No. 517,150**, same, Canned prune plums; canned fruit cocktail consisting of diced peaches and pears, pineapple segments, seedless grapes and halved modified cherries, canned fruits for salad consisting of quartered peaches and pears, halved apricots, pineapple segments and whole modified cherries; canned sweet potatoes and canned pineapple juice; **Reg. No. 517,151 (A & P IN CIRCLE DESIGN)**, same, Canned sardines; canned tomato sauce consisting of ripe tomato pulp, salt, spices, onions, and green peppers; canned salmon; packaged raisins; packaged dried mixed fruits; and packaged prunes; **Reg. No. 517,640 (A & P AND DESIGN)**, same, Canned orange juice, canned orange and grapefruit juice, and canned cranberry sauce; **Reg. No. 568,389 (A & P WITHIN DESIGN)**, same, Tea; **Reg. No. 593,348 (A & P)**, same, Coffee; **Reg. No. 738,812 (A & P**

WITHIN A CIRCLE), same, Retail grocery store services; **Reg. No. 750,182 (A & P AND DESIGN)**, same, Frozen concentrated orange juice, frozen concentrated grape juice, frozen french fried potatoes, frozen strawberries, frozen peas, frozen spinach, frozen green beans, frozen lima beans, frozen corn, frozen broccoli, frozen cauliflower, frozen asparagus, and a preparation to be used as a mix for instant chocolate flavored food drink; **Reg. No. 799,974**, same, Frozen devil's food cake, frozen chocolate brownies, frozen apple strudel, frozen cinnamon coffee cake, frozen cup cakes, frozen chocolate layer cake, frozen Danish pecan ring, frozen Danish poppy seed butterfly rolls, and frozen doughnuts, filed Sept. 23, 1968, D.C. Nev. (Las Vegas), Doc. C-LV-1203, *The Great Atlantic & Pacific Tea Company, Inc. v. Albert Schueman and Pat Tunzi, doing business as A and P Meat Company*.

Reg. No. 402,525. (See Reg. No. 746,044.)**Reg. No. 501,830.** (See Reg. No. 392,613.)**Reg. No. 505,372.** (See Reg. No. 392,613.)**Reg. No. 508,773.** (See Reg. No. 392,613.)**Reg. No. 511,772.** (See Reg. No. 392,613.)**Reg. No. 517,150.** (See Reg. No. 392,613.)**Reg. No. 517,151.** (See Reg. No. 392,613.)**Reg. No. 517,640.** (See Reg. No. 392,613.)**Reg. No. 568,389.** (See Reg. No. 392,613.)**Reg. No. 593,348.** (See Reg. No. 392,613.)

CONDITION OF TRADEMARK APPLICATIONS AS OF NOVEMBER 30, 1968

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]..... 15,923
Date of oldest new application..... September 7, 1967
Date of oldest amended application (filing date)..... May 4, 1964

C. M. WENDT, Director, Trademark Examining Operation TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B.....	4-1-68	7-18-66
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 43, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200.....	2-29-68	3-28-65
(III) P. S. BALL, Classes 19, 21, 23, 26, 31, 34, 35, 38.....	3-8-68	5-4-64
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 15, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107.....	9-7-67	9-22-65
Renewals (All Classes).....	10-29-68	
Sec. 12(c) Publications (All Classes).....	11-1-68	

Applications filed during the month of November 1968— 2,446

Registrations Issued 372—No. 862,961 to No. 863,332
Renewals Issued 100

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price \$20.50 per annum, foreign mailing \$5.75 additional; single copies, 40 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

Reg. No. 877,103 (THE BEST WESTERN MOTELS AND DESIGN), M. K. Guertin, doing business as Best Western Motels, Promotional and advisory services to associated independent motel operators—namely, the furnishing of advertising, advertising listings, promotional material and printed business forms; **Reg. No. 687,405** (MEMBER THE BEST WESTERN MOTELS AND DESIGN), same, Indicating membership in applicant's organization; **Reg. No. 769,314** (THE BEST MOTELS, ETC. AND DESIGN), Western Motels, Inc., same, filed Sept. 24, 1968, D.C. Ariz. (Tucson), Doc. C-2501, *Western Motels, Inc. v. Elizabeth Hислоpe Roberts, doing business as Western Motel et al.*

Reg. No. 687,405. (See Reg. No. 677,103.)

Reg. No. 704,499 (POZIDRIV), American Screw Company, Screws, bolts, studs, rivets, and allied fasteners; **Reg. No. 707,177**, same, Phillips Screw Company, Tools—namely, Bits and drivers for driving bolts, screws, rivets and other fasteners having recessed heads; and punchers which are end products for machinery used to manufacture screws, bolts, rivets and other fasteners having recessed heads; **Reg. No. 753,189** (PHILLIPS POZIDRIV), same, Screws; **Reg. No. 753,279** same, Tools—namely, drivers and bits for driving bolts, screws, rivets and other fasteners having recessed heads; and punchers which are end products for machinery used to manufacture screws, bolts and other fasteners having recessed heads; **Reg. No. 836,196** (POZ-I-TITE), same, Screws, bolts, and allied fasteners; **Reg. No. 836,568** (POZ-I-LOK), same, filed Sept. 17, 1968, D.C., E.D.N.Y. (Brooklyn), Doc. 68-C-928, *Phillips Screw Co. v. Poz-Lok Corp.*

Reg. No. 704,772 (SERVICEMASTER AND DESIGN), Wade, Wenger & Associates, Inc., General household, office, and institutional cleaning and renovating services, such as

wall and window washing, window shades, blind and drapery cleaning, mothproofing, floor maintenance including surfacing, cleaning, polishing, and waxing, dry cleaning and laundry work; **Reg. No. 782,584** (SERVICEMASTER), same, Maintenance services for cleaning interiors of commercial buildings and private homes and furnishings thereof, filed May 21, 1968, D.C., C.D. Calif. (Los Angeles), Doc. 68-859, *Servicemaster Industries, Inc., et al. v. Servicemaster of Southern California et al.* Consent judgment, defendant's Servicemaster of Southern California, Inc., Paul O. Jacobs and Mary E. Jacobs are permanently enjoined, Sept. 26, 1968.

Reg. No. 707,177. (See Reg. No. 704,499.)

Reg. No. 738,812. (See Reg. No. 392,613.)

Reg. No. 748,044 (NIREZ), Heyden Newport Chemical Corporation, Terpene resins; **Reg. No. 814,758**, same, Tenneco Chemicals, Inc., Synthetic and natural resins; **Reg. No. 402,525** (NUROZ), Heyden Newport Chemical Corporation, Polymerized, or partially polymerized resin, filed Aug. 8, 1968, D.C., S.D.N.Y., Doc. 68-C-3231, *Tenneco Chemicals, Inc. v. Union Carbide Corporation.*

Reg. No. 753,189. (See Reg. No. 704,499.)

Reg. No. 753,279. (See Reg. No. 704,499.)

Reg. No. 758,182. (See Reg. No. 392,613.)

Reg. No. 769,314. (See Reg. No. 677,103.)

Reg. No. 782,584. (See Reg. No. 704,772.)

Reg. No. 799,974. (See Reg. No. 392,613.)

Reg. No. 814,758. (See Reg. No. 748,044.)

Reg. No. 836,196. (See Reg. No. 704,499.)

Reg. No. 836,568. (See Reg. No. 704,499.)

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 251,677. Aluminum Extrusions, Inc., Charlotte, Mich. Filed Aug. 4, 1966.

ANODYE

Class 14—Metals and Metal Castings and Forgings

For Treated Aluminum Extrusions, Sheets and/or Plates (Int. Cl. 6).

First use Apr. 27, 1964.

Class 106—Material Treatment

For Metal Treatment Services—Namely, Applying to Metals, by a Surface Treatment, Decorations and/or Imprints to the Specifications and/or Orders of Others (Int. Cl. 40).

First use Sept. 16, 1963.

SN 260,363. Hans Smith, Monte Carlo, Monaco. Filed Dec. 8, 1966.

SUBSTRAL

Owner of Monacan Reg. No. 66.3229, dated Nov. 24, 1965.

Class 6—Chemicals and Chemical Compositions

For Disinfectants and Preparations for Killing Weeds and Destroying Vermin (Int. Cl. 5).

Class 10—Fertilizers

For Garden Plant Food, Indoor Plant Food, and Soil and Garden Fertilizers (Int. Cl. 1).

SN 260,461. Hans Smith, Monte Carlo, Monaco. Filed Dec. 9, 1966.



Owner of Monacan Reg. No. 66.3230, dated Nov. 24, 1965.

Class 6—Chemicals and Chemical Compositions

For Disinfectants and Preparations for Killing Weeds and Destroying Vermin (Int. Cl. 5).

Class 10—Fertilizers

For Garden Plant Food, Indoor Plant Food, and Soil and Garden Fertilizers (Int. Cl. 1).

SN 262,715. Shiseido Company, Limited, Chuo-ku, Tokyo, Japan. Filed Jan. 17, 1967.

ZEN

Owner of Japanese Reg. No. 691,799, dated Dec. 7, 1965.

Class 51—Cosmetics and Toilet Preparations

For Makeup Foundation, Face Powder, Rouge, Eye Shadow, Eye Liner, Mascara, Lipstick, Nail Enamel and Polish, Hand and Skin Moisturizing Creams and Lotions, Skin Cleansing Creams and Lotions, Lubricating Night Creams and Lotions, Perfumes, Eau de Cologne, Bath Oils, Dusting Powder, Hair Grooming Oils, Hair and Scalp Conditioning Oils, Permanent

Wave Solutions, Hair Dyes, Hair Lacquer, Hair Rinse, Depilatories, Hair Bleaches, Personal Deodorants, and Dentifrices (Int. Cls. 3 and 5).

Class 52—Detergents and Soaps

For Toilet Soaps (Int. Cl. 3).

SN 274,024. Julius Wile Sons & Co., Inc., New York, N.Y. Filed June 16, 1967.

WILE

Owner of Reg. Nos. 358,536 and 358,537.

Class 47—Wines

For Wines (Int. Cl. 33).

Class 49—Distilled Alcoholic Liquors

For Scotch Whisky, Vodka, Brandy, and Cordials (Int. Cl. 33).

First use at least as early as 1933.

SN 275,505. Arvey Corporation, Chicago, Ill. Filed July 7, 1967.

R-V BRITE

Owner of Reg. Nos. 197,754, 381,402, and 433,322.

Class 14—Metals and Metal Castings and Forgings

For Aluminum Foil With Heat-Seal Coating (Int. Cl. 6). First use in or about November 1964.

Class 37—Paper and Stationery

For Aluminum Foil With Paper Backing and Plastic Coating, Plastic-Coated Colored Paper, and Plastic-Coated Colored Cardboard (Int. Cl. 16). First use in or about November 1957.

SN 282,415. Tracor, Inc., Austin, Tex. Filed Oct. 13, 1967.



Class 6—Chemicals and Chemical Compositions

For Rust Inhibitor (Int. Cl. 2).

Class 16—Protective and Decorative Coatings

For Protective Corrosion Inhibiting Coating (Int. Cl. 2). First use at least as early as Sept. 11, 1967.

SN 284,778. Dominique France, Inc., New York, N.Y. Filed Nov. 13, 1967.



The pictorial representation of the two figures appearing on the drawing are fanciful. Owner of Reg. Nos. 569,911 and 573,625.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Empty Toilet Kits, Wallets and Luggage (Int. Cl. 18).

Class 51—Cosmetics and Toilet Preparations

For Cologne (Int. Cl. 3).

Class 52—Detergents and Soaps

For Cleansing Soap (Int. Cl. 3).

First use 1949.

SN 285,699. Favorline, Incorporated, d.b.a. John R. Christensen Assoc., Green Bay, Wis. Filed Nov. 28, 1967.

Favorline

Class 37—Paper and Stationery

For Placecards, Bridge Tallies and Identification Cards (Int. Cl. 16).

Class 50—Merchandise Not Otherwise Classified

For Paper Goods—Namely, Favors, Centerpieces and Decorations (Int. Cl. 16).

First use July 1960.

SN 286,336. Firma Dr. Ing. H.C.F. Porsche KG, Stuttgart-Zuffenhausen, Germany. Filed Dec. 6, 1967.

SPORTOMATIC

Owner of German Reg. No. 835,755, dated Aug. 4, 1967.

Class 19—Vehicles

For Automobiles and Parts Thereof (Int. Cl. 12).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Transmissions and Parts Thereof for Motor Vehicles (Int. Cl. 12).

First use Aug. 7, 1967; in commerce Sept. 25, 1967.

SN 286,593. Riddell, Inc., Des Plaines, Ill. Filed Dec. 11, 1967.

RIDDELL

Owner of Reg. Nos. 520,239, 704,804, and others.

Class 6—Chemicals and Chemical Compositions

For Water Repellent Shoe Preserver, Leather Conditioner and Preserver, and Deodorizer and Sanitizer for Use on Athletic Equipment and in Storage Places for Such Equipment (Int. Cls. 1 and 5).

Class 16—Protective and Decorative Coatings

For Protective and Decorative Coatings—Namely, Lacquers (Int. Cl. 2).

Class 22—Games, Toys, and Sporting Goods

For Protective Athletic Equipment, Including Protective Headgear, Particularly Helmets and Head Band Suspensions, Face Guards, Neck Protectors, and Chin Straps Therefor; Shoulder Pads; and Protective Padding; Sideline Marking Equipment for Football Games, Athletic Shoes, Particularly, Bowling Shoes, Football Shoes, Baseball Shoes and Track Shoes Made of Leather, Rubber, Fabric, Plastic Compositions and Combinations of These Materials (Int. Cls. 25 and 28).

First use at least as early as Nov. 15, 1967.

SN 287,395. Ocean Technology, Inc., Burbank, Calif. Filed Dec. 22, 1967.



Class 26—Measuring and Scientific Appliances

For Electronic and Electromechanical Assemblies and Sub-assemblies Used Primarily in Computing and Control Systems—Namely, Computing Servomodules, Computers, and Plotters; Synchro-To-Digital Converters, Test Sets, Timers, Torque Receivers, and Data Recorders (Int. Cl. 9).

First use Dec. 16, 1964.

Class 38—Prints and Publications

For Technical Publications—Namely, Engineering Study Reports, Drawings, Instruction and Maintenance Manuals (Int. Cl. 16).

First use July 14, 1964.

SN 287,670. Preston Scientific Incorporated, Anaheim, Calif. Filed Dec. 27, 1967.

X-MOD

Class 21—Electrical Apparatus, Machines, and Supplies

For Electrical Apparatus—Namely, Power Sources, Amplifiers and Voltage Level Detectors (Int. Cl. 9).

Class 26—Measuring and Scientific Appliances

For Scientific Apparatus—Namely, Voltmeters, Null Meters and Signal Sources (Int. Cl. 9).

First use Oct. 27, 1967.

SN 291,606. Grossman Music Corporation, Cleveland, Ohio. Filed Feb. 21, 1968.



Class 21—Electrical Apparatus, Machines, and Supplies

For Amplifiers and Microphones (Int. Cl. 9).

Class 36—Musical Instruments and Supplies

For Percussion Instruments—Namely, Drums, Tom-Toms, Bongos, Congas, Timbales, Tympani, Cymbals, Tambourines, Drum Pedals, Drum Sticks, Hi-Hats, Drum Beaters and Drum Accessories—Namely, Tom-Tom Holders, Cymbal Holders, Tom-Tom Legs, Bass Drum Spurs, Cow-Bell Holders, Wood-Block Holders, Snare Drum Stands, and Cymbal Stands; Brass Horns—Namely, Trumpets, Cornets, Trombones, Baritone, French Horns, Altos, Mellophones, and Sousaphones; Band Instrument Supplies—Namely, Mouthpieces, Mutes, Stands, and Derbies; Reed Instruments—Namely, Clarinets, Saxophones, Oboes, Bassoons, and English Horns; Reed Instrument Supplies—Namely, Mouthpieces, Reeds, Straps, Stands, and Key Pads; Wind Instruments—Namely, Flutes, and Piccolos; Fretted Instruments—Namely, Guitars, Mandolins, Mandolas, Ukuleles, Tenor Banjos, Five String Banjos, Banjo Mandolins, Banjo Ukuleles, Tenor Guitars, and Tipples; Fretted Instrument Supplies—Namely, Banjo Heads, Banjo Head Guards, Banjo Resonators, Banjo Bridges, Banjo Tail-Pieces, and Strings; Bow Played Instruments—Namely, Violins, Violas, Violoncellos, and Bass Viols; Bow Played Instrument Supplies—Namely, Bows, Bow Hair, Strings, and Bridges; Organs, Marimbas, Batons, Accordions, Concertinas, Pipes, Harmonicas, Ocarinas, Band Lyras (Int. Cl. 15).

First use on or about Mar. 4, 1957.

SN 292,735. Cornell-Dubiller Electric Corporation, Newark, N.J. Filed Mar. 8, 1968.



Owner of Reg. No. 727,420.

Class 21—Electrical Apparatus, Machines, and Supplies

For Power Supplies, Inverters, Converters, Antenna Rotators, Filter Networks, Delay Lines, Vibrators, and Relays (Int. Cl. 9).

Class 26—Measuring and Scientific Appliances

For Capacitance and Resistance Decade Boxes (Int. Cl. 9).

First use on or before April 1960.

SN 295,077. Towlsaver, Inc., Los Angeles, Calif. Filed Apr. 8, 1968.

SAFE T CARD

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Toilet Seat Cover Dispensers (Int. Cl. 21).

First use Mar. 6, 1968.

Class 37—Paper and Stationery

For Toilet Seat Covers (Int. Cl. 16).

First use Feb. 23, 1968.

SN 301,578. The S-P Manufacturing Corporation, Cleveland, Ohio. Filed June 28, 1968.



Owner of Reg. No. 525,839.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Valves (Int. Cl. 6).

First use Apr. 19, 1968.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Air and Hydraulic Cylinders—Rotating, With and Without Adaptors; Air Cylinders—Non-Rotating; Hydraulic Cylinders—Non-Rotating; Work Holding Fixtures Including Chucks With and Without Adaptors, Chuck Jaws, Collet Chucks, and Expanding Arbors; Pneumatic and Hydraulic Chuck Operating Mechanisms, Consisting of a Check-Connecting Draw-Rod, a Cylinder Enclosing an Actuating Platen, and a Control Valve Regulating the Reciprocating Motion of the Platen, Sold as a Unit; Air-Oil Boosters; Air-Oil Tanks; Fluidic Signal Generators; and Repair Parts for All Such Accessories (Int. Cl. 7).

First use July 14, 1961.

SN 302,812. Harloc Products Corporation, West Haven, Conn. Filed July 16, 1968.

HARLOC

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Decorative Escutcheons and Door Closers (Int. Cl. 6).

First use April 1953.

Class 25—Locks and Safes

For Door Locks and Latches (Int. Cl. 6).

First use Aug. 19, 1949.

SN 302,815. Good-Life Chemicals, Incorporated, Evingham, Ill. Filed July 16, 1968.

GOOD-LIFE

Owner of Reg. No. 596,994.

Class 6—Chemicals and Chemical Compositions

For Insecticides, Fungicides, and Herbicides (Int. Cl. 5).

First use 1953.

Class 10—Fertilizers

For Fertilizers (Int. Cl. 1).

First use Apr. 18, 1968.

SN 303,959. Art Academy of Hair Fashion, Richmond, Va. Filed July 31, 1968.

ART

Class 100—Miscellaneous

For Hair Styling (Int. Cl. 42).

First use at least prior to Dec. 31, 1938.

Class 107—Education and Entertainment

For Operating a School for Hair Stylists (Int. Cl. 41).

First use at least as early as Mar. 10, 1960.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.
A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials Class 2—Receptacles

SN 271,452. De Kalb Agricultural Association, Inc., De Kalb, Ill. Filed May 15, 1967.

DEKALB

Owner of Reg. Nos. 58,117, 751,100, and others.
For Chickens, Pullets, Cockerels and Baby Chicks (Int. Cl. 31).
First use August 1938.

SN 273,649. House of Rousseau, Ltd., Astoria, N.Y. Filed June 12, 1967.

CLOISONETTE

For Liquid Plastic Coating Which, When Applied to a Metal or Other Surface and Cured by Baking or Similar Treatment, Hardens Into a Transparent Glass-Like Coating, Similar in Appearance to Original Cloisonne (Int. Cl. 1).
First use Apr. 13, 1967.

SN 291,914. L. Teweles Seed Co., Milwaukee, Wis. Filed Feb. 26, 1968.

35

For Soybean Seed (Int. Cl. 31).
First use Feb. 8, 1968.

SN 291,915. L. Teweles Seed Co., Milwaukee, Wis. Filed Feb. 26, 1968.

62

For Soybean Seed (Int. Cl. 31).
First use Feb. 8, 1968.

SN 308,171. The Baxter Corporation, Paterson, N.J. Filed Sept. 25, 1968.

Astro-Pack

For Laminated Polyethylene Sheeting Fabricated Into Encapsulated Air Cells (Int. Cl. 17).
First use June 3, 1968.

SN 398,174. Natvar Corporation, Woodbridge, N.J. Filed Sept. 25, 1968.

FLOTUBE

For Extruded Plastic Tubing for Use in Fluidic Control Devices and for General Purpose Fluid and Gas Conveyance (Int. Cl. 17).
First use May 16, 1968.

TM 6

SN 285,986. J. Cheln & Company, Burlington, N.J. Filed Mar. 6, 1967.

BURLINGTON
CB CRAFTS

The word "Crafts" is disclaimed apart from the mark as shown.
For Waste Baskets, Bread Boxes, Canisters, Pantry Food Containers, Tissue Boxes, Hampers (Int. Cls. 20 and 21).
First use Jan. 11, 1967.

SN 283,484. The Witt Company, Cincinnati, Ohio. Filed Oct. 26, 1967.

WITT

For Receptacles—Namely, Cans and Pails Such as Refuse Cans and Pails, Chef Cans, Roller Cans, Janitor Pails, Contractor Pails, and the Like (Int. Cl. 21).
First use on or about May 1896.

SN 288,371. Standard Packaging Corporation, Stamford, Conn. Filed Jan. 8, 1968.

STANPAK

Owner of Reg. Nos. 595,308, 604,047, and others.
For Sugar and Cream Dispensers, Salt and Pepper Shakers, Condiment Sets, Ice Chests, Ice Buckets, Trays, Steak Platters, Spice Racks, and Coffee Mugs, All Either Wooden or Plastic; Extension Cord Reels and Litter Bags (Int. Cl. 21).
First use at least as early as Apr. 12, 1967; Sept. 17, 1953, as to "Stanpak."

SN 299,155. Samuel Perlin, Roslyn Heights, N.Y. Filed May 27, 1968.

PERMA-MINT

For Perforated Containers for Carrying Mints and Like Articles, Permitting Ready Exudation of Mint Odor and Flavor Therefrom (Int. Cl. 20).
First use May 1, 1967.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 281,632. Samsonite Corporation, Denver, Colo. Filed Oct. 2, 1967.

HANDI-TOTE

For Luggage (Int. Cl. 18).
First use June 25, 1967.

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U. S. PATENT OFFICE

TM 7

SN 295,958. Samsonite Corporation, Denver, Colo. Filed Apr. 18, 1968. SN 282,756. Abbott Laboratories, North Chicago, Ill. Filed Oct. 18, 1967.

Medalist

For Luggage (Int. Cl. 18).
First use Feb. 21, 1968.

SN 304,549. I. Klotz & Company, Bronx, N.Y. Filed Aug. 7, 1968.

ENDURA

For School Bags, Tote Bags, Brief Cases and Attache Cases (Int. Cl. 18).
First use June 19, 1968.

Class 6—Chemicals and Chemical Compositions

SN 259,409. Cook Chemical Company, Kansas City, Mo. Filed Nov. 25, 1966.



For Insecticides (Int. Cl. 5).
First use Feb. 19, 1963.

SN 269,901. Kaspar Winkler & Co., Altstetten, Zurich, Switzerland. Filed Apr. 24, 1967.

SIKA

Owner of U.S. Reg. Nos. 215,609 and 529,766.
For Waterproofing and Hardening Agent To Be Incorporated in Mortar or Concrete (Int. Cl. 1).
First use 1910; in commerce 1928.

SN 272,062. Imperial Chemical Industries Limited, Millbank, London, England. Filed May 22, 1967.

SILCOLOR

Priority claimed under Sec. 44(d) on British Reg. No. B998,834, dated May 1, 1967.
For Dyes, Pigments and Colouring Matters (Int. Cl. 2).

SN 280,786. Kert Manufacturing Company Limited, Toronto, Ontario, Canada. Filed Sept. 20, 1967.

BIG DAN

Owner of Canadian Reg. No. 146,665, dated Aug. 19, 1966.
For Chemical Compositions for Automotive Use—Namely, Combined Windshield Washer Anti-Freeze and Solvent (Int. Cl. 1).

ICAL

For Sludge Inhibitor for Stabilization of Fuel Oils (Int. Cl. 1).
First use June 13, 1967.

SN 285,283. Xttrium Laboratories, Inc., Chicago, Ill. Filed Nov. 20, 1967.

SHOCK

For Repellent for Personal Protection From Animal Attack (Int. Cl. 5).
First use Oct. 19, 1967.

SN 285,506. Abbott Laboratories, North Chicago, Ill. Filed Nov. 24, 1967.

INUSAY

For Radioactive Diagnostic Reagent for the Determination of Circulating Insulin in the Body (Int. Cl. 1).
First use July 25, 1967.

SN 289,294. GAF Corporation, New York, N.Y., by change of name from General Aniline & Film Corporation, New York, N.Y. Filed Jan. 22, 1968.

DUOWET

For Textile Surface Active Agents—Namely, Wetting and Rewetting Agents (Int. Cl. 1).
First use at least as early as 1953.

SN 290,677. A. R. Williams & Co., Carteret, N.J. Filed Feb. 8, 1968.

CARDIOCREME

For Solution for Application to the Skin at the Point of Application Thereto of an Electrode Such as That of an Electrocardiograph To Facilitate Conduction (Int. Cl. 1).
First use Dec. 7, 1967.

SN 293,579. Relton Corporation, Arcadia, Calif. Filed Mar. 18, 1968.

R-7

For Rust Preventive Liquid (Int. Cl. 2).
First use October 1966.

SN 295,690. Vulcan Materials Company, Clark, N.J. Filed Apr. 15, 1968.

IM-TIN

For Compound for Immersion Tin Plate of Aluminum and Aluminum Alloys (Int. Cl. 1).
First use Feb. 27, 1968.

Class 7—Cordage

SN 288,094. General Machine Products Company, Inc., Treviso, Pa. Filed Jan. 4, 1968.

NYLASH

For Lashing Material Consisting of a Plastic Strand (Int. Cl. 22).
First use October 1967.

Class 8—Smokers' Articles, Not Including Tobacco Products

SN 294,672. Scripto, Inc., Atlanta, Ga. Filed Apr. 1, 1968.

HAPPENINGSFor Cigar and Cigarette Lighters (Int. Cl. 34).
First use Feb. 22, 1968.

SN 301,088. Ries Distributors, Inc., Chicago, Ill. Filed June 21, 1968.

RIESCOOwner of Reg. No. 831,418.
For Smokers' Pipes and Smokers' Accessories—Namely, Pipe Cleaners, Tools, Racks and Cabinets, Lighters, Cigar Scissors, Cutters, Humidors and Ashtrays (Int. Cl. 34).
First use 1962.

SN 304,528. Wilton Brass Company, Columbia, Pa. Filed Aug. 6, 1968.

RWPFor Cast Metal Hollow Ash Trays (Int. Cl. 34).
First use Dec. 1, 1962.**Class 9—Explosives, Firearms, Equipments, and Projectiles**

SN 302,401. Federal Laboratories, Inc., Saltsburg, Pa. Filed July 10, 1968.

STREAMERFor Liquid Tear Gas Repeaters (Int. Cl. 13).
First use July 1, 1948.**Class 10—Fertilizers**

SN 279,551. W. R. Grace & Co., New York, N.Y. Filed Sept. 1, 1967.

NURISHOwner of Reg. No. 577,150.
For Plant Food—Namely, Fertilizer Containing Essential Plant Nutrients (Int. Cl. 1).
First use Feb. 16, 1952.

SN 298,109. Clover Chemical Company, Elghty Four, Pa. Filed May 14, 1968.

For Water Soluble Lawn and Plant Food (Int. Cl. 1).
First use Mar. 28, 1968.

SN 300,254. City of Mobile, Mobile, Ala. Filed June 12, 1968.

MOBILE-AIDFor Compost (Int. Cl. 1).
First use on or about Dec. 15, 1967.**Class 12—Construction Materials**

SN 269,761. Hess Manufacturing Company, Quincy, Pa. Filed Apr. 21, 1967.

For Prefabricated Building Panels (Int. Cl. 19).
First use Apr. 3, 1967.

SN 287,503. The Adamite Company Limited, Hertfordshire, England, Filed Dec. 26, 1967.

ALTROOwner of British Reg. Nos. 607,589, dated June 22, 1939, 628,722, dated Apr. 14, 1944, 679,537, dated May 16, 1949, and 726,499, dated Feb. 4, 1954, respectively.
For Tiles, Treads or Sheet Material Composed of Cement, Asbestos, Asphalt, Ceramic, or Natural, Artificial, or Synthetic Rubber for Covering Floors, Walls or Stairs (Int. Cl. 19).

SN 291,631. Pacific Wood Products Company, Los Angeles, Calif. Filed Feb. 21, 1968.

p.w.p.For Plywood Panels (Int. Cl. 19).
First use November 1961.

SN 301,089. Rusco Industries, Inc., d.b.a. Galaxie Window Company, Cleveland, Ohio. Filed June 21, 1968.

GALAXIEFor Aluminum Windows and Doors (Int. Cl. 6).
First use May 31, 1968.

SN 301,104. The Tremco Manufacturing Co., Cleveland, Ohio. Filed June 21, 1968.

PERMA-JOINTOwner of Reg. No. 408,018.
For 2-Part Sealant Composition (Int. Cl. 17).
First use at least as early as Apr. 29, 1968.

SN 305,011. Wells Badger Industries, Inc., Milwaukee, Wis. Filed Aug. 12, 1968.

TRU-STONEFor Prefabricated Panels Made of Building Materials Such as Stone, Brick and Tile (Int. Cl. 19).
First use Apr. 1, 1968.

SN 306,316. Simpson Timber Company, Seattle, Wash. Filed Aug. 30, 1968.

STOK LAMFor Laminated Wood Beams (Int. Cl. 19).
First use May 29, 1968.

SN 307,377. Alumiseal Corporation, New York, N.Y. Filed Sept. 16, 1968.

ALUMITHANEFor Polyurethane Foam Insulation (Int. Cl. 17).
First use Apr. 1, 1967.**Class 13—Hardware and Plumbing and Steam-Fitting Supplies**

SN 285,590. The Halsey W. Taylor Company, Warren, Ohio. Filed Nov. 24, 1967.

MINI-COOLERFor Water Coolers and Parts Thereof—Namely, Drinking Fountains (Int. Cl. 11).
First use on or about July 17, 1967.

SN 297,606. The Shelby Metal Products Co., Shelby, Ohio. Filed May 7, 1968.

GRIPITEFor Towel Holders (Int. Cl. 21).
First use on or about Mar. 18, 1968.

SN 299,028. S. H. Leggett Company, Inc., Marshall, Mich. Filed May 24, 1968.

CAMP-TEENFor Portable Sink and Liquid Reservoir for Camping and Picnicking Purposes, and Parts and Accessories Therefor (Int. Cl. 19).
First use Mar. 27, 1968.

SN 300,856. Venetian Marble Company, Dallas, Tex. Filed June 19, 1968.

VENUSFor Marble Bathtubs (Int. Cl. 11).
First use at least as early as May 1968.

SN 300,890. Austin Continental Industries, Inc., Chicago, Ill. Filed June 20, 1968.

For Fasteners—Namely, Screws, Bolts and Nuts (Int. Cl. 6).
First use Feb. 2, 1959.

SN 301,229. Independent Nail, Inc., Bridgewater, Mass. Filed June 24, 1968.

SQUAREHEDOwner of Reg. No. 736,663.
For Nails (Int. Cl. 6).
First use Dec. 17, 1954.

SN 301,230. Independent Nail, Inc., Bridgewater, Mass. Filed June 24, 1968.

ANCHORFASTOwner of Reg. No. 733,268.
For Wire Fasteners—Namely, Nails, Screws and Pins (Int. Cl. 6).
First use Nov. 12, 1940.

SN 301,767. Rockwell Manufacturing Company, Pittsburgh, Pa. Filed July 1, 1968.

PERMASEALFor Valves (Int. Cl. 6).
First use May 28, 1968.

SN 301,992. Phillips Petroleum Company, Bartlesville, Okla. Filed June 27, 1968.

PHILDUCTFor Plastic Conduit (Int. Cl. 17).
First use Nov. 14, 1967.

SN 302,707. Beneke Corporation, Columbus, Miss. Filed July 15, 1968.

FRONTIERFor Toilet Seats (Int. Cl. 11).
First use March 1959.

SN 302,708. Beneke Corporation, Columbus, Miss. Filed July 15, 1968.

SUBURBANFor Toilet Seats (Int. Cl. 11).
First use January 1968.

SN 302,880. Yoshida Kogyo Kabushiki Kaisha, Chiyoda-ku, Tokyo, Japan. Filed July 18, 1968.

EFLONFor Slide Fasteners (Int. Cl. 26).
First use January 1968; in commerce May 1968.

SN 303,310. Industrial Fasteners Corporation, New York, N.Y. Filed July 22, 1968.

INFASTFor Screws and Fasteners for Sheet Metal (Int. Cl. 6).
First use at least as early as July 21, 1967.

SN 304,208. Crsne Co., New York, N.Y. Filed Aug. 2, 1968.

NEU-LIFTFor Water Closet Flush Valves and Parts and Components Therefor (Int. Cl. 11).
First use Apr. 18, 1968.

SN 304,400. Screw and Bolt Corporation of America, Pittsburgh, Pa. Filed Aug. 5, 1968.

EVER-GRIPFor Weld Elements in the Nature of Nuts and Screws (Int. Cl. 6).
First use June 18, 1968.

SN 308,946. Deniston Company, Chicago, Ill. Filed Oct. 7, 1968.
 SN 294,879. Ardath Tobacco Company, Limited, London, England. Filed Apr. 4, 1968.

NEO-NAILS

For Roofing Nails (Int. Cl. 6).
 First use Sept. 23, 1968.

Class 15—Oils and Greases

SN 291,080. Lubrication Engineers, Inc., Fort Worth, Tex. Filed Feb. 14, 1968.

ANDOLEC

For Additives for Gasoline Fueled Engines, Diesel Fueled Engines, Liquefied Petroleum Gas Engines, and Natural Gas Engines (Int. Cl. 1).
 First use Dec. 1, 1967.

SN 292,393. Lubrication Engineers, Inc., Fort Worth, Tex. Filed Mar. 4, 1968.

COMPLEX/O

For Oil Supplement for Internal Combustion Engine Oils (Int. Cl. 4).
 First use Dec. 5, 1967.

SN 294,722. Candle-Lite, Inc., Cincinnati, Ohio. Filed Apr. 2, 1968.

Amaryllis

For Candles (Int. Cl. 4).
 First use Apr. 22, 1964.

Class 17—Tobacco Products

SN 283,336. Carlos A. Fuente, d.b.a. Arturo Fuente Cigar Factory, Tampa, Fla. Filed Oct. 25, 1967.

MOYA

For Cigars (Int. Cl. 34).
 First use Mar. 10, 1967.

SN 283,852. Bayuk Cigars Incorporated, Philadelphia, Pa. Filed Nov. 1, 1967.

HUMITRAY

For Boxes Containing Cigars (Int. Cl. 34).
 First use May 19, 1966.

SN 283,853. Bayuk Cigars Incorporated, Philadelphia, Pa. Filed Nov. 1, 1967.

HUMIRAP

For Boxes Containing Cigars (Int. Cl. 34).
 First use May 19, 1966.



The words "London Mixture" are disclaimed apart from the mark as shown. Owner of British Reg. No. 906,197, dated Mar. 3, 1967.
 For Smoking Tobacco (Int. Cl. 34).

SN 308,134. Philip Morris Incorporated, New York, N.Y. Filed Sept. 24, 1968.

NEVADA

For Cigarettes (Int. Cl. 34).
 First use Sept. 16, 1968.

SN 308,135. Philip Morris Incorporated, New York, N.Y. Filed Sept. 24, 1968.

COLORADO

For Cigarettes (Int. Cl. 34).
 First use Sept. 16, 1968.

SN 308,136. Philip Morris Incorporated, New York, N.Y. Filed Sept. 24, 1968.

ARIZONA

For Cigarettes (Int. Cl. 34).
 First use Sept. 16, 1968.

Class 18—Medicines and Pharmaceutical Preparations

SN 275,640. Commerce Drug Co., Inc., Farmingdale, N.Y. Filed July 10, 1967.

TANAC

For Medicated Preparation for Cold Sores, Fever Blisters, and Cracked Lips (Int. Cl. 5).
 First use Dec. 27, 1954.

SN 277,123. Associated Researchers, Inc., Las Vegas, Nev. Filed July 31, 1967.

PROP-A-GRO

For Vitamin and Mineral Preparation for Human Consumption (Int. Cl. 5).
 First use Nov. 19, 1959.

SN 279,624. Susan E. F. Carlson, d.b.a. J. R. Carlson Laboratories, Chicago, Ill. Filed Sept. 5, 1967.

Key-E

For Vitamin Preparations (Int. Cl. 5).
 First use May 31, 1967.

SN 286,107. Dooner Laboratories Inc., Haverhill, Mass. Filed Dec. 4, 1967.
 SN 307,717. Mead Johnson & Company, Evansville, Ind. Filed Sept. 19, 1968.

GYROCAPS

For Timed Released Capsules for Temporary Relief to the Distressing Symptoms Accompanying the Common Cold, Hay Fever, and Similar Allergic Conditions (Int. Cl. 5).
 First use Oct. 12, 1967.

SN 287,989. American Home Products Corporation, New York, N.Y. Filed Jan. 2, 1968.

THE FATIGUE FIGHTER

Applicant makes no exclusive claim to the word "Fatigue" separately and apart from the mark as shown.
 For Stimulant Capsules (Int. Cl. 5).
 First use Oct. 30, 1967.

SN 291,021. Boehringer Ingelheim, G.m.b.H., Ingelheim (Rhine), Germany. Filed Feb. 14, 1968.

PRELU-SED

Owner of U.S. Reg. No. 711,440.
 For Anorectics (Int. Cl. 5).
 First use Jan. 17, 1968; in commerce Jan. 17, 1968.

SN 292,653. American Home Products Corporation, New York, N.Y. Filed Mar. 7, 1968.

GREEN GO

For Stimulant Preparation (Int. Cl. 5).
 First use Sept. 22, 1967.

SN 292,654. American Home Products Corporation, New York, N.Y. Filed Mar. 7, 1968.

GO ALERT

For Stimulant Preparation (Int. Cl. 5).
 First use Sept. 22, 1967.

SN 303,757. American Home Products Corporation, New York, N.Y. Filed July 29, 1968.

ECHOPHEN

Owner of Reg. No. 796,652.
 For Ophthalmic Preparation (Int. Cl. 5).
 First use May 28, 1968.

SN 307,713. Mead Johnson & Company, Evansville, Ind. Filed Sept. 19, 1968.

CHUMS

For Vitamin Preparations (Int. Cl. 5).
 First use on or prior to Sept. 13, 1968.

SN 307,716. Mead Johnson & Company, Evansville, Ind. Filed Sept. 19, 1968.

FRIENDS

For Vitamin Preparations (Int. Cl. 5).
 First use on or prior to Sept. 13, 1968.

BUDDIES

For Vitamin Preparations (Int. Cl. 5).
 First use on or prior to Sept. 13, 1968.

SN 307,801. American Home Products Corporation, New York, N.Y. Filed Sept. 20, 1968.

TRANQUA-SELTZER

For Antacid Sedative Preparations (Int. Cl. 5).
 First use Sept. 12, 1968.

SN 307,802. American Home Products Corporation, New York, N.Y. Filed Sept. 20, 1968.

TRANQUI-SELTZER

For Antacid-Sedative Preparation (Int. Cl. 5).
 First use Sept. 12, 1968.

Class 19—Vehicles

SN 280,790. Donald R. Lemmerman, d.b.a. Lemco, St. Cloud, Minn. Filed Sept. 20, 1967.



The shading on the design does not represent a particular color.
 For Vehicles—Namely, Four Wheel Drive Motor Vehicles Articulated for Carrying Passengers and/or Cargo (Int. Cl. 12).
 First use Sept. 1, 1965.

SN 297,393. Dolphin-Kemper, Inc., Cornua, Ind. Filed May 6, 1968.



For Sleighs for Snow-Mobiles (Int. Cl. 12).
 First use Mar. 16, 1968.

SN 308,079. Tralico Manufacturing and Sales Company, Hummels Wharf, Pa. Filed Sept. 24, 1968.

TRAILCO

For Trailer Trucks and Trailer Bodies (Int. Cl. 12).
 First use on or about Feb. 1, 1942.

Class 20—Linoleum and Oiled Cloth

SN 287,502. The Adamite Company Limited, Hertfordshire, England. Filed Dec. 26, 1967.

ALTRO

Owner of British Reg. Nos. 607,589, dated June 22, 1939; 628,722, dated Apr. 14, 1944; 679,537, dated May 16, 1949, and 726,499, dated Feb. 4, 1954, respectively.

For Tiles, Treads or Sheet Material Composed of Plastics or Vinyl for Covering Floors, Walls, or Stairs (Int. Cl. 19).

Class 21—Electrical Apparatus, Machines, and Supplies

SN 273,042. Conduction Corporation, Ann Arbor, Mich. Filed June 5, 1967.



For Magnetic Pulse Modulators, Amplifiers, Power Supplies, DC-DC Converters, Solid State Frequency Changers and Sine Wave Converters (Int. Cl. 9).
First use Jan. 15, 1955.

SN 274,977. Charles Messenger, North Hollywood, Calif. Filed June 28, 1967.

POWER DOME

For Antennas (Int. Cl. 9).
First use January 1967.

SN 276,212. Anaconda Aluminum Company, Louisville, Ky. Filed July 18, 1967.

ANASHIELD

Owner of Reg. No. 754,902.
For Plastic Coatings on Electro-Magnetic Shielding Tapes of Aluminum Foil (Int. Cl. 17).
First use May 17, 1967.

SN 276,696. Shooting Equipment, Inc., Chicago, Ill. Filed July 24, 1967.

AUDIO-COMMAND

For Intercommunication Systems for Use on Shooting Ranges (Int. Cl. 9).
First use November 1962.

SN 277,174. Hydro-Catalator Corporation, Miami, Fla. Filed July 31, 1967.



Owner of Reg. No. 574,262.
For Catalyst Battery Caps for Electrical Storage Batteries (Int. Cl. 9).
First use on or about Aug. 27, 1951.

SN 277,826. Ferrotec, Incorporated, Newton, Mass. Filed Aug. 8, 1967.

FERROTEC

For Microwave Apparatus—Namely, Circulators, Isolators, Faraday Rotators, Phase Shifters, Frequency Multipliers, Modulators, Variable and Fixed Attenuators, Filters, Switches, Couplers, Mixers, and Composite Assemblies of Microwave Apparatus (Int. Cl. 9).
First use Oct. 14, 1958.

SN 280,723. North American Rockwell Corporation, El Segundo, Calif., by change of name from North American Aviation, Inc., El Segundo, Calif. Filed Sept. 19, 1967.

NADYNE

For Electrical Motors and Generators (Int. Cl. 7).
First use July 31, 1961.

SN 281,370. General Motors Corporation, Detroit, Mich. Filed Sept. 28, 1967.

ADLO

For Electrical Relays (Int. Cl. 9).
First use Aug. 18, 1967.

SN 281,458. Conrac Corporation, New York, N.Y. Filed Sept. 29, 1967.



The drawing is lined for the color red, but no claim is made to color.

For Microphones (Int. Cl. 9).
First use 1951.

SN 281,665. Alpha Industries, Inc., Newton Upper Falls, Mass. Filed Oct. 3, 1967.

OCTATRON

For Solid State Oscillators (Int. Cl. 9).
First use Sept. 1, 1967.

SN 288,096. IMC Magnetics Corp., Westbury, N. Y. Filed Jan. 4, 1968.

IMCube

For Electric Fans (Int. Cl. 11).
First use June 30, 1967.

SN 288,353. S & A Electronics, Inc., Toledo, Ohio. Filed Jan. 8, 1968.

PERMA GOLD

For Antennas and Antenna Hardware (Int. Cl. 9).
First use Oct. 31, 1966.

SN 288,834. Magnetics, Inc., East Butler, Pa. Filed Jan. 15, 1968.

TIP

For Electrical Power Control Units and Control Amplifiers (Int. Cl. 9).
First use May 1965.

SN 290,393. George Kovacs, Inc., New York, N.Y. Filed Feb. 6, 1968.

CRAZY LEGS

For Adjustable Electrical Floor Lamp (Int. Cl. 11).
First use Jan. 15, 1968.

SN 291,523. Research-Cottrell, Inc., Bound Brook, N.J. Filed Feb. 20, 1968.

COTTRELL-ETTE

Owner of Reg. No. 708,034.
For Apparatus for Cleaning Industrial Gases and Air of Suspended Matter—Namely, Electrostatic Precipitators and Parts Thereof (Int. Cl. 11).
First use about Mar. 22, 1967.

SN 294,068. Middlebury Manufacturing Co., Inc., Waterbury, Conn. Filed Mar. 25, 1968.

MIDBY

For Electro-Mechanical Apparatus—Namely, Elapsed Time Indicators and Sonic Detectors (Int. Cl. 9).
First use Apr. 17, 1967.

SN 295,203. WMI Corporation, Evanston, Ill. Filed Apr. 8, 1968.

TEISCO

For Microphones (Int. Cl. 9).
First use Dec. 13, 1967.

SN 296,207. Sprague Plastan Company, San German, Puerto Rico. Filed Apr. 22, 1968.

PLASTAN

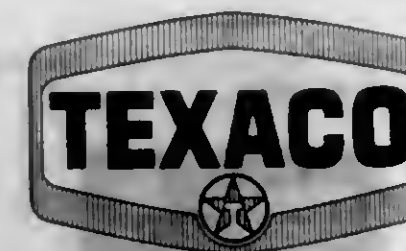
For Electrical Capacitors (Int. Cl. 9).
First use Nov. 2, 1967.

SN 296,417. General Electric Company, Louisville, Ky. Filed Apr. 24, 1968.

HOTPOINT

Owner of Reg. Nos. 534,765, 751,704, and others.
For Television Broadcast Receivers (Int. Cl. 9).
First use at least as early as July 1956.

SN 296,470. Texaco Inc., New York, N.Y. Filed Apr. 24, 1968.



The drawing is lined for the color red, but no claim is made to color per se. Owner of Reg. No. 835,841.
For Automobile Lamps (Int. Cl. 11).
First use Nov. 3, 1967.

SN 296,674. Eastern Electric Sales Co., Inc., d.b.a. Eastern Electric Wire & Cable Company, Bellmawr, N.J. Filed Apr. 26, 1968.

RED BALL

For Electrical Appliance Cord (Int. Cl. 9).
First use Mar. 13, 1968.

SN 306,439. General Electric Company, Schenectady, N.Y. Filed Sept. 3, 1968.



Owner of Reg. Nos. 320,304, 846,971, and others.
For Complete Line of Materials, Appliances, Machinery, Components, Parts, Systems and Plants for the Generation, Transformation, Conversion, Transmission, Distribution, Control and Utilization of Electricity (Int. Cls. 7 and 9).
First use at least as early as 1925.

Class 22—Games, Toys, and Sporting Goods

SN 275,973. Standard Toykraft Inc., Brooklyn, N.Y. Filed July 13, 1967.

DEBBIE'S

For Children's Bead Sets, Embroidery Sets, and Knitting Sets (Int. Cl. 28).
First use Mar. 3, 1961.

SN 277,036. Endicott Johnson Corporation, Endicott, N.Y. Filed July 28, 1967.

GIMMIES

For Men's Golf Shoes (Int. Cl. 25).
First use May 24, 1966.

SN 278,548. Woodstream Corporation, Lititz, Pa. Filed Aug. 17, 1967.



PERMIT

For Tackle Box (Int. Cl. 28).
First use Aug. 3, 1967.

SN 278,549. Woodstream Corporation, Lititz, Pa. Filed Aug. 17, 1967.



TRIGGERFISH

For Fishing Seat (Int. Cl. 28).
First use Aug. 3, 1967.

SN 278,550. Woodstream Corporation, Lititz, Pa. Filed Aug. 17, 1967.



#ONEFISH

For Tackle Box (Int. Cl. 28).
First use Aug. 3, 1967.

SN 280,897. James L. Thomas, d.b.a. Hot Dog Tackle Company, Traverse City, Mich. Filed Sept. 21, 1967.

HOT DOG!

For Fishing Tackle—Namely, Fish Lures (Int. Cl. 28).
First use Feb. 1, 1967.

SN 284,179. Empire Plastic Corp., New York, N.Y. Filed Nov. 6, 1967.

JOHNNY TARHEEL

The name "Johnny Tarheel" is fictitious.
For Toy Guns and Pistols (Int. Cl. 28).
First use Oct. 24, 1967.

SN 286,139. Handy Manufacturing Co., Marshalltown, Iowa. Filed Dec. 4, 1967.



For Equipment Sold as a Kit for a Physical Exercising Program—Namely, Ground Positioned Obstacle Members for Step, Jump, and Running Games (Int. Cl. 28).
First use July 31, 1967.

SN 291,995. Samuel A. Moses, Hollidaysburg, Pa. Filed Feb. 27, 1968.



No claim is made to the word "Golf" apart from the mark.
For Equipment for Playing a Game (Int. Cl. 28).
First use Jan. 4, 1968.

SN 295,075. Firma Jean Hoffer & Co. KG., Forth/Bavaria, Germany. Filed Feb. 16, 1968.



Priority claimed under Sec. 44(d) on German application filed Oct. 24, 1967; Reg. No. 839,979, dated Dec. 7, 1967. The drawing is lined for the color purple but color is not claimed as a feature of the mark.

For Toys Excluding Dolls, and Doll Accessories (Int. Cl. 28).

SN 300,036. Frank D. Macri, Meriden, Conn. Filed June 10, 1968.

SWING MONITOR

For Golf Training Apparatus To Aid the User in Perfecting a Proper or Correct Golf Swing.
First use Apr. 4, 1968.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 262,736. Ideal Outills S.A., Chlusa, Switzerland. Filed Jan. 18, 1967.



Priority claimed under Sec. 44(d) on Swiss Reg. No. 219,207, dated July 19, 1966.

For Hand Tools Used in the Field of Electronics, Aeronautics, Precision Mechanics, Jewelry Repair and Watch Making and the Like—Namely, Pliers, Pinchers, and Tweezers (Int. Cl. 8).

SN 281,364. The Echlin Manufacturing Company, Branford, Conn. Filed Sept. 28, 1967.

ECHLIN

Owner of Reg. Nos. 435,845 and 635,847.
For Fuel System Parts for Vehicle Internal Combustion Engines—Namely, Carburetors, Carburetor Parts, Dashpots, and Exhaust Emission Controls (Int. Cl. 12).
First use Aug. 31, 1962.

SN 287,520. Cincinnati Butchers' Supply Company, Cincinnati, Ohio. Filed Dec. 26, 1967.



Owner of Reg. No. 117,110.
For Packing House Machines and Equipment for Slaughter-log, Dressing and Processing Hogs and Cattle, and Meat Packing Machines (Int. Cl. 7).
First use March 1903.

SN 292,187. Dana Corporation, Toledo, Ohio. Filed Feb. 29, 1968.

GLIDECOTE

For Universal Joints, Drive Shafts, and Parts Therefor (Int. Cl. 7).
First use July 16, 1965.

SN 292,216. Massey-Ferguson-Perkins Limited, London, England. Filed Feb. 29, 1968.



Owner of U.S. Reg. Nos. 600,523 and 617,180.
For Diesel Engines (Int. Cl. 7).
First use Jan. 8, 1968; in commerce Jan. 8, 1968.

SN 292,334. Acra-Plant, Inc., Newton, Kana. Filed Mar. 4, 1968.



Owner of Reg. No. 759,968.
For Furrow-Opening Shoes for Seed Planting Implements (Int. Cl. 7).
First use May 2, 1962.

SN 293,621. Browning Manufacturing Company, Mayaville, Ky. Filed Mar. 19, 1968.

EVER-FLEX

For Power Transmission Equipment—Namely, Couplings (Int. Cl. 7).
First use Feb. 12, 1968.

SN 297,196. Lily-Tulip Cup Corporation, New York, N.Y. Filed May 2, 1968.

LILYPAK

For Packaging Equipment—Namely, Dispensers, Filling Machines and Cappers (Int. Cl. 7).
First use on or about Apr. 11, 1968.

SN 298,630. The Slinger Company, New York, N.Y. Filed May 20, 1968.

FASHION MATE

Owner of Reg. No. 611,766.
For Sewing Machines, Their Parts and Attachments (Int. Cl. 7).
First use Apr. 8, 1968.

SN 298,757. Reynolds Metals Company, Richmond, Va. Filed May 21, 1968.

SHRINKASE

Owner of Reg. No. 819,510.
For Machinery for Packaging Articles in Plastic Film (Int. Cl. 7).
First use at least as early as March 1968.

SN 299,343. Fly-Wheel Corporation, d.b.a. Schlefer Mfg. Co., Monterey Park, Calif. Filed May 29, 1968.

REV-LOK

Owner of Reg. No. 749,741.
For Automotive Clutches (Int. Cl. 12).
First use Jan. 12, 1966.

Class 24—Laundry Appliances and Machines

SN 304,864. Mercantile Stores Company, Inc., New York, N.Y. Filed Aug. 12, 1968.

MERVILLE

Owner of Reg. Nos. 524,796 and 542,284.
For Ironing Board Protectors (Int. Cl. 21).
First use on or about Mar. 26, 1968.

Class 26—Measuring and Scientific Appliances

SN 248,817. Leeds & Northrup Company, Philadelphia, Pa. Filed June 23, 1966.

MILLITEMP

For Electrical Measuring and Control Instruments—Namely, Indicators and Indicating Controllers, of the Deflection Type for Indicating the Magnitude of Physical Quantities Such as Temperature, Pressure, Flow, Stress, Electrical Characteristics, Smoke Density, etc. That May Be Represented by Varying Electrical Signals and for Control of Said Magnitudes (Int. Cl. 9).
First use Feb. 7, 1966.

SN 269,867. James Elden, d.b.a. Elden Business Machines, Chicago, Ill. Filed Apr. 24, 1967.

EBM

For Business Machines—Namely, Data Processing Machines for Information Storage and Retrieval (Int. Cl. 9).
First use Jan. 1, 1964.

SN 281,714. Motorola, Inc., Franklin Park, Ill. Filed Oct. 3, 1967.

VERITRAK

For Electronic Process Monitoring and Control Systems, and Instruments for Said Systems—Namely, Recorders for Permanently Recording the Process Variables, Indicators for Visually Indicating the Process Variables, Controllers, Pressure Transmitters, Differential Pressure Transmitters, Current to Pneumatic Transducers, Computing Modules, Mounting Cases for the Instruments Such as, Recorders, Indicators and Controllers, and Recording Charts for Use in the Recorders for Said System (Int. Cl. 9).
First use on about June 1963.

SN 282,152. United States Scientific Instruments, Inc., Watertown, Mass. Filed Oct. 9, 1967.



For Stroboscopic Apparatus, Pulse-Producing Electric Circuits, Including Pulse Transformers, Flash Tube Driving Circuits and Related Accessory Apparatus for Use With Pulse Measuring Apparatus (Int. Cl. 9).
First use on or about Jan. 15, 1967.

SN 283,249. Goodyear Aerospace Corporation, Akron, Ohio. Filed Oct. 24, 1967.

DYNASEAT

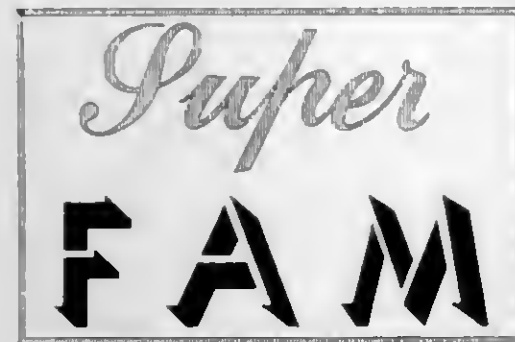
For Pneumatically Actuated Seat Cushion for Use in Vehicle Simulators and Other Applications. (Int. Cl. 9).
First use Dec. 12, 1966.

SN 283,532. Logotronics Inc., Springfield, Va. Filed Oct. 27, 1967.

LOGEGAMMA

Owner of Reg. Nos. 761,948 and 804,236.
For Sensitometer (Int. Cl. 9).
First use May 5, 1965.

SN 284,251. Thiokol Chemical Corporation, Bristol, Pa. Filed Nov. 6, 1967.



The drawing is lined for the color red. The word "Super" is disclaimed apart from the mark as shown.

For Combustion Chamber for Testing Under Actual Burning Conditions the Ability of Air Augmentation Solid Propellants To Meet Operational Requirements (Int. Cl. 9).
First use on or about Jan. 4, 1966.

SN 284,995. Cyclops Industries, Charleston, W. Va. Filed Nov. 16, 1967.



For Safety Sight Glass Comprising a Relatively Thick Glass Lens and a Ring for Pressure-Tight Attachment to Chemical Reactors, Chemical Pressure Vessels, Chemical Mixing Vessels, Wind Tunnels, Distillation Columns, Pipelines and Chemical Processing Equipment (Int. Cl. 9).
First use at least as early as Dec. 31, 1962.

SN 287,682. Supreme Equipment & Systems Corp., Brooklyn, N.Y. Filed Dec. 27, 1967.

CONSERV-A-TRIEVE

For Automatic Electronic Sequential Unit for Storing and Retrieving Information (Int. Cl. 9).
First use Oct. 15, 1967.

SN 291,708. Buffalo Meter Company, Incorporated, Buffalo, N.Y. Filed Feb. 23, 1968.

TELEREAD

For Remote Reading Attachments for Fluid Meters (Int. Cl. 9).
First use July 9, 1959.

SN 294,730. GAF Corporation, New York, N.Y., by change of name from General Aniline & Film Corporation, New York, N.Y. Filed Apr. 2, 1968.

ANSCORAMA

Owner of Reg. Nos. 98,456, 378,951, 616,815, and others. For Photographic Apparatus—Namely, Slide Projectors and Trays for Use With Slide Projectors (Int. Cl. 9).
First use Feb. 22, 1968.

SN 297,989. Duncan Industries, Inc., Elk Grove Village, Ill., by change of name from Duncan Parking Meter Corporation, Elk Grove Village, Ill. Filed May 13, 1968.

GOLDEN CIRCLE

For Parking Meters (Int. Cl. 9).
First use at least as early as March 1968.

SN 308,661. Radio Corporation of America, New York, N.Y. Filed Oct. 2, 1968.

RCA

Owner of Reg. Nos. 167,591, and 517,257, and others. For Radio Range and Position Detection Equipment Used as Navigation Aids—Namely, Radar (Int. Cl. 9).
First use March 1946.

SN 308,662. Radio Corporation of America, New York, N.Y. Filed Oct. 2, 1968.



Owner of Reg. Nos. 167,591, 517,257, and others. For Radio Range and Position Detection Equipment Used as Navigation Aids—Namely, Radar (Int. Cl. 9).
First use at least as early as Aug. 13, 1968; March 1946 in a different form.

Class 28 — Jewelry and Precious-Metal Ware

SN 287,389. Teasufex S.p.A., Vicenza, Italy. Filed Dec. 21, 1967.



Priority claimed under Sec. 44(d) on Italian application filed Sept. 26, 1967; Reg. No. 217,167, dated Nov. 29, 1967. For Watch Bracelets Made of Precious and Non-Precious Metals and Alloys (Int. Cl. 14).

SN 298,462. Lucien A. Marsh, d.b.a. Wristline Adjustable Watch Bands, San Francisco, Calif. Filed May 17, 1968.

WRISTLINE

For Bands in the Nature of Jewelry To Be Worn on the Wrist (Int. Cl. 14).
First use on or before Nov. 18, 1967.

SN 298,747. George Weston Mitchell, Jr., d.b.a. Weston of Williamsburg, Williamsburg, Va. Filed May 21, 1968.

TIE-GER TACKS

Applicant disclaims the word "Tacks" apart from the mark as shown. For Tie Tacks (Int. Cl. 14).
First use Dec. 26, 1967.

Class 29 — Brooms, Brushes, and Dusters

SN 290,287. West Chemical Products, Inc., Long Island City, N.Y. Filed Sept. 13, 1967.



Owner of Reg. No. 516,258. For Hand Mop With Cotton Material on the End Thereof; Wax Hand Mop With Lamb's Wool Attached to the End Thereof (Int. Cl. 21).
First use Feb. 13, 1967.

Class 32 — Furniture and Upholstery

SN 279,849. Old Sturbridge, Inc., Sturbridge, Mass. Filed Sept. 7, 1967.



Owner of Reg. Nos. 775,613, 775,817, and others. For Reproductions of Antique Tables, Chairs, Desks, Chests, Beds, Hanging Shelves, Mirrors, Servers, and Sideboards (Int. Cl. 20).
First use May 14, 1963.

SN 284,057. Volkert Stampings, Inc., Queens Village, N.Y. Filed Nov. 2, 1967.



For Industrial Storage Equipment—Namely, Cabinets, Desks, Machine Accessory Cabinet-Benches, Under-the-Bench Cabinet Units, and Parts Thereof for the Above Enumerated Items (Int. Cl. 20).
First use Nov. 4, 1958.

SN 287,264. American Seating Company, Grand Rapids, Mich. Filed Dec. 20, 1967.

AMERFOAM

For Urethane Foam Cushions Sold Only as an Integral Part of School Chairs and Theater Seats (Int. Cl. 20).
First use in or before January 1963.

SN 292,133. Edward S. Reid, Hartsville, S.C. Filed Feb. 28, 1968.

THE KIT STOOL

Applicant disclaims the word "Stool" apart from the mark as shown. For Collapsible Stool (Int. Cl. 20).
First use Dec. 20, 1949.

SN 295,059. The Soft Spot Products Company, Passaic, N.J. Filed Apr. 5, 1968.

SOFT-SPOT

For Portable Seat Cushions for Spectators at Sporting Events and the Like (Int. Cl. 20).
First use Jan. 11, 1968.

SN 300,116. Sacha Quality Stores, Inc., Bronx, N.Y. Filed June 10, 1968.

INHERITANCE HOUSE

For Bedroom Furniture Comprising Beds, Dressers, Wardrobes, Bedroom Chairs, Bureaus, Bedroom Mirrors, Bedroom Benches; Living-Room Furniture Comprising Living Room Suites, Chests, Living Room Chairs, Living Room Tables, Magazine Racks, Benches; Dining Room Furniture Comprising Tables, Chairs, China Closets, Serving Carts and Tea Wagons, Sideboards, Buffets; Bookcases, Breakfast Furniture Sets, Cabinets for Radio and Television Receiving Sets and Phonograph Apparatus; Also Picture Frames, Sofas, and Love Seats, Mirrors for Use in Connection With Furniture (Int. Cl. 20).
First use Nov. 24, 1967.

SN 300,884. Stow/Davis Furniture Company, Grand Rapids, Mich. Filed June 13, 1968.

ELECTA

For Office Furniture (Int. Cl. 20).
First use on or about June 3, 1968.

SN 301,042. Con-Tex Corporation, Milwaukee, Wis. Filed June 21, 1968.



For Mattresses (Int. Cl. 20).
First use Feb. 6, 1968.

SN 301,413. Eastman Kodak Company, Rochester, N.Y. Filed June 26, 1968.

LYRIC

For Pillows (Int. Cl. 20).
First use May 20, 1968.

SN 302,092. David M. Lea & Co., Inc., Richmond, Va. Filed July 5, 1968.

MATADOR

For Furniture—Namely, Bedroom Collections and Individual Pieces in Connection Therewith (Int. Cl. 20).
First use April 1968.

SN 302,620. Robert Haws Company, Detroit, Mich. Filed July 12, 1968.

SANI-CLAD

For Table Tops and Bench Tops Laminated With Plastic (Int. Cl. 20).
First use Aug. 28, 1967.

SN 302,929. Fox Manufacturing Company, Rome, Ga. Filed July 17, 1968.



Owner of Reg. No. 535,708. For Cocktail Tables, Coffee Tables, End Tables, Lamp Tables, Occasional Tables, Dinette Tables Dining Room Tables, Occasional Chairs, Arm Chairs, Wing Chairs, High Chairs, Lounge Chairs, Sleepy Hollow Chairs, Rocking Chairs, Dinette Chairs, Dining Room Chairs, Tilt-Back Chairs, Adjustable Chairs, Platform Rockers, Settees, Davenports, Sofa Beds, Convertible Sofas, Corner Cabinets, China Cabinets, and China Hutch Cabinets (Int. Cl. 20).
First use in 1940.

SN 304,123. Reinhart, Inc., Philadelphia, Pa. Filed Aug. 1, 1968.

CLOSET-MASTER

For Prefabricated Wall-Hung Storage System Comprising Solid Wood Bi-Folding Doors, Adjustable Wood Shelves, Clothes Hanger Track, Wall-Hung Standards, Coiling Track and Hardware, All Sold as a Unit (Int. Cl. 20).
First use July 31, 1968.

Class 33 — Glassware

SN 298,580. Crossbow, Inc., Cincinnati, Ohio. Filed May 20, 1968.

GRAND PRIXFor Glass Decanters for Beverages (Int. Cl. 21).
First use May 3, 1968.**Class 34 — Heating, Lighting, and Ventilating Apparatus**

SN 270,795. Malm Fireplaces, Inc., Santa Rosa, Calif. Filed May 5, 1967.

THE ROYAL FAMILY OF

FIREPLACES

Applicant disclaims any exclusive right to the word "Fireplaces" except in the precise relation and association in which it appears in said mark.

For Metal Fireplaces (Int. Cl. 11).
First use Mar. 12, 1961.

SN 270,796. Malm Fireplaces, Inc., Santa Rosa, Calif. Filed May 5, 1967.

FIRE KING

Applicant disclaims any exclusive right to the word "Fire" except in the precise relation and association in which it appears in said mark.

For Metal Fireplaces (Int. Cl. 11).
First use Mar. 4, 1960.

SN 304,523. Wilton Brass Company, Columbia, Pa. Filed Aug. 6, 1968.

RWPFor Cast Metal Lamps, Candlesticks and Sconces (Int. Cls. 11 and 21).
First use Dec. 1, 1962.**Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires**

SN 299,669. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed June 4, 1968.

Owner of Reg. No. 835,112.
For Tires (Int. Cl. 12).
First use Apr. 2, 1968.**Class 36 — Musical Instruments and Supplies**

SN 269,003. Wayside Records, Sudbury, Mass. Filed Apr. 12, 1967.

For Phonograph Records (Int. Cl. 9).
First use Aug. 10, 1966.

SN 273,392. Gordon Associates, Leola, Pa. Filed June 8, 1967.

LARGOFor Phonograph Records (Int. Cl. 9).
First use Apr. 14, 1967.

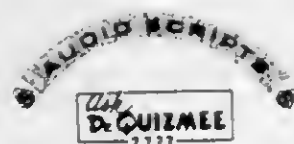
SN 287,160. Fibes Drum Corporation, Bayside, N.Y. Filed Dec. 18, 1967.



Applicant disclaims the representation of a drum with drumsticks apart from the mark as shown.

For Percussion Instruments and Accessories Therefor (Int. Cl. 15).
First use Dec. 12, 1965.

SN 295,238. Kogan Productions, Inc., New York, N.Y. Filed Apr. 9, 1968.

For Phonograph Records and Magnetic Tapes (Int. Cl. 9).
First use Mar. 6, 1968.

SN 300,328. Chi-Record Company, d.b.a. Curton Records, Chicago, Ill. Filed June 13, 1968.

For Grooved Phonograph Records (Int. Cl. 9).
First use Feb. 14, 1968.

SN 305,153. North State Musical Productions, Incorporated, d.b.a. North State Music, Goldsboro, N.C. Filed Aug. 14, 1968.

NORTH STATEFor Phonograph Records (Int. Cl. 9).
First use Mar. 13, 1968.

SN 305,818. Timothy D. Diehl, Chillicothe, Ohio. Filed Aug. 23, 1968. SN 280,286. West Chemical Products, Inc., Long Island City, N.Y. Filed Sept. 13, 1967.

**FRONTIER**For Phonograph Records (Int. Cl. 9).
First use May 29, 1968.

SN 307,183. Audiotronics Corporation, North Hollywood, Calif. Filed Sept. 12, 1968.

CLASSETTEFor Tape Recorders (Int. Cl. 9).
First use July 31, 1968.

SN 307,470. Goldsmith Bros., New York, N.Y. Filed Sept. 16, 1968.

GOLDEXOwner of Reg. Nos. 417,903, 699,961, and others.
For Magnetic Recording Tape (Int. Cl. 9).
First use Sept. 1, 1968.

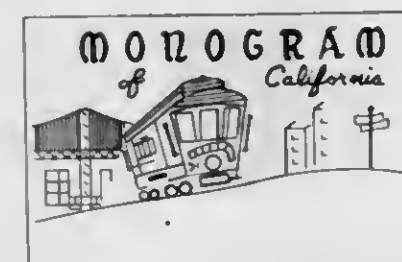
SN 308,271. Buddah Records, Inc., New York, N.Y. Filed Sept. 26, 1968.

No claim is made to the term "Records" apart from the mark in its entirety.
For Phonograph Records (Int. Cl. 9).
First use June 15, 1967.

SN 308,391. The Musical Heritage Society, Inc., New York, N.Y. Filed Sept. 27, 1968.

For Phonograph Records and Pre-Recorded Magnetic Tapes (Int. Cl. 9).
First use on or about August 1967.**Class 37 — Paper and Stationery**

SN 267,054. Monogram of California, San Francisco, Calif. Filed Mar. 17, 1967.

For Paper Products—Namely, Napkins, Guest Towels, Placemats, and Coasters (Int. Cl. 16).
First use as early as Dec. 1, 1949; as early as Nov. 1, 1940 as to the words "Monogram of California."Owner of Reg. No. 540,663.
For Paper Towels (Int. Cl. 16).
First use Feb. 13, 1967.

SN 300,230. Pappagallo, Inc., New York, N.Y. Filed June 12, 1968.

PAPPAGALLOFor Note Folders (Int. Cl. 16).
First use at least as early as October 1967.**Class 38 — Prints and Publications**

SN 277,551. Robert Fealer, Jr., Cohasset, Mass. Filed Aug. 4, 1967.

CARDS AND SHARDS

Applicant disclaims the word "Cards" apart from the mark as shown.

For Greeting Cards (Int. Cl. 16).
First use Apr. 27, 1966.

SN 279,293. Hilton Hotels Corporation, Chicago, Ill. Filed Aug. 29, 1967.

HILTONITEMSFor Magazine Published Quarterly (Int. Cl. 16).
First use about June 1946.

SN 280,921. American Dynamics Corporation, Cambridge, Mass. Filed Sept. 22, 1967.

TEK TALKFor Technical Newsletter Used in the Advertising of Services and Products of Applicant in the Scientific Instrument Measurement Field (Int. Cl. 16).
First use on or about April 1961.

SN 286,771. Willy Nuassaumer, d.b.a. Touristisches Institut Zürich, Conrad, Ferd, Zurich, Switzerland. Filed Dec. 12, 1967.



Priority claimed under Sec. 44(d) on Swiss Reg. No. 228,242, dated June 15, 1967. Applicant disclaims exclusive rights to the words "Travel" and "International" when used apart from the mark as shown.

For Travel Business Review (Int. Cl. 16).
First use Nov. 1, 1959; in commerce Nov. 1, 1959.

SN 287,090. Overseas Media Corporation, New York, N.Y. Filed Dec. 18, 1967.

OVERSEAS FAMILYFor Newspaper (Int. Cl. 16).
First use Aug. 22, 1958.

SN 287,091. Overseas Media Corporation, New York, N.Y. Filed Dec. 18, 1967.

OVERSEAS WEEKLY

For Newspaper (Int. Cl. 16).
First use May 14, 1950.

SN 287,324. Ski Industries America, New York, N.Y. Filed Dec. 20, 1967.

SKI INDUSTRY ADVISOR

For Periodical Newsletter (Int. Cl. 16).
First use Oct. 1, 1967.

SN 287,730. General Features Corporation, New York, N.Y. Filed Dec. 28, 1967.

IT'S YOUR MONEY

For Newspaper Feature (Int. Cl. 16).
First use Oct. 2, 1966.

SN 288,420. Amott, Baker & Co. Inc., and Martin J. Crean (joint owners), New York, N.Y. Filed Jan. 9, 1968.

THE WALL STREET ECONOMIST

For Monthly Bulletin Discussing the Stock and Bond Markets (Int. Cl. 16).
First use Dec. 1, 1967.

SN 288,462. American Society for Metals, Metals Park, Ohio. Filed Jan. 3, 1968.



Partnership in Continuing Education

Applicant disclaims for the purposes of registration the right to exclusive use of the words "Partnership in Continuing Education" apart from the mark as shown and without disclaiming and without prejudice to any rights at common law.

For Brochures Relating to Programs and Facilities for the Training and Updating of Technicians, Engineers, and Scientists (Int. Cl. 16).
First use May 1967.

SN 290,865. Material Handling Equipment Distributors Association, Chicago, Ill. Filed Feb. 12, 1968.

MHEDA

For Trade Magazine Published Every Three Months (Int. Cl. 16).
First use April 1968.

SN 291,458. Walsworth Publishing Company, Inc., Marceline, Mo. Filed Feb. 19, 1968.



For Printed Rotating Chart Adapted to Facilitate the Layout of Pictures and Copy, Including the Selection of Size and Position Thereof, in Preparing Copy for Books and the Like (Int. Cl. 16).
First use Oct. 11, 1967.

SN 291,881. Laventhol Krekstein Horwath & Horwath, Philadelphia, Pa. Filed Feb. 26, 1968.

THE ACCOUNTANT

For Bimonthly Newsletter (Int. Cl. 16).
First use January 1959.

SN 292,403. The McNaught Syndicate, Inc., New York, N.Y. Filed Mar. 4, 1968.

SEZ WHO?

For Newspaper column (Int. Cl. 16).
First use Oct. 22, 1967.

SN 292,443. Western Publishing Company, Inc., Racine, Wis. Filed Mar. 4, 1968.

TELL-A-TALE

Owner of Reg. Nos. 528,439, 655,477, and 669,835.
For Series of Books (Int. Cl. 16).
First use March 1944.

SN 294,955. National Design Center Delaware Inc., New York, N.Y. Filed Apr. 4, 1968.

FIND

For Magazine Providing a Reference Source for, and Guide to, Products, Research Reports and Book, Film and Service Guides Offered by Marketers to Architects or Other Market Specifiers (Int. Cl. 16).
First use on or about Dec. 4, 1967.

SN 295,052. The Pillsbury Company, Minneapolis, Minn. Filed Apr. 5, 1968.

BATTER MAGIC

For Recipe Booklets (Int. Cl. 16).
First use Jan. 15, 1968.

SN 296,490. Lilli Tachumi, d.b.a. Fun/Tastics, Chicago, Ill. Filed Apr. 25, 1968.

fun/tastics



For Novelty Award Certificates and Posters (Int. Cl. 16).
First use Oct. 29, 1967.

SN 301,228. The H. R. Hunting Co., Inc., Chicopee, Mass. Filed June 24, 1968.



Owner of Reg. No. 437,853.
For Books and Pamphlets (Int. Cl. 16).
First use on or about May 1908.

SN 308,749. Sav-On, Inc., Yonkers, N.Y. Filed Oct. 3, 1968.

SAV-ON

For Periodic Reports, Including the Annual, Semi-Annual and Quarter Annual Reports, Bulletins and Brochures Published From Time to Time (Int. Cl. 16).
First use Sept. 27, 1967.

Class 39 - Clothing

SN 260,723. Catherine's Stout Shoppe, Inc., Memphis, Tenn. Filed Dec. 14, 1966.



For Women's Coats, Suits, Dresses, Blouses, Skirts, Sweaters, Girdles and Slacks (Int. Cl. 25).
First use Nov. 1, 1966; September 1963 in a different form.

SN 284,576. R. G. Barry Corporation, Columbus, Ohio. Filed Nov. 13, 1967.

MYSTIC WEDGES

For Slippers, Sandals and Scuffs (Int. Cl. 25).
First use Jan. 15, 1966.

SN 287,010. Federated Department Stores, Inc., Columbus, Ohio. Filed Dec. 15, 1967.



For Clothing—Namely, Men's Neckwear, Underwear, Hosiery, Gloves, Belts, Shirts, Pants and Swimwear, Women's Underwear, Sweaters, Skirts, Slacks, and Hosiery and Children's Underwear, Hosiery, Shirts, and Coveralls (Int. Cl. 25).
First use Nov. 30, 1967.

SN 288,877. Société Dite Etablissements Vaskene et Cie (Société Anonyme), Salbris, Loir-et-Cher, France. Filed Jan. 15, 1968.



Priority claimed under Sec. 44(d) on French Reg. No. 729,855, dated Dec. 8, 1967.
For Women's Clothing—Namely, Skirts, Pantaloon, Robes, Cloaks, Raincoats, Shirts, and Gowns (Int. Cl. 25).

SN 289,274. Chadbourn Gotham, Inc., Charlotte, N.C. Filed Jan. 22, 1968.



The drawing is lined for the color gold. No exclusive claim is made to the words "Famous Maker" and "Quality" apart from the mark as shown. Owner of Reg. Nos. 734,210, 837,203, and others.
For Ladies' Hosiery (Int. Cl. 25).
First use Oct. 6, 1961.

SN 292,270. Hazantown, Inc., New York, N.Y. Filed Mar. 1, 1968.

HAEDKESUEDE

For Men's, Women's and Children's Jackets and Coats Made of Suede Cloth (Int. Cl. 25).
First use June 15, 1966.

SN 294,988. Woodward & Lothrop Incorporated, Washington, D.C. Filed Apr. 4, 1968.



For Ladies' Hosiery (Int. Cl. 25).
First use Feb. 5, 1968.

SN 295,818. F. & C. Sportswear, Inc., Philadelphia, Pa. Filed Apr. 17, 1968.

GREEN HILL CASUALS

Applicant disclaims "Casuals" apart from the mark as shown.
For Women's and Girls' Shorts, Slacks, Pedal Pushers, Skirts, Shifts, Culottes, Suits and Tops (Int. Cl. 25).
First use Jan. 15, 1968, on slacks.

SN 296,502. S. Angstein & Co., Inc., New York, N.Y. Filed Apr. 25, 1968.

LOOM 88

Owner of Reg. No. 664,803.
For Women's and Children's Dresses, Suits, Blouses, Slacks, and Bathing Suits (Int. Cl. 25).
First use on or about Apr. 1, 1968.

SN 297,566. Interco Incorporated, St. Louis, Mo. Filed May 7, 1968.

GRANDINI

For Shoes (Int. Cl. 25).
First use on or about March 1964.

SN 299,383. Margaret E. Rolston, Kirksville, Mo. Filed May 29, 1968.



The name "Lisa Kay" is fictitious.
For Men's Neckties (Int. Cl. 25).
First use Apr. 2, 1968.

SN 299,676. Kayser-Roth Corporation, New York, N.Y. Filed June 4, 1968.

EXCELLURE

Owner of Reg. Nos. 170,068, 749,815, and others.
For Men's Shirts and Pajamas (Int. Cl. 25).
First use May 2, 1968.

SN 301,238. Milmar Associates, Inc., New York, N.Y. Filed June 24, 1968.

MILMAR

For Women's Stockings (Int. Cl. 25).
First use January 1931.

SN 303,030. S. D. Arrowood & Co. Inc., New York, N.Y. Filed July 18, 1968.

DOVELONS

For Ladies' Hosiery (Int. Cl. 25).
First use July 18, 1967.

SN 303,266. Bond Stores, Incorporated, New York, N.Y. Filed July 22, 1968.

STYLE MANOR

Owner of Reg. No. 436,854.
For Men's Briefs (Int. Cl. 25).
First use 1940.

SN 303,341. Puritan Fashions Corporation, New York, N.Y. Filed July 22, 1968.

BIG BRAD

For Work Pants and Work Shirts (Int. Cl. 25).
First use July 3, 1968.

SN 305,614. Maidenform, Inc., New York, N.Y. Filed Aug. 21, 1968.

FASHION TIME

No claim is made to the exclusive right to the word "Fashion" apart from the mark as shown. Owner of Reg. No. 814,570.
For Foundation Garments and Lingerie (Int. Cl. 25).
First use Aug. 27, 1965.

SN 307,357. Silver Mfg.-Co., Inc., Michigan City, Ind. Filed Sept. 13, 1968.

SIL-CREASED

For Men's Trousers (Int. Cl. 25).
First use Aug. 9, 1968.

Class 40—Fancy Goods, Furnishings, and Notions

SN 296,592. Stanley Comb Products Corp., Brooklyn, N.Y. Filed Apr. 25, 1968.

Night
Out

For Hair Combs (Int. Cl. 21).
First use Feb. 16, 1968.

SN 308,344. Fashion Treas, Inc. Hialeah, Fla. Filed Sept. 27, 1968.

ATTACHE

For Ladies' Wigs and Hairpieces (Int. Cl. 26).
First use Sept. 1, 1968.

Class 41—Canes, Parasols, and Umbrellas

SN 301,780. Telesco Brophay Limited, Montreal, Quebec, Canada. Filed July 1, 1968.

REX

Owner of Canadian Reg. No. 155,154, dated Jan. 19, 1968.
For Umbrellas (Int. Cl. 18).
First use Apr. 1, 1967; in commerce June 15, 1967.

SN 301,781. Telesco Brophay Limited, Montreal, Quebec, Canada. Filed July 1, 1968.

PREMIER

Owner of Canadian Reg. No. 155,157, dated Jan. 19, 1968.
For Umbrellas (Int. Cl. 18).
First use July 1, 1965; in commerce Oct. 18, 1967.

SN 301,782. Telesco Brophay Limited, Montreal, Quebec, Canada. Filed July 1, 1968.

FAVORITE

Owner of Canadian Reg. No. 155,958, dated Mar. 15, 1968.
For Umbrellas (Int. Cl. 18).
First use Apr. 1, 1967; in commerce June 28, 1967.

SN 301,783. Telesco Brophay Limited, Montreal, Quebec, Canada. Filed July 1, 1968.

CLASSIC

Owner of Canadian Reg. No. 145,384, dated May 20, 1966.
For Umbrellas (Int. Cl. 18).
First use Sept. 18, 1961; in commerce Sept. 13, 1963.

SN 301,784. Telesco Brophay Limited, Montreal, Quebec, Canada. Filed July 1, 1968.

AMBASSADOR

Owner of Canadian Reg. No. 144,731, dated Apr. 7, 1966.
For Umbrellas (Int. Cl. 18).
First use Oct. 26, 1961; in commerce June 28, 1967.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 271,232. Dan River Mills, Incorporated, Danville, Va. Filed May 11, 1967.



The drawing is lined for the colors red and gold. The word "Fabrics" is disclaimed apart from the mark as shown. Owner of Reg. No. 758,990.
For Textile Fabrics in the Piece of Cotton or Synthetic Fibers or Any Combinations Thereof for Making Wearing Apparel, Draperies, Upholstery, Sheets, Pillowcases, Bedspreads or the Like (Int. Cl. 24).
First use Mar. 1, 1960.

SN 292,227. Trend Mills, Inc., Rome, Ga. Filed Feb. 29, 1968. SN 300,927. The General Tire & Rubber Company, Akron, Ohio. Filed June 20, 1968.

jean/
alan

For Rugs and Carpets (Int. Cl. 27).
First use August 1965.

SN 292,676. A. Leon Capel & Sons, Incorporated, Troy, N.C. Filed Mar. 7, 1968.

SANDSTONE

For Rugs (Int. Cl. 27).
First use on or about Nov. 15, 1967.

SN 292,677. A. Leon Capel & Sons, Incorporated, Troy, N.C. Filed Mar. 7, 1968.

TRIPLE PLAY

For Rugs (Int. Cl. 27).
First use on or about Nov. 15, 1967.

SN 297,267. Bell Bedspreads, Inc., New York, N.Y. Filed May 3, 1968.

A BELL ORIGINAL

The word "Original" is disclaimed apart from the mark as shown.
For Draperies, Window Curtains, Window Quilted Festoons and Baronets and Bedspreads (Int. Cl. 24).
First use Mar. 1, 1923.

SN 300,810. Fabrics By Joyce, Inc., New York, N.Y. Filed June 19, 1968.

CAPICELLA

For Tricetate and Polyester Crepe Fabric for Manufacture into Ladies' Wearing Apparel (Int. Cl. 24).
First use Feb. 1, 1968.

SN 300,817. Freiss Inc., New York, N.Y. Filed June 19, 1968.

PREGO

For Synthetic Pile Fabrics (Int. Cl. 24).
First use Mar. 14, 1968.

SN 300,818. Freiss Inc., New York, N.Y. Filed June 19, 1968.

BOCATELLE

For Synthetic Pile Fabrics (Int. Cl. 24).
First use December 1967.

SN 300,819. Freiss Inc., New York, N.Y. Filed June 19, 1968.

COULAGE

For Synthetic Pile Fabrics (Int. Cl. 24).
First use Mar. 14, 1968.

FASTBAC

For Sponge Rubber Carpet Cushion (Int. Cl. 27).
First use April 1968.

SN 300,958. Ozite Corporation, Chicago, Ill. Filed June 20, 1968.

OZITE

Owner of Reg. Nos. 161,316, 169,084, and 172,349.
For Carpeting (Int. Cl. 27).
First use July 17, 1963.

SN 301,457. J. P. Stevens & Co., Inc., New York, N.Y. Filed June 26, 1968.

TRITEMP

For Fabrics of Glass Fibers for Industrial Purposes (Int. Cl. 24).
First use May 20, 1968.

SN 301,458. J. P. Stevens & Co., Inc., New York, N.Y. Filed June 26, 1968.

TRIFINISH 9172

For Fabrics of Glass Fibers for Industrial Purposes (Int. Cl. 24).
First use May 20, 1968.

SN 301,716. Coin Sales Corporation, New York, N.Y. Filed July 1, 1968.

KOYN

Owner of Reg. No. 771,953.
For Textile Fabrics, Including Laminated Textile Fabrics, for Use in Wearing Apparel, Furnishings, Upholstery and Industrial Products (Int. Cl. 24).
First use at least by June 18, 1968.

Class 43—Thread and Yarn

SN 300,204. George Lee & Sons Limited, Wakefield, Yorkshire, England. Filed June 11, 1968.

Lee Target

For Knitting Yarns of Textile Materials (Int. Cl. 23).
First use 1953.

SN 300,966. Roselon Yarns, Inc., Philadelphia, Pa. Filed June 20, 1968.

SPINCON

For Yarn (Int. Cl. 23).
First use June 4, 1968.

Class 44—Dental, Medical, and Surgical Appliances

SN 302,701. American Hygienic Co., Baltimore, Md. Filed July 15, 1968.

LIV

For Prophylactic Articles for Prevention of Contagious Diseases (Int. Cl. 5).
First use at least as early as Mar. 24, 1968.

SN 303,042. The Denticator Company, Inc., San Francisco, Calif. Filed July 18, 1968.

VIBRA
MAT

For Gum Stimulating Vibrator (Int. Cl. 10).
First use Apr. 11, 1968.

SN 303,257. Bird Space Technology, Inc., Palm Springs, Calif. Filed July 22, 1968.

ASMASTIK

For Apparatus for Topical Pulmonary Chemotherapy, Inhalation Therapy, Pulmonary Therapy and Treatment of Diseases of the Chest (Int. Cl. 10).
First use on or Before Mar. 15, 1967.

Class 46—Foods and Ingredients of Foods

SN 278,589. GAF Corporation, New York, N.Y., by change of name from General Aniline & Film Corporation, New York, N.Y. Filed Aug. 18, 1967.

gaf

Owner of Reg. Nos. 509,124, 744,454, and others.
For Combination Clarifier-Stabilizer for Liquid Foods (Int. Cl. 1).
First use Feb. 14, 1966.

SN 281,833. J. G. Thomson & Co. Limited, Leith, Edinburgh, Scotland. Filed Oct. 4, 1967.

DEERSTALKER



Owner of British Reg. No. 866,596, dated July 8, 1964; and U.S. Reg. No. 316,766.
For Scotch Whisky (Int. Cl. 33).

SN 281,834. J. G. Thomson & Co. Limited, Leith, Edinburgh, Scotland. Filed Oct. 4, 1967.

DEERSTALKER

Owner of British Reg. No. 645,970, dated Mar. 18, 1946; and U.S. Reg. No. 316,766.
For Whisky (Int. Cl. 33).

SN 289,211. Sazerac Company, Inc., New Orleans, La. Filed Jan. 19, 1968.



The legend "Liqueur D'Anis" is disclaimed apart from the mark as shown. The English translation of "Veritas" is "truth," or as therein used, "truly" or "in truth." Owner of Reg. No. 320,154.
For Anis Liqueur (Int. Cl. 33).
First use Oct. 1, 1958; Mar. 1, 1934 as to "Herbsaint" and "Legendre."

Class 50—Merchandise Not Otherwise Classified

SN 275,304. Robfegel Mill-Andrewa Corporation, Rochester, N.Y. Filed July 3, 1967.

COUNTER-CARPET

For Plastic Foam Shelf Liners Used by Grocery Stores and Supermarkets in Meat, Dairy and Produce Display Cabinets (Int. Cl. 20).
First use June 1, 1967.

SN 276,158. Model-Foam Inc., Sylvania, Ohio. Filed July 17, 1967.

MODEL-FOAM

For Two and Three Dimensional Topographical Earth Contour, and Engineering and Architectural Structural Models (Int. Cl. 9).
First use Mar. 24, 1967.

Class 51—Cosmetics and Toilet Preparations Classified

SN 265,199. Mary Quant Limited, London, England, assignee of Mary Quant Cosmetics Limited, Surbiton, Surrey, England. Filed Feb. 21, 1967.

MARY QUANT P. M.

The mark "Mary Quant" is the name of a living individual whose consent is of record.

For Astringents, Mouth Rinses, Skin Creams, Skin Lotions, Lip Creams, Lipstick, Rouge, Rouge Boxes Containing Rouge, Nail Polish, Nail Polish Remover, Face Powder, Talcum Powder, Deodorants for Personal Use, Depilatory Preparations, Hair Dyes and Tints, Hair Grooming Preparations, Eyebrow Pencils, Eye Shadow With and Without Applicators, Mascara, Perfumes and Sachets (Int. Cls. 3 and 5).
First use on or about Sept. 30, 1966; in commerce Dec. 3, 1966.

SN 265,200. Mary Quant Limited, London, England, assignee of Mary Quant Cosmetics Limited, Surbiton, Surrey, England. Filed Feb. 21, 1967.

MARY QUANT A. M.

The mark "Mary Quant" is the name of a living individual whose consent is of record.

For Astringents, Mouth Rinses, Skin Creams, Skin Lotions, Lip Creams, Lipstick, Rouge, Rouge Boxes Containing Rouge, Nail Polish, Nail Polish Remover, Face Powder, Talcum Powder, Deodorants for Personal Use, Depilatory Preparations, Hair Dyes and Tints, Hair Grooming Preparations, Eyebrow Pencils, Eye Shadow With and Without Applicators, Mascara, Perfumes and Sachets (Int. Cls. 3 and 5).
First use on or about Sept. 30, 1966; in commerce Dec. 3, 1966.

SN 283,343. Jartiere Rouge Ltd., New York, N.Y. Filed Oct. 25, 1967.

RED GARTER

Owner of Reg. No. 841,347.
For Perfume (Int. Cl. 3).
First use Oct. 1, 1966.

SN 289,057. Mrs. Stanley M. Locle, d.b.a. Auta and By Auta, Alexandria, Va. Filed Jan. 18, 1968.

Luescent

For All Purpose Beauty Cream (Int. Cl. 3).
First use Nov. 28, 1967.

SN 292,389. Lander Co., Inc., New York, N.Y. Filed Mar. 4, 1968.

SKIPPER

Owner of Reg. No. 435,739.
For Hair Tonic, After Shave Lotion, Men's Cologne and Men's Talcum Powder (Int. Cl. 3).
First use at least as early as December 1941.

SN 293,257. Helene Curtis Industries, Inc., Chicago, Ill. Filed Mar. 14, 1968.

SUPER H-BLAST

For Hair Spray (Int. Cl. 3).
First use on or about Feb. 23, 1968.

SN 293,258. Helene Curtis Industries, Inc., Chicago, Ill. Filed Mar. 14, 1968.

H-BLAST, JR.

For Hair Spray (Int. Cl. 3).
First use on or about Feb. 23, 1968.

SN 293,376. Helene Curtis Industries, Inc., Chicago, Ill. Filed Mar. 15, 1968.

DERMA-THER

For Bath Oil (Int. Cl. 3).
First use on or about Feb. 29, 1968.

SN 293,377. Helene Curtis Industries, Inc., Chicago, Ill. Filed Mar. 15, 1968.

THERA-DRY

For Bath Oil (Int. Cl. 3).
First use on or about Feb. 29, 1968.

SN 293,378. Helene Curtis Industries, Inc., Chicago, Ill. Filed Mar. 15, 1968.

MEDI-DRY

For Bath Oil (Int. Cl. 3).
First use on or about Feb. 29, 1968.

SN 307,928. Faberge, Inc., New York, N.Y. Filed Sept. 23, 1968.

SALUBRIA

For Lubricating Lotion for the Skin (Int. Cl. 3).
First use June 21, 1968.

SN 307,929. Faberge, Inc., New York, N.Y. Filed Sept. 23, 1968.

X-SPRAY

For Personal Deodorant (Int. Cl. 5).
First use June 21, 1968.

Class 52—Detergents and Soaps

SN 279,120. Todd Chemical Company, Inc., Great Neck, N.Y. Filed Aug. 25, 1967.



For Liquid Hand Soap, Degreasers, Detergent Composition for Cleaning Concrete-Like Surfaces, Rug Shampoo Composition, Detergent Composition for Cleaning Trucks and Other Vehicles, and Antiseptic Surgical Soap Composition (Int. Cl. 3).
First use June 23, 1967.

SN 282,232. Better Home Products Corp., Minneapolis, Minn. Filed Oct. 11, 1967.



The words "Something New" are disclaimed apart from the mark as shown. The drawing is lined for yellow, but no claim is made to color apart from the mark as shown.
For Concentrate Liquid Detergents (Int. Cl. 3).
First use Sept. 5, 1967.

SN 290,525. Purtain Chemical Company, Atlanta, Ga. Filed Feb. 7, 1963.

SKE

For General Purpose Detergent Cleansers Having Disinfectant and Deodorizing Properties (Int. Cl. 3).
First use on or about Jan. 27, 1967.

SERVICE MARKS

Class 100—Miscellaneous

SN 276,194. United States Leasing Corporation, San Francisco, Calif., by change of name and assignment from United States Leasing Corporation, San Francisco, Calif. Filed July 17, 1967.

CONVERTALEASE

For Leasing of Industrial Equipment, Machinery, and Fixtures (Int. Cl. 42).
First use July 7, 1967.

SN 293,696. Wilson Pharmaceutical & Chemical Corporation, Chicago, Ill. Filed Mar. 22, 1968.

BIO-SCAN

For Bacteriological Testing Service (Int. Cl. 42).
First use Feb. 20, 1968.

Class 101—Advertising and Business

SN 257,836. David Douglas & Co., Inc., Maultowoc, Wis. Filed Nov. 3, 1966.

SLOT MACHINE

For Promoting the Sale of the Goods and Services of Others Through the Conduct of Contests (Int. Cl. 35).
First use Oct. 19, 1966.

SN 291,054. Dynasurf Chemical Corporation, Baltimore, Md. Filed Feb. 14, 1968.

DYNAPHENE

For Disinfectant-Detergent for Cleaning and Sanitizing Floors and Other Surfaces (Int. Cl. 3).
First use Feb. 6, 1967.

SN 298,059. Texize Chemicals, Inc., Mauldin, S.C. Filed May 13, 1968.

JANITOR IN A DRUM

Owner of Reg. Nos. 698,283, 698,437, and 704,795.
For Concentrated Household Cleaner (Int. Cl. 3).
First use Apr. 15, 1968.

SN 298,618. National Service Industries, Inc., Atlanta, Ga. Filed May 20, 1968.

ZEP AEROSOLVE

Owner of Reg. Nos. 686,052, 686,197, and others.
For Solvent Degreasers (Int. Cl. 3).
First use at least as early as Dec. 18, 1961.

SN 308,743. Lever Brothers Company, New York, N.Y. Filed Oct. 3, 1968.

SHIELD

Owner of Reg. Nos. 594,628, 647,223, and 659,136.
For Detergent for Laundry and Dishwashing (Int. Cl. 3).
First use Sept. 23, 1968.

SN 278,821. Road Runner Campgrounds, Incorporated, Hamburg, Ark. Filed Aug. 22, 1967.



For Providing Advertising, Management Advisory and Central Purchasing Services to Owners of Tent and Recreational-Vehicle Campgrounds and Providing Site Location Assistance to Prospective Owners of Such Campgrounds (Int. Cl. 35).
First use June 22, 1967.

Class 102—Insurance and Financial

SN 269,303. Employers Mutual Liability Insurance Company of Wisconsin, Wausau, Wis. Filed Apr. 17, 1967.

PROSURANCE

For Underwriting of Fire, Marine, Casualty and Life Insurance (Int. Cl. 36).
First use Feb. 17, 1967.
Subj. to Intf. with SN 280,328.

SN 299,480. Peoples Bank of Bloomington, Bloomington, Ill. Filed May 31, 1968.

BLUE RIBBON

For Savings Account Services (Int. Cl. 36).
First use May 14, 1968.

Class 103—Construction and Repair

SN 290,257. Caterpillar Tractor Co., Peoria, Ill. Filed Feb. 5, 1968.



For Service, Maintenance and Repair of Trucks, Tractors, Earthmoving and Earth Conditioning Machines and Equipment, Material Handling Machines and Equipment, Engines, Electric Generators, Welding Machines, and Marine Equipment (Int. Cl. 37).
First use Aug. 1, 1967.

SN 291,769. Portable Lubrication, Inc., Minneapolis, Minn. Filed Feb. 23, 1968.



For Vehicle Maintenance and Lubrication Services (Int. Cl. 37).
First use Apr. 1, 1967.

SN 293,605. Union Oil Company of California, Los Angeles, Calif. Filed Mar. 18, 1968.

UNICHECK

For Liquefied Petroleum Gas System Inspection Services (Int. Cl. 37).
First use Nov. 1, 1967.

Class 104—Communication

SN 302,364. Radio Corporation of America, New York, N.Y. Filed July 10, 1968.

RCA

Owner of Reg. Nos. 167,591, 650,272, and others.
For Global Telegraph, Telex, Leased Channel, Datel, and Other Data, Marine, Facsimile, Program Transmission and Reception, Telephone, and Intercontinental Television Transmission Services (Int. Cl. 38).
First use Apr. 1, 1968; 1920 in a different form.

SN 302,366. Radio Corporation of America, New York, N.Y. Filed July 10, 1968.

RCA

Owner of Reg. Nos. 167,591, 650,272, and others.
For Global Telegraph, Telex, Leased Channel, Datel, and Other Data, Marine, Facsimile, Program Transmission and Reception, Telepheno, and Intercontinental Television Transmission Services (Int. Cl. 38).
First use in 1920.

Class 107—Education and Entertainment

SN 271,506. Sonna Noble, d.b.a. Sonna Noble School of Knitting and Handcraft, Washington, D.C. Filed May 15, 1967.

THE
SONNA
NOBLE
SCHOOL
OF
KNITTING
AND
HANDCRAFT

No claim of exclusive right is made to "School of Knitting and Handcraft" for the service recited.
For Operation of a School Specializing in the Teaching of Knitting and Handcraft (Int. Cl. 41).
First use Sept. 18, 1947.

SN 288,442. Medical Communications, Inc., Boston, Mass. Filed Jan. 9, 1968.

MEDCOM

For Dissemination and Teaching of Health and Medical Information to Students, Nurses, Doctors, Paramedical Personnel and Health-Oriented Industries by Means of Videotapes, Film, and Printed Matter (Int. Cl. 41).
First use at least as early as 1966.

SN 302,556. Chicago Cardinals Football Club, d.b.a. St. Louis Football Cardinals, St. Louis, Mo. Filed July 12, 1968.

ST. LOUIS FOOTBALL CARDINALS

The words "St. Louis" and "Football" are disclaimed apart from the mark as shown.
For Entertainment Services—Namely, Football Exhibitions Rendered Live in Stadia and Through the Media of Radio and Television Broadcasts (Int. Cl. 41).
First use Mar. 13, 1960.

CERTIFICATION MARKS

Class A — Goods

SN 276,144. Lexington Market Authority, Baltimore, Md.
Filed July 17, 1967.



The mark certifies certain quality standards of the goods in which they deal, such standards being established by applicant and relating to purity, freshness, regional origin, genuineness, and the like.

For Groceries, Bakery Products, Meats, Seafood, Dairy Products, Fresh and Canned Fruits and Vegetables, Confectionaries, Alcoholic and Non-Alcoholic Beverages, Cut and Potted/potted Flowers, Plants and Various Other Items of Merchandise Usually Sold in the Market Place.
First use in or about June 1964.

SN 281,949. Agri-Business Council of Oregon, Portland, Oreg. Filed Oct. 6, 1967.



The mark certifies that the agricultural and forest products are produced in Oregon by Oregon commodity groups, associations, processors, wholesalers, and retailers who meet standards of quality prescribed by applicant.

For Agricultural and Forest Products.
First use July 19, 1967.

SN 284,169. DHJ Industries Inc., New York, N.Y. Filed Nov. 6, 1967.

VAPOR-PHASE

The mark certifies that the goods to which the mark is affixed have been manufactured in accordance with a special permanent press process which is controlled exclusively by the applicant and which imparts to such goods a pre-determined shape and a permanent press quality which causes the goods to become and remain crease retentive and wrinkle resistant.

For Trousers, Slacks, Dresses, Suits, Brassieres, Shirts, Underwear, Uniforms, Uniform Coats, Aprons, Household and Industrial Aprons, Hospital Gowns and Aprons, Waiters' Jackets, Household, Restaurant and Hospital Linens, Bed Sheets, Pillow Cases, Tablecloths, Napkins, Curtains, Draperies, and All Types of Similar Goods and Wearing Apparel Which Are Manufactured and Produced From Natural and/or Synthetic Woven, Non-Woven and Knit Fabrics and Textiles.
First use Oct. 27, 1966.

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SN 284,170. DHJ Industries Inc., New York, N.Y. Filed Nov. 6, 1967.

VAPORON

The mark certifies that the goods to which the mark is affixed have been manufactured in accordance with a special permanent press process which is controlled exclusively by the applicant and which imparts to such goods a pre-determined shape and a permanent press quality which causes the goods to become and remain crease retentive and wrinkle resistant.

For Trousers, Slacks, Dresses, Suits, Brassieres, Shirts, Underwear, Uniforms, Uniform Coats, Aprons, Household and Industrial Aprons, Hospital Gowns and Aprons, Waiters' Jackets, Household, Restaurant and Hospital Linens, Bed Sheets, Pillow Cases, Tablecloths, Napkins, Curtains, Draperies, and All Types of Similar Goods and Wearing Apparel Which Are Manufactured and Produced From Natural and/or Synthetic Woven, Non-Woven and Knit Fabrics and Textiles.
First use Nov. 7, 1966.

SN 284,293. DHJ Industries Inc., New York, N.Y. Filed Nov. 7, 1967.

VAPORSET

The mark certifies that the goods to which the mark is affixed have been manufactured in accordance with a special permanent press process which is controlled exclusively by the applicant and which imparts to such goods a pre-determined shape and a permanent press quality which causes the goods to become and remain crease retentive and wrinkle resistant.

For Trousers, Slacks, Dresses, Suits, Brassieres, Shirts, Underwear, Uniforms, Uniform Coats, Aprons, Household and Industrial Aprons, Hospital Gowns and Aprons, Waiters' Jackets, Household, Restaurant and Hospital Linens, Bed Sheets, Pillow Cases, Tablecloths, Napkins, Curtains, Draperies, and All Types of Similar Goods and Wearing Apparel Which Are Manufactured and Produced From Natural and/or Synthetic Woven, Non-Woven and Knit Fabrics and Textiles.
First use Nov. 1, 1966.

SN 284,294. DHJ Industries Inc., New York, N.Y. Filed Nov. 7, 1967.

VAPOR-PRESS

The mark certifies that the goods to which the mark is affixed have been manufactured in accordance with a special permanent press process which is controlled exclusively by the applicant and which imparts to such goods a pre-determined shape and a permanent press quality which causes the goods to become and remain crease retentive and wrinkle resistant.

For Trousers, Slacks, Dresses, Suits, Brassieres, Shirts, Underwear, Uniforms, Uniform Coats, Aprons, Household and Industrial Aprons, Hospital Gowns and Aprons, Waiters' Jackets, Household, Restaurant and Hospital Linens, Bed Sheets, Pillow Cases, Tablecloths, Napkins, Curtains, Draperies, and All Types of Similar Goods and Wearing Apparel Which Are Manufactured and Produced From Natural and/or Synthetic Woven, Non-Woven and Knit Fabrics and Textiles.
First use Nov. 9, 1966.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

- 862,961. LD. Thiem Corporation. SN 275,708. Pub. 10-22-68. Filed 7-10-67.
862,962. ACCOLADE. C. W. Martin & Sons Limited. SN 281,994. Pub. 10-22-68. Filed 10-6-67.
862,963. ANGEL PUFF. International Foam Products, Inc. SN 284,667. Pub. 10-22-68. Filed 11-13-67.
862,964. MISCELLANEOUS DESIGN. Yeager & Sullivan, Inc. SN 296,085. Pub. 10-22-68. Filed 4-22-68.

Class 2 — Receptacles

- 862,965. JANUS-PACKUNG. Stella KG Werner Deussen. SN 274,780. Pub. 10-22-68. Filed 6-26-67.
862,966. SEA CHEST. Olinkraft, Inc. SN 286,954. Pub. 10-22-68. Filed 12-14-67.
862,967. ZIP-ZAG. The Dow Chemical Company. SN 296,672. Pub. 10-22-68. Filed 4-26-68.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

- 862,968. FLYIN DUTCHMAN. Trisco Plastic, Inc. SN 289,357. Pub. 10-22-68. Filed 1-22-68.

Class 4 — Abrasives and Polishing Materials

- 862,969. SPRAY MASTER. North-East Industries, MULTIPLE CLASS (Classes 4, 6, 15, 18, 51, and 52). SN 274,836. Pub. 10-22-68. Filed 6-27-67.
862,970. ALLISON. American Chain & Cable Company, Inc. SN 289,760. Pub. 10-22-68. Filed 1-29-68.

Class 5 — Adhesives

- 862,971. MARBOND. Borg-Warner Corporation. SN 288,772. Pub. 10-22-68. Filed 1-15-68.
862,972. PRESTONE. Union Carbide Corporation. SN 289,435. Pub. 10-22-68. Filed 1-23-68.

Class 6 — Chemicals and Chemical Compositions

- 862,969. (See Class 4 for this trademark.)
862,973. SILCOLEASE. Imperial Chemical Industries Limited. SN 273,285. Pub. 10-22-68. Filed 6-7-67.
862,974. ENTROL. Eastern Shore Laboratories, Inc. SN 273,617. Pub. 10-22-68. Filed 6-12-67.
862,975. APLACOTE. Adolph Posner and Richard Inglima (joint owners). SN 276,035. Pub. 10-22-68. Filed 7-14-67.
862,976. DESMORAPID. Farbenfabriken Bayer Aktiengesellschaft. SN 280,035. Pub. 10-22-68. Filed 9-11-67.

- 862,977. GEVAFIX. Gevaert-Agfa N.V. SN 286,341. Pub. 10-22-68. Filed 12-16-67.
862,978. SANI SOFT. Sterling Drug Inc. SN 286,385. Pub. 10-22-68. Filed 12-6-67.
862,979. ASSAULT-500. West Chemical Products, Inc. SN 291,927. Pub. 10-22-68. Filed 2-26-68.
862,980. DALOTOP. Gelgy Chemical Corporation. SN 293,028. Pub. 10-22-68. Filed 3-12-68.
862,981. DALOPRIM. Gelgy Chemical Corporation. SN 293,029. Pub. 10-22-68. Filed 3-12-68.
862,982. MILOGARD. Gelgy Chemical Corporation. SN 293,030. Pub. 10-22-68. Filed 3-12-68.
862,983. CYZATE. American Cyanamid Company. SN 293,097. Pub. 10-22-68. Filed 3-13-68.
862,984. MSCO AND DESIGN. Medical Supply Company (Missouri corporation), assignee of Medical Supply Company (Illinois corporation). MULTIPLE CLASS (Classes 6, 18, and 44). SN 293,194. Pub. 10-22-68. Filed 3-14-68.
862,985. RID-A-BUG. Kenco Chemical & Manufacturing Co., Inc. SN 297,923. Pub. 10-22-68. Filed 5-13-68.

Class 7 — Cordage

- 862,986. CHOKE-TOTE. The Wear-Flex Corporation. SN 290,456. Pub. 10-22-68. Filed 2-7-68.

Class 10 — Fertilizers

- 862,987. SOL-U-SUL. Elcor Chemical Corporation, by merger from National Sulphur Company. SN 281,100. Pub. 8-27-68. Filed 9-25-67.

Class 12 — Construction Materials

- 862,988. DAL-ROMAN. Dallas Ceramic Company. SN 266,739. Pub. 10-22-68. Filed 3-15-67.
862,989. DAL-FAIENCE. Dallas Ceramic Company. SN 266,742. Pub. 10-22-68. Filed 3-15-67.
862,990. MISCELLANEOUS DESIGN. Trém, Inc. SN 268,243. Pub. 10-22-68. Filed 4-3-67.
862,991. C ETC. AND DESIGN. Chase & Sons, Inc. MULTIPLE CLASS (Classes 12 and 21). SN 282,026. Pub. 10-22-68. Filed 10-9-67.
862,992. SIL-EN-SEAL. J. Mueller Co. SN 295,044. Pub. 10-22-68. Filed 4-5-68.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

- 862,993. COUNTRY COOKERY. Sterno, Inc. SN 258,422. Pub. 10-22-68. Filed 11-10-66.
862,994. COLORDIZED. Allied Tube & Conduit Corporation. SN 273,582. Pub. 10-22-68. Filed 6-12-67.
862,995. WAVE-O-LATOR. Robert A. Gilmour, d.b.a. Gilmour Manufacturing Co. SN 273,761. Pub. 10-22-68. Filed 6-13-67.
862,996. SWISSBAR AND DESIGN. Barton Products Corporation. SN 284,795. Pub. 10-22-68. Filed 11-14-67.

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- 862,997. PINRING. William E. Stieler, d.b.a. Quality House. SN 285,288. Pub. 10-22-68. Filed 11-20-67.
- 862,998. PRESURTUBE. Bunnell Plastics, Inc. SN 290,384. Pub. 10-22-68. Filed 2-6-68.
- 862,999. AMETEK AND DESIGN. Ametek, Inc. SN 302,000. Pub. 10-22-68. Filed 7-5-68.
- 863,000. LUALEI. Camwil Inc. SN 302,810. Pub. 10-22-68. Filed 7-16-68.

Class 15 — Oils and Greases

- 862,999. (See Class 4 for this trademark.)
- 863,001. SAVOIL AND DESIGN. Bardahl Manufacturing Corporation. SN 271,429. Pub. 10-22-68. Filed 5-15-67.
- 863,002. "THE PARTY PEOPLE." Halo Sales Corporation. SN 302,282. Pub. 10-22-68. Filed 7-9-68.

Class 16 — Protective and Decorative Coatings

- 863,003. MISCELLANEOUS DESIGN. Sanders Associates, Inc. SN 245,514. Pub. 10-22-68. Filed 5-12-66.
- 863,004. EPOXOLITE. Allied Compositions Co., Inc. SN 270,860. Pub. 10-22-68. Filed 5-8-67.
- 863,005. GODDESS MAAT (DESIGN). The Egyptian Lacquer Manufacturing Company. SN 275,845. Pub. 10-22-68. Filed 7-12-67.
- 863,006. POLYASTICS FLORBRITE. Polyastics Corporation. SN 287,944. Pub. 10-22-68. Filed 1-2-68.
- 863,007. EXECUTIVE HOUSE AND DESIGN. Harrison Paint Corp. SN 288,952. Pub. 10-22-68. Filed 1-16-68.
- 863,008. MANOR HALL. PPG Industries, Inc. SN 295,080. Pub. 10-22-68. Filed 4-8-68.
- 863,009. GREEN LITE. Minnesota Mining and Manufacturing Company. SN 298,180. Pub. 10-22-68. Filed 5-15-68.
- 863,010. ULTIMATE. Woolsey Marine Industries, Inc. SN 302,025. Pub. 10-22-68. Filed 7-5-68.

Class 17 — Tobacco Products

- 863,011. SHERLOCK HOLMES. Douwe Egberts Koninklijke Tabaksfabriek - Koffiebranderij Jen - Theehandel N.V. SN 287,640. Pub. 10-22-68. Filed 12-27-67.

Class 18 — Medicines and Pharmaceutical Preparations

- 862,999. (See Class 4 for this trademark.)
- 862,984. (See Class 6 for this trademark.)
- 863,012. STING STOPPER. Southwest Products, Inc. SN 270,716. Pub. 10-22-68. Filed 5-4-67.
- 863,013. PIROTHESIN. Willows Francis Limited. SN 276,780. Pub. 10-22-68. Filed 7-25-67.
- 863,014. SMOG. Richardson-Merrell S.p.A., by merger and change of name from Istituto Chimico Eurosud S.p.A. SN 277,460. Pub. 10-22-68. Filed 8-3-67.
- 863,015. VETQUAMYCIN. Rachelle Laboratories, Inc. SN 278,992. Pub. 10-22-68. Filed 8-24-67.
- 863,016. X-17. Forest Laboratories, Inc. SN 279,390. Pub. 10-22-68. Filed 8-30-67.
- 863,017. LIFE-ADK. Abbott Laboratories. SN 279,999. Pub. 10-22-68. Filed 9-11-67.
- 863,019. THIOLA. Santen Pharmaceutical Company, Limited. SN 287,074. Pub. 10-22-68. Filed 12-27-67.

- 863,020. MEDIGESIC. Medica Pharmaceutical Corporation. SN 287,750. Pub. 10-22-68. Filed 12-28-67.
- 863,021. WINKINASE. Sterling Drug Inc. SN 287,766. Pub. 10-22-68. Filed 12-28-67.
- 863,022. LIVETTES. Towne, Paulsen & Co., Inc. SN 289,223. Pub. 10-22-68. Filed 1-19-68.
- 863,023. VA-TRO-NOL. Richardson-Merrell Inc. SN 290,050. Pub. 10-22-68. Filed 2-8-68.
- 863,024. JOWL-VAC. American Home Products Corporation. SN 290,812. Pub. 10-22-68. Filed 2-12-68.
- 863,025. ACHIEVE. Bristol-Myers Company. SN 294,256. Pub. 10-22-68. Filed 3-27-68.
- 863,026. VANAMIL. Richardson-Merrell Inc. SN 302,571. Pub. 10-22-68. Filed 7-12-68.

Class 19 — Vehides

- 863,027. AMPULCO. Universal American Corporation. SN 254,409. Pub. 10-22-68. Filed 9-13-66.
- 863,028. TOMAC. American Hospital Supply Corporation. SN 260,915. Pub. 10-22-68. Filed 12-16-66.
- 863,029. AMMCO. American Marine and Machinery Co., Inc. SN 271,903. Pub. 10-22-68. Filed 5-19-67.
- 863,030. WEB-COR HULL CONSTRUCTION AND DESIGN. American Marine Industries, Inc. SN 274,167. Pub. 10-22-68. Filed 6-19-67.
- 863,031. SF AND DESIGN. C. E. Erickson Co., Inc. SN 285,219. Pub. 10-22-68. Filed 11-20-67.
- 863,032. SF SNO-FLITE AND DESIGN. C. E. Erickson Co., Inc. SN 285,220. Pub. 10-22-68. Filed 11-20-67.
- 863,033. HELLSTAR AND DESIGN. Hellstar Corporation. SN 291,550. Pub. 10-22-68. Filed 2-21-68.
- 863,034. PLAYAK. Hart, Incorporated. SN 294,189. Pub. 10-22-68. Filed 3-26-68.
- 863,035. ZEEBIRD. R.F.D., Incorporated. SN 302,473. Pub. 10-22-68. Filed 7-11-68.

Class 21 — Electrical Apparatus, Machines, and Supplies

- 862,991. (See Class 12 for this trademark.)
- 863,036. TRAVEL CHIEF. Texaco Inc. SN 248,179. Pub. 10-22-68. Filed 6-15-66.
- 863,037. SUPER CHIEF. Texaco Inc. SN 248,180. Pub. 10-22-68. Filed 6-15-66.
- 863,038. ECONO CHIEF. Texaco Inc. SN 248,182. Pub. 10-22-68. Filed 6-15-66.
- 863,039. INTERLAKE. Interlake Steel Corporation. SN 254,687. Pub. 10-22-68. Filed 6-19-66.
- 863,040. IMI. Instructional Media, Incorporated. MULTIPLE CLASS (Classes 21, 26, 36, and 38). SN 262,739. Pub. 4-30-68. Filed 1-18-67.
- 863,041. ZENITH. Zenith Radio Corporation. SN 271,002. Pub. 10-22-68. Filed 5-8-67.
- 863,042. TELLERVUE. The Mosler Safe Company. SN 278,816. Pub. 10-22-68. Filed 8-22-67.
- 863,043. THE BIG EAR. Saxton Products, Inc. SN 281,123. Pub. 10-22-68. Filed 9-25-67.
- 863,044. PIP. TRW, Inc. SN 287,408. Pub. 10-22-68. Filed 12-22-67.
- 863,045. MISCELLANEOUS DESIGN. American Enka Corporation. SN 287,988. Pub. 10-22-68. Filed 1-2-68.
- 863,046. RONEL. Robert H. Nelson, d.b.a. Ronel Company. SN 289,325. Pub. 10-22-68. Filed 1-22-68.
- 863,047. MINIBAR. Northern Electric Company Limited. SN 291,085. Pub. 10-22-68. Filed 2-14-68.
- 863,048. SPECIALIST. Emerson Electric Co. SN 291,254. Pub. 10-22-68. Filed 2-16-68.

- 863,049. ALPHA AND DESIGN. Alpha Wire Corporation. SN 291,336. Pub. 10-22-68. Filed 2-10-68.
- 863,050. 0-11. Electro-Nite Co. SN 291,975. Pub. 10-22-68. Filed 2-27-68.
- 863,051. HOME PRIDE AND DESIGN. The Kroger Co. SN 292,111. Pub. 10-22-68. Filed 2-28-68.
- 863,052. ENVOY. Electrohome Limited. SN 292,264. Pub. 10-22-68. Filed 3-1-68.
- 863,053. ALPHALINE. Rosemount Engineering Company. SN 293,305. Pub. 10-22-68. Filed 3-14-68.
- 863,054. DIGIMATIC. Sony Corporation. SN 293,408. Pub. 10-22-68. Filed 3-15-68.
- 863,055. HUMMEL. Hummel Manufacturing Co., Inc. SN 294,777. Pub. 10-22-68. Filed 4-24-68.
- 863,056. MITRALUX AND DESIGN. Mitralux Corporation of America. SN 295,357. Pub. 10-22-68. Filed 4-10-68.

Class 22 — Games, Toys, and Sporting Goods

- 863,057. QUALITOYS AND DESIGN. Qualtoys Limited. SN 260,583. Pub. 10-22-68. Filed 12-12-66.
- 863,058. STANGIB. Stanley Gibbons Limited. MULTIPLE CLASS (Classes 22 and 38). SN 268,626. Pub. 10-22-68. Filed 4-7-67.
- 863,059. BULL-SLED. Bull-Sled Corporation. SN 271,765. Pub. 10-22-68. Filed 5-18-67.
- 863,060. STRAP-LOCK. Wilson Sporting Goods Co., assignee of Wilson Sporting Goods Co. SN 271,864. Pub. 10-22-68. Filed 5-18-67.
- 863,061. TONE-O-MATIC. Muscle-Matic, Inc. SN 274,882. Pub. 10-22-68. Filed 6-27-67.
- 863,062. AIR STREAM. Bel-Air Pools, Inc. SN 274,941. Pub. 10-22-68. Filed 6-28-67.
- 863,063. SKITTLE-BOWL. Aurora Plastics Corporation. SN 280,925. Pub. 10-22-68. Filed 9-22-67.
- 863,064. WHITE AND DESIGN. Modern Products, Inc. SN 287,934. Pub. 10-22-68. Filed 1-2-68.
- 863,065. "PRIDE OF AMERICA" AND DESIGN. Douglas Company, Inc. SN 292,890. Pub. 10-22-68. Filed 3-11-68.
- 863,066. "TENSIMATIC." Berkley & Company, Inc. SN 293,428. Pub. 10-22-68. Filed 3-18-68.
- 863,067. VALIANT. Morris Struhl, Inc. SN 294,322. Pub. 10-22-68. Filed 3-27-68.
- 863,068. STYLIST THE PRESTIGE NAME. Stylist Shoe Company. SN 294,301. Pub. 10-22-68. Filed 3-28-68.
- 863,069. RIGHT-OF-WAY. The Allen Company, Inc. SN 294,795. Pub. 10-22-68. Filed 4-3-68.
- 863,070. FACULTY GRAMS. The Allen Company, Inc. SN 294,706. Pub. 10-22-68. Filed 4-3-68.
- 863,071. THUNDERBIRD. Henry D. Whittlesey, d.b.a. Whittlesey-Powers. SN 295,479. Pub. 10-22-68. Filed 4-11-67.
- 863,072. KING-KLIP. Stuart Sport Specialties, Inc. d.b.a. Al's Goldfish Lure Co. SN 295,987. Pub. 10-22-68. Filed 4-18-68.
- 863,073. TEEN STUFF BY RUSHTON. The Rushton Company. SN 296,350. Pub. 10-22-68. Filed 4-23-68.
- 863,074. SHOTZIE. Howard Sparber. SN 296,725. Pub. 10-22-68. Filed 4-26-68.
- 863,075. CIRCUIT. Marcy Gymnasium Equipment Co. SN 296,853. Pub. 10-22-68. Filed 4-29-68.
- 863,076. MISCELLANEOUS DESIGN. Brunswick Corporation. SN 297,051. Pub. 10-22-68. Filed 5-8-68.
- 863,077. SHUFFLETTE AND DESIGN. Accurate Systems, Inc. SN 297,732. Pub. 10-22-68. Filed 5-9-68.
- 863,078. EASY-SHOW. Kenner Products Company. SN 297,787. Pub. 10-22-68. Filed 5-9-68.
- 863,079. WOODY. Mattel, Inc. SN 301,310. Pub. 10-22-68. Filed 6-25-68.
- 863,080. JUDY-DEAN. Plakie Toys Inc. SN 302,471. Pub. 10-22-68. Filed 7-11-68.
- 863,081. ACURA-GRIP. Houdaille Industries, Inc., by assignment, merger and change of name from Universal Engineering Company. SN 226,315. Pub. 10-22-68. Filed 8-23-65.
- 863,082. MAN HOLDING MUFFLER (DESIGN). Randel's Mfg. Co., Inc. SN 246,198. Pub. 10-22-68. Filed 5-20-66.
- 863,083. CRYO-TRIM. Air Products and Chemicals, Inc. SN 264,804. Pub. 10-22-68. Filed 2-17-67.
- 863,084. ARCT (DESIGN). Ateliers Roannais de Constructions Textiles. SN 266,298. Pub. 10-22-68. Filed 3-9-67.
- 863,085. RHEWUM. National Engineering Company. SN 268,518. Pub. 10-22-68. Filed 4-0-67.
- 863,086. TANO-MIL. Devlieg Machine Company. SN 268,716. Pub. 2-20-68. Filed 4-10-67.
- 863,087. AMCARB. Carmet Company. SN 269,508. Pub. 10-22-68. Filed 4-19-67.
- 863,088. ROAD-BOR. Hughes Tool Company. SN 271,708. Pub. 10-22-68. Filed 5-17-67.
- 863,089. EDITYPER. Epsco, Incorporated. SN 272,820. Pub. 10-22-68. Filed 6-1-67.
- 863,090. BREW-SAN. UMC Industries, Inc. SN 274,007. Pub. 10-22-68. Filed 6-15-67.
- 863,091. GREEN TREE. The Union Fork and Hoe Company. SN 274,369. Pub. 10-22-68. Filed 6-20-67.
- 863,092. NATIONAL VENDORS. UMC Industries, Inc. SN 274,551. Pub. 10-22-68. Filed 6-22-67.
- 863,093. MICRO FOIL. Amchem Products, Inc. SN 274,697. Pub. 10-22-68. Filed 6-26-67.
- 863,094. AIR SLICE. The Clark-Aiken Company. SN 270,311. Pub. 10-22-68. Filed 7-19-67.
- 863,095. STREET AND STRIP. Hurst-Campbell, Inc. SN 282,088. Pub. 10-22-68. Filed 10-9-67.
- 863,096. LIDO. Onelda Ltd. SN 284,232. Pub. 10-22-68. Filed 11-6-67.
- 863,097. INSTA-DOK. Insta-Dok Corporation. SN 285,331. Pub. 10-22-68. Filed 11-21-67.
- 863,098. WELEX. Welex Incorporated. SN 285,776. Pub. 10-22-68. Filed 11-28-67.
- 863,099. AERO-SWEEP. The Bahnsen Company. SN 286,896. Pub. 10-22-68. Filed 12-14-67.
- 863,100. WM TILT-FILL AND DESIGN. Wright Machinery Company, Inc. SN 288,399. Pub. 10-22-68. Filed 1-8-68.
- 863,101. WESTLINE. Western Auto Supply Company. SN 290,551. Pub. 10-22-68. Filed 2-7-68.
- 863,102. TY-SIFTER. W. S. Tyler, Incorporated. SN 292,147. Pub. 10-22-68. Filed 2-28-68.
- 863,103. MATCHMAKERS. Onelda Ltd. MULTIPLE CLASS (Classes 23 and 28). SN 294,767. Pub. 10-22-68. Filed 4-3-68.
- 863,104. BUFFALO AND DESIGN. Fleischer Manufacturing, Inc. SN 298,909. Pub. 10-22-68. Filed 5-23-68.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

Class 24 — Laundry Appliances and Machines

- 863,105. FAST BACK. McGraw-Edison Company. SN 298,441. Pub. 10-22-68. Filed 4-24-68.

Class 26 — Measuring and Scientific Appliances

- 863,040. (See Class 21 for this trademark.)
- 863,106. MICRO PLOTTER. Mutoh Industry Ltd. SN 254,552. Pub. 10-22-68. Filed 9-15-66.
- 863,107. AUXOTAB. Colab Laboratories, Inc. SN 285,890. Pub. 10-22-68. Filed 3-3-67.

- 863,108. OXFORD. Burke and James, Inc. SN 273,178. Pub. 10-22-68. Filed 6-6-67.
- 863,109. VIDITAL. The Rank Organisation Limited. SN 275,786. Pub. 10-22-68. Filed 7-11-67.
- 863,110. NORELCO. North American Philips Company, Inc. SN 278,520. Pub. 10-22-68. Filed 8-17-67.
- 863,111. TASCO AND DESIGN. Tasco Sales, Inc. SN 278,744. Pub. 10-22-68. Filed 8-21-67.
- 863,112. AUTASET. GAF Corporation, by change of name from General Aniline & Film Corporation. SN 279,183. Pub. 10-22-68. Filed 8-28-67.
- 863,113. GAF AND DESIGN. GAF Corporation, by change of name from General Aniline & Film Corporation. SN 280,412. Pub. 10-22-68. Filed 9-15-67.
- 863,114. BARREL-O-GRAF. Warren Automatic Tool Company. SN 283,182. Pub. 10-22-68. Filed 10-23-67.
- 863,115. COMP-U-CODE. Randomatic Data Systems, Inc., assignee of John R. Kurth and Leo A. Urbanski. SN 283,345. Pub. 10-22-68. Filed 10-25-67.
- 863,116. MISCELLANEOUS DESIGN. Wang Laboratories, Inc. SN 284,768. Pub. 10-22-68. Filed 11-13-67.
- 863,117. BOOMERANG. Bentbos, Inc. SN 285,190. Pub. 10-22-68. Filed 11-20-67.
- 863,118. UDAC AND DESIGN. Universal Data Acquisition Co., Inc. SN 286,783. Pub. 10-22-68. Filed 12-12-67.
- 863,119. ULTRALINE. Ritter Pfaulder Corporation. SN 286,865. Pub. 10-22-68. Filed 12-14-67.
- 863,120. CONDEP. Continental Oil Company. SN 287,410. Pub. 10-22-68. Filed 12-22-67.
- 863,121. KEM-PONENT. Kewaunee Scientific Equipment Corporation. MULTIPLE CLASS (Classes 26, 31, and 34). SN 287,694. Pub. 10-22-68. Filed 12-28-67.
- 863,122. WOODCO. Arthur O. Wood, Jr., d.b.a. The Wood Instrument Co. MULTIPLE CLASS (Classes 26 and 44). SN 288,152. Pub. 10-22-68. Filed 12-21-67.
- 863,123. MOISTREX. Microwave Instruments Limited. SN 291,624. Pub. 10-22-68. Filed 2-21-68.
- 863,124. FENCO. Fujiya Electric Co. Ltd. SN 292,688. Pub. 10-22-68. Filed 2-28-68.
- 863,125. T R U - A I R. Parker-Hannifin Corporation. SN 292,121. Pub. 10-22-68. Filed 2-28-68.
- 863,126. PHONETYPE. Applied Communications Corporation. SN 295,592. Pub. 10-22-68. Filed 4-15-68.
- 863,127. HELI-COIL. Heli-Coil Corporation. SN 296,922. Pub. 10-22-68. Filed 4-30-68.
- 863,128. WELSHGARD. Welsh Manufacturing Company. MULTIPLE CLASS (Classes 26, 39, and 44). SN 299,808. Pub. 10-22-68. Filed 6-6-68.

Class 28 — Jewelry and Precious-Metal Ware

- 863,103. (See Class 23 for this trademark.)
- 863,129. BIGI. Bergdorf & Goodman Company. MULTIPLE CLASS (Classes 28 and 39). SN 269,377. Pub. 10-22-68. Filed 4-18-67.

Class 29 — Brooms, Brushes, and Dusters

- 863,130. VALIANT. Morris Strubel, Inc. SN 294,326. Pub. 10-22-68. Filed 3-27-68.
- 863,131. BAK-O-TEX. Baker Brush Co., Inc. SN 297,516. Pub. 10-22-68. Filed 5-7-68.

Class 31 — Filters and Refrigerators

- 863,121. (See Class 26 for this trademark.)
- 863,132. BANANA-MATIC. Continental/Moss-Gordin, Inc., assignee of Gerald F. McDonnell. SN 283,188. Pub. 10-22-68. Filed 1-24-67.

Class 34 — Heating, Lighting, and Ventilating Apparatus

- 863,121. (See Class 26 for this trademark.)
- 863,133. RIPE-A-MATIC. Continental/Moss-Gordin, Inc., assignee of Gerald F. McDonnell. SN 263,187. Pub. 10-22-68. Filed 1-24-67.
- 863,134. DYNASURGE AND DESIGN. Liquid Carbonic Corporation. SN 272,075. Pub. 10-22-68. Filed 5-22-67.
- 863,135. IMPERIAL. Rheem Manufacturing Company. SN 276,953. Pub. 10-22-68. Filed 7-27-67.
- 863,136. STEEMSINK. Dean Products, Inc. SN 279,287. Pub. 10-22-68. Filed 8-29-67.
- 863,137. PUROX AND DESIGN. Union Carbide Corporation. SN 282,841. Pub. 10-22-68. Filed 10-18-67.
- 863,138. SANDSCO. S. & S. Machinery Co. SN 291,193. Pub. 10-22-68. Filed 2-15-68.
- 863,139. MANIFILM. Coen Manufacturing Corporation of New Jersey. SN 291,968. Pub. 10-22-68. Filed 2-27-68.
- 863,140. HOT SHOT. Industrial Heating and Finishing Co., Inc. SN 292,101. Pub. 10-22-68. Filed 2-28-68.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

- 863,141. ALORIPCO AND DESIGN. Aloripco, Inc. SN 271,901. Pub. 10-22-68. Filed 5-19-67.
- 863,142. NEOTHANE. The Goodyear Tire & Rubber Company. SN 283,002. Pub. 10-22-68. Filed 10-20-67.
- 863,143. SPORTS OVAL. Union Oil Company of California. SN 288,457. Pub. 10-22-68. Filed 1-9-68.
- 863,144. VANGUARD. Federal-Mogul Corporation. SN 293,709. Pub. 10-22-68. Filed 3-20-68.
- 863,145. REMINGTON AUTOBAND. Dunlop Tire and Rubber Corporation. SN 294,174. Pub. 10-22-68. Filed 3-26-68.
- 863,146. STRATO-STREAK. The Firestone Tire & Rubber Company. SN 294,177. Pub. 10-22-68. Filed 3-26-68.

Class 36 — Musical Instruments and Supplies

- 863,040. (See Class 21 for this trademark.)
- 863,147. CANARY AND DESIGN. Canary Record Company. SN 264,020. Pub. 10-22-68. Filed 2-6-67.
- 863,148. PAGEANT AND DESIGN. American Stylus Company, d.b.a. Pageant Needles. SN 265,885. Pub. 10-22-68. Filed 3-1-67.
- 863,149. NIVICO. Victor Company of Japan, Limited. SN 285,753. Pub. 10-22-68. Filed 3-1-67.
- 863,150. MISCELLANEOUS DESIGN. Columbia Broadcasting System, Inc. SN 266,144. Pub. 10-22-68. Filed 3-7-67.
- 863,151. PHIL-L.A. OF SOUL AND DESIGN. Jamie Record Co., by merger from Landa Records, Inc. SN 287,952. Pub. 10-22-68. Filed 3-30-67.
- 863,152. BELTEK. Beltek Corporation. SN 271,912. Pub. 10-22-68. Filed 5-19-67.
- 863,153. CAMEO CP. Cameo-Parkway Records, Inc. SN 272,580. Pub. 10-22-68. Filed 5-29-67.
- 863,154. CP FAIRMOUNT. Cameo-Parkway Records, Inc. SN 272,581. Pub. 10-22-68. Filed 5-29-67.
- 863,155. CP PARKWAY. Cameo-Parkway Records, Inc. SN 272,582. Pub. 10-22-68. Filed 5-29-67.
- 863,156. AUGUSTINE AND DESIGN. Albert Augustine, Ltd. SN 272,907. Pub. 10-22-68. Filed 6-2-67.
- 863,157. SENDA-MESSAGE AND DESIGN. Telephone Dynamics Corp. SN 279,234. Pub. 10-22-68. Filed 8-28-67.

- 863,158. HUNGAROTON. Magyar Hanglemeggyarto Vallalat. SN 287,748. Pub. 10-22-68. Filed 12-28-67.
- 863,159. MUSIC FACTORY. Metro-Goldwyn-Mayer Inc. SN 290,505. Pub. 10-22-68. Filed 2-7-68.

Class 37 — Paper and Stationery

- 863,160. DESIGN HOUSE. Franklin Press, Inc. SN 282,364. Pub. 10-22-68. Filed 10-12-67.
- 863,161. ADVERT-A-BAND. Edmond Printing Company, Inc. SN 287,353. Pub. 10-22-68. Filed 12-21-67.
- 863,162. DEMOPAC. Moore Business Forms, Inc. SN 288,108. Pub. 10-22-68. Filed 1-4-68.
- 863,163. FLEXI-RECORD. Scripture Press Publications, Inc. SN 291,471. Pub. 10-22-68. Filed 2-20-68.

Class 38 — Prints and Publications

- 863,040. (See Class 21 for this trademark.)
- 863,058. (See Class 22 for this trademark.)
- 863,164. THE PREDICTOR AND DESIGN. The Predictor, Incorporated. MULTIPLE CLASS (Classes 38 and 100). SN 286,797. Pub. 10-22-68. Filed 3-15-67.
- 863,165. CHATTERBOARDS. CPS Industries, Inc. SN 271,029. Pub. 10-22-68. Filed 5-9-67.
- 863,166. THE PREDICTOR. The Predictor, Incorporated. MULTIPLE CLASS (Classes 38 and 100). SN 277,961. Pub. 10-22-68. Filed 8-10-67.
- 863,167. W.A. Warner Woven Label Company Inc. SN 289,139. Pub. 10-22-68. Filed 1-18-68.
- 863,168. SNACK BAR. Norcross, Inc. SN 291,175. Pub. 10-22-68. Filed 2-15-68.
- 863,169. THE MANUFACTURING ENGINEER. American Society of Tool and Manufacturing Engineers. SN 296,914. Pub. 10-22-68. Filed 4-30-68.
- 863,170. RCA. Radio Corporation of America. SN 296,929. Pub. 10-22-68. Filed 4-30-68.
- 863,171. I AM LOVED AND DESIGN. Helzberg's Diamond Shops, Inc. SN 301,876. Pub. 10-22-68. Filed 7-3-68.

Class 39 — Clothing

- 863,128. (See Class 26 for this trademark.)
- 863,129. (See Class 28 for this trademark.)
- 863,172. PANCE. I.B.J. Corporation. SN 269,313. Pub. 10-22-68. Filed 4-17-67.
- 863,173. PIA (DESIGN). Volk Bros. Company. SN 272,119. Pub. 10-22-68. Filed 5-22-67.
- 863,174. BUCKY PANTS. The Strouse, Adler Company. SN 280,822. Pub. 10-22-68. Filed 9-20-67.
- 863,175. GENE PETITE. Gina Sportswear Company, Inc. SN 281,188. Pub. 10-22-68. Filed 9-26-67.
- 863,176. MAGIC MIRROR. Polrette Corseta, Inc. SN 283,031. Pub. 3-5-68. Filed 10-20-67.
- 863,177. THE KNIT BEAT. Susan Thomas Incorporated. SN 283,828. Pub. 10-22-68. Filed 10-31-67.
- 863,178. SALANGE. J. P. Stevens & Co., Inc. SN 285,949. Pub. 10-22-68. Filed 11-30-67.
- 863,179. MOUNTED HORSEMAN (DESIGN). Burberry's Limited. SN 289,474. Pub. 10-22-68. Filed 1-24-68.
- 863,180. SHAPERED. The Manhattan Shirt Company. SN 290,740. Pub. 10-22-68. Filed 2-9-68.
- 863,181. RANCHCRAFT. J. C. Penney Company. SN 290,749. Pub. 10-22-68. Filed 2-9-68.

- 863,182. JEAN COUNTRY. Unishops, Inc. SN 291,210. Pub. 10-22-68. Filed 2-15-68.

- 863,183. PORTALEGRO AND DESIGN. B. W. Mayer & Coban, Ltd., Beau Brummel Ties Division. SN 292,055. Pub. 10-22-68. Filed 2-28-68.

- 863,184. MAGICAP. The Bobby Company. SN 293,350. Pub. 10-22-68. Filed 3-15-68.

- 863,185. CORTEFIEL. Manufacturas del Vestido S.A. SN 294,636. Pub. 10-22-68. Filed 4-1-68.

- 863,186. LULLABY. Diana Manufacturing Company. SN 294,820. Pub. 10-22-68. Filed 4-3-68.

- 863,187. DURA SONIC. Apollo Apparel, Inc. SN 294,908. Pub. 10-22-68. Filed 4-4-68.

- 863,188. CHICAS. Formaid Co. SN 295,324. Pub. 10-22-68. Filed 4-10-68.

- 863,189. MINI-DOLL. Lady Marlene Brassiere Corp. SN 298,456. Pub. 10-22-68. Filed 5-17-68.

Class 40 — Fancy Goods, Furnishings, and Notions

- 863,190. CANNES. Fashion Treas, Inc. SN 281,367. Pub. 10-22-68. Filed 9-28-67.

- 863,191. MONTE CARLO. Fashion Treas, Inc. SN 281,369. Pub. 10-22-68. Filed 9-28-67.

- 863,192. PUFYS. House of Barri, Inc. SN 281,591. Pub. 10-22-68. Filed 10-5-67.

- 863,193. NEW BORN. Fashion Treas, Inc. SN 301,308. Pub. 10-22-68. Filed 6-25-68.

Class 41 — Canes, Parasols, and Umbrellas

- 863,194. I AM LOVED AND DESIGN. Helzberg's Diamond Shops, Inc. SN 301,881. Pub. 10-22-68. Filed 7-3-68.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

- 863,195. I AM LOVED AND DESIGN. Helzberg's Diamond Shops, Inc. SN 301,884. Pub. 10-22-68. Filed 7-3-68.

Class 44 — Dental, Medical, and Surgical Appliances

- 862,984. (See Class 6 for this trademark.)
- 863,122. (See Class 26 for this trademark.)
- 863,128. (See Class 26 for this trademark.)
- 863,196. JOY. Adolph Reiter. SN 252,593. Pub. 10-22-68. Filed 8-17-66.
- 863,197. SIMAPLAST. Simaplast, Inc. SN 270,836. Pub. 10-22-68. Filed 5-5-67.
- 863,198. MUELLER-MATTE. American Hospital Supply Corporation. SN 290,814. Pub. 10-22-68. Filed 2-12-68.
- 863,199. VORTEX-VIAL. Loenco, Inc. SN 291,753. Pub. 10-22-68. Filed 2-23-68.
- 863,200. POLYVIOLENE. Arthur E. Look, Inc. SN 292,211. Pub. 10-22-68. Filed 2-29-68.
- 863,201. INSTAMOMETER. Soss Manufacturing Company. SN 292,512. Pub. 10-22-68. Filed 3-5-68.

- 863,202. UNISIL. Unitek Corporation. SN 293,183. Pub. 10-22-68. Filed 3-13-68.
- 863,203. C-LIV. Medical Supply Company (Missouri corporation), assignee of Medical Supply Company (Illinois corporation). SN 293,539. Pub. 10-22-68. Filed 3-18-68.

Class 45—Soft Drinks and Carbonated Waters

- 863,204. ICEE. John E. Mitchell Company, Inc. SN 238,430. Pub. 11-5-66. Filed 2-9-66.
- 863,205. NUGRAPE AND BOTTLE DESIGN. National Nutrape Company. SN 267,648. Pub. 10-22-68. Filed 3-27-67.
- 863,206. TEXAS TORNADO. Canada Dry Corporation. SN 284,602. Pub. 10-22-68. Filed 11-13-67.
- 863,207. LEAPIN LEMON. Canada Dry Corporation. SN 284,605. Pub. 10-22-68. Filed 11-13-67.
- 863,208. SLEEPER. Canada Dry Corporation. SN 291,833. Pub. 10-22-68. Filed 2-26-68.

Class 46—Foods and Ingredients of Foods

- 863,209. MCC AND DESIGN. Toshimasa Mizugaki. SN 237,994. Pub. 10-22-68. Filed 2-3-66.
- 863,210. VOYAGER. Crest Brokerage Company, Inc. SN 259,411. Pub. 10-22-68. Filed 11-25-66.
- 863,211. CAROLINA QUICK'N EASY. Riviana Foods Inc. SN 262,713. Pub. 10-22-68. Filed 1-17-67.
- 863,212. SPRINKLE AND DESIGN. Betty T. Pluckney, d.b.a. De Sales Industries. SN 266,781. Pub. 1-16-68. Filed 3-15-67.
- 863,213. DOG POUND. Dog Pound. SN 271,454. Pub. 10-22-68. Filed 5-15-67.
- 863,214. KASOCO. The E. Kahn's Sons Company. SN 277,807. Pub. 10-22-68. Filed 5-18-67.
- 863,215. CRANDALL HOUSE AND DESIGN. United Fruit Company. SN 275,569. Pub. 10-22-68. Filed 7-7-67.
- 863,216. FRIENDCHIPS. Mead Johnson & Company (Delaware corporation), assignee of Mead Johnson & Company (Indiana corporation). SN 278,070. Pub. 10-22-68. Filed 8-11-67.
- 863,217. MISCELLANEOUS DESIGN. Kellogg Company. SN 280,515. Pub. 11-21-67. Filed 9-18-67.
- 863,218. POLANER AND DESIGN. M. Polaner & Son, Inc. SN 281,917. Pub. 10-22-68. Filed 10-5-67.
- 863,219. TOP 'N'DIP. Harry M. Levin, d.b.a. Vogeler Co. SN 282,469. Pub. 10-22-68. Filed 10-13-67.
- 863,220. LACTACEL. Merck & Co., Inc. SN 282,594. Pub. 10-22-68. Filed 10-16-67.
- 863,221. CAROLINA. Riviana Foods Inc. SN 285,766. Pub. 10-22-68. Filed 11-28-67.
- 863,222. COOK'S BEST AND DESIGN. Cook's Frozen Seafoods, Inc. SN 287,149. Pub. 10-22-68. Filed 12-18-67.
- 863,223. METCO. Merchants Trading Co., Inc. SN 288,443. Pub. 10-22-68. Filed 1-9-68.
- 863,224. TONADA. G. S. Supplier Co. SN 289,539. Pub. 10-22-68. Filed 1-24-68.
- 863,225. SPREAD-EAGLE FARM AND DESIGN. Spread Eagle Farms, Inc. SN 289,839. Pub. 10-22-68. Filed 1-29-68.
- 863,226. JIM DANDY AND DESIGN. Western Grain Co., Inc. SN 291,113. Pub. 10-22-68. Filed 2-14-68.
- 863,227. REVERE. Revere Sugar Refinery. SN 291,430. Pub. 10-22-68. Filed 2-19-68.
- 863,228. MISCELLANEOUS DESIGN. John Boyd Company. SN 291,579. Pub. 10-22-68. Filed 2-21-68.

- 863,229. BEEF-A-MIEL. Amiel's Beef A-Miel, Inc. MULTIPLE CLASS (Classes 46 and 100). SN 291,658. Pub. 10-22-68. Filed 2-23-68.
- 863,230. STEER'S HEAD (DESIGN). Amiel's Beef A-Miel, Inc. MULTIPLE CLASS (Classes 46 and 100). SN 291,659. Pub. 10-22-68. Filed 2-23-68.
- 863,231. ROMAINE CAESAR DRESSING BY SKAGGS & KELLY INC. Skaggs and Kelly, Inc. SN 291,783. Pub. 10-22-68. Filed 2-23-68.
- 863,232. HOTEL BAR CHEF'S SPECIAL AND DESIGN. Frederick F. Lowenfels & Son. SN 293,154. Pub. 10-22-68. Filed 3-13-68.
- 863,233. VELERA. Santa Cruz Canning Co. SN 293,994. Pub. 10-22-68. Filed 3-25-68.
- 863,234. MARIA. H & J Trading Co. SN 294,278. Pub. 10-22-68. Filed 3-27-68.
- 863,235. NICK NOG. Quality Chekd Dairy Products Association. SN 294,855. Pub. 10-22-68. Filed 4-3-68.
- 863,236. SAVOR. Quality Chekd Dairy Products Association. SN 294,856. Pub. 10-22-68. Filed 4-3-68.
- 863,237. PROSPECT FARMS AND DESIGN. Prospect Farms, Inc. SN 295,370. Pub. 10-22-68. Filed 4-10-68.
- 863,238. DESIGN OF CHICKEN. Prospect Farms, Inc. SN 295,371. Pub. 10-22-68. Filed 4-10-68.
- 863,239. VIKO. Eric's Kitchens, Inc. SN 290,132. Pub. 10-22-68. Filed 4-22-68.
- 863,240. SIX GUNS. General Mills, Inc. SN 297,252. Pub. 10-22-68. Filed 5-3-68.
- 863,241. GOLDEN GATE. A. Giurlani & Bro., d.b.a. Morland Packing Co. SN 297,503. Pub. 10-22-68. Filed 5-7-68.
- 863,242. G GENERAL MILLS. General Mills, Inc. SN 298,072. Pub. 10-22-68. Filed 5-21-68.
- 863,243. UP 'N' LIV. Edlo Enterprises, Inc. SN 302,468. Pub. 10-22-68. Filed 7-11-68.

Class 47—Wines

- 863,244. SINNER. Sinner A.G. SN 293,594. Pub. 10-22-68. Filed 3-18-68.

Class 48—Malt Beverages and Liquors

- 863,245. SINNER. Sinner A.G. SN 293,593. Pub. 10-22-68. Filed 3-18-68.
- 863,246. SCENE ONE. Jos. Schlitz Brewing Company. SN 301,139. Pub. 10-22-68. Filed 6-24-68.

Class 49—Distilled Alcoholic Liquors

- 863,247. K-L-M. Koninklijke Luchtvaart Maatschaaplj, N.V., d.b.a. KLM Royal Dutch Airlines, assignee of Barton Distilling Company. SN 212,636. Pub. 9-21-65. Filed 2-24-65.
- 863,248. DIXIE DELIGHT. Continental Distilling Corporation. SN 301,306. Pub. 10-22-68. Filed 6-26-68.

Class 50—Merchandise Not Otherwise Classified

- 863,249. MOTI VISION. Film View International Corporation. SN 284,187. Pub. 10-22-68. Filed 11-6-67.
- 863,250. TEMPERPLATE. London Litho Aluminum Company, Incorporated. SN 285,338. Pub. 10-22-68. Filed 11-21-67.
- 863,251. ACCRO-FLEX. Accro Systema, Inc. SN 287,214. Pub. 10-22-68. Filed 12-19-67.

Class 51—Cosmetics and Toilet Preparations

- 862,969. (See Class 4 for this trademark.)
- 863,252. CORSAR. Ferdinand Mülhens, d.b.a. Eau de Cologne & Parfümerie-Fabrik Glockengasse No. 4711 gegenüber der Pferdepot von Ferd. Mülhens. SN 252,584. Pub. 10-22-68. Filed 8-17-66.
- 863,253. L'OREAL OF PARIS. L'Oreal. MULTIPLE CLASS (Classes 51 and 52). SN 270,310. Pub. 10-22-68. Filed 5-1-67.
- 863,254. KEEP IT CLEAR. Clairol Incorporated. SN 270,837. Pub. 10-22-68. Filed 5-5-67.
- 863,255. 'BODY SILK'. Revlon, Inc. SN 274,239. Pub. 10-22-68. Filed 6-19-67.
- 863,256. EYE GRAPHICS. Kenneth Beauty Salons & Products, Inc. SN 283,004. Pub. 10-22-68. Filed 11-1-67.
- 863,257. LOVE PAINT. Kenneth Beauty Salons & Products, Inc. SN 284,017. Pub. 10-22-68. Filed 11-2-67.
- 863,258. THE SOFT ONE. Clairol Incorporated. MULTIPLE CLASS (Classes 51 and 52). SN 285,369. Pub. 10-22-68. Filed 11-22-67.
- 863,259. NATURAL VELVET. Colgate-Palmolive Company. SN 285,907. Pub. 10-22-68. Filed 11-30-67.
- 863,260. FROSTIGUES. Merle Norman Cosmetics, Inc. SN 286,026. Pub. 10-22-68. Filed 12-1-67.
- 863,261. SEAGRASS. Avon Products, Inc. SN 288,586. Pub. 10-22-68. Filed 1-11-68.
- 863,262. FRECKLES 'N' FRILLS. Avon Products, Inc. SN 288,588. Pub. 10-22-68. Filed 1-11-68.
- 863,263. FLOWER GIRL. Avon Products, Inc. SN 288,590. Pub. 10-22-68. Filed 1-11-68.
- 863,264. DOLL HOUSE. Avon Products, Inc. SN 288,592. Pub. 10-22-68. Filed 1-11-68.
- 863,265. SURE THING. Helene Curtis Industries, Inc. SN 290,606. Pub. 10-22-68. Filed 2-8-68.
- 863,266. SUPER-DENT. Home Dental Aids Company, d.b.a. Home Dental Aids Co., Inc. SN 298,901. Pub. 10-22-68. Filed 5-23-68.
- 863,267. THE OTHER ONE. American Home Products Corporation. SN 300,033. Pub. 10-22-68. Filed 6-10-68.
- 863,268. FDS. Alberto-Culver Company. SN 300,507. Pub. 10-22-68. Filed 6-17-68.
- 863,269. THE CORINTHIAN. Skyline Ind., Inc. SN 302,474. Pub. 10-22-68. Filed 7-11-68.

Class 52—Detergents and Soaps

- 862,969. (See Class 4 for this trademark.)
- 863,253. (See Class 51 for this trademark.)
- 863,258. (See Class 51 for this trademark.)
- 863,270. AQUA STAR. Dallas Fountain & Fixture Co. SN 272,364. Pub. 10-22-68. Filed 5-25-67.
- 863,271. GLOVE-CRAFTER. Leathercraft Products, Corp. SN 275,765. Pub. 10-22-68. Filed 7-11-67.
- 863,272. HUBA SEBRYL AND DESIGN. Laboratorios Huba, S.A. SN 276,142. Pub. 10-22-68. Filed 7-17-67.
- 863,273. KWANI. Tescott-Duray Corporation. SN 285,975. Pub. 10-22-68. Filed 11-16-67.
- 863,274. HIT-THE-DIRT. Premier Industrial Corporation. SN 300,233. Pub. 10-22-68. Filed 6-12-68.

Service Marks

Class 100—Miscellaneous

- 863,164. (See Class 38 for this trademark.)
- 863,166. (See Class 38 for this trademark.)

- 863,229. (See Class 46 for this trademark.)
- 863,230. (See Class 46 for this trademark.)

- 863,275. DINE AT THE SIGN OF THE HAPPY CHEF AND DESIGN. Happy Chef Systems, Inc. SN 263,181. Pub. 12-5-67. Filed 1-24-67.

Class 101—Advertising and Business

- 863,276. SIRS. System Development Corporation. SN 262,817. Pub. 10-22-68. Filed 1-18-67.
- 863,277. L.I.T.E. ELECTRICAL INDUSTRY TRAINING AND EDUCATION OF SANTA BARBARA CO. AND DESIGN. Electrical Employers' Trust of Santa Barbara County. SN 264,728. Pub. 10-22-68. Filed 2-15-67.
- 863,278. AD (DESIGN). Streater Industries, Inc., by change of name from Streater Store Fixtures, Inc. SN 270,971. Pub. 10-22-68. Filed 5-8-67.
- 863,279. FARMAC. American National Bank and Trust Company. SN 271,761. Pub. 10-22-68. Filed 5-18-67.
- 863,280. DATRIX. Xerox Corporation. SN 277,580. Pub. 10-22-68. Filed 8-4-67.
- 863,281. M-R-S. Micro-Reproduction Services, Incorporated. SN 287,658. Pub. 10-22-68. Filed 12-27-67.
- 863,282. MRS. AND DESIGN. Micro-Reproduction Services, Incorporated. SN 287,659. Pub. 10-22-68. Filed 12-27-67.

Class 102—Insurance and Financial

- 863,283. MERIT-CHEK. Carl W. Oda, d.b.a. Merit Business Service. SN 257,644. Pub. 10-22-68. Filed 10-31-66.
- 863,284. WHEEL-ESTATE. Commercial Credit Corporation. SN 288,189. Pub. 10-22-68. Filed 1-5-68.
- 863,285. FLOAT-A-BOAT. Commercial Credit Corporation. SN 288,190. Pub. 10-22-68. Filed 1-5-68.

Class 103—Construction and Repair

- 863,286. DESIGN OF MALE HUMAN. Kayo Oil Company. SN 259,551. Pub. 10-22-68. Filed 11-28-66.
- 863,287. IB AND DESIGN. International Bakerage, Inc. SN 273,643. Pub. 10-22-68. Filed 6-12-67.
- 863,288. WELLPLEX. Wells Television, Inc. MULTIPLE CLASS (Classes 103 and 104). SN 294,897. Pub. 10-22-68. Filed 4-4-68.

Class 104—Communication

- 863,288. (See Class 103 for this trademark.)

Class 106—Material Treatment

- 863,289. MONKEY COLOR AND DESIGN. Monkey Color, Inc. SN 269,025. Pub. 10-22-68. Filed 4-13-67.
- 863,290. SS (DESIGN). Spectrum Systema, Inc. SN 285,157. Pub. 10-22-68. Filed 11-17-67.
- 863,291. N AND DESIGN. National Molding Corp. SN 288,225. Pub. 10-22-68. Filed 1-5-68.

Class 107—Education and Entertainment

863,292. THE CRITTERS. The Critters, Inc., assignee of Original Critters, Inc. SN 276,854. Pub. 10-22-68. Filed 7-26-67.

863,293. GOLD HELMET AWARD. Macmillan Ring-Free Oil Co., Inc. SN 299,070. Pub. 10-22-68. Filed 5-27-68.

863,294. THE EXEMPTIONS. Lella Holiday. SN 301,588. Pub. 10-22-68. Filed 6-28-68.

Class A—Goods

863,295. DEEP-LIFT. The Asphalt Institute. SN 280,884. Pub. 10-22-68. Filed 9-19-67.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

SECTION 1

(Combined Certificates)

863,312. Comite Organizador de Los Juegos de la XIX Olimpiada, Mexico City, Mexico. SN 286,583. Filed P.R. 12-11-67; Am. S.R. 10-21-68.

First use on or about Jan. 1, 1967; in commerce at least as early as Sept. 1, 1967.



Applicant claims exclusive right to use of the five rings embodied as part of its mark, but not otherwise.

Class 38—Prints and Publications

For Prints and Publications—Namely, Placards, Decals, News Bulletins, and Travel Guides (Int. Cl. 16).

Class 105—Transportation and Storage

For Organizational Services—Namely, Arranging for Travel and Accommodations (Int. Cl. 39).

Class 107—Education and Entertainment

For Promotion, Scheduling and Conduct of Athletic Events, Official Receptions, Ceremonial Activities, Cultural Expositions, and Festivals Relating Thereto (Int. Cl. 41).

863,324. Fashion Tresa, Inc., Hialeah, Fla. SN 251,404. Filed P.R. 8-1-66; Am. S.R. 4-10-68.

**Class 51—Cosmetics and Toilet Preparations**

For Wig Sprays; Wig Setting Lotion; Wig Perfume; and Wig Lusterizer and Conditioner (Int. Cl. 3).

Class 52—Detergents and Soaps

For Wig Cleaner (Int. Cl. 3).

First use November 1965.

SECTION 2**Class 1—Raw or Partly Prepared Materials**

863,296. Nu-Puttie Corporation, Chicago, Ill. SN 282,126. Filed P.R. 10-9-67; Am. S.R. 10-22-68.

KUL-R-WUD

For Synthetic Patching Compound and Crack Filler for Correcting Imperfections in Wood (Int. Cl. 17).
First use Sept. 8, 1967.

Class 2—Receptacles

863,297. Lily-Tulip Cup Corporation, New York, N.Y. SN 262,873. Filed 1-19-67.

DUB'L SEAL

For Receptacles—Namely, Containers in the General Nature of Cans and Enclosure Lids Therefor for Forming Sealed Packages (Int. Cl. 16).
First use Oct. 23, 1964.

863,298. Simon F. Murray, Dubuque, Iowa. SN 265,322. Filed P.R. 2-23-67; Am. S.R. 10-17-68.

EZY-FIL

For Liquid Soap Dispensers (Int. Cl. 21).
First use Jan. 31, 1964.

863,299. Eugene Wesley Crowe, d.b.a. Crowe's Beef & Egg Farm, Gore, Va. SN 280,570. Filed P.R. 9-18-67; Am. S.R. 10-21-68.



For Egg Crates (Int. Cl. 20).
First use May 18, 1967.

Class 12—Construction Materials

863,300. Weyerhaeuser Company, Tacoma, Wash. SN 282,155. Filed P.R. 10-9-67; Am. S.R. 10-14-68.

WOODHUE

For Grain-Print Particleboard Paneling (Int. Cl. 19).
First use Apr. 26, 1967.

863,301. Chester B. Stem, Incorporated, New Albany, Ind. SN 280,290. Filed P.R. 9-14-67; Am. S.R. 9-23-68.

STEM

For Hardwood Lumber and Sliced Wood (Int. Cl. 19).

Class 15—Oils and Greases

863,302. Kameyama Candle Company Limited, Kameyama, Mie, Japan. SN 280,318. Filed P.R. 9-14-67; Am. S.R. 10-22-68.



Owner of U.S. Reg. No. 677,111.
For Candles (Int. Cl. 4).
First use May 15, 1967.
First use Apr. 19, 1965; in commerce Apr. 19, 1965.

Class 18—Medicines and Pharmaceutical Preparations

863,303. Del Laboratories, Inc., Farmingdale, N.Y. SN 268,294. Filed P.R. 4-4-67; Am. S.R. 10-25-68.

NAIL BITER

For Product for Discouraging the Habit of Nail Biting (Int. Cl. 5).
First use Jan. 7, 1966.

863,304. The Murline Company, Inc., Chicago, Ill. SN 284,781. Filed P.R. 10-23-67; Am. S.R. 10-8-68.

CLEAR EYES

For Decongestant Eye Drops (Int. Cl. 5).
First use Sept. 20, 1967.

Class 22—Games, Toys, and Sporting Goods

863,305. Rapaport Brothers, Inc., Chicago, Ill. SN 254,802. Filed P.R. 9-20-66; Am. S.R. 10-3-68.

BURN 'N' STAIN

For Toy Hobby Kit Comprising an Electric Etching Tool, Outline Design on Picture Sheets, Coloring Paints and Stains, and Application Brushes (Int. Cl. 28).
First use July 28, 1966.

Class 26—Measuring and Scientific Appliances

863,306. The General Fireproofing Company, Youngstown, Ohio. SN 269,858. Filed P.R. 4-20-67; Am. S.R. 10-28-68.

ROTO-POSITIONER

For Drafting Apparatus for Use With Drafting Tables—Namely, a Rotatable Endless Belt for Supporting Drawings (Int. Cl. 16).
First use Mar. 27, 1967.

Class 32—Furniture and Upholstery

863,307. La-Z-Boy Chair Company, Monroe, Mich. SN 289,024. Filed P.R. 1-17-68; Am. S.R. 10-22-68.

COMFORT SELECTOR

For Control Which Adjusts the Post of the Leg Rest Sold as a Component of Reclining Chairs (Int. Cl. 20).
First use Jan. 2, 1966.

Class 37—Paper and Stationery

863,308. Regent Standard Forms, Inc., Philadelphia, Pa. SN 247,756. Filed P.R. 6-10-66; Am. S.R. 10-18-68.

SAVACOPY

For Carbon Interleaved Message Forms (Int. Cl. 16).
First use May 23, 1966.

Class 38—Prints and Publications

863,312. See Section 1 (Combined Certificate).
863,309. True Treasure Publications, Inc., Conroe, Tex. SN 262,645. Filed P.R. 1-16-67; Am. S.R. 10-18-68.

TRUE TREASURE

For Magazine Published Quarterly (Int. Cl. 16).
First use on or about Aug. 25, 1966.

863,310. McGraw-Hill, Inc., New York, N.Y. SN 281,711. Filed P.R. 10-3-67; Am. S.R. 9-13-68.

ELECTRONICS MARKETS ILLUSTRATED

For Promotional Quarterly Folder Containing Excerpts and Illustrations From One of Applicant's Magazines (Int. Cl. 16).
First use Sept. 1, 1967.

863,311. Communication Seminars, Inc., New York, N.Y. SN 285,310. Filed P.R. 11-21-67; Am. S.R. 11-1-68.

THE NATION'S HOSPITALS AND NURSING HOMES

For Periodic Magazine (Int. Cl. 16).
First use Nov. 21, 1966.

Class 39—Clothing

863,313. Theodore Bradley, Monterey, Calif. SN 288,077. Filed 1-4-68.

DISPOS-A-DRAPE

For Disposable Drapes To Be Used To Cover Patients During Examination (Int. Cl. 25).
First use June 14, 1966.

Class 43 — Thread and Yarn

863,314. Joseph Bancroft & Sons Co., Wilmington, Del. SN 302,824. Filed 7-16-68.

STAZENU

For Yarn (Int. Cl. 23).
First use on or about June 12, 1968.

Class 44 — Dental, Medical, and Surgical Appliances

863,315. United States Catheter & Instrument Corporation (Delaware corporation), Glens Falls, N.Y., assignee of United States Catheter & Instrument Corporation (New York corporation), Glens Falls, N.Y. SN 220,583. Filed P.R. 6-7-65; Am. S.R. 11-28-66.

BROCKENBROUGH

For Cardiovascular Catheters, Fittings and Needles Therefor (Int. Cl. 10).
First use July 1964.

863,316. United States Catheter & Instrument Corporation (Delaware corporation), Glens Falls, N.Y., assignee of United States Catheter & Instrument Corporation (New York corporation), Glens Falls, N.Y. SN 220,584. Filed P.R. 6-7-65; Am. S.R. 11-28-66.

COURNAND

For Cardiovascular Catheters (Int. Cl. 10).
First use about 1946.

863,317. United States Catheter & Instrument Corporation (Delaware corporation), Glens Falls, N.Y., assignee of United States Catheter & Instrument Corporation (New York corporation), Glens Falls, N.Y. SN 220,585. Filed P.R. 6-7-65; Am. S.R. 11-28-66.

LEHMAN

For Cardiovascular Catheters (Int. Cl. 10).
First use about May 1959.

863,318. United States Catheter & Instrument Corporation (Delaware corporation), Glens Falls, N.Y., assignee of United States Catheter & Instrument Corporation (New York corporation), Glens Falls, N.Y. SN 220,586. Filed P.R. 6-7-65; Am. S.R. 11-28-66.

EPPENDORF

For Cardiovascular Catheters (Int. Cl. 10).
First use about November 1963.

863,319. United States Catheter & Instrument Corporation (Delaware corporation), Glens Falls, N.Y., assignee of United States Catheter & Instrument Corporation (New York corporation), Glens Falls, N.Y. SN 220,590. Filed P.R. 6-7-65; Am. S.R. 11-28-66.

SONES

For Cardiovascular Catheters (Int. Cl. 10).
First use about April 1959.

863,320. United States Catheter & Instrument Corporation (Delaware corporation), Glens Falls, N.Y., assignee of United States Catheter & Instrument Corporation (New York corporation), Glens Falls, N.Y. SN 220,595. Filed P.R. 6-7-65; Am. S.R. 11-28-66.

GOETZ

For Cardiovascular Indwelling Electrodes (Pacemakers) (Int. Cl. 10).
First use about January 1963.

863,321. United States Catheter & Instrument Corporation (Delaware corporation), Glens Falls, N.Y., assignee of United States Catheter & Instrument Corporation (New York corporation), Glens Falls, N.Y. SN 220,600. Filed P.R. 6-7-65; Am. S.R. 11-28-66.

STRAUBE

For Cardiovascular Catheter Tip Occluder Assembly (Int. Cl. 10).
First use about July 1964.

863,322. United States Catheter & Instrument Corporation (Delaware corporation), Glens Falls, N.Y., assignee of United States Catheter & Instrument Corporation (New York corporation), Glens Falls, N.Y. SN 220,605. Filed P.R. 6-7-65; Am. S.R. 11-28-66.

ROSS

For Cardiovascular Catheters and Needles (Int. Cl. 10).
First use about November 1959.

863,323. United States Catheter & Instrument Corporation (Delaware corporation), Glens Falls, N.Y., assignee of United States Catheter & Instrument Corporation (New York corporation), Glens Falls, N.Y. SN 220,606. Filed P.R. 6-7-65; Am. S.R. 11-28-66.

MARSHALL

For Cardiovascular Catheter Connectors (Int. Cl. 10).
First use about June 11, 1964.

Class 51 — Cosmetics and Toilet Preparations

863,324. See Section 1 (Combined Certificate).
863,325. El Toro, Inc., Concord, N.C. SN 284,298. Filed P.R. 11-7-67; Am. S.R. 8-14-68.

HOMBRE

For Personal Deodorant, Hair Spray, Cologne, and Hair Styling Gel (Int. Cls. 3 and 5).
First use May 1967.

863,326. A. R. Williams and Co., Carteret, N.J. SN 291,308. Filed P.R. 2-19-68; Am. S.R. 10-22-68.

REFRESH

For Mouthwash (Int. Cl. 3).
First use Aug. 4, 1962.

Class 52 — Detergents and Soaps

863,324. See Section 1 (Combined Certificate).
863,327. S. Sampino & Waverly Beauty Products, Inc., d.b.a. Waverly Beauty Products, Brooklyn, N.Y. SN 269,351.

HI-FOAM

Filed P.R. 4-17-67; Am. S.R. 10-7-68.
For Hair Shampoo (Int. Cl. 3).
First use November 1966.

Service Marks**Class 100 — Miscellaneous**

863,328. Cloud Modification Service, Inc., Minot, N. Dak. SN 263,019. Filed P.R. 1-23-67; Am. S.R. 9-12-68.

CLOUD MODIFICATION SERVICE INC.

For Modification of Weather and Cloud Formations To Increase Precipitation and Discourage the Possibility and Probability of Hail (Int. Cl. 42).
First use Aug. 1, 1961.

Class 101 — Advertising and Business

863,329. Careers Incorporated, New York, N.Y. SN 300,515. Filed 6-17-68.

CAREER RESUME SERVICE

For Aiding Job-Seekers To Find Employment by Supplying Them With a Printed Job Application Form and Instruction Booklet, Photoprinting the Job Application Form When Filled In, and Sending Copies to Applicant and to Interested Firms (Int. Cl. 35).
First use Nov. 15, 1955.

TRADEMARK REGISTRATIONS RENEWED

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| 70,339. B.S.A. Cl. 23 (Int. Cl. 7). 8-25-68. | 249,117. "GILLETTE" AND DIAMOND-SHAPED DESIGN. Cl. 23 (Int. Cl. 8). 11-6-68. |
| 72,402. "WORLD" AND BACKGROUND DESIGN. Cl. 37 (Int. Cl. 16). 1-26-69. | 249,993. RICE KRISPIES. Cl. 46 (Int. Cl. 30). 11-27-68. |
| 243,731. "DEVIL'S" AND DESIGN. Cl. 6 (Int. Cl. 4). 6-26-68. | 251,271. HYGETTE. Cl. 13 (Int. Cl. 5). 1-1-29. |
| 244,965. "MECO" ENCLOSED BY OVAL DESIGN. Cl. 23 (Int. Cl. 7). 7-31-68. | 252,921. ADDOMETER. Cl. 26 (Int. Cl. 9). 2-19-29. |
| 245,595. "TWIN ANCHOR BRAND" AND LABEL DESIGN. Cl. 12 (Int. Cl. 19). 8-14-28. | 253,125. "SUR-FYRE" AND BACKGROUND DESIGN. Cl. 6 (Int. Cl. 4). 2-19-29. |
| 245,858. "BARBASOL" ETC. AND LABEL DESIGN. Cl. 4 (Int. Cl. 3). 8-21-28. | 254,872. "DUCODUCT." Cl. 21 (Int. Cl. 17). 4-2-29. |
| 247,114. SANACOUSTIC. Cl. 12 (Int. Cl. 6). 9-18-28. | 439,902. HOME-NIZE ETC. AND DESIGN. Cl. 32 (Int. Cl. 20). 7-27-48. |
| 248,635. DUNBAR. Cl. 46 (Int. Cl. 29). 10-23-28. | 441,022. CHRIS-GO. Cl. 15 (Int. Cl. 4). 10-19-48. |
| 248,756. "ARROWCRAFT" AND REPRESENTATION OF ARROW. Cl. 32 (Int. Cl. 20). 10-30-28. | 441,184. T.N.R. Cl. 44 (Int. Cl. 10). 10-26-48. |
| 248,773. DIAMOND-SHAPED DESIGN. Cl. 26 (Int. Cls. 1 and 9). 10-30-28. | 441,243. OSTER. Cl. 15 (Int. Cl. 4). 11-9-48. |
| 248,774. ELECTROLUX. Cl. 31 (Int. Cl. 11). 10-30-28. | 441,355. DESIGN OF DOUBLE HORSEHEAD. Cl. 51 (Int. Cl. 3). 11-16-48. |
| 248,856. "ARROWCRAFT" AND REPRESENTATION OF ARROW. Cls. 2 and 8 (Int. Cls. 20 and 21). 10-30-28. | 441,381. GULF KIST. Cl. 46 (Int. Cl. 29). 11-23-48. |
| 249,087. SIGNATURE OF KING C. GILLETTE AND PORTRAIT. Cl. 23 (Int. Cl. 8). 11-6-28. | 441,467. CREMOTHIAZOLE. Cl. 18 (Int. Cl. 5). 11-30-48. |
| | 441,555. LA BOHEME AND DESIGN. Cl. 47 (Int. Cl. 33). 12-7-48. |
| | 441,711. CURIX. Cl. 26 (Int. Cl. 1). 12-28-48. |
| | 441,771. PLYCOZITE. Cl. 5 (Int. Cl. 1). 1-4-49. |
| | 442,019. PROPASOL. Cl. 6 (Int. Cl. 1). 2-8-49. |
| | 442,179. BIO-TRON. Cl. 18 (Int. Cl. 5). 3-8-49. |

Class 102 — Insurance and Financial

863,330. Central Mutual Insurance Company, Van Wert, Ohio. SN 224,158. Filed P.R. 7-26-65; Am. S.R. 1-2-68.



For Underwriting of Auto, Home and Business Insurance Services (Int. Cl. 36).
First use Apr. 1, 1965.

863,331. American Maturity Underwriters, Inc., Philadelphia, Pa. SN 286,487. Filed P.R. 12-8-67; Am. S.R. 9-27-68.



For Insurance Underwriting and Claims Representative Services (Int. Cl. 36).
First use Dec. 19, 1966.

Class 105 — Transportation and Storage

863,312. See Section 1 (Combined Certificate).

Class 107 — Education and Entertainment

863,312. See Section 1 (Combined Certificate).
863,332. New York State Association of Trial Lawyers, New York, N.Y. SN 283,690. Filed P.R. 10-30-67; Am. S.R. 10-15-68.

NEW YORK ACADEMY OF TRIAL LAWYERS

For Educational Services for Members of the Legal Profession (Int. Cl. 41).
First use October 1965.

- 500,857. THE FARMER'S DAUGHTER. Cl. 46 (Int. Cl. 30). 7-6-48.
 501,330. BRUSH TREET. Cl. 16 (Int. Cl. 3). 8-3-48.
 502,470. KESTER. Cl. 14 (Int. Cl. 6). 9-28-48.
 502,860. INGLENOOK. Cl. 47 (Int. Cl. 33). 10-12-48.
 503,005. SKYWAY AND DESIGN. Cl. 3 (Int. Cl. 18). 10-19-48.
 503,425. INSULTITE. Cl. 2 (Int. Cl. 19). 10-26-48.
 503,428. MTK. Cl. 4 (Int. Cl. 3). 10-26-48.
 503,429. TIMESAYER. Cl. 4 (Int. Cl. 3). 10-26-48.
 503,643. LADY HATHAWAY. Cl. 39 (Int. Cl. 25). 11-2-48.
 503,656. VERTES HEAD (DESIGN). Cl. 47 (Int. Cl. 33). 11-2-48.
 503,952. BRIGHT SAIL. Cl. 52 (Int. Cl. 3). 11-16-48.
 504,115. KATHERINE-K. Cl. 39 (Int. Cl. 25). 11-23-48.
 504,399. SEAELECT. Cl. 40 (Int. Cl. 21). 11-30-48.
 504,469. TRUE CRAFT. Cl. 40 (Int. Cl. 26). 11-30-48.
 504,556. COOK'S. Cl. 47 (Int. Cl. 33). 12-7-48.
 504,557. COOK'S IMPERIAL. Cl. 47 (Int. Cl. 33). 12-7-48.
 504,741. LYNDONVILLE. Cl. 46 (Int. Cl. 20). 12-14-48.
 504,795. SMOOT-HOLMAN AND DESIGN. Cl. 21 (Int. Cl. 11). 12-14-48.
 505,045. MULTIFOS. Cl. 18 (Int. Cl. 1). 12-21-48.
 505,496. SUPPLAVITE. Cl. 18 (Int. Cl. 5). 1-4-49.
 505,512. POSTAL FINANCE COMPANY AND DESIGN. Cl. 102 (Int. Cl. 36). 1-4-49.
 505,586. LANEJAC. Cl. 37 (Int. Cl. 16). 1-11-49.
 505,602. BUCKSHOT. Cl. 42 (Int. Cl. 24). 1-11-49.
 505,771. SAUER'S AND DESIGN. Cl. 18 (Int. Cl. 5). 1-18-49.
 505,793. WILCOX. Cl. 28 (Int. Cl. 14). 1-18-49.
 505,794. NULSAVITE-F. Cl. 18 (Int. Cl. 5). 1-18-49.
 505,859. FIREGLAS. Cl. 33 (Int. Cl. 21). 1-18-49.
 505,944. CLERATE. Cl. 46 (Int. Cl. 29). 1-25-49.
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 506,272. PLAYMATE. Cl. 42 (Int. Cl. 24). 2-1-49.
 506,273. COOLIGAN. Cl. 42 (Int. Cl. 24). 2-1-49.
 506,274. CROSS COUNTRY. Cl. 42 (Int. Cl. 24). 2-1-49.
 506,275. WAVE-OF-THE-WAND. Cl. 42 (Int. Cl. 24). 2-1-49.
 506,284. GULLIVER AND DESIGN. Cl. 3 (Int. Cl. 18). 2-1-49.
 506,523. HARRISET. Cl. 1 (Int. Cl. 22). 2-8-49.
 500,545. SPORTIGAN. Cl. 42 (Int. Cl. 24). 2-8-49.
 506,642. CORONA. Cl. 18 (Int. Cl. 5). 2-15-49.
 506,711. THICKSETTA. Cl. 42 (Int. Cl. 24). 2-15-49.
 506,712. TOP FLIGHT. Cl. 42 (Int. Cl. 24). 2-15-49.
 500,744. ROYAL BAIN DE CHAMPAGNE AND DESIGN. Cl. 51 (Int. Cl. 3). 2-15-49.
 506,850. FRONT RACK. Cl. 34 (Int. Cl. 11). 2-22-49.
 507,015. PINROY. Cl. 42 (Int. Cl. 24). 2-22-49.
 507,045. CARON AND DESIGN. Cl. 51 (Int. Cl. 3). 2-22-49.
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 507,125. MARCAL ETC. AND DESIGN. Cl. 50 (Int. Cl. 20). 3-1-49.
 507,167. DICKIE'S. Cl. 39 (Int. Cl. 25). 3-1-49.
 507,170. HONEY MOON. Cl. 50 (Int. Cl. 20). 3-1-49.
 507,191. BABY ANNE. Cl. 39 (Int. Cl. 25). 3-1-49.
 507,212. FOUR SQUARE. Cl. 46 (Int. Cl. 31). 3-1-49.
 507,304. LACLEDE. Cl. 14 (Int. Cl. 6). 3-8-49.
 507,618. OASIS AND DESIGN. Cl. 31 (Int. Cl. 11). 3-15-49.
 507,698. CARTER'S. Cl. 6 (Int. Cl. 16). 3-15-49.
 507,810. EYE-HYE. Cl. 26 (Int. Cl. 9). 3-22-49.
 507,816. DOLLY. Cl. 45 (Int. Cl. 32). 3-22-49.
 507,835. SOFTEN. Cl. 6 (Int. Cl. 1). 3-22-49.
 507,884. ACE. Cl. 44 (Int. Cl. 5). 3-22-49.
 507,886. TRIPLE-CHANGE. Cl. 44 (Int. Cl. 10). 3-22-49.
 507,905. EMPRESS OF INDIA. Cl. 28 (Int. Cl. 14). 3-22-49.
 508,070. WORLD'S FAVORITE. Cl. 46 (Int. Cl. 29). 3-29-49.
 508,410. CENTIFOLIOL. Cl. 51 (Int. Cl. 3). 4-12-49.
 508,415. DAVEY TREE FOOD. Cl. 10 (Int. Cl. 1). 4-12-49.
 508,425. SOUTHERN OXYGEN. Cl. 0 (Int. Cls. 1 and 4). 4-12-49.
 508,479. OLD TOWN SUPER-KLEEN. Cl. 11 (Int. Cl. 16). 4-12-49.
 508,538. KOOL. Cl. 17 (Int. Cl. 34). 4-12-49.
 508,561. AIRBORNE. Cl. 35 (Int. Cl. 12). 4-12-49.
 508,614. GAYLO. Cl. 5 (Int. Cl. 16). 4-12-49.
 508,635. MARKWA. Cl. 12 (Int. Cl. 19). 4-12-49.
 508,649. ESCUTCHEON. Cl. 51 (Int. Cl. 3). 4-12-49.
 508,650. DESIGN OF HEAD OF GODDESS FLORA. Cl. 51 (Int. Cl. 3). 4-12-49.

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Section 8

The following registrations issued Nov. 20, 1962

- 740,769. ULTRA SONIC ETC. AND DESIGN. Cl. 1.
 740,771. THEOPAQUE. Cl. 1.
 740,772. AMERIPOL. Cl. 1.
 740,779. MED-O-SOYL. Cl. 1.
 740,783. SIP-EEZ. Cl. 2.
 740,784. SNOW-GO. Cl. 6.
 740,787. DIOLICE. Cl. 6.
 740,800. NTI. Cl. 6.
 740,807. FELSOF. Cl. 6.
 740,808. RWS ETC. AND DESIGN. Cl. 9.
 740,812. FARM-X. Cl. 12.
 740,813. SHOWER CADDY. Cl. 13.
 740,815. TEMCO. Cl. 13.
 740,820. MIGHTY MUSCLE. Cl. 13.
 740,821. NO TI-EZ STOR. Cl. 13.
 740,822. AIREZE. Cl. 13.
 740,823. PERMASPHERE. Cl. 13.
 740,824. HOUSE OF COILS. Cl. 14.
 740,837. SINCERELY. Cl. 18.
 740,841. BENRIV. Cl. 18.
 740,844. CHOCPRIN. Cl. 18.
 740,851. KEE KURE. Cl. 18.
 740,859. PLANE-O-MATIC. Cl. 19.
 740,860. SEA-TRIM. Cl. 19.
 740,870. GILBERT EREC-TRONIC AND DESIGN. Cl. 22.
 740,875. CRONCO 'BOGG'N AND DESIGN. Cl. 22.
 740,876. LAWNSMITH. Cl. 23.
 740,877. ULTRA SONIC SEAL AND DESIGN. Cl. 23.
 740,881. PACEMAKER. Cl. 23.
 740,897. STAR PORT. Cl. 23.
 740,904. THUNDERJUG. Cl. 23.
 740,905. M.M. CO. AND DESIGN. Cl. 23.

- 740,913. WELD-RECORD. Cl. 36.
 740,919. TIZ-TRIM'D. Cl. 37.
 740,925. GLOBAL CONQUEST AND DESIGN OF MAN KNEELING BESIDE GLOBE. Cl. 38.
 740,926. SELL YOURSELF RICH. Cl. 38.
 740,927. NEVADARAMA. Cl. 38.
 740,928. ALNACO. Cl. 38.
 740,929. SUPER/CAL. Cl. 38.
 740,932. NELSON PRESS AND DESIGN. Cl. 38.
 740,936. HERITAGE ROAD. Cl. 38.
 740,938. IMPERIAL. Cl. 38.
 740,939. NUTRITIONALE. Cl. 38.
 740,941. BRAIN BOY. Cl. 38.
 740,942. INDUSTRIOUS ADVERTISING. Cl. 38.
 740,947. BRENTLEY. Cl. 39.
 740,953. BECKER TAILORED FATIGUES. Cl. 39.
 740,956. MILLION DOLLAR BRA. Cl. 39.
 740,957. PLASTEES. Cl. 39.
 740,961. FIORELLA'S SENIORS. Cl. 39.
 740,962. MISS FIORELLA'S. Cl. 39.
 740,963. FIORELLA'S JUNIORS. Cl. 39.
 740,964. LITTLE FIORELLA'S. Cl. 39.
 740,965. CORAGOIO. Cl. 39.
 740,967. SILCARRA. Cl. 39.
 740,968. HONOR GUARD. Cl. 39.
 740,970. ADLER SIDE-LITES AND DESIGN. Cl. 39.
 740,972. VAN CORT. Cl. 39.
 740,987. WISSCO. Cl. 44.
 740,988. BRITMARINE. Cl. 44.
 740,989. MASSAJ-A-PIX. Cl. 44.
 740,994. JACQUES. Cl. 46.
 740,996. LITTLE MIDAS AND DESIGN. Cl. 46.
 741,000. ENNIS HOWARD'S WE'RE ALL BOUND FOR THE BEST SAUCE IN TOWN AND DESIGN. Cl. 46.

- 741,001. PERMA TEA. Cl. 46.
 741,003. YELLOW GEM AND DESIGN. Cl. 46.
 741,007. QUAKER CITY AND DESIGN. Cl. 46.
 741,008. SPICE TRADER. Cl. 46.
 741,012. PBC SPECIAL HOLIDAY BEER AND DESIGN. Cl. 48.
 741,017. D-DAY. Cl. 50.
 741,019. AUTORAMP. Cl. 50.
 741,020. ROTO-TOP. Cl. 50.
 741,021. ROYALAR. Cl. 50.
 741,023. PERKERSON PROTECT AND DESIGN. Cl. 51.
 741,025. LEMSKIN. Cl. 51.
 741,026. SANI-SHEEN AND DESIGN. Cl. 51.
 741,033. ANGYA. Cl. 51.
 741,037. ON THE SQUARE AND DESIGN. Cl. 51.
 741,041. STERILETTES. Cl. 52.
 741,046. NATIONWIDE DOWNTOWNER MOTOR INN AND DESIGN. Cl. 100.
 741,049. NEW BRIDE. Cl. 101.
 741,050. ELECTROLAB. Cl. 101.
 741,051. DIAL DICTATION. Cl. 101.
 741,055. SDP-4000. Cl. 101.

- 741,058. AMERICA FORE LOYALTY GROUP AND DESIGN. Cl. 102.
 741,059. WESTERN WORLD AND DESIGN. Cl. 102.
 741,067. AMERICA CALLS. Cl. 105.
 741,069. CIRCULAR (DESIGN). Cl. 105.
 741,070. SILKO 300. Cl. 106.
 741,073. POLYCHROMATIC. Cl. 1.
 741,078. KWIT-SMOKE. Cl. 18.
 741,080. WYCKOFF. Cl. 26.
 741,085. PACKAGING MANAGEMENT. Cl. 38.
 741,086. PACKAGE MARKETING. Cl. 38.
 741,087. IDEAS IN ACTION. Cl. 38.
 741,090. QUICK WHIP. Cl. 46.
 741,091. TWIN-PAK. Cl. 46.
 741,093. ROYAL SOVEREIGN. Cl. 51.
 741,098. U-SAIL-IT AND DESIGN. Cl. 100.

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- 365,006. WALKERIZED DUALCOTE. Cl. 21. 2-21-39.
 713,171. NATIONAL AND DESIGN. Cl. 31. 3-28-61.
 792,217. NATIONAL N AND DESIGN. Cl. 31. 7-6-65.
 807,518. NATIONAL N AND DESIGN. Cl. 34. 4-26-66.
 837,377. ARKOMON. Cl. 6. 10-24-67.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

- 625,865. THE PONTIAC PRESS. Cl. 38. 4-24-56. Pontiac Press Company, Pontiac, Mich. Corrected: In the certificate, lines 4 and 15 and in the statement, column 1, line 1, "The" should be deleted and after "Press" Company should be inserted.
 746,969. LAURA LANE. Cl. 39. 3-19-63. King Clothing Company, New York, N.Y. Corrected: In the statement, column 1, line 1, "New York" should be deleted and Michigan should be inserted.
 750,279. SWISS MIST ETC. AND DESIGN. Cl. 47. 5-28-63. United Vintners, Inc., doing business as Italian Swiss Colony, San Francisco, Calif. Amended: In the statement, column 2, line 1, "Canned" is deleted.
 785,744. DURA STRIP. Cl. 52. 2-23-65. Pines International Chemical Company, Chicago, Ill. Corrected: In the statement, column 2, lines 1 and 2, the description of goods should be deleted and solvent based ready-to-use liquids for

- stripping wax, varnish, lacquer and paint from wood floors should be inserted.
 809,127. AMEROX A AND DESIGN. Cl. 12. 5-31-66. Bolen International, Inc., Chicago, Ill. Amended: In the statement, column 2, line 2, "interior and/or" is deleted.
 842,497. DON LOPER. Cl. 39. 1-16-68. Superba Cravats, Inc., Rochester, N.Y. Amended: In the statement, column 2, lines 1 through 5, the description of goods is deleted and neckties is inserted.
 855,901. SOUNDETTE. Cl. 21. 9-3-68. Sound-Craft Systems, Incorporated, Morrilton, Ark. Corrected: In the statement, column 1, line 4 should be deleted and Morrilton, Ark. 72110 should be inserted.
 856,396. ULTRAFLO. Cl. 20. 9-10-68. Robbins Products, Inc., Tusculum, Ala. Corrected: In the statement, column 2, line 2, "covering" should be deleted and coving should be inserted.

REGISTRATIONS PUBLISHED UNDER SEC. 12(c)

The following marks registered under the act of 1905, or the act of 1881, are published under the provisions of section 12(c) of the Trademark Act of 1946. These registrations are not subject to opposition but are subject to cancellation under section 14 of the act of 1946.

Class 1—Raw or Partly Prepared Materials Class 15—Oils and Greases

- 440,827. Sept. 28, 1948. Oregon Bulb Farms, Sandy, Ore. Pub. by Oregon Bulb Farms, Division of Melridge, Inc., Oresham, Ore.

- 310,860. Mar. 13, 1934. The Penn-Jay Corporation, Akron, Ohio and New York, N.Y. Pub. by The American Oil Company, Chicago, Ill.

FIESTA HYBRIDS

For Flower Bulbs (Int. Cl. 31).

PERMA-FLO

For Lubricating Oils.

Class 12—Construction Materials

- 206,481. Dec. 1, 1925. The Chicago White Lead & Oil Co., Chicago, Ill. Pub. by Hooker Glass & Paint Mfg. Co., Chicago, Ill.

Class 16—Protective and Decorative Coatings

- 444,407. Feb. 6, 1951. Service Industries, Philadelphia, Pa. Pub. by registrant.

KING

For Liquid Paint, Paste Paints, House Paints, etc.

SIL-VAR

For Aluminum Asphalt Protective and Finishing Coating Composition.

Class 22 — Games, Toys, and Sporting Goods

71,940. Dec. 22, 1908. The Enterprise Manufacturing Company, Akron, Ohio. Pub. by Pflueger Corporation, Akron, Ohio.

PFLUEGER

For Fish Hooks, Baits, Spoons, Sinkers, Fish Scales, Spears, Lines, Floats, Spinners, Trollers, Chugging-Rigs, Reels and Reel Parts, Casting-Weights, Trolling-Rigs, and Gaff Hooks (Int. Cl. 28).

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

252,686. Feb. 12, 1929. The Cleveland File Company, Cleveland, Ohio. Pub. by Wallace-Murray Corporation, New York, N.Y.

SUPER DUTY

For Files (Int. Cl. 8).

Class 38 — Prints and Publications

151,979. Feb. 14, 1922. The Tribune Company, Chicago, Ill. Pub. by Chicago Tribune Company, Chicago, Ill.

GASOLINE ALLEY

For Series of Cartoons.

153,026. Mar. 7, 1922. The Tribune Company, Chicago, Ill. Pub. by Chicago Tribune Company, Chicago, Ill.

A LINE O' TYPE OR TWO

For Newspaper Column.

153,028. Mar. 7, 1922. The Tribune Company, Chicago, Ill. Pub. by Chicago Tribune Company, Chicago, Ill.

WINNIE WINKLE

For Series of Cartoons.

153,029. Mar. 7, 1922. The Tribune Company, Chicago, Ill. Pub. by Chicago Tribune Company, Chicago, Ill.

How to Keep Well

For Newspaper Column.

174,759. Oct. 23, 1923. The Tribune Company, Chicago, Ill. Pub. by Chicago Tribune Company, Chicago, Ill.

INVESTORS' GUIDE

For Heading for a Newspaper Column.

191,597. Nov. 11, 1924. The Tribune Company, Chicago, Ill. Pub. by Chicago Tribune Company, Chicago, Ill.

In the Wake of the News

For Newspaper Column.

201,985. Aug. 11, 1925. The Tribune Company, Chicago, Ill. Pub. by Chicago Tribune Company, Chicago, Ill.

Chicago Tribune Press Service.

For Special Newspaper Articles of Particular Literary Value and of Public Interest.

247,068. Sept. 18, 1928. Doubleday, Doran & Company, Inc., Garden City, N.Y. Pub. by The Curtis Publishing Company, Philadelphia, Pa.

AMERICAN HOME

For Magazines Published Monthly (Int. Cl. 16).

250,088. Nov. 27, 1928. The Tribune Company, Chicago, Ill. Pub. by Chicago Tribune Company, Chicago, Ill.

LITTLE ORPHAN ANNIE

For Series of Cartoons (Int. Cl. 16).

Class 44 — Dental, Medical, and Surgical Appliances

247,841. Oct. 9, 1928. L. Hilaenbeck, Inc., New York, N.Y. Pub. by Julius Schmid, Inc., New York, N.Y.

RAMSES

For Prophylactic Rubber Articles for the Prevention of Contagious Diseases (Int. Cl. 10).

Class 51 — Cosmetics and Toilet Preparations

438,251. Apr. 13, 1948. L. Perrigo Company, d.b.a. Supreme Pharmaceutical Company, Allegan, Mich. Pub. by registrant.

Dentalets

For Tooth Powder in Tablet Form (Int. Cl. 3).

Class 52 — Detergents and Soaps

440,886. Oct. 5, 1948. Service Industries, Philadelphia, Pa. Pub. by registrant.

PN-700
"MAKES WATER BETTER"

For Washing Powder or Liquid (Int. Cl. 3).

INDEX OF REGISTRANTS

JANUARY 7, 1969

(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

Abbott Laboratories, North Chicago, Ill. 863,017, pub. 10-22-68. Cl. 18.
Accro Systems, Inc., Richmond, Va. 863,251, pub. 10-22-68. Cl. 50.
Accurate Systems, Inc., Costa Mesa, Calif. 863,077, pub. 10-22-68. Cl. 22.
Adams & Brooks, Inc., Los Angeles, Calif. 741,008, can. Cl. 46.
Adeco Construction Co., The, New Haven, Conn. 741,019, can. Cl. 50.
Adler Sons Shoe Corp., New York, N.Y. 740,970, can. Cl. 39.
Air Products & Chemicals, Inc.: See—
Southern Oxygen Co., Inc.
Air Products & Chemicals Inc., Allentown, Pa. 863,083, pub. 10-22-68. Cl. 23.
Alreze Instrument Co., Inc., Silver Spring, Md. 740,822, can. Cl. 13.
Al's Goldfish Lure Co.: See—
Stuart Sport Specialties, Inc.
Albemarle Paper Co.: See—
Albemarle Paper Mfg. Co., The.
Albemarle Paper Mfg. Co., The, to Albemarle Paper Co., Richmond, Va. 72,402, ren. 1-7-69. Cl. 37.
Alberto-Culver Co., Melrose Park, Ill. 863,268, pub. 10-22-68. Cl. 51.
Algripco, Inc., Monroeville, Pa. 863,141, pub. 10-22-68. Cl. 35.
Allen Co., Inc., The, Charlottesville, Va. 863,069-70, pub. 10-22-68. Cl. 22.
Allied Compositions Co., Inc., Maspeth, N.Y. 863,004, pub. 10-22-68. Cl. 16.
Allied Decals Inc., Cleveland, Ohio. 741,021, can. Cl. 50.
Allied Tube & Conduit Corp., Harvey, Ill. 862,994, pub. 10-22-68. Cl. 13.
Alpha Wire Corp., Elizabeth, N.J. 863,049, pub. 10-22-68. Cl. 21.
Aluminum Nameplate Corp., Woodside, N.Y. 740,928-9, can. Cl. 35.
Amchem Products, Inc., Ambler, Pa. 863,093, pub. 10-22-68. Cl. 23.
America Calls, Inc., Chicago, Ill. 741,067, can. Cl. 105.
American Chain & Cable Co., Inc., New York, N.Y. 862,970, pub. 10-22-68. Cl. 4.
American Cyanamid Co., Wayne, N.J. 862,983, pub. 10-22-68. Cl. 6.
American Enka Corp., Enka, N.C. 863,045, pub. 10-22-68. Cl. 21.
American Home Products Corp.: See—
Ayerst, McKenna & Harrison Ltd.
American Home Products Corp., New York, N.Y. 863,024, pub. 10-22-68. Cl. 18.
American Home Products Corp., New York, N.Y. 863,267, pub. 10-22-68. Cl. 51.
American Hospital Supply Corp., Evanston, Ill. 863,028, pub. 10-22-68. Cl. 19.
American Hospital Supply Corp., Evanston, Ill. 863,198, pub. 10-22-68. Cl. 44.
American Marine Industries, Inc., Tacoma, Wash. 863,030, pub. 10-22-68. Cl. 19.
American Marine & Machinery Co., Inc., Nashville, Tenn. 863,029, pub. 10-22-68. Cl. 19.
American Maturity Underwriters, Inc., Philadelphia, Pa. 863,331, Cl. 102.
American National Bank & Trust Co., St. Paul, Minn. 863,279, pub. 10-22-68. Cl. 101.
American Oil Co., The: See—
Penn-Jay Corp., The.
American Society of Tool & Mfg. Engineers, Dearborn, Mich. 863,169, pub. 10-22-68. Cl. 38.
American Stylus Co., d.b.a. Pageant Needles, Scranton, Pa. 863,148, pub. 10-22-68. Cl. 36.
American Vault Co., Inc., The, Belmont, to American Vault Corp., Woburn, Mass. 863,425, ren. 1-7-69. Cl. 2.
American Vault Corp.: See—
American Vault Co., Inc., The.
American Wine Co., St. Louis, Mo., to Schenley Industries, Inc., New York, N.Y. 504,556-7, ren. 1-7-69. Cl. 47.
Ametek, Inc., New York, N.Y. 862,999, pub. 10-22-68. Cl. 13.
Amiel's Beef A-Miel, Inc., Rochester, N.Y. 863,229-30, pub. 10-22-68. Multiple Class (Classes 46 and 100).
Andersen Specialty Mfg. Corp., Chicago, Ill. 501,330, ren. 1-7-69. Cl. 16.
Apollo Apparel, Inc., Andalusia, Ala. 863,187, pub. 10-22-68. Cl. 39.
Applied Communications Corp., Menlo Park, Calif. 863,126, pub. 10-22-68. Cl. 26.
Arista Oil Products Corp., New York, N.Y. 740,841, can. Cl. 18.
Asphalt Institute, The, College Park, Md. 863,295, pub. 10-22-68. Cl. A.
Associated Dry Goods Corp.: See—
Stix, Baer & Fuller Co.
Ateliers Roannais de Constructions Textiles, Roanne, France. 863,084, pub. 10-22-68. Cl. 23.
Augustine, Albert, Ltd., New York, N.Y. 863,156, pub. 10-22-68. Cl. 36.
Aurora Plastics Corp., West Hempstead, N.Y. 863,063, pub. 10-22-68. Cl. 22.
Avon Products, Inc., New York, N.Y. 863,261-4, pub. 10-22-68. Cl. 51.
Ayerst, McKenna & Harrison Ltd., Bouses Point, to American Home Products Corp., New York, N.Y. 505,496, ren. 1-7-69. Cl. 18.
Bahnsen Co., The, Winston-Salem, N.C. 863,099, pub. 10-22-68. Cl. 23.
Baker Brush Co., Inc., New York, N.Y. 863,131, pub. 10-22-68. Cl. 29.
Baker, Leslie N., d.b.a. Leslie N. Baker Co., Bass River, Mass. 740,989, can. Cl. 44.
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Baker, Leslie N.
Bancroft, Joseph, & Sons Co., Wilmington, Del. 863,314, Cl. 43.
Barbasol Co., The, Indianapolis, Ind., to Chas. Pfizer & Co., Inc., New York, N.Y. 245,858, ren. 1-7-69. Cl. 4.
Bardahl Mfg. Corp., Seattle, Wash. 863,001, pub. 10-22-68. Cl. 15.
Barton Products Corp., West Bend, Wis. 862,996, pub. 10-22-68. Cl. 13.
Basko, G. Thomas, San Diego, Calif. 740,813, can. Cl. 13.
Bauer's: See—
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Becker's Inc., Holyoke, Mass. 740,953, can. Cl. 39.
Becton Dickinson & Co., Rutherford, N.J. 507,884, ren. 1-7-69. Cl. 44.
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Bel-Air Pools, Inc., Southfield, Mich. 863,062, pub. 10-22-68. Cl. 22.
Belov, Nat. d.b.a. Numarvel Laboratories, Philadelphia, Pa. 741,078, can. Cl. 18.
Beltek Corp., Tokyo, Japan. 863,152, pub. 10-22-68. Cl. 36.
Benthos, Inc., North Falmouth, Mass. 863,117, pub. 10-22-68. Cl. 26.
Bergdorf & Goodman Co., New York, N.Y. 863,129, pub. 10-22-68. Multiple Class (Classes 28 and 39).
Bergstrom, Lee B., Glenview, Ill. 741,085-6, can. Cl. 38.
Berkley & Co., Inc., Spirit Lake, Iowa. 863,066, pub. 10-22-68. Cl. 22.
Birmingham Small Arms Co., Ltd., The, Small Heath, Birmingham, England. 70,339, ren. 1-7-69. Cl. 23.
Blue Star Shoes, Inc., Lawrence, Mass. 740,968, can. Cl. 39.
Bobby Co., The, New York, N.Y. 863,184, pub. 10-22-68. Cl. 39.
Bolen International Inc., Chicago, Ill. 869,127, Am. 7(d). Cl. 12.
Borg-Warner Corp., Chicago, Ill. 862,971, pub. 10-22-68. Cl. 5.
Borun Bros.: See—
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Bowman Dairy Co., Chicago, Ill. 741,090, can. Cl. 46.
Boyd, John, Co., Lynn, Mass. 863,228, pub. 10-22-68. Cl. 46.
Boyle & Co., Los Angeles, to Towne, Paulsen & Co., Inc., Monrovia, Calif. 442,179, ren. 1-7-69. Cl. 18.
Bradley, Theodore, Monterey, Calif. 863,313, Cl. 39.
Bristol-Myers Co., New York, N.Y. 863,025, pub. 10-22-68. Cl. 18.
Broughton's Farm Dairy, Inc., Marietta, Ohio. 741,007, can. Cl. 46.
Brown & Williamson Tobacco Corp., Louisville, Ky. 508,538, ren. 1-7-69. Cl. 17.
Brunswick Corp., Chicago, Ill. 863,076, pub. 10-22-68. Cl. 22.
Budowick, Nick, Akron, Ohio. 740,837, can. Cl. 18.
Bull-Sled Corp., Stockton, Calif. 863,059, pub. 10-22-68. Cl. 22.
Bunnell Plastics, Inc., Camden, N.J. 862,998, pub. 10-22-68. Cl. 13.
Burberrys Ltd., London, England. 863,179, pub. 10-22-68. Cl. 39.
Burden, Evelyn M., Saginaw, Mich. 740,965, can. Cl. 39.
Burgess, C. F., Laboratories, Inc., Madison, Wis., and Chicago, Ill., to Johns-Manville Products Corp., New York, N.Y. 247,114, ren. 1-7-69. Cl. 12.
Burke & James, Inc., Chicago, Ill. 863,108, pub. 10-22-68. Cl. 26.
CPS Industries, Inc., Chicago, Ill. 863,165, pub. 10-22-68. Cl. 38.
Cameo-Parkway Records, Inc., Philadelphia, Pa. 863,153-5, pub. 10-22-68. Cl. 36.
Camwil Inc., Honolulu, Hawaii. 863,000, pub. 10-22-68. Cl. 13.
Canada Dry Corp., New York, N.Y. 863,206-8, pub. 10-22-68. Cl. 45.
Canary Record Co., Redwood City, Calif. 863,147, pub. 10-22-68. Cl. 36.
Carbide and Carbon Chemicals Corp., to Union Carbide Corp., New York, N.Y. 442,019, ren. 1-7-69. Cl. 6.

Careers Inc., New York, N.Y. 863,323, Cl. 101.
 Carmet Co., Pittsburgh, Pa. 863,087, pub. 10-22-68, Cl. 23.
 Caron Corp., New York, N.Y. 506,744, ren. 1-7-69, Cl. 51.
 Caron Corp., New York, N.Y. 507,045, ren. 1-7-69, Cl. 51.
 Carter's Ink Co., The, Cambridge, Mass. 507,698, ren. 1-7-69, Cl. 6.
 Central Mutual Insurance Co., Van Wert, Ohio. 863,330, Cl. 102.
 Champion Home Builders Co.: See—
 Palace Corp.
 Chase & Sons, Inc., Randolph, Mass. 862,991, pub. 10-22-68.
 Multiple Class (Classes 12 and 21).
 Chicago Tribune Co.: See—
 Tribune Co., The.
 Chicago White Lead & Oil Co., The, by Hooker Glass & Paint Mfg. Co., Chicago, Ill. 206,481, 12(c) pub. 1-7-69, Cl. 12.
 Choprin (Proprietary) Ltd., Johannesburg, Republic of South Africa. 740,844, can. Cl. 18.
 Christopher Brothers, Detroit, Mich. 441,022, ren. 1-7-69, Cl. 15.
 Clairol Inc., New York, N.Y. 863,254, pub. 10-22-68, Cl. 51.
 Clairol Inc., New York, N.Y. 863,258, pub. 10-22-68. Multiple Class (Classes 51 and 52).
 Clark-Alken Co., The, Lee, Mass. 863,094, pub. 10-22-68, Cl. 23.
 Clark-Reliance Corp., The: See—
 Reliance Gauge Column Co., The.
 Cleary, W. A., Corp., New Brunswick, N.J. 505,944, ren. 1-7-69, Cl. 46.
 Cleveland File Co., The, Cleveland, Ohio, by Wallace-Murray Corp., New York, N.Y. 252,686, 12(c) pub. 1-7-69, Cl. 23.
 Cloud Modification Service, Inc., Minot, N. Dak. 863,328, Cl. 160.
 Coen Mfg. Corp. of New Jersey, Caldwell, N.J. 863,139, pub. 10-22-68, Cl. 34.
 Colab Laboratories, Inc., Chicago Heights, Ill. 863,107, pub. 10-22-68, Cl. 26.
 Colgate-Palmolive Co., New York, N.Y. 863,250, pub. 10-22-68, Cl. 51.
 Columbia Broadcasting System, Inc., New York, N.Y. 863,150, pub. 10-22-68, Cl. 30.
 Comité Organizador de Los Juegos de la Olimpiada, Mexico, D.F. 863,312, Multiple Class (Classes 38, 105, and 107).
 Commercial Credit Corp., Baltimore, Md. 863,284-5, pub. 10-22-68, Cl. 102.
 Communication Seminars, Inc., New York, N.Y. 863,311, Cl. 38.
 Consolidated Foods Corp., d.b.a. The Lawson Milk Co., Cuyahoga Falls, Ohio. 741,001, can. Cl. 46.
 Continental Distilling Corp., Philadelphia, Pa. 863,248, pub. 10-22-68, Cl. 49.
 Continental Insurance Co., The, New York, N.Y. 741,038, can. Cl. 102.
 Continental/Moss-Gordin, Inc., Prattville, Ala., from Gerald F. McDonnell, New Orleans, La. 863,132-3, pub. 10-22-68, Cl. 31.
 Continental Oil Co., Ponca City, Okla. 863,120, pub. 10-22-68, Cl. 26.
 Control-Pak, Inc., Anaheim, Calif. 740,936, can. Cl. 46.
 Cook Paint & Varnish Co., Kansas City, Mo. 740,919, can. Cl. 37.
 Cook's Frozen Seafoods, Inc., Bena, Va. 863,222, pub. 10-22-68, Cl. 46.
 Corona Mfg. Co.: See—
 Corona Mfg. Co., The.
 Corona Mfg. Co., The, Kenton, Ohio, to Corona Mfg. Co., Atlanta, Ga. 506,042, ren. 1-7-69, Cl. 18.
 Cosgenic Laboratories: See—
 Nethercutt Laboratories.
 Courtley, Ltd., New York, N.Y., to Borun Bros., Los Angeles, Calif. 441,355, ren. 1-7-69, Cl. 51.
 Crest Brokerage Co., Inc., Los Angeles, Calif. 863,210, pub. 10-22-68, Cl. 46.
 Cresta Blanca Wine Co., Inc., assor. to Schenley Distillers Corp., to Schenley Industries, Inc., New York, N.Y. 503,650, ren. 1-7-69, Cl. 47.
 Critters, Inc., The, New York, N.Y., from Original Critters, Inc., Hillside, N.J. 863,292, pub. 10-22-68, Cl. 107.
 Crompton Co., New York, N.Y. 505,602, ren. 1-7-69, Cl. 42.
 Crompton Co., New York, N.Y. 506,272-5, ren. 1-7-69, Cl. 42.
 Crompton Co., New York, N.Y. 506,545, ren. 1-7-69, Cl. 42.
 Crompton Co., New York, N.Y. 506,711-12, ren. 1-7-69, Cl. 42.
 Crompton Co., New York, N.Y. 507,015, ren. 1-7-69, Cl. 42.
 Cronstroms Mfg., Inc., Minneapolis, Minn. 740,875, can. Cl. 22.
 Crowe's Beef & Egg Farm: See—
 Crowe, Eugene W.
 Crowe, Eugene W., d.b.a. Crowe's Beef & Egg Farm, Gore, Va. 863,299, Cl. 2.
 Curtis, Helene, Industries, Inc., Chicago, Ill. 863,265, pub. 10-22-68, Cl. 51.
 Curtis Publishing Co., The: See—
 Doubleday, Doran, & Co., Inc.
 Curtiss-Wright Corp., New York, N.Y. 740,897, can. Cl. 23.
 Dallas Ceramic Co., Dallas, Tex. 862,088-9, pub. 10-22-68, Cl. 12.
 Dallas Fountain & Fixture Co., Dallas, Tex. 863,270, pub. 10-22-68, Cl. 52.
 Davey Tree Expert Co., The, Kent, Ohio. 508,415, ren. 1-7-69, Cl. 10.
 Dean Products, Inc., Brooklyn, N.Y. 863,136, pub. 10-22-68, Cl. 34.
 Del Laboratories, Inc., Farmingdale, N.Y. 863,303, Cl. 18.
 Dell Publishing Co., Inc., New York, N.Y. 740,941, can. Cl. 38.
 Dentists' Supply Co. of New York, The, York, Pa. 441,184, ren. 1-7-69, Cl. 44.
 De Sales Industries: See—
 Pluckney, Betty T.
 Devil Laboratories Co.: See—
 Sellman, Sely S.
 Devlieg Machine Co., Royal Oak, Mich. 863,086, pub. 2-20-68, Cl. 23.
 Dial Dictation Co.: See—
 Dial Dictation, Inc.
 Dial Dictation, Inc., from Dial Dictation Co., New York, N.Y. 741,051, can. Cl. 101.
 Diana Mfg. Co., Green Bay, Wis. 863,186, pub. 10-22-68, Cl. 39.
 Dog Pound, Greenville, S.C. 863,213, pub. 10-22-68, Cl. 40.
 Dolly Fruit Products Corp., Brooklyn, N.Y. 507,816, ren. 1-7-69, Cl. 45.
 Dome Chemical Corp.: See—
 Sellman, Sely S.
 Doubleday, Doran, & Co., Inc., Garden City, N.Y., by The Curtis Publishing Co., Philadelphia, Pa. 247,068, 12(c) pub. 1-7-69, Cl. 38.
 Douglas Co., Inc., Keene, N.H. 863,065, pub. 10-22-68, Cl. 22.
 Douwe Egberts Koninklijke Tabakfabriek/koffiebrandertjen-Theehandel N.V., Slachtedijk, Joure, Netherlands. 863,011, pub. 10-22-68, Cl. 17.
 Dow Chemical Co., The, Midland, Mich. 862,067, pub. 10-22-68, Cl. 2.
 Downtowner Corp., The, from Nationwide Downtowner Motor Ins., Inc., Memphis, Tenn. 741,046, can. Cl. 100.
 Dowty Meco Ltd.: See—
 Mining Engineering Co., Ltd.
 Dunbar-Dukate Co., Inc., New Orleans, to Southern Shell Fish Co., Inc., Metairie, La. 248,635, ren. 1-7-69, Cl. 46.
 Dunlop Tire & Rubber Corp., Buffalo, N.Y. 863,145, pub. 10-22-68, Cl. 35.
 Dynamit Nobel Aktiengesellschaft, Troisdorf, Bezirk Köln, Germany. 740,508, can. Cl. 9.
 Eastern Shore Laboratories, Inc., Laurel, Del. 862,974, pub. 10-22-68, Cl. 6.
 Eatoughs Ltd., Earl Shilton, England. 740,957, can. Cl. 39.
 Eau de Cologne & Parfumerie-Fabrik Glockengasse No. 4711: See—
 Ferdinand Mulhens.
 Ebco Mfg. Co., assor. to The Ebco Mfg. Co., to The Ebco Mfg. Co., Columbus, Ohio. 507,618, ren. 1-7-69, Cl. 31.
 Ebco Mfg. Co., The: See—
 Ebco Mfg. Co.
 Edco Enterprises, Inc., San Francisco, Calif. 863,243, pub. 10-22-68, Cl. 46.
 Edmond Printing Co., Inc., Philadelphia, Pa. 863,131, pub. 10-22-68, Cl. 37.
 Egyptian Lacquer Mfg. Co., The, Kearny, N.J. 863,005, pub. 10-22-68, Cl. 16.
 Elcor Chemical Corp., from National Sulphur Co., Midland, Tex. 862,987, pub. 8-27-68, Cl. 10.
 Electrical Employers' Trust of Santa Barbara County, Santa Barbara, Calif. 863,277, pub. 10-22-68, Cl. 161.
 Electrohome Ltd., Kitchener, Ontario, Canada. 863,052, pub. 10-22-68, Cl. 21.
 Electrolux Servel Corp., New York, N.Y., to Whirlpool Corp., Benton Harbor, Mich. 243,774, ren. 1-7-69, Cl. 31.
 Electro-Nite Co., Philadelphia, Pa. 863,050, pub. 10-22-68, Cl. 21.
 El Toro, Inc., Concord, N.C. 863,325, Cl. 51.
 Emerson Electric Co., St. Louis, Mo. 863,048, pub. 10-22-68, Cl. 21.
 Emond Enterprise Co.: See—
 Emond, Joseph S., Sr.
 Emond, Joseph S., Sr., d.b.a. Emond Enterprise Co., Farmington, Minn. 740,821, can. Cl. 13.
 En-Compass Co., Inc., Bay City, Mich. 741,020, can. Cl. 50.
 Endo Laboratories, Inc., Garden City, N.Y. 863,018, pub. 10-22-68, Cl. 18.
 Enterprise Mfg. Co., The, by Pfeuger Corp., Akron, Ohio. 71,940, 12(c) pub. 1-7-69, Cl. 22.
 Epsco, Inc., Westwood, Mass. 863,089, pub. 10-22-68, Cl. 23.
 Eric's Kitchens, Inc., Billings, Mont. 863,239, pub. 10-22-68, Cl. 46.
 Erickson, C. E., Co., Inc., Des Moines, Iowa. 863,031-2, pub. 10-22-68, Cl. 19.
 Essentials Corp., New York, N.Y. 741,017, can. Cl. 50.
 Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany. 862,976, pub. 10-22-68, Cl. 6.
 Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt/Main, Germany. 837,377, can. Cl. 6.
 Fashion Tress, Inc., Miami Beach, Fla. 863,190-1, pub. 10-22-68, Cl. 40.
 Fashion Tress, Inc., Miami Beach, Fla. 863,193, pub. 10-22-68, Cl. 40.
 Fashion Tress, Inc., Hialeah, Fla. 863,324, Multiple Class (Classes 51 and 52).
 Federal-Mogul Corp., Southfield, Mich. 863,144, pub. 10-22-68, Cl. 35.
 Feeley Advertising Agency, Inc., New York, N.Y. 740,942, can. Cl. 38.
 Fels & Co., Philadelphia, Pa. 740,807, can. Cl. 6.
 Film View International Corp., Sherman Oaks, Calif. 863,249, pub. 10-22-68, Cl. 50.
 Fiorella's, Inc., New York, N.Y. 740,961-4, can. Cl. 39.
 Firestone Tire & Rubber Co., The, Akron, Ohio. 863,146, pub. 10-22-68, Cl. 35.

Fleischer Mfg., Inc., Columbus, Nebr. 863,104, pub. 10-22-68, Cl. 23.
 Forest Laboratories, Inc., Elizabeth, N.J. 863,016, pub. 10-22-68, Cl. 18.
 Formald Co., Boston, Mass. 863,188, pub. 10-22-68, Cl. 39.
 Franklin Press, Inc., El Paso, Tex. 863,160, pub. 10-22-68, Cl. 37.
 Fritzsche Brothers, Inc., New York, N.Y. 508,410, ren. 1-7-69, Cl. 51.
 Fujitsu Electric Co. Ltd., Tokyo, Japan. 863,124, pub. 10-22-68, Cl. 26.
 GAF Corp.: See—
 I.G. Farbenindustrie Aktiengesellschaft.
 GAF Corp., from General Aniline & Film Corp., New York, N.Y. 863,112-13, pub. 10-22-68, Cl. 26.
 Gaylord Bros., Inc., Syracuse, N.Y. 508,614, ren. 1-7-69, Cl. 5.
 Gelgy Chemical Corp., Ardley, N.Y. 862,980-2, pub. 10-22-68, Cl. 6.
 Gem Canning Co., Emmett, Idaho. 741,003, can. Cl. 46.
 General Aniline & Film Corp.: See—
 GAF Corp.
 General Council of the Assemblies of God, Inc., Springfield, Mo. 740,925, can. Cl. 38.
 General Fireproofing Co., The, Youngstown, Ohio. 863,306, Cl. 26.
 General Men's Wear Corp., Cleveland, Ohio. 740,972, can. Cl. 39.
 General Mills, Inc., Minneapolis, Minn. 863,240, pub. 10-22-68, Cl. 46.
 General Mills, Inc., Minneapolis, Minn. 863,242, pub. 10-22-68, Cl. 46.
 Gevaert Photo Producten, N.V., Antwerp, to Gevaert-Agfa N.V., Mortsel, Belgium. 441,711, ren. 1-7-69, Cl. 26.
 Gevaert-Agfa N.V.: See—
 Gevaert Photo Producten, N.V.
 Gevaert-Agfa N.V., Mortsel, Belgium. 862,977, pub. 10-22-68, Cl. 6.
 Gilbert, A. C., Co., The, New Haven, Conn. 740,870, can. Cl. 22.
 Gillette Co., The: See—
 Gillette Safety Razor Co.
 Gillette Research Institute, Inc.: See—
 Harris Research Laboratories.
 Gillette Safety Razor Co., to The Gillette Co., Boston, Mass. 249,087, ren. 1-7-69, Cl. 23.
 Gillette Safety Razor Co., to The Gillette Co., Boston, Mass. 249,117, ren. 1-7-69, Cl. 23.
 Gilmour Mfg. Co.: See—
 Gilmour, Robert A.
 Gilmour, Robert A., d.b.a. Gilmour Mfg. Co., Somerset, Pa. 862,995, pub. 10-22-68, Cl. 13.
 Gina Sportswear Co., Inc., Allentown, Pa. 863,175, pub. 10-22-68, Cl. 30.
 Glurlan, A. & Bros., Sunnyvale, Calif. 863,241, pub. 10-22-68, Cl. 46.
 Goodrich-Gulf Chemicals, Inc., Cleveland, Ohio. 740,772, can. Cl. 1.
 Goodyear Tire & Rubber Co., The, Akron, Ohio. 863,142, pub. 10-22-68, Cl. 35.
 Gray Properties, Inc., Portland, Ore. 740,820, can. Cl. 13.
 Great Atlantic & Pacific Tea Co., The, to The Great Atlantic & Pacific Tea Co., Inc., New York, N.Y. 503,952, ren. 1-7-69, Cl. 52.
 Great Atlantic & Pacific Tea Co., Inc., The: See—
 Great Atlantic & Pacific Tea Co., The.
 Gross-Aire Mfg. Co., Inc.: See—
 Liberty Foundry Co.
 H & J Trading Co., San Francisco, Calif. 863,234, pub. 10-22-68, Cl. 46.
 Haffenden, W. W., Ltd., Sandwich, Kent, England. 740,088, can. Cl. 44.
 Halo Sales Corp., San Francisco, Calif. 863,002, pub. 10-22-68, Cl. 15.
 Happy Chef Systems, Inc., Mankato, Minn. 863,275, pub. 12-5-67, Cl. 100.
 Harris Research Laboratories, Washington, D.C., to Gillette Research Institute, Inc., Rockville, Md. 506,523, ren. 1-7-69, Cl. 1.
 Harrison Paint Corp., Canton, Ohio. 863,007, pub. 10-22-68, Cl. 16.
 Hart, Inc., Cincinnati, Ohio. 863,034, pub. 10-22-68, Cl. 19.
 Hathaway, C. F., Co., to C. F. Hathaway Co., Waterville, Maine. 503,043, ren. 1-7-69, Cl. 39.
 Hearst Corp., The, New York, N.Y. 507,050, ren. 1-7-69, Cl. 38.
 Hell-Coil Corp., Danbury, Conn. 863,127, pub. 10-22-68, Cl. 28.
 Hellstar Corp., Waboo, Nebr. 863,033, pub. 10-22-68, Cl. 19.
 Helzberg's Diamond Shops, Inc., Kansas City, Mo. 863,171, pub. 10-22-68, Cl. 38.
 Helzberg's Diamond Shops, Inc., Kansas City, Mo. 863,194-5, pub. 10-22-68, Cl. 41.
 Heywood Shirt Corp., New York, N.Y. 740,947, can. Cl. 30.
 Hilsenbeck, L., Inc., by Julius Schmid, Inc., New York, N.Y. 247,841, 12(c) pub. 1-7-69, Cl. 44.
 Hippie, O. Worthington, Oakton, Va. 740,920, can. Cl. 38.
 Holiday, Lella, New York, N.Y. 863,294, pub. 10-22-68, Cl. 107.
 Home Dental Aids Co., d.b.a. Home Dental Aids Co., Inc., Bakersfield, Calif. 863,266, pub. 10-22-68, Cl. 51.
 Home Dental Aids Co., Inc.: See—
 Home Dental Aids Co.
 Home-O-Nize Co., The, to Hon Industries Inc., Muscatine, Iowa. 439,902, ren. 1-7-69, Cl. 32.
 Hommel, Theo., Inc., Berwyn, Pa. 740,771, can. Cl. 1.
 Hon Industries Inc.: See—
 Home-O-Nize Co., The.
 Honeycomb Co. of America, Inc.: See—
 United States Plywood Corp.
 Honeymoon Paper Products, Inc.: See—
 Seybold, Harvey.
 Hooker Glass & Paint Mfg. Co.: See—
 Chicago White Lead & Oil Co., The.
 Hondaille Industries, Inc., Buffalo, N.Y., from Universal Engineering Co., Frankenmuth, Mich. 863,051, pub. 10-22-68, Cl. 23.
 Houghton, E. F., & Co., Philadelphia, Pa. 507,835, ren. 1-7-69, Cl. 6.
 House of Barri, Inc., New York, N.Y. 863,192, pub. 10-22-68, Cl. 40.
 House of Bauer, The, d.b.a. Bauer's, Lincoln, Nebr., to C. J. Patterson Co., Kansas City, Mo. 500,857, ren. 1-7-69, Cl. 4.
 Howard, Ennis, d.b.a. Ennis Howard's Sance Co., Ennis Howard's & Ennis Howard's Place, Berkeley, Calif. 741,000, can. Cl. 46.
 Howard's, Ennis, & Ennis Howard's Place: See—
 Howard, Ennis.
 Howard's, Ennis, Sauce Co.: See—
 Howard, Ennis.
 Hudnut, Richard, Morris Plains, N.J. 741,093, can. Cl. 51.
 Hughes Tool Co., Houston, Tex. 863,088, pub. 10-22-68, Cl. 23.
 Hummel Mfg. Co., Inc., Howard Beach, N.Y. 863,055, pub. 10-22-68, Cl. 21.
 Hurst-Campbell, Inc., Warmioster, Pa. 863,095, pub. 10-22-68, Cl. 23.
 I.B.J. Corp., Dallas, Tex. 863,172, pub. 10-22-68, Cl. 39.
 I.G. Farbenindustrie Aktiengesellschaft, Frankfurt-On-The-Main and Berlin, Germany, to GAF Corp., New York, N.Y. 248,773, ren. 1-7-69, Cl. 26.
 Imperial Chemical Industries Ltd., Millbank, London, England. 862,973, pub. 10-22-68, Cl. 6.
 Industrial Heating & Finishing Co., Inc., Birmingham, Ala. 863,140, pub. 10-22-68, Cl. 34.
 Inglenook Vineyard Co., Rutherford, to United Vintners, Inc., San Francisco, Calif. 502,860, ren. 1-7-69, Cl. 47.
 Insta-Dek Corp., Riverview, Mich. 863,097, pub. 10-22-68, Cl. 23.
 Instituto Chimico Eurosud S.p.A.: See—
 Richardson-Merrell S.p.A.
 Instructional Media, Inc., Tulsa, Okla. 863,040, pub. 4-30-68, Multiple Class (Classes 21, 26, 38, and 38).
 Insulated Duct & Cable Co., Trenton, N.J. 254,872, ren. 1-7-69, Cl. 21.
 Interlake Steel Corp., Chicago, Ill. 863,039, pub. 10-22-68, Cl. 21.
 International Bakerage, Inc., Atlanta, Ga. 863,287, pub. 10-22-68, Cl. 103.
 International Foam Products, Inc., Long Island City, N.Y. 862,963, pub. 10-22-68, Cl. 1.
 International Minerals & Chemical Corp., Skokie, Ill. 505,045, ren. 1-7-69, Cl. 18.
 International Silver Co., The, Meriden, Conn. 505,793, ren. 1-7-69, Cl. 28.
 Jamie Record Co., from Landa Records, Inc., Philadelphia, Pa. 863,151, pub. 10-22-68, Cl. 36.
 Johns-Manville Products Corp.: See—
 Burgess, C. F., Laboratories, Inc.
 KLM Royal Dutch Airlines: See—
 Koninklijke Luchtvaart Maatschaap, N.V.
 Kahn's, E., Sons Co., The, Cincinnati, Ohio. 863,214, pub. 10-22-68, Cl. 46.
 Kameyama Candle Co. Ltd., Kameyama, Mie, Japan. 863,302, Cl. 15.
 Kayo Oil Co., Chattanooga, Tenn. 863,286, pub. 10-22-68, Cl. 103.
 Kellogg Co., Battle Creek, Mich. 249,993, ren. 1-7-69, Cl. 40.
 Kellogg Co., Battle Creek, Mich. 863,217, pub. 11-21-67, Cl. 46.
 Kellogg Corset Co., Jackson, Mich. 504,115, ren. 1-7-69, Cl. 39.
 Kenco Chemical & Mfg. Co., Inc., Jacksonville, Fla. 862,985, pub. 10-22-68, Cl. 6.
 Kenner Products Co., Cincinnati, Ohio. 863,078, pub. 10-22-68, Cl. 22.
 Kenneth Beauty Salons & Products, Inc., New York, N.Y. 863,256-7, pub. 10-22-68, Cl. 51.
 Kester Solder Co., to Kester Solder Co., Chicago, Ill. 502,470, ren. 1-7-69, Cl. 14.
 Kewanee Mfg. Co.: See—
 Kewanee Scientific Equipment Corp.
 Kewanee Scientific Equipment Corp., d.b.a. Kewanee Mfg. Co., Adrian, Mich. 863,121, pub. 10-22-68, Multiple Class (Classes 26, 31, and 34).
 King Clothing Co., New York, N.Y. 746,969, cor. Cl. 39.
 Klein, S., Department Stores, Inc., from SK Distributing Corp., New York, N.Y. 741,037, can. Cl. 51.
 Koninklijke Luchtvaart Maatschaap, N.V., d.b.a. KLM Royal Dutch Airlines, New York, N.Y., from Barton Dairling Co., Chicago, Ill. 863,247, pub. 9-21-65, Cl. 49.
 Koitkins, Henry L., d.b.a. Skyway Luggage Co., Seattle, Wash. 503,005, ren. 1-7-69, Cl. 3.
 Kress, S. H., & Co., New York, N.Y. 741,026, can. Cl. 51.
 Kroger Co., The, Cincinnati, Ohio. 863,051, pub. 10-22-68, Cl. 21.
 Korth, John R.: See—
 Randomatic Data Systems, Inc.
 La Boheme Vineyards Co.: See—
 Roma Wine Co.
 Laboratorios Hubs, S.A., Mexico City, Mexico. 863,272, pub. 10-22-68, Cl. 52.
 Laclede Steel Co., St. Louis, Mo. 507,364, ren. 1-7-69, Cl. 14.

- Lady Marlene Brassiere Corp., New York, N.Y. 863,189, pub. 10-22-68, Cl. 39.
 Lake Central Airlines, Inc., Indianapolis, Ind. 741,069, canc. Cl. 105.
 Landa Records, Inc.: See—
 Jangle Record Co.
 Landis Machine Co.: See—
 Oster Mfg. Co., The.
 Lane Paper Co., Inc., Cranford, N.J. 505,586, ren. 1-7-69, Cl. 37.
 La Reslata Corset Co., The, Bridgeport, Conn. 740,956, canc. Cl. 39.
 Lawson Milk Co., The: See—
 Consolidated Foods Corp.
 La-Z-Boy Chair Co., Monroe, Mich. 863,307, Cl. 32.
 Leathercraft Products Corp., New York, N.Y. 863,271, pub. 10-22-68, Cl. 52.
 Les Parfums de Dana, Inc., New York, N.Y. 508,049-50, ren. 1-7-69, Cl. 51.
 Letourneau, R. G., Inc., Longview, Tex. 740,881, canc. Cl. 23.
 Levin, Harry M., d.b.a. Vogeler Co., Philadelphia, Pa. 863,219, pub. 10-22-68, Cl. 46.
 Liberty Foundry Co., St. Louis, to Gross-Altre Mfg. Co., Inc., Overland, Mo. 506,850, ren. 1-7-69, Cl. 34.
 Lily-Tulip Cup Corp., New York, N.Y. 863,207, Cl. 2.
 Liquid Carbonic Corp., Chicago, Ill. 863,134, pub. 10-22-68, Cl. 34.
 Loenco, Inc., Altadena, Calif. 863,199, pub. 10-22-68, Cl. 44.
 Logan, Walter A., d.b.a. Truecraft Mfg. Co., Pasadena, Calif. 504,469, ren. 1-7-69, Cl. 40.
 London Litho Aluminum Co., Inc., Lincolnwood, Ill. 863,250, pub. 10-22-68, Cl. 50.
 Look, Arthur E., Inc., West Roxbury, Mass. 863,200, pub. 10-22-68, Cl. 44.
 L'Oreal, Paris, France, 863,253, pub. 10-22-68, Multiple Class (Classes 51 and 52).
 Lowenfels, Frederick F., & Son, New York, N.Y. 863,232, pub. 10-22-68, Cl. 46.
 Lyndonville Canning Co., Inc., Lyndonville, N.Y. 504,741, ren. 1-7-69, Cl. 46.
 MacMillan Ring-Free Oil Co., Inc., New York, N.Y. 863,293, pub. 10-22-68, Cl. 107.
 Magyar Hanglemeggyarito Vallalat, Budapest, Hungary. 863,158, pub. 10-22-68, Cl. 36.
 Mama Weiss Foods, Inc.: See—
 Traina, Vincent J.
 Manhattan Shirt Co., The, New York, N.Y. 863,180, pub. 10-22-68, Cl. 39.
 Manhattan Terrazzo Brass Strip Co., Inc., New York, N.Y., to Manhattan Terrazzo Brass Strip Co., Inc., Norwalk, Conn. 245,595, ren. 1-7-69, Cl. 12.
 Manufacturas Del Vestido S.A., Madrid, Spain. 863,185, pub. 10-22-68, Cl. 39.
 Marcell Paper Mills, Inc.: See—
 Marcellus Mfg. Co., Inc.
 Marcellus Mfg. Co., Inc., to Marcell Paper Mills, Inc., East Paterson, N.J. 507,125, ren. 1-7-69, Cl. 50.
 Marcy Gymnasium Equipment Co., Los Angeles, Calif. 863,075, pub. 10-22-68, Cl. 22.
 Martin, C. W., & Sons, Ltd., London, England. 862,962, pub. 10-22-68, Cl. 1.
 Masonite Corp., Chicago, Ill. 740,812, canc. Cl. 12.
 Matsushita Electric Industrial Co., Ltd., (Matsushita Denki Sangyo Kabushiki Kaisha), Osaka, Japan. 713,171, canc. Cl. 31.
 Matsushita Electric Industries Co., Ltd., Osaka, Japan. 702,217, canc. Cl. 31.
 Matsushita Electric Industrial Co., Ltd., Osaka, Japan. 807,518, canc. Cl. 34.
 Mattel, Inc., Hawthorne, Calif. 863,079, pub. 10-22-68, Cl. 22.
 Mayer, R. W., & Cohen, Ltd., Beau Brummel Ties Division, Cincinnati, Ohio. 863,193, pub. 10-22-68, Cl. 39.
 McDonnell, Gerald F.: See—
 Continental/Moss-Gordin, Inc.
 McGraw-Edison Co., Elgin, Ill. 863,105, pub. 10-22-68, Cl. 24.
 McGraw-Hill, Inc., New York, N.Y. 863,310, Cl. 38.
 Mead Johnson & Co., from Mead Johnson & Co., Evansville, Ind. 863,216, pub. 10-22-68, Cl. 46.
 Meadow-Croft: See—
 Turner, William H.
 Medical Supply Co., from Medical Supply Co., Rockford, Ill. 862,954, pub. 10-22-68, Multiple Class (Classes 6, 18, and 44).
 Medical Supply Co., from Medical Supply Co., Rockford, Ill. 863,203, pub. 10-22-68, Cl. 44.
 Medics Pharmaceutical Corp., Decatur, Ga. 863,020, pub. 10-22-68, Cl. 18.
 Merchants Trading Co., Inc., New York, N.Y. 863,223, pub. 10-22-68, Cl. 46.
 Merck & Co., Inc.: See—
 Sharp & Dohme, Inc.
 Merck & Co., Inc., Rahway, N.J. 863,220, pub. 10-22-68, Cl. 46.
 Meredith Publishing Co., Des Moines, Iowa. 741,087, canc. Cl. 38.
 Merit Business Service: See—
 Otis, Carl W.
 Metro-Goldwyn-Mayer Inc., New York, N.Y. 863,159, pub. 10-22-68, Cl. 36.
 Micro-Reproduction Services, Inc., Montebello, Calif. 863,281-2, pub. 10-22-68, Cl. 101.
 Microwave Instruments Ltd., Northumberland, England. 863,123, pub. 10-22-68, Cl. 26.
 Mining Engineering Co., Ltd., to Dowty Meco Ltd., Worcester, England. 244,965, ren. 1-7-69, Cl. 23.
 Minnesota Mining & Mfg. Co., St. Paul, Minn. 863,009, pub. 10-22-68, Cl. 10.
 Mitchell, John E., Co., Inc., Dallas, Tex. 863,204, pub. 11-8-66, Cl. 45.
 Mitrallux Corp. of America, Los Angeles, Calif. 863,056, pub. 10-22-68, Cl. 21.
 Modern Products, Inc., Kansas City, Mo. 863,064, pub. 10-22-68, Cl. 22.
 Monette, M., & Co.: See—
 Traina, Vincent J.
 Monette, Maynard: See—
 Traina, Vincent J.
 Monkey Color, Inc., Hialeah, Fla. 863,289, pub. 10-22-68, Cl. 106.
 Monsanto Chemical Co., St. Louis, Mo. 740,904-5, canc. Cl. 23.
 Moore Business Forms, Inc., Niagara Falls, N.Y. 863,162, pub. 10-22-68, Cl. 37.
 Morrill, George P., d.b.a. John Teene, Higganum, Conn. 740,936, canc. Cl. 38.
 Mosler Safe Co., The, Hamilton, Ohio. 863,042, pub. 10-22-68, Cl. 21.
 Mueller, J., Co., Monroe, N.Y. 862,902, pub. 10-22-68, Cl. 12.
 Mulhens, Ferdinand, d.b.a. Eau de Cologne & Parfumerie-Fabrik Glockengasse No. 4711, Cologne (Rhine), Germany. 863,252, pub. 10-22-68, Cl. 51.
 Murine Co., Inc., The, Chicago, Ill. 863,304, Cl. 18.
 Murray, Simon F., Dubuque, Iowa. 863,298, Cl. 2.
 Muscle-Matic, Inc., St. Petersburg, Fla. 863,061, pub. 10-22-68, Cl. 22.
 Mutoh Industry Ltd., Tokyo, Japan. 863,106, pub. 10-22-68, Cl. 26.
 National Engineering Co., Chicago, Ill. 863,085, pub. 10-22-68, Cl. 23.
 National Molding Corp., Farmingdale, N.Y. 863,291, pub. 10-22-68, Cl. 106.
 National Nutrape Co., Atlanta, Ga. 863,205, pub. 10-22-68, Cl. 45.
 National Sulphur Co.: See—
 Elcor Chemical Corp.
 Nationwide Downtowner Motor Inns, Inc.: See—
 Downtowner Corp., The.
 Nelson, Helen Vincent, and Harry L. Nelson, d.b.a. The Nelson Press, Palo Alto, Calif. 740,932, canc. Cl. 38.
 Nelson Press, The: See—
 Nelson, Helen Vincent, and Harry L. Nelson.
 Nelson, Robert H., d.b.a. Ronel Co., Oleta, Calif. 863,040, pub. 10-22-68, Cl. 21.
 Nethercutt Laboratories, d.b.a. Cosgenic Laboratories, Hollywood, Calif. 741,033, canc. Cl. 51.
 Nevadarama, Inc., San Francisco, Calif. 740,927, canc. Cl. 38.
 New York State Association of Trial Lawyers, New York, N.Y. 863,332, Cl. 107.
 Nicholas International Ltd., Toronto, Ontario, Canada. 740,787, canc. Cl. 6.
 Nicholas International Ltd., Toronto, Ontario, Canada. 741,025, canc. Cl. 51.
 Norcross, Inc., New York, N.Y. 863,168, pub. 10-22-68, Cl. 38.
 Norman, Merle, Cosmetics, Inc., Los Angeles, Calif. 863,260, pub. 10-22-68, Cl. 51.
 North American Phillips Co., Inc., New York, N.Y. 863,110, pub. 10-22-68, Cl. 26.
 North-East Industries, Tulsa, Okla. 862,969, pub. 10-22-68, Multiple Class (Classes 4, 6, 15, 18, 51, and 52).
 Northern Electric Co. Ltd., Montreal, Quebec, Canada. 863,047, pub. 10-22-68, Cl. 21.
 Numarvel Laboratories: See—
 Belov, Nat.
 Nu-Puttie Corp., Chicago, Ill. 863,296, Cl. 1.
 Old Town Corp.: See—
 Old Town Ribbon & Carbon Co., Inc.
 Old Town Ribbon & Carbon Co., Inc., to Old Town Corp., Brooklyn, N.Y. 508,470, ren. 1-7-69, Cl. 11.
 Olin Mathieson Chemical Corp., New York, N.Y. 740,939, canc. Cl. 38.
 Olinkraft, Inc., West Monroe, La. 862,966, pub. 10-22-68, Cl. 2.
 Onelda Ltd., Onelda, N.Y. 863,096, pub. 10-22-68, Cl. 23.
 Onelda Ltd., Onelda, N.Y. 863,103, pub. 10-22-68, Multiple Class (Classes 23 and 28).
 Oregon Bulb Farms, Sandy, by Oregon Bulb Farms Division of Melridge, Inc., Gresham, Oreg. 440,827, 12(c) pub. 1-7-69, Cl. 1.
 Oregon Bulb Farms Division of Melridge, Inc.: See—
 Oregon Bulb Farms.
 Original Critters, Inc.: See—
 Critters, Inc., The.
 Oster Mfg. Co., The, Cleveland, to Landis Machine Co., Wilciffe, Ohio. 441,243, ren. 1-7-69, Cl. 15.
 Otis, Carl W., d.b.a. Merit Business Service, Wilmette, Ill. 863,283, pub. 10-22-68, Cl. 102.
 PPG Industries, Inc., Pittsburgh, Pa. 863,008, pub. 10-22-68, Cl. 16.
 Pack, Valeria C.: See—
 Western Pharmacal Co.
 Pageant Needles: See—
 American Stylus Co.
 Palace Corp., Flint to Champion Home Builders Co., Dryden, Mich. 508,223, ren. 1-7-69, Cl. 19.
 Parker-Hannifin Corp., Cleveland, Ohio. 863,125, pub. 10-22-68, Cl. 26.
 Patterson, C. J., Co.: See—
 House of Bauer, The.
 Penney, J. C., Co., New York, N.Y. 863,181, pub. 10-22-68, Cl. 39.

- Penn-Jay Corp., The, Akron, Ohio, and New York, N.Y., by The American Oil Co., Chicago, Ill. 310,800, 12(c) pub. 1-7-69, Cl. 15.
 Peoples Drug Stores, Inc., Washington, D.C. 253,125, ren. 1-7-69, Cl. 6.
 Perkerson, Olivia R., d.b.a. Perkerson Protect Co., Los Angeles, Calif. 741,023, canc. Cl. 51.
 Perkerson Protect Co.: See—
 Perkerson, Olivia R.
 Perrigo L., Co., d.b.a. Supreme Pharmacal Co., Allegan, Mich. 438,251, 12(c) pub. 1-7-69, Cl. 51.
 Pfizer, Chas., & Co., Inc.: See—
 Barbasol Co., The.
 Pfleger Corp.: See—
 Enterprize Mfg. Co., The.
 P1 Beta Pbl. St. Louis, Mo. 248,756, ren. 1-7-69, Cl. 32.
 P1 Beta Pbl. St. Louis, Mo. 248,856, ren. 1-7-69, Multiple Class (Classes 2 and 8).
 Plackney, Betty T., d.b.a. De Sales Industries, Savannah, Ga. 863,212, pub. 1-16-68, Cl. 46.
 Plies International Chemical Co., Chicago, Ill. 785,744, cor. Cl. 52.
 Plakie Toys Inc., Youngstown, Ohio. 863,080, pub. 10-22-68, Cl. 22.
 Polirette Corsets, Inc., New York, N.Y. 863,176, pub. 3-5-68, Cl. 39.
 Polan Industries to Polan Industries Inc., Huntington, W. Va. 505,859, ren. 1-7-69, Cl. 33.
 Polan Industries Inc.: See—
 Polan Industries.
 Polaner, M., & Son, Inc., Newark, N.J. 863,218, pub. 10-22-68, Cl. 46.
 Polyastics Corp., Croydon, Pa. 863,006, pub. 10-22-68, Cl. 16.
 Pomerantz, A., & Co., Philadelphia, Pa. 740,938, canc. Cl. 38.
 Pontiac Press Co., Pontiac, Mich. 625,885, cor. Cl. 38.
 Positive Products Laboratories, Inc., Long Island City, N.Y. 741,041, canc. Cl. 52.
 Posner, Adolph, and Richard Inglima, New York, N.Y. 862,975, pub. 10-22-68, Cl. 6.
 Postal Finance Co., to Postal Finance Co., Sioux City, Iowa. 505,512, ren. 1-7-69, Cl. 102.
 Potosi Brewing Co., Potosi, Wis. 741,012, canc. Cl. 48.
 Predictor, Inc., The, West Hartford, Conn. 863,164, pub. 10-22-68, Multiple Class (Classes 38 and 100).
 Predictor, Inc., The, West Hartford, Conn. 863,166, pub. 10-22-68, Multiple Class (Classes 38 and 100).
 Premier Industrial Corp., Cleveland, Ohio. 863,274, pub. 10-22-68, Cl. 52.
 Premier Knitting Co., Inc., New York, N.Y. 740,967, canc. Cl. 39.
 Prospect Farms, Inc., Fort Atkinson, Wis. 863,237-8, pub. 10-22-68, Cl. 46.
 Qualitoy Ltd., Weston, Ontario, Canada. 863,057, pub. 10-22-68, Cl. 22.
 Quality Check Dairy Products Assn., Hinsdale, Ill. 863,235-6, pub. 10-22-68, Cl. 46.
 Quality House: See—
 Stieler, William E.
 R.F.D., Inc., Richwood, W. Va. 863,035, pub. 10-22-68, Cl. 10.
 Rachelle Laboratories, Inc., Long Beach, Calif. 863,015, pub. 10-22-68, Cl. 18.
 Radio Corp. of America, New York, N.Y. 863,170, pub. 10-22-68, Cl. 38.
 Randels Mfg. Co., Inc., Oklahoma City, Okla. 863,082, pub. 10-22-68, Cl. 23.
 Randomatic Data Systems, Inc., Trenton, N.J., from John R. Kurth, and Leo A. Urbanski, Greensburg, Pa. 863,115, pub. 10-22-68, Cl. 26.
 Rank Organisation Ltd., The, London, England. 863,109, pub. 10-22-68, Cl. 26.
 Rapaport Brothers, Inc., Chicago, Ill. 863,305, Cl. 22.
 Regent Standard Forms, Inc., Philadelphia, Pa. 863,308, Cl. 37.
 Reiter, Adolph, New York, N.Y. 863,196, pub. 10-22-68, Cl. 44.
 Reliable Typewriter & Adding Machine Corp., Chicago, to Robert B. Zajeski, Dalton, Ill. 252,921, ren. 1-7-69, Cl. 26.
 Reliance Gauge Column Co., The, to The Clark-Reliance Corp., Cleveland, Ohio. 507,810, ren. 1-7-69, Cl. 26.
 Reverse Sugar Refinery, Charlestown, Mass. 863,227, pub. 10-22-68, Cl. 46.
 Revlon, Inc., New York, N.Y. 863,255, pub. 10-22-68, Cl. 51.
 Rheem Mfg. Co., New York, N.Y. 863,135, pub. 10-22-68, Cl. 34.
 Richardson-Merrell Inc., New York, N.Y. 863,023, pub. 10-22-68, Cl. 18.
 Richardson-Merrell Inc., New York, N.Y. 863,026, pub. 10-22-68, Cl. 18.
 Richardson-Merrell S.p.A., Florence, from Istituto Chimico Euroad S.p.A., Rome, Italy. 863,014, pub. 10-22-68, Cl. 18.
 Riegel Textile Corp., New York, N.Y. 507,191, ren. 1-7-69, Cl. 39.
 Ritter Pfaulder Corp., Rochester, N.Y. 863,119, pub. 10-22-68, Cl. 26.
 Riviana Foods Inc., Houston, Tex. 863,211, pub. 10-22-68, Cl. 46.
 Riviana Foods Inc., Houston, Tex. 863,221, pub. 10-22-68, Cl. 46.
 Robbins Products, Inc., Tusculumbia, Ala. 856,396, cor. Cl. 20.
 Rockwell Mfg. Co., Pittsburgh, Pa. 740,823, canc. Cl. 13.

- Roma Wine Co., d.b.a. La Boheme Vineyards Co., assor., by mesne assignments, to Schenley Distillers Corp., Fresno, to Schenley Industries, Inc., New York, N.Y. 441,553, ren. 1-7-69, Cl. 47.
 Ronel Co.: See—
 Nelson, Robert H.
 Rosemount Engineering Co., Minneapolis, Minn. 863,053, pub. 10-22-68, Cl. 21.
 Ross & Roberts, Inc., Stratford, Conn. 741,075, canc. Cl. 1.
 Rushton Co., The, Atlanta, Ga. 863,073, pub. 10-22-68, Cl. 22.
 SK Distributing Corp.: See—
 Klein, S., Department Stores, Inc.
 S. & S. Machinery Co., Brooklyn, N.Y. 863,138, pub. 10-22-68, Cl. 34.
 Sampino, S., & Waverly Beauty Products, Inc., d.b.a. Waverly Beauty Products, Brooklyn, N.Y. 863,327, Cl. 52.
 Sanders Associates, Inc., Nashua, N.H. 863,003, pub. 10-22-68, Cl. 10.
 Sanger Citrus Association, Sanger, Calif. 507,212, ren. 1-7-69, Cl. 46.
 Santa Cruz Canning Co., Moss Landing, Calif. 863,233, pub. 10-22-68, Cl. 46.
 Santen Pharmaceutical Co., Ltd., Higashi-Yodogawa-ku, Osaka, Japan. 863,019, pub. 10-22-68, Cl. 18.
 Sauer, C. F., Co., The, Richmond, Va. 505,771, ren. 1-7-69, Cl. 18.
 Saxton Products, Inc., Congers, N.Y. 863,043, pub. 10-22-68, Cl. 21.
 Schenley Industries, Inc.: See—
 American Wine Co.
 Cresta Blanca Wine Co.
 Roma Wine Co.
 Schlitz, Jos., Brewing Co., Milwaukee, Wis. 863,240, pub. 10-22-68, Cl. 48.
 Schmidt, Julius, Inc.: See—
 Hilsenbeck, L., Inc.
 Scripture Press Publications, Inc., Wheaton, Ill. 863,163, pub. 10-22-68, Cl. 37.
 Sea-Trim Corp., Plymouth, Ind. 740,850-60, canc. Cl. 10.
 Seligman, Sely S., d.b.a. Devil Laboratories Co., to Dome Chemical Corp., Cincinnati, Ohio. 243,731, ren. 1-7-69, Cl. 6.
 Service Industries, Philadelphia, Pa. 440,886, 12(c) pub. 1-7-69, Cl. 52.
 Service Industries, Philadelphia, Pa. 444,407, 12(c) pub. 1-7-69, Cl. 16.
 Seybold, Harvey, d.b.a. Harvey Seybold & Co., to Honeymoon Paper Products, Inc., Cincinnati, Ohio. 507,170, ren. 1-7-69, Cl. 50.
 Seybold, Harvey, & Co.: See—
 Seybold, Harvey.
 Sharp & Dohme, Inc., Philadelphia, Pa., to Merck & Co., Inc., Rahway, N.J. 441,467, ren. 1-7-69, Cl. 18.
 Sharp & Dohme, Inc., Philadelphia, Pa., to Merck & Co., Inc., Rahway, N.J. 505,794, ren. 1-7-69, Cl. 18.
 Shriver, R. F., Co., The, Westminster, Md. 508,070, ren. 1-7-69, Cl. 46.
 Simaplast, Inc., Yonkers, N.Y. 863,197, pub. 10-22-68, Cl. 44.
 Sloner A.O., Karlsruhe-Grauwinkel, Germany. 863,244-5, pub. 10-22-68, Cl. 47.
 Skaggs and Kelly, Inc., Wood River, Ill. 863,231, pub. 10-22-68, Cl. 46.
 Skyline Ind., Inc., Charlottesville, Va. 863,269, pub. 10-22-68, Cl. 51.
 Skyway Luggage Co.: See—
 Kotkins, Henry L.
 Smoot-Holman Co., Inglewood, Calif. 504,795, ren. 1-7-69, Cl. 21.
 Sony Corp., Shinagawa-ku, Tokyo, Japan. 863,054, pub. 10-22-68, Cl. 21.
 Sosa Mfg. Co., Detroit, Mich. 863,201, pub. 10-22-68, Cl. 44.
 Sound-Craft Systems, Inc., Morriston, Ark. 855,901, cor. Cl. 21.
 Souther Steel & Aluminum Co., St. Louis, Mo. 740,824, canc. Cl. 14.
 Southern Oxygen Co., Inc., Bladensburg, Md., to Air Products & Chemicals, Inc., Allentown, Pa. 508,425, ren. 1-7-69, Cl. 6.
 Southern Shell Fish Co., Inc.: See—
 Dunbar-Dukate Co., Inc.
 Southern Shell Fish Co., Inc., New Orleans, to Southern Shell Fish Co., Inc., Metairie, La. 441,381, ren. 1-7-69, Cl. 46.
 Southwest Products, Inc., San Antonio, Tex. 863,012, pub. 10-22-68, Cl. 18.
 Sparber, Howard, Morristown, N.J. 863,074, pub. 10-22-68, Cl. 22.
 Spaulding Bakeries Inc., Binghamton, N.Y. 741,091, canc. Cl. 46.
 Spectrum Systems, Inc., Waltham, Mass. 863,290, pub. 10-22-68, Cl. 106.
 Spread Eagle Farms, Inc., Klingerstown, Pa. 863,225, pub. 10-22-68, Cl. 46.
 Standard Instrument Corp., New York, N.Y. 740,913, canc. Cl. 36.
 Stanley Gibbons Ltd., London, England. 863,058, pub. 10-22-68, Multiple Class (Classes 22 and 38).
 Stanley Home Products, Inc., Westfield, Mass. 740,800, canc. Cl. 8.
 Stebeo Products Corp.: See—
 Stein Bros. Mfg. Co.
 Stein Bros. Mfg. Co., to Stebeo Products Corp., Chicago, Ill. 506,284, ren. 1-7-69, Cl. 3.
 Stella Kg Werner Deussen, Niederwalluf (Rhine), Germany. 862,965, pub. 10-22-68, Cl. 2.
 Stem, Chester B., Inc., New Albany, Ind. 863,301, Cl. 12.

- Sterling Drug Inc., New York, N.Y. 862,978, pub. 10-22-68. Cl. 6.
Sterling Drug Inc., New York, N.Y. 863,021, pub. 10-22-68. Cl. 18.
Sterno, Inc., New York, N.Y. 862,093, pub. 10-22-68. Cl. 13.
Stevens, J. P., & Co., Inc., New York, N.Y. 863,178, pub. 10-22-68. Cl. 39.
Stieler, William E., d.b.a. Quality House, Marlette, Mich. 862,997, pub. 10-22-68. Cl. 13.
Stix, Baer & Fuller Co., St. Louis, Mo., to Associated Dry Goods Corp., New York, N.Y. 507,903, ren. 1-7-69. Cl. 28.
Streater Industries, Inc. from Streater Store Fixtures, Inc., Albert Lea, Minn. 863,273, pub. 10-22-68. Cl. 101.
Streater Store Fixtures, Inc.: See—
Streater Industries, Inc.
Strouse, Adler, Co., The, New Haven, Conn. 863,174, pub. 10-22-68. Cl. 39.
Struhl, Morris, Inc., New York, N.Y. 863,067, pub. 10-22-68. Cl. 22.
Struhl, Morris, Inc., New York, N.Y. 863,130, pub. 10-22-68. Cl. 29.
Stuart Sport Specialties, Inc., d.b.a. Al's Goldfish Lure Co., Indian Orchard, Mass. 863,072, pub. 10-22-68. Cl. 22.
Styllist Shoe Co., Dallas, Tex. 863,068, pub. 10-22-68. Cl. 22.
Superba Cravats, Inc., Rochester, N.Y. 842,497. Am. 7(d). Cl. 39.
Supplier, G. S., Co., St. Louis, Mo. 863,224, pub. 10-22-68. Cl. 46.
Supreme Pharmacal Co.: See—
Perrigo, L., Co.
System Development Corp., Santa Monica, Calif. 863,276, pub. 10-22-68. Cl. 101.
TRW, Inc., New York, N.Y. 863,044, pub. 10-22-68. Cl. 21.
Tasco Sales, Inc., Miami, Fla. 863,111, pub. 10-22-68. Cl. 26.
Teaching Machines, Inc., Albuquerque, N. Mex. 741,080, can. Cl. 26.
Teene, John: See—
Morrell, George P.
Telephone Dynamics Corp., North Bellmore, N.Y. 863,157, pub. 10-22-68. Cl. 36.
Tescott-Dunay Corp., Bronx, N.Y. 863,273, pub. 10-22-68. Cl. 52.
Texaco Inc., New York, N.Y. 863,036-8, pub. 10-22-68. Cl. 21.
Thlem Corp., Wauwatosa, Wis. 862,961, pub. 10-22-68. Cl. 1.
Thomas, John B., d.b.a. Thomas Laboratories, Lansdale, Pa. 740,851, can. Cl. 18.
Thomas Laboratories: See—
Thomas, John B.
Thomas, Susan, Inc., New York, N.Y. 863,177, pub. 10-22-68. Cl. 39.
Thompson Equipment Machine Co.: See—
Thompson, J. W.
Thompson, J. W., d.b.a. Thompson Equipment Machine Co., York, Pa. 740,815, can. Cl. 13.
Timesaver Products Co., Seattle, Wash. 503,428-9, ren. 1-7-69. Cl. 4.
Toshimasa Mizugaki, Hyogo, Japan. 863,209, pub. 10-22-68. Cl. 46.
Towne, Paulsen & Co., Inc.: See—
Boyle & Co.
Towne, Paulsen & Co., Inc., Monrovia, Calif. 863,022, pub. 10-22-68. Cl. 18.
Traina, Vincent J., Daly City, from Maynard Monette, d.b.a. M. Monette & Co., San Francisco, Calif. 740,783, can. Cl. 2.
Traina, Vincent J., Daly City, from Mama Weiss Foods, Inc., Los Angeles, Calif. 740,994, can. Cl. 46.
Trem, Inc., Oklahoma City, Okla. 862,990, pub. 10-22-68. Cl. 12.
Tri State Supply Co., Dubuque, Iowa. 740,784, can. Cl. 6.
Tribune Co., The, by Chicago Tribune Co., Chicago, Ill. 151-979, 12(c) pub. 1-7-69. Cl. 38.
Tribune Co., The, by Chicago Tribune Co., Chicago, Ill. 153-026, 12(c) pub. 1-7-69. Cl. 38.
Tribune Co., The, by Chicago Tribune Co., Chicago, Ill. 153-028-9, 12(c) pub. 1-7-69. Cl. 38.
Tribune Co., The, by Chicago Tribune Co., Chicago, Ill. 174-759, 12(c) pub. 1-7-69. Cl. 38.
Tribune Co., The, by Chicago Tribune Co., Chicago, Ill. 191-597, 12(c) pub. 1-7-69. Cl. 38.
Tribune Co., The, by Chicago Tribune Co., Chicago, Ill. 201-985, 12(c) pub. 1-7-69. Cl. 38.
Tribune Co., The, by Chicago Tribune Co., Chicago, Ill. 250-088, 12(c) pub. 1-7-69. Cl. 38.
Trisco Plastic, Inc., Lima, Ohio. 862,908, pub. 10-22-68. Cl. 3.
True Treasure Publications, Inc., Conroe, Tex. 863,309. Cl. 38.
Truecraft Mfg. Co.: See—
Logan, Walter A.
Turner, William H., d.b.a. Meadow-Croft, Fitchburg, Mass. 740,779, can. Cl. 1.
Tyler, W. S., Inc., Mentor, Ohio. 863,102, pub. 10-22-68. Cl. 23.
UMC Industries, Inc., St. Louis, Mo. 863,090, pub. 10-22-68. Cl. 23.
UMC Industries, Inc., St. Louis, Mo. 863,092, pub. 10-22-68. Cl. 23.
Ultra Sonic Seal, Inc., New York, N.Y. 740,769, can. Cl. 1.
Ultra Sonic Seal, Inc., New York, N.Y. 740,877, can. Cl. 23.
Ultron Systems Corp., Peansauken, N.J. 741,055, can. Cl. 101.
Union Carbide Corp.: See—
Carbide and Carbon Chemicals Corp.
Union Carbide Corp., New York, N.Y. 862,972, pub. 10-22-68. Cl. 5.
Union Carbide Corp., New York, N.Y. 863,137, pub. 10-22-68. Cl. 34.
Union Fork & Hoe Co., The, Columbus, Ohio. 863,091, pub. 10-22-68. Cl. 23.
Union Oil Co. of California, Los Angeles, Calif. 863,143, pub. 10-22-68. Cl. 35.
Uniroyal, Inc.: See—
United States Rubber Co.
Unishops, Inc., Jersey City, N.J. 863,182, pub. 10-22-68. Cl. 30.
United Fruit Co., Boston, Mass. 863,215, pub. 10-22-68. Cl. 46.
United Vintners, Inc.: See—
Inglenook Vineyard Co.
United Vintners, Inc., d.b.a. Italian Swiss Colony, San Francisco, Calif. 750,270. Am. 7(d). Cl. 47.
United States Catheter & Instrument Corp., from United States Catheter & Instrument Corp., Glens Falls, N.Y. 863,315-23. Cl. 44.
United States Plywood Corp., New York, N.Y., to Honeycomb Co. of America, Inc., Bridgeport, Conn. 441,771, ren. 1-7-69. Cl. 5.
United States Rubber Co., to Uniroyal, Inc., New York, N.Y. 508,501, ren. 1-7-69. Cl. 35.
Unitex Corp., Monrovia, Calif. 863,202, pub. 10-22-68. Cl. 44.
Universal American Corp., New York, N.Y. 863,027, pub. 10-22-68. Cl. 19.
Universal Data Acquisition Co., Inc., Houston, Tex. 863,118, pub. 10-22-68. Cl. 26.
Universal Engineering Co.: See—
Hondaille Industries, Inc.
U-Sail-It, Inc., Toledo, Ohio. 741,098, can. Cl. 100.
Vermont Marble Co., Proctor, Vt. 508,635, ren. 1-7-69. Cl. 12.
Victor Co. of Japan, Ltd., Yokohama, Japan. 863,149, pub. 10-22-68. Cl. 30.
Vogeler Co.: See—
Levin, Harry M.
Volk Bros. Co., Dallas, Tex. 863,173, pub. 10-22-68. Cl. 30.
Vulcanized Rubber and Plastics Co., Morrisville, Pa. 504,399, ren. 1-7-69. Cl. 40.
Walker Bros., Conshohocken, Pa. 365,000, can. Cl. 21.
Wallace-Murray Corp.: See—
Cleveland File Co., The.
Wang Laboratories, Inc., Tewksbury, Mass. 863,116, pub. 10-22-68. Cl. 26.
Warner Woven Label Co., Inc., Paterson, N.J. 863,167, pub. 10-22-68. Cl. 38.
Warren Automatic Tool Co., Houston, Tex. 863,114, pub. 10-22-68. Cl. 26.
Waverly Beauty Products: See—
Samplino, S., & Waverly Beauty Products, Inc.
Wear-Flex Corp., The, Milwaukee, Wis. 862,986, pub. 10-22-68. Cl. 7.
Welex Inc., King of Prussia, Pa. 863,098, pub. 10-22-68. Cl. 23.
Wells Television, Inc., New York, N.Y. 863,288, pub. 10-22-68. Multiple Class (Classes 103 and 104).
Welsh Mfg. Co., Providence, R.I. 863,128, pub. 10-22-68. Multiple Class (Classes 20, 39, and 44).
West Chemical Products, Inc., Long Island City, N.Y. 862,979, pub. 10-22-68. Cl. 6.
Western Auto Supply Co., Kansas City, Mo. 863,101, pub. 10-22-68. Cl. 23.
Western Grain Co., Inc., Birmingham, Ala. 863,226, pub. 10-22-68. Cl. 46.
Western Pharmacal Co., to Valeria C. Pack, d.b.a. Western Pharmacal Co., Salt Lake City, Utah. 251,271, ren. 1-7-69. Cl. 18.
Western World Personal Money Orders, Inc., Eugene, Oreg. 741,059, can. Cl. 102.
Weyerhaeuser Co., Tacoma, Wash. 863,300. Cl. 12.
Whirlpool Corp.: See—
Electrolux Servel Corp.
Whittlesey, Henry D., Hayward, Calif. 863,071, pub. 10-22-68. Cl. 22.
Williams, A. R., & Co., Carteret, N.J. 863,326. Cl. 51.
Williams & Associates Inc., Denver, Colo. 741,050, can. Cl. 101.
Williamson-Dickie Mfg. Co., Fort Worth, Tex. 507,167, ren. 1-7-69. Cl. 39.
Willows Francis Ltd., Epsom, Surrey, England. 863,013, pub. 10-22-68. Cl. 18.
Wilson Sporting Goods Co., from Wilson Sporting Goods Co., River Grove, Ill. 863,060, pub. 10-22-68. Cl. 22.
Wiss, J., & Sons Co., Newark, N.J. 740,887, can. Cl. 44.
Wood, Arthur O., Jr., d.b.a. The Wood Instrument Co., Sea Cliff, N.Y. 863,122, pub. 10-22-68. Multiple Class (Classes 26 and 44).
Wood Instrument Co., The: See—
Wood, Arthur O., Jr.
Woolsey Marine Industries, Inc., New York, N.Y. 863,010, pub. 10-22-68. Cl. 16.
Wright Machinery Co., Inc., Durham, N.C. 863,100, pub. 10-22-68. Cl. 23.
Wylie & Wiggins Co. Ltd., Toronto, Ontario, Canada. 741,049, can. Cl. 101.
Xerox Corp., Rochester, N.Y. 863,280, pub. 10-22-68. Cl. 101.
Yeager & Sullivan, Inc., Camden, Ind. 862,964, pub. 10-22-68. Cl. 1.
Yuba Power Products, Inc., Cincinnati, Ohio. 740,876, can. Cl. 23.
Zaleski, Robert B.: See—
Reliable Typewriter & Adding Machine Corp.
Zenith Radio Corp., Chicago, Ill. 863,041, pub. 10-22-68. Cl. 21.

U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

January 14, 1969 Volume 858 Number 2

PATENTS NOTICES

Board of Appeals Decisions Rendered in the Month of September 1968

Examiner affirmed	151
Examiner affirmed in part	30
Examiner reversed	50
Total	220

Certificates of Correction for the Week of Jan. 14, 1969

3,165,034	3,345,428	3,357,785
3,168,478	3,346,463	3,357,997
3,218,163	3,347,775	3,358,159
3,237,016	3,350,652	3,358,234
3,258,748	3,352,717	3,358,303
3,273,807	3,353,515	3,358,459
3,293,610	3,353,563	3,358,553
3,314,170	3,354,052	3,358,754
3,317,710	3,354,073	3,358,757
3,318,375	3,354,108	3,359,024
3,318,604	3,354,149	3,359,131
3,328,469	3,354,429	3,359,378
3,332,060	3,354,639	3,359,491
3,335,732	3,355,116	3,359,495
3,339,733	3,355,383	3,359,656
3,341,012	3,355,497	3,360,126
3,342,797	3,355,695	3,360,518
3,345,202	3,356,111	3,362,059
3,345,205	3,356,577	3,371,588
	3,357,458	

Adjudicated Patents

(C.A. Va.) Sherburne Patent No. 3,115,753 (60-108), for METHOD AND MEANS FOR CONTROLLING A PIPING SYSTEM, Held invalid. *Grinnell Corporation v. Virginia Electric and Power Company*, 401 F.2d 451; 159 USPQ 9.

(C.A. Va.) Loepsinger Patent No. 3,115,886 (137-16), for METHOD AND MEANS FOR CONTROLLING A PIPING SYSTEM, Held invalid. *Id.*

(C.A. Va.) Sherburne Patent No. 3,116,045 (248-58), for RELEASABLE PIPE POSITION CONTROL, Held invalid. *Id.*

Patents Available for Licensing or Sale

2,646,034. WRIST BANDAGER. Eugene Cbapados, P.O. Box 311, Pasphebiac, Quebec, Canada.

3,268,281. WALL TELEPHONE DIRECTORY AND NOTIFICATION HOLDER. Stanley Szerezen, 4344 N. Nordica Ave., Norridge, Ill., 60634.

3,362,068. SAFETY RAZOR. Albert T. Loewy, 2400 S. Ocean Drive, Hollywood, Fla., 33020.

New Applications Received During October 1968

Patents	8883
Designs	463
Plant Patents	10
Reissues	38
Total	9061

3,368,745. MOTION-TRANSMITTING ARRANGEMENT. VEB DKK Scharfenstein, Erzegeb, Germany. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York, N.Y. 10017.

3,393,596. LATHE ATTACHMENT FOR POWERING A HAND HACKSAW. John N. Banyal, 3176 Normington Drive, Sacramento, Calif., 95833.

3,397,935. LIQUID CUP AND CONTAINER ASSEMBLY USABLE AS A BINOCULAR TELESCOPE. Michitoshi Natsume, Tokyo, Japan. Correspondence to: Sughrue, Rothwell, Mion, Zinn & McLean, Munsey Building, Washington, D.C. 20004.

3,398,514. POWER MOWER WITH GRASS CATCHER. Frank N. Nolan, 1911 Colonia Place, Camarillo, Calif., 93010.

3,399,340. AUTOMATIC RANGING ELECTRONIC VOLT-METER. Ralph E. Davis, Route 1, Cohutta, Ga., 30710.

3,400,724. END CURL HAIR ROLLER. Mamie V. Scott, 116 Virginia Ave., Cumberland, Md., 21502.

3,403,420. WINDOW SWAB. Ted MacLaughlin, 819 Dexter Ave. N., Seattle, Wash., 98109.

3,401,879. NAVIGATIONAL COMPUTER. Garth Close, 3215 29th St., Lubbock, Tex., 79410.

3,413,410. STEREOGRAPHIC MICROPHONE. Motoyoshi Nakanishi. Correspondence to: Ernest G. Montague, 122 E. 42nd St., New York, N.Y., 10017.

3,414,190. TRIGONOMETRIC COMPUTING INSTRUMENT. Richard J. Lemiez, 14950 24 Mile Road, Mt. Clemens, Mich., 48043.

The following 4 patents are offered by W. J. Roanree, Port Washington, N.Y. Correspondence to: Alfred W. Vibber, 350 Fifth Ave., New York, N.Y., 10001.

3,380,615. VARIABLE SPEED SPIRAL GEARING MECHANISM.

3,393,574. VARIABLE SPEED SCREW GEARING MECHANISM.

3,402,618. VARIABLE GEARING MECHANISM.

3,406,584. DIFFERENTIAL ROLLER NUT.

Imperial Chemical Industries, Ltd., is prepared to grant non-exclusive licenses under the following patent at reasonable terms and conditions.

Request for license may be addressed to: The Patent Agent, Imperial Chemical Industries, Ltd., Thames House North, Millbank, London SW 1, England.

2,900,304. GRISEOFULVIN USES AND COMPOSITIONS.

Eastman Kodak Company announces that, in accordance with its policy, nonexclusive licenses upon reasonable terms are available to responsible domestic applicants (under the circumstances prevailing at the time) under the following 8 patents.

Applications for license may be addressed to: The Director, Patent Department, Eastman Kodak Company, 343 State St., Rochester, N.Y., 14650.

2,798,083. SYNTHETIC ESTER LUBRICANTS.

Issue—January 14, 1969

Patents	1300—No. 3,421,158 to No. 3,422,457, incl.
Designs	81—No. 213,166 to No. 213,246, incl.
Reissues	5—No. 26,515 to No. 26,519, incl.
Total	1386

- 3,280,602. RESIN LAMINATED PAPER FOR PHOTOGRAPHIC APPLICATION.
- 3,271,153. PHOTOGRAPHIC PROCESSING BATHS FOR STABILIZATION PROCESSING.
- 3,283,037. BIS(CYCLO 2,2-DIMETHYLTRIMETHYLENE) 1,4-CYCLOHEXANEDIMETHYLENE PHOSPHITE.
- 3,334,087. N-ACYL DERIVATIVES OF 3-AZABICYCLO (3.2.2)NONANE.
- 3,340,062. PHOTOGRAPHIC ELEMENT.
- 3,360,639. FLASH ADAPTOR.
- 3,378,523. BISPHENOL POLYESTERS CONTAINING PHOSPHORUS.
- 3,405,403. READBACK CIRCUITS FOR INFORMATION STORAGE SYSTEMS.
- 3,406,608. PHOTOGRAPHIC METHODS OF MAKING ELECTRON-SENSITIVE MOSAIC SCREENS.
- 3,406,343. PM/AM MULTIPLEX COMMUNICATION.
- 3,406,381. PRINT HAMMER ENERGIZING ARRANGEMENT.
- 3,407,330. PROTECTION CIRCUIT FOR CATHODE RAY TUBE.
- 3,408,510. SOLID STATE WAVE AMPLITUDE LIMITING DEVICE.
- 3,408,535. RASTER CORRECTION CIRCUIT.
- 3,408,592. TRANSISTOR-NEGATIVE RESISTANCE DIODE CIRCUITS USING D.C. FEEDBACK.
- 3,408,610. SUPERCONDUCTIVE MAGNET HAVING GREASE BETWEEN ADJACENT WINDING LAYERS.

General Signal Corporation is prepared to grant non-exclusive licenses under the following sixteen patents upon reasonable terms to domestic manufacturers.

Applications for license under the following patents may be addressed to: General Railway Signal Company, a Unit of General Signal Corporation, Attention, Manager, Patent Department, P.O. Box 600, Rochester, N.Y., 14602.

- 3,376,547. PARKING AREA SCANNING SYSTEM.
- 3,377,616. VEHICLE IDENTIFICATION SYSTEM.
- 3,382,377. POLARITY SHIFT RECEIVER.
- 3,382,484. CENTRAL TO REMOTE COMMUNICATION SYSTEM HAVING INTERROGATION PULSE POWERED STEPPER AT THE REMOTE STATION.
- 3,382,485. MULTIPLE STATION CODE COMMUNICATION SYSTEM.
- 3,383,653. MODULAR TRAFFIC SIGNAL CONTROLLER.
- 3,384,869. SYSTEM FOR FREEWAY ACCESS RAMP TRAFFIC CONTROL.
- 3,389,371. ELECTRICAL CONNECTORS.
- 3,397,304. METHOD AND APPARATUS FOR MEASURING VEHICULAR TRAFFIC.
- 3,397,305. METHOD AND SYSTEMS FOR HANDLING IN-TRAFFIC LANE OCCUPANCY.
- 3,397,306. APPARATUS FOR MEASURING VEHICULAR TRAFFIC PARAMETERS.
- 3,398,401. CODE COMMUNICATION SYSTEM.
- 3,399,305. METHOD AND SYSTEMS FOR HANDLING INFORMATION.
- 3,400,218. LINE CIRCUIT FOR CODE COMMUNICATION SYSTEMS WITH PHOTORESISTIVE PULSE PRODUCER.
- 3,403,381. SYSTEM FOR RADIO COMMUNICATION BY ASYNCHRONOUS TRANSMISSION OF PULSES CONTAINING ADDRESS INFORMATION AND COMMAND INFORMATION.
- 3,403,382. CODE COMMUNICATION SYSTEM WITH CONTROL OF REMOTE UNITS.

The Radio Corporation of America offers to grant non-exclusive licenses on reasonable terms and conditions under the following 21 patents.

Inquiries respecting licenses should be addressed to: Radio Corporation of America, Staff Vice President, Domestic Licensing, 30 Rockefeller Plaza, New York, N.Y., 10020.

- 3,404,073. METHOD OF FORMING ALIGNED OXIDE PATTERNS ON OPPOSITE SURFACES OF A WAFER OF SEMICONDUCTOR MATERIAL.
- 3,404,228. DEFLECTION YOKE MOUNTING STRUCTURE.
- 3,404,347. GAIN CONTROLLED AMPLIFIER USING MULTIPLE GATE FIELD-EFFECT TRANSISTOR AS THE ACTIVE ELEMENT THEREOF.
- 3,404,373. SYSTEM FOR AUTOMATIC CORRECTION OF BURST ERRORS.
- 3,404,386. FIXED READ-ONLY MEMORY.
- 3,404,387. MEMORY SYSTEM HAVING IMPROVED ELECTRICAL TERMINATION OF CONDUCTORS.
- 3,404,442. METHOD OF FABRICATING DIRECTLY HEATED CATHODE.
- 3,405,044. METHOD OF MAKING HIGH PURITY METAL ZEOLITE AND PRODUCT THEREOF.
- 3,405,264. SPECIMEN INJECTOR FOR ELECTRON MICROSCOPES WITH A ROTATABLE SPECIMEN HOLDER.
- 3,405,298. PHOTOCONDUCTIVE DEVICE HAVING A TARGET INCLUDING A SELENIUM BLOCKING LAYER.
- 3,405,299. VAPORIZABLE MEDIUM TYPE HEAT EXCHANGER FOR ELECTRON TUBES.
- 3,405,400. NONDESTRUCTIVE READOUT MEMORY.

General Electric Company is prepared to grant non-exclusive licenses under the following 34 patents upon reasonable terms to domestic manufacturers.

Applications for license under the following patent may be addressed to: Department Patent Counsel, Apollo Systems Department, General Electric Company, P.O. Box 2500, Daytona Beach, Fla., 32015.

- 3,400,337. STABILIZED VARIABLE FREQUENCY MULTIVIBRATOR.

Applications for license under the following 2 patents may be addressed to: Division Patent Counsel, Missile and Space Division, General Electric Company, P.O. Box 8555, Philadelphia, Pa., 19101.

- 3,390,492. DEEP SUBMERGENCE MODULE.

- 3,407,110. HEAT SHIELD.

Applications for license under the following 2 patents may be addressed to: Division Patent Counsel, Missile and Space Division, General Electric Company, P.O. Box 8555, M-3230, Philadelphia, Pa., 19101.

- 3,403,258. SUN POINTING ATTITUDE CONTROL SYSTEM EMPLOYING FLUID FLYWHEELS WITH NOVEL MOMENTUM UNLOADING MEANS.

- 3,399,317. MOTION DAMPER.

Applications for license under the following 5 patents may be addressed to: Patent Counsel, LSTG Division, General Electric Company, 1 River Road, Bldg. #28, Schenectady, N.Y., 10005.

- 3,329,243. TORQUE BRAKE.
- 3,333,475. SHOCKPROOF MECHANICAL OVERSPEED GOVERNOR.

- 3,342,194. EMERGENCY GOVERNOR EXERCISER SYSTEM.

- 3,380,264. TORQUE SENSITIVE DISCONNECT COUPLING.

- 3,381,190. VARIABLE CAPACITANCE FORCE MEASURING TRANSDUCER.

Applications for license under the following 6 patents may be addressed to: Division Patent Counsel, Power Transmission Division, General Electric Company, 6901 Elmwood Ave., Philadelphia, Pa., 19142.

- 3,125,733. SOUND REDUCING MEANS FOR INTERNALLY SUPPORTED TRANSFORMER.

- 3,137,832. LAMINATED MAGNETIC CORE STRUCTURE.

- 3,174,540. VAPORIZATION COOLING OF ELECTRIC APPARATUS.

- 3,261,905. STATIONARY INDUCTION APPARATUS COOLING SYSTEM.

- 3,264,589. TRANSFORMER POCKETS FOR VAPORIZED COOLING.

- 3,404,247. PRESSURE RESPONSIVE PROTECTIVE MEANS FOR VACUUM TYPE CIRCUIT INTERRUPTERS.

Applications for license under the following 18 patents may be addressed to: Patent Counsel, Industry Control Department, General Electric Company, Salem, Va., 24153.

- 2,811,617. ELECTRIC SWITCH.

- 2,814,678. SELF-PIVOTED BLADE SWITCH.

- 2,859,397. FEEDBACK TYPE CONTROL SYSTEM.

- 2,868,059. STEEL MILL OPTICAL WIDTH GAGE.

- 2,889,421. INTERLOCKING CONTROL MECHANISM.

- 2,930,940. INTERLOCKING MECHANISM FOR ENCLOSED CIRCUIT CONTROL.

- 2,930,960. FIELD CURRENT REGULATING SYSTEM.

- 2,957,141. INTERVAL STRETCHER.

- 2,960,631. PHASE SEQUENCE RESPONSIVE ELECTROMAGNETIC DEVICE.
- 2,976,479. SATURABLE AMPLIFIER CONTROL AND SENSING COMBINATIONS.
- 2,982,128. DYNAMOMETER CONTROL SYSTEM.
- 2,982,368. AUTOMATIC BATCH-WEIGHING CONTROL SYSTEM.
- 2,989,690. ELONGATION, LENGTH AND VELOCITY GAGE.
- 2,989,691. TEMPERATURE MEASURING APPARATUS.
- 2,992,699. CONTROL SYSTEM FOR ELECTROSTATIC PRECIPITATOR.
- 3,003,130. LIQUID RHEOSTAT.
- 3,018,383. ELECTRICAL MASTER SLAVE AMPLIFIER CIRCUIT EMPLOYING SILICON CONTROLLED RECTIFIERS.
- 3,031,549. ARMATURE REBOUND DAMPER MECHANISM.

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF DECEMBER 16, 1968

PATENT EXAMINING OPERATIONS AND GROUPS	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
* Denotes date of oldest application for each Operation.		
CHEMICAL EXAMINING OPERATION		
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director..... Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	8-06-66	3-04-64
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director..... Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	6-20-66	7-10-63
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Director..... Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	8-11-66	3-04-64
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—J. R. LIBERMAN, Director..... Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	*4-14-66	*7-03-63
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director..... Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	9-26-66	5-07-64
ELECTRICAL EXAMINING OPERATION		
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—W. S. COLE, Director..... Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	1-30-67	4-06-64
SECURITY, GROUP 220—S. BOYD, Director..... Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	8-18-67	6-01-65
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—M. L. LEVY, Director..... Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	*1-19-66	*11-21-62
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director..... Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	4-08-66	10-24-63
PHYSICS, GROUP 260—R. L. EVANS, Director..... Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	1-11-67	4-28-65
DESIGNS, GROUP 290—S. BOYD, Director..... Industrial Arts; Household, Personal and Fine Arts.	3-04-68	8-02-67
MECHANICAL EXAMINING OPERATION		
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director..... Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	8-17-67	1-24-66
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—N. BERGER, Director..... Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Wood-working; Tools; Cutlery; Jacks.	4-03-67	2-26-65
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director..... Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletary; Printing; Typewriters; Stationery; Information Dissemination.	*3-22-67	12-08-64
HEAT AND POWER ENGINEERING, GROUP 340—C. F. GAREAU, Director..... Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.	11-20-67	1-13-67
FIXED CONSTRUCTIONS, SUPPORTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Director..... Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures.	8-28-67	6-07-65
TEXTILES, CLEANING AND FLUID HANDLING, GROUP 360—F. H. BRONAUGH, Director..... Fluid Handling, including Valves; Conduits; Filling Receptacles; Lubrication; Joint Packing; Bathroom Fixtures; Centrifugal Separators; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes and their Manufacture; Sewing Machines; Winding and Reeling.	4-15-67	*2-21-64
Total number of pending applications (excluding Designs).....	186,959	
Total number of Design applications pending.....	2,837	

Expiration of patents: The patents within the range of numbers indicated below expire during January 1969, except those which may have expired earlier due to shortened terms under the provisions of Public Law 690, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 619, 83rd Congress, approved August 23, 1954 (68 Stat. 764), or which may have had their term curtailed by disclaimer under the provisions of 35 U.S.C. 253.

Patents..... Numbers 2,580,379 to 2,584,101, inclusive
Plant Patents..... Numbers 1,059 to 1,070, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

UNITED STATES STEEL CORPORATION

v.

VASCO METALS CORPORATION

No. 7937. Decided May 23, 1968

[55 CCPA—; 394 F.2d 1009; 157 USPQ 627]

1. MOTION FOR SUMMARY JUDGMENT.

"It is well settled that the function of summary judgment is to avoid a useless trial. It is, however, to be cautiously granted."

2. TRADEMARK—OPPOSITION—CONSENT.

"In our view the instant application presents a new issue beyond the scope of the issue resolved upon termination of the prior proceeding. The stipulation filed in the previous action was to the effect that the specific, composite, *distinctively displayed* mark now shown in Reg. No. 775,220 and reproduced above might be registered upon entry of a disclaimer which reads as set forth in the registration and as quoted above. The consent was thus specific to the registration of this particular mark. It did not include a different mark. By means of the instant application appellee seeks to establish *prima facie* exclusive rights in a different descriptive designation, not in issue in the original application. The designation now sought beyond the scope of the original application is the common shorthand designation, CVM, the abbreviation of the process, different in form, appearance and orientation from the extant registration. This, in our opinion, presents a new issue not circumscribed or foreclosed by the stipulation of the parties."

3. SAME—DISCLAIMER—No "PORTION" OF MARK DISCLAIMED.

"The registered mark must be viewed as a whole. Assuming, *arguendo*, what appears to be the fact—a fact not yet proved or decided herein because of the summary judgment—that 'consumable vacuum melted' is the descriptive name of the process by which the steels named in the application are made, appellee's trademark rights and its right to register reside entirely in the particular *design arrangement* of these three descriptive words. There is no registrable 'portion' or 'element,' only a registrable *whole* consisting of a distinctive arrangement of words and typography. There is no 'undisclaimed portion' of the mark, as the Board said. There is simply a unitary mark made of words in a special arrangement or design and a disclaimer which says, in legal effect, that since the three words incorporated in the mark are descriptive, *no claim* to any *exclusive* right to use them is to be implied from the fact of registration. That is all the disclaimer means and nothing else is to be inferred from it."

4. SAME—SAME—SAME.

"The Board seems to have overlooked the obvious fact that the three disclaimed words are *still a major portion of the registered mark* notwithstanding the disclaimer. The disclaimer does not *remove* them, leaving an undisclaimed 'portion.'"

5. SAME—SAME—SAME.

"A disclaimer does not divide or separate portions of a mark from other portions. The mark remains a unitary whole. The disclaimer of the kind here involved is merely a *legal consequences* of registration, not of parts of a mark."

6. SAME—SAME—SAME.

"The primary error of the Board was in reasoning that the typographically associated initial letters of the words, CVM, because not expressly disclaimed along with the words and also, presumably, because they were prominently displayed, were conceded by opposer to be registrable, thus resulting in an estoppel in this case. By its failure to correctly analyze *what* was registered pursuant to the stipulation and what was the only legal effect of the disclaimer, the Board created by implication a consent which the opposer never

gave. There was, however, no such consent and there is, therefore, no estoppel."

7. SAME—SAME—DISCLAIMER OF ALL COMPONENTS OF MARK.

"To the extent that the Board adopted as a premise that the initials CVM were not disclaimed, it was correct; but it erred in its conclusion that if they had been disclaimed, along with the words, 'apart from the mark as shown,' the 'entire mark' would have been disclaimed. That does not follow. The entire mark is a typographical design. That is what was registered and that is what the opposer consented should be registered. It would be just as registrable if the disclaimer had also included the initial letter combination CVM, apart from the mark. While an entire mark cannot be 'disclaimed' and also registered, it is entirely possible to disclaim all the components of such a design mark as that in the prior opposition and still have a registrable whole. See *Ex parte Pillsbury Flour Mills Co.*, 23 USPQ 168 (Comm'r. 1934). (Minit-mix, both Minit and Mix required to be disclaimed, each apart from the other.)"

APPEAL from the Patent Office. Opposition No. 44,984.

REVERSED.

Donald G. Dalton (Matthew P. McDermitt, of counsel) for appellant.

Cushman, Darby & Cushman, Edward M. Prince (George T. Mobbille, of counsel) for appellee.

Before WORLEY, Chief Judge, and Judges RICH, SMITH, ALMOND, and KIRKPATRICK¹

ALMOND, J., delivered the opinion of the court.

United States Steel Corporation (opposer below) seeks reversal of the decision of the Trademark Trial and Appeal Board² granting the motion of appellee, Vasco Metals Corporation, for summary judgment and dismissing appellant's opposition. The mark here in issue is the plain capital letters CVM. The application³ asserts use since July 31, 1964. The goods involved in the application are heat-resisting alloys, low alloy steels for bearings and springs, high-strength alloy steels, tool steels and high speed steels, stainless steels, electronic alloys; nuclear reactor materials—namely, zircaloy and zirconium alloys; investment castings, and special analysis alloy.

Appellant produces some of the steels embraced by the aforementioned CVM application and filed opposition to the registration, asserting that these letters (CVM) are an abbreviation of "consumable vacuum melt," and that the letters and the phrase are common descriptive designations for steel produced by the consumable vacuum melting process practiced by both parties as well as by other steel producers. It appears that the consumable vacuum melting process is a method of further refining high grade alloy steel by melting a cast electrode of the alloy in a vacuum, with the electrode being consumed by melting in an arc struck between it and like material in the base of the vacuum chamber.

Appellee filed answer to the notice of opposition, took a discovery deposition and then filed motion for summary judgment from which emanates the issue here presented. The motion was predicated on several grounds. The decision of the Board, however, was based solely on the ground that appellant is estopped from opposing the registra-

¹ Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

² 148 USPQ 611.

³ Serial No. 201,159, filed September 2, 1964.

tion of CVM by its prior agreement to appellee's registering the following mark:



The above mark was opposed by appellant on the same grounds as the instant application. However, the opposition was terminated and registration granted pursuant to the following stipulation of dismissal:

The proceedings in this opposition be suspended pending entry of the aforesaid disclaimer and that the opposition be dismissed upon entry thereof.

The terms of the "aforesaid disclaimer" recited in the registration read: The words "Consumable," "Vacuum," and "Melted" are disclaimed apart from the mark as shown.

Appellant asserts that it agreed to nothing beyond the matters, in manner and form above cited, and gave no other manifestation of consent or concession, and was totally unaware of appellee's intention to file application for registration of CVM, per se, which was filed on September 2, 1964 following the above registration on August 18, 1964. We find nothing of record in derogation of this assertion.

The Board, in taking the position that appellant is estopped "from now asserting that the same designation is not registrable merely because it is presented alone and not in association with other matter," reasoned as follows:

In the earlier opposition, opposer had consented to the registration of a mark which featured as its salient element the letters "CVM." Although these letters were presented as a portion of the words "Consumable Vacuum Melted," the mark was nevertheless dominated by the three letters. Furthermore, in stipulating that the mark could be registered upon entry of applicant's disclaimer of the words "Consumable Vacuum Melted" apart from the mark as shown, opposer in effect conceded that the undisclaimed portion of the mark, the designation "CVM," dominated the mark and was the only registrable element thereof. . . .

The Board adhered to its decision on reconsideration, holding that the disclaimer "applied only to the word 'Consumable Vacuum Melted' and did not include the distinctively displayed letters 'CVM,'" reasoning that while part of a mark may be disclaimed, "an entire mark cannot be disclaimed and yet be registered." (Citations omitted.)

In our opinion the facts disclosed by this record do not warrant the application of summary judgment predicated on the principle of estoppel. [1] It is well settled that the function of summary judgment is to avoid a useless trial. It is, however, to be cautiously granted. As stated in 6 Moore's Federal Practice § 56.15[3] (2d ed. 1966):

The courts are in entire agreement that the moving party for summary judgment has the burden of showing the absence of any genuine issue as to all the material facts, which, under applicable principles of substantive law, entitle him to judgment as a matter of law.

The record discloses that appellant is a practitioner of consumable vacuum melting and produces some of the products set forth in appellee's application. Appellant asserts that its sole objective in the prior opposition, as well as in the instant one, is to preserve its right to use descriptive words and abbreviations in their primary descriptive sense when offering and selling its product. As a result of the

⁴ Reg. No. 775,220, Serial No. 123,712 issued August 18, 1964.

agreement of dismissal and entry of the disclaimer, it appears that appellant achieved this objective as to "consumable vacuum melted."

[2] In our view the instant application presents a new issue beyond the scope of the issue resolved upon termination of the prior proceeding. The stipulation filed in the previous action was to the effect that the specific, composite, *distinctively displayed* mark now shown in Reg. No. 775,220 and reproduced above might be registered upon entry of a disclaimer which reads as set forth in the registration and as quoted above. The consent was thus specific to the registration of this particular mark. It did not include a different mark. By means of the instant application appellee seeks to establish prima facie exclusive rights in a different descriptive designation, not in issue in the original application. The designation now sought beyond the scope of the original application is the common short-hand designation, CVM, the abbreviation of the process, different in form, appearance and orientation from the extant registration. This, in our opinion, presents a new issue not circumscribed or foreclosed by the stipulation of the parties.

[3] The registered mark must be viewed as a whole. Assuming, arguendo, what appears to be the fact—a fact not yet proved or decided herein because of the summary judgment—that "consumable vacuum melted" is the descriptive name of the process by which the steels named in the application are made, appellee's trademark rights and its right to register reside entirely in the particular *design arrangement* of these three descriptive words. There is no registrable "portion" or "element," only a registrable *whole* consisting of a distinctive arrangement of words and typography. There is no "undisclaimed portion" of the mark, as the Board said. There is simply a unitary mark made of words in a special arrangement or design and a disclaimer which says, in legal effect, that since the three words incorporated in the mark are descriptive, *no claim* to any *exclusive* right to use *them* is to be implied from the fact of registration. That is all the disclaimer means and nothing else is to be inferred from it.⁵

We think apposite here the principle stated in *In re Hercules Fasteners, Inc.*, 40 CCPA 944, 203 F.2d 753, 97 USPQ 355, where the court said:

The purpose of a disclaimer is to show that the applicant is not making claim to the exclusive appropriation of such matter except in the precise relation and association in which it appeared in the drawing and description. * * *

[5] A disclaimer does not divide or separate portions of a mark from other portions. The mark remains a unitary whole. The disclaimer of the kind here involved is merely of *legal consequences* of registration, not of parts of a mark.

[6] The primary error of the Board was in reasoning that the typographically associated initial letters of the words, CVM, because not expressly disclaimed along with the words and also, presumably, because they were prominently displayed, were conceded by opposer to be registrable, thus resulting in an estoppel in this case. By its failure to correctly analyze *what* was registered pursuant to the stipulation and what was the only legal effect of the disclaimer, the Board

[4] The Board seems to have overlooked the obvious fact that the three disclaimed words are still a major portion of the registered mark notwithstanding the disclaimer. The disclaimer does not remove them, leaving an undisclaimed "portion." If one followed the reasoning of the Board on the petition for reconsideration—where the effort was made to find disclaimed and undisclaimed "portions" of the mark—one would have to conclude that, since the initial letters are part of the words disclaimed, they were of necessity disclaimed along with the words and therefore the entire mark was disclaimed, which is an impossibility, as the Board concluded.

created by implication a consent which the opposer never gave. There was, however, no such consent and there is, therefore, no estoppel.

[7] To the extent that the Board adopted as a premise that the initials CVM were *not* disclaimed, it was correct; but it erred in its conclusion that *if* they had been disclaimed, along with the words, "apart from the mark as shown," the "entire mark" would have been disclaimed. That does not follow. The entire mark is a typographical design. That is what was registered and that is what the opposer consented should be registered. It would be just as registrable if the disclaimer had also included the initial letter combination CVM, apart from the mark. While an entire *mark* cannot be "disclaimed" and also registered, it is entirely possible to disclaim all the *components* of such a design mark as that in the prior opposition and still have a registrable whole. See *Ex parte Pillsbury Flour Mills Co.*, 23 USPQ 168 (Comm'r. 1934). (Minitmix, both Minit and Mix required to be disclaimed, each apart from the other.)

We are unable to subscribe to the conclusion of the Board that the letters "CVM," per se, constitute an undisclaimed portion of the prior mark and that appellant is precluded by estoppel on the basis that it consented to their subsequent separate registration.

We think it obvious that an unqualified claim of the right to register the initials CVM here asserted presents a new and different issue, neither contemplated in the prior proceeding nor foreclosed by final adjudication by reason of the stipulation of dismissal.

We agree with the Board that:

In order that a prior proceeding may act as a bar or estoppel against the prosecution of a second action involving the same parties, it must be made to appear that the two proceedings involve identical questions of fact and law.

We disagree with the Board's holding that we have here "identical questions of fact and law."

The decision of the Board granting appellee's motion for summary judgment and dismissing the opposition is accordingly reversed.

REVERSED.

KIRKPATRICK, J., took no part in the decision of this case.

SMITH, J., concurring.

I concur in the result reached by the majority for the reasons set forth in *Old Grantian Co., Ltd. v. William Grant & Sons, Ltd.*, 53 CCPA 1257, 361 F.2d 1018, 150 USPQ 58 (1966).

U.S. Court of Customs and Patent Appeals

IN RE HOWARD G. ROGERS

No. 7909. Decided May 16, 1968

[55 CCPA—; 394 F.2d 566; 157 USPQ 569]

1. PATENTABILITY—DOUBLE PATENTING—DIFFERENT INVENTORS—CHANGE IN PRACTICE—COMMISSIONER'S NOTICE OF JANUARY 31, 1967.

"* * * appellant contends that the Examiner's double patenting rejection under 35 U.S.C. 101 as applied to commonly owned applications of different inventors 'is inconsistent with' the position expressed by the Commissioner in his notice of January 31, 1967, appearing at 834 O.G. 1615, and is, without more, 'clear grounds for reversal.' That notice, promulgated about a year after the Board decision in the present appeal, reads in pertinent part: '* * * The term "double patenting" is properly applicable only to cases involving two or more applications and/or patents of the same inventive entity and *should not*

be applied to situations involving commonly owned cases of different inventive entities.' * * * It may well be that the Examiner's position is inconsistent with the above quoted portion of the Commissioner's notice. The Examiner's position, however, is not inconsistent with many prior decisions of this court, * * *."

2. SAME—SAME—DIFFERENT INVENTIONS.

"* * * Insofar as Rogers' claimed invention is concerned, the location of the ultraviolet light absorber in a layer over the image-receiving layer, its non-diffusible nature and its presence in an alkali-insoluble, film-forming polymer are the important considerations. Claims 1 and 2 demonstrate no particular concern with the specific compounds utilized. Indeed, we note that Rogers makes no mention in his specification of the use of pyrogallol or its derivatives as ultraviolet light absorbers. Under the circumstances, it is difficult, if not impossible, to say that Rogers claims the identical invention disclosed and claimed by Haas when Rogers himself does not even disclose the subject matter of the Haas specification and claims. In our view, this is not a case in which the respective sets of claims recite the same physical structure or steps in language of de minimis difference in scope. Cf. *In re Griswold*, 53 CCPA 1565, 365 F.2d 834, 150 USPQ 804 (1966); *In re Knoch*, 55 CCPA —, — F.2d —, 155 USPQ 586 (1967)."

3. SAME—SAME—OBVIOUSNESS—TYPE—NOT BASED ON 35 U.S.C. 101.

"It seems to us that appellant, and the Examiner as well, are mistaken in thinking that 'obviousness-type double patenting' rejections arise under the statutory aegis of 35 U.S.C. 101. It is not so much statutory authority as case law development which forms the cornerstone of that segment of the law of double patenting. See *In re Zickendraht*, 50 CCPA 1529, 1536, 319 F.2d 225, 231, 138 USPQ 22, 27 (1963)."

4. SAME—SAME—SAME—PATENT ACT OF 1952.

Appellant regards *In re Simmons*, 50 CCPA 990, 312 F.2d 821, 136 USPQ 450 (1963); *In re Kiekhäfer*, 49 CCPA 943, 299 F.2d 806, 132 USPQ 636 (1962); and *In re Eckel*, 50 CCPA 1248, 317 F.2d 401, 138 USPQ 563 (1963) as exemplary of cases in which the actual state of the prior art in addition to the particular patent claims has been considered in determining the existence or non-existence of double patenting. We might add *In re Ockert*, 44 CCPA 1024, 245 F.2d 467, 114 USPQ 330 (1957); *In re Keim*, 43 CCPA 784, 229 F.2d 466, 108 USPQ 330 (1956); *In re Hadsel*, 36 CCPA 1075, 173 F.2d 1010, 81 USPQ 376 (1949); *In re Barge*, 25 CCPA 1058, 96 F.2d 314, 37 USPQ 546 (1938); and *In re Byck*, 18 CCPA 1208, 48 F.2d 665, 9 USPQ 205 (1931) as illustrative that the principle of "obviousness-type double patenting" rejections is hardly "recent," though in our more recent opinions our terminology has been made more explicit than in some of those early cases, many of which antedate the Patent Act of 1952.

5. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—MATTER BEFORE COURT—TERMINAL DISCLAIMER.

"* * * appellant and his assignee filed a terminal disclaimer in the Patent Office the day before he filed his Notice of Appeal to this court. Since that document was neither timely filed nor considered below, we will not consider it here. 35 U.S.C. 144; *In re Heyl*, 54 CCPA 1608, 379 F.2d 1018, 154 USPQ 178 (1967)."

APPEAL from the Patent Office. Serial No. 354,963.

AFFIRMED.

Stanley H. Mervis, Donald L. Brown (Alvin Isaac, of counsel) for appellant.

Joseph Schimmel (Fred W. Sherling, of counsel) for the Commissioner of Patents.

Before WORLEY, Chief Judge, and Judges RICH, SMITH, ALMOND, and KIRKPATRICK.¹

WORLEY, Chief Judge, delivered the opinion of the court.

¹ Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

This appeal is from the decision of the Board of Appeals affirming the Examiner's rejection of claims 1, 2, 4 and 5 in appellant's application² as "unpatentable over the claims of Haas⁽³⁾ in view of Sawdey, Van Allan et al. or Tulagin et al."

The invention relates to an improvement in a process of forming a dye image in an image-receiving layer by diffusion transfer techniques.⁴ According to the specification, the color fastness of such dye images upon exposure to sunlight "left something to be desired." To solve that problem appellant found that:

* * * prior to processing, an ultraviolet light absorber may be incorporated in a layer over the dyeable stratum of an image-receiving element and, during processing, that a substantial portion of the transferred color-providing substances may be caused to permeate through such a layer to the underlying dyeable stratum to form a color image which is protected from the deleterious effects of sunlight by the ultraviolet light absorber in the overlying layer. [Emphasis supplied.]

The improvement is reflected in claim 1:

1. In a process of forming a photographic image in color wherein an exposed silver halide emulsion is developed in the presence of at least one dye developer to provide an imagewise distribution of mobile dye developer, said dye developer being a compound which is both a dye and silver halide developing agent, and said imagewise distribution of mobile dye developer is transferred to a superposed image-receiving stratum to produce a transfer image thereon, the improvement wherein said transfer is effected to an image-receiving element having an ultraviolet light absorber in an alkali-permeable polymeric stratum over the dyeable image-receiving stratum and transferring a substantial portion of the said mobile dye developer through said polymeric stratum to said dyeable image-receiving stratum, said polymeric stratum having less affinity for the said dye developer than the image-receiving stratum, said polymeric stratum comprising an alkali-insoluble polymer and said ultraviolet light absorber being nondiffusible. [Emphasis supplied.]

Claim 4 recites that a non-diffusible thiazolidine compound is employed as the ultraviolet light absorber, while claim 5 calls for the use of a polymeric ultraviolet light absorber.

The Haas patent also discloses and claims an improvement in the process of forming a dye image by diffusion transfer. Claim 1 of that patent, relied on by the Board in support of the double patenting rejection, has a format similar to that of appellant's claim 1, with the improvement recited in the following language:

* * * the improvement which comprises increasing the stability of said positive dye image by contacting said positive dye image with a compound selected from the group consisting of pyrogallol, gallic acid and esters of gallic acid. [Emphasis supplied.]

The Board agreed with the Examiner that the present claims do not define a separately patentable invention from that claimed by Haas. Like the Examiner, the Board thought it proper to look to the disclosure of Haas "to determine the scope of broad terms" employed in the Haas claims. It found that the step of "contacting said positive dye image with a compound" recited in claim 1 of Haas "is clearly intended to cover" not only the incorporation of the ultraviolet light absorber in the image-receiving layer itself, but also its use in an overlying layer. It also found the claims of the patent "include the

² Serial No. 354,963, filed March 26, 1964 as a continuation of Serial No. 786,766, filed January 14, 1959.

³ U.S. Patent 3,069,262, issued December 18, 1962, on an application filed March 27, 1958. Both the Haas patent and the present Rogers application are assigned to Polaroid Corporation. The record shows that Rogers filed an affidavit under Patent Office Rule 131 satisfactorily establishing that he reduced to practice the invention of his claims prior to the filing date of the Haas patent, thus effectively removing the Haas patent as evidence of prior art under 35 U.S.C. 102 and 103.

⁴ The general process is more fully described in this court's opinion in *In re Land*, 54 CCPA 806, 368 F.2d 866, 151 USPQ 621 (1966).

non-diffusible as well as diffusible stabilizers," and concluded that: "The differences between claims 1 and 2 herein and the patent claims are thus only in scope."

It is evident from the above discussion, as well as the Examiner's reliance on 35 U.S.C. 101,⁵ that, as to claims 1 and 2, both the Examiner and Board regarded appellant to be claiming the same invention as previously claimed by Haas. Although it is not entirely clear from the opinion of the Board precisely what reasoning it employed in determining that Haas and Rogers are claiming the same invention, we can infer the Examiner's reasoning in interpreting the Haas claims from the direct references to portions of the Haas disclosure⁶ appearing in his answer. The Examiner observed that Haas discloses stabilizing the dye image from sunlight by treating it, *after* its formation by diffusion transfer, with a solution comprising the pyrogallol derivative stabilizing agent and a film-forming polymer, thus forming a layer over the dye image which contains all or at least part of the total amount of stabilizer applied. That process *per se*, of course, has little relation to what is being claimed here. Or, the Examiner noted, Haas may incorporate the stabilizer as part of his image receiving element *prior* to the transfer process by either (1) mixing the stabilizer with the dyeable material employed as an image receiving layer prior to coating it on its support, or (2) applying the stabilizer "as above, by permeation." Relying on the latter disclosure, the Examiner evidently concluded that Haas contemplated applying

[1]⁵ As a preliminary matter, appellant contends that the Examiner's double patenting rejection under 35 U.S.C. 101 as applied to commonly owned applications of different inventors "is inconsistent with" the position expressed by the Commissioner in his notice of January 31, 1967, appearing at 834 O.G. 1615, and is, without more "clear grounds for reversal." That notice, promulgated about a year after the Board decision in the present appeal, reads in pertinent part:

"* * * The term 'double patenting' is properly applicable only to cases involving two or more applications and/or patents of the same inventive entity and should not be applied to situations involving commonly owned cases of different inventive entities. * * *

In situations involving cases filed by different inventive entities, regardless of ownership, sections 102 and 103 of 35 U.S.C. preclude the granting of two or more patents when directed to identical inventive concepts or when one of the concepts would be obvious in view of the other. A terminal disclaimer can have no effect in this situation since the basis for refusing more than one patent is not connected with any extension of monopoly. [Emphasis supplied.]

It may well be that the Examiner's position is inconsistent with the above quoted portion of the Commissioner's notice. The Examiner's position, however, is not inconsistent with many prior decisions of this court. See, for example, *In re Cole*, 54 CCPA 1107, 373 F.2d 532, 152 USPQ 807 (1967); *In re Keim*, 43 CCPA 784, 229 F.2d 466, 108 USPQ 330 (1956); *In re Stanley*, 41 CCPA 056, 214 F.2d 151, 102 USPQ 234 (1954); *In re Borchardt*, 39 CCPA 1045, 107 F.2d 550, 94 USPQ 175 (1952).

⁶ Haas discloses in pertinent part:

"The color fastness of the colored photographic images, produced in such processes, upon prolonged exposure to sunlight often leaves something to be desired. I have discovered that by using a compound selected from the group consisting of pyrogallol, gallic acid and esters of gallic acid (i.e., esters wherein the acid group of the gallic acid is esterified with an alcohol) to protect the image, the color stability of the images in sunlight is appreciably enhanced.

One method of using the above-named stabilizers is to treat the *finished* colored image with a solution comprising the stabilizer to be used. The solution may conveniently be applied to the colored image by immersion, swabbing, coating, spraying, flowing, etc. In an especially useful embodiment, the solution may also comprise a film-forming polymer, such as gelatin, which will serve as a protective surface coating for the image. In addition, the solution may comprise other stabilizing agents such, for example, as ultraviolet absorbers, etc. Depending upon the solvents present in the solution containing the stabilizer, and upon whether a film-forming polymer is included, the stabilizer may be present in a layer over the image-receiving layer or it may, at least in part, permeate into the image-receiving layer.

Another mode of carrying out the processes of this invention is to incorporate the stabilizers herein disclosed into the image-receiving element prior to its use in the dye developer transfer processes. The image-receiving element, into which the stabilizer is incorporated, generally comprises a sheet of dye-receptive material and, in preferred embodiments, comprises a support bearing a coating of a dyeable material. The stabilizer may be incorporated by adding it to the coating solution of dyeable material and applying it therewith, or it may be applied, as above by permeation. * * *

"* * * when it is desirable to prevent the stabilizer from migrating, the R group (of the alcohol ROH utilized to form the ester of gallic acid) may be a higher alkyl. * * * As examples of esters of gallic acid which are useful in carrying out the processes of this invention, mention may be made of ethyl gallate, lauryl gallate, and benzyl gallate. * * *

While it is not known for certain how the stabilizers of this invention function, it is believed that they process the ability to function both as antioxidants and as ultraviolet light absorbers. * * * [Emphasis supplied.]

to the dyeable image-receiving layer, *prior* to transfer, a solution comprising the stabilizer (for example, a non-diffusible gallic acid ester such as lauryl gallate) and a film-forming polymer, thus forming a polymeric layer over the image-receiving layer which contains at least some stabilizer and which is later permeated by the dye material during the transfer process.

While agreeing that it was appropriate for the Examiner and Board to look to Haas' disclosure to facilitate a determination of the meaning of the words employed in the patent claims,⁷ particularly the meaning of the word "contacting," appellant urges that the Patent Office has misinterpreted the Haas patent. He contends that the Haas specification, properly construed, discloses the placement of the stabilizer only *in* the image-receiving layer prior to transfer, and not in a layer *over* the image-receiving layer.

We need not decide that question, for in our view there are other considerations which convince us that Haas and Rogers are not claiming the same invention. We are presented with a situation in which two inventors have each made an improvement in a basic process. Insofar as Haas' *claimed* invention is concerned, the important consideration is the specific compounds employed as ultraviolet light absorbers. Claim 1, relied on by the Board, evinces no concern where those compounds are located, whether they are diffusible or non-diffusible, or whether they are associated with a film-forming polymer.

[2] On the other hand, insofar as Rogers' *claimed* invention is concerned, the *location* of the ultraviolet light absorber in a layer *over* the image-receiving layer, its *non-diffusible* nature and its presence in an *alkali-insoluble, film-forming polymer* are the important considerations. Claims 1 and 2 demonstrate no particular concern with the specific compounds utilized. Indeed, we note that Rogers makes no mention in his specification of the use of pyrogallol or its derivatives as ultraviolet light absorbers. Under the circumstances, it is difficult, if not impossible, to say that Rogers *claims* the identical invention disclosed and claimed by Haas when Rogers himself does not even *disclose* the subject matter of the Haas specification and claims. In our view, this is not a case in which the respective sets of claims recite the same physical structure or steps in language of *de minimis* difference in scope. Cf. *In re Griswold*, 53 CCPA 1565, 365 F.2d 834, 150 USPQ 804 (1966); *In re Knohl*, 55 CCPA —, — F.2d —, 155 USPQ 586 (1967).

The Board also affirmed the Examiner's rejection of claims 4 and 5 as not reciting, in the Board's words, "a patentably different invention from that claimed in Haas," in view of Sawdey, Van Allan or Tulagin. That rejection, which the parties appear to agree is what has become known as "double patenting of the obvious type" in nature, would necessarily appear to apply to broader claims 1 and 2 as well, claims 4 and 5 being dependent upon claim 2. Said the Examiner:

With regard to the various secondary references, it is admitted that none of Sawdey, Van Allan et al. or Tulagin et al. deal with diffusion transfer process employing dye developers. They have been retained to show the problem of dye stability in photography is well known and that this problem is solved by placing ultraviolet absorbers contained in alkali-permeable, alkali-insoluble polymer layers over or within the layer in which the dye image is formed. They have also been retained to show the particular ultraviolet absorbers set forth in the instant claims 4 and 5.

Note is taken that applicant's only exemplified ultraviolet absorbers are those

⁷ See *In re Baird*, 52 CCPA 1747, 348 F.2d 974, 146 USPQ 579 (1965); *In re Dinicidie*, 52 CCPA 1693, 347 F.2d 1016, 146 USPQ 497 (1965).

of Sawdey. This reference makes use of the alkali-permeable, alkali-insoluble polymer properties by applying an alkaline developer solution to the element and allowing the developer to diffuse through the ultraviolet layer to the underlying layer to couple with a color former to form a dye image, thereby retaining the u-v absorber layer over the dye image layer. * * * it is not deemed unobvious to adapt the idea of Sawdey, Tulagin et al. or Van Allan et al. for use in the claimed process of Haas.

As pointed out by the Solicitor, appellant does not appear to argue that the appealed claims would not be an obvious modification in the double patenting sense of the invention claimed in the Haas patent in view of the disclosures of the prior art. Indeed, appellant's brief contents itself with no more than passing mention of the Sawdey, Van Allan and Tulagin patents.

Rather, what argument appellant does present amounts to a challenge to the legal foundation of "obviousness-type double patenting" rejections. He contends:

The Examiner admits that none of the secondary references relied upon deal with diffusion transfer processes employing dye developers. Yet, these references are employed in combination with Haas as showing that it would be "obvious" to modify the claimed invention of Haas in the manner claimed by appellant.

Appellant is gravely concerned with this reasoning as applied to double patenting situations and sincerely believes that it is erroneous and contrary to the spirit of the patent system to deny an application on the grounds of double patenting under 35 U.S.C. 101 [1] under the rationale that it is "obvious" to modify the patented invention, that is, to change the claimed inventive concept to an entirely different invention, to wit, the invention claimed by appellant.

This type of thinking has no place under 35 U.S.C. 101 and this "obviousness" test should be left to matters arising under 35 U.S.C. 103.

Appellant wishes to point out by reference to the case at bar a distressing dilemma confronting corporate practitioners which, if one follows the position taken by the Patent Office, gives rise to clearly inequitable results.

Inventions like the ones defined in the Haas patent and the involved application are not made in a vacuum. They are made in an effort to further the goals of the corporate assignee and there is a considerable exchange of information between the concerned persons. * * * Haas arrived at one solution [to the problem of light stability of dye images] which resulted in the cited patent. Rogers was not a co-inventor of this concept, but independently arrived at a separate solution. Haas never envisioned the Rogers invention and cannot be said to be a party thereto. It is a fair statement to say that, *absent any prior art*, the corporate assignee, the real party in interest, should be entitled to patent protection on both inventions. * * * Because of the different inventive entities, appellant was compelled as a matter of law to claim his invention in an application separate from that of Haas. Having done what he believes he was compelled to do, appellant finds himself in a box from which, following the rationale of the Patent Office, there can be no escape unless this Court expressly rules that this rationale deprives the corporate assignee, the real party in interest, of the patent protection to which it is entitled * * *.

Appellant asks us to "modify or distinguish" our "recent line of decisions" to the extent necessary to conform them to the substance of the views he expresses.

[3] * It seems to us that appellant, and the Examiner as well, are mistaken in thinking that "obviousness-type double patenting" rejections arise under the statutory aegis of 35 U.S.C. 101. It is not so much statutory authority as case law development which forms the cornerstone of that segment of the law of double patenting. See *In re Zickendraht*, 50 CCPA 1529, 1536, 319 F.2d 225, 231, 138 USPQ 22, 27 (1963).

[4] * Appellant regards *In re Simmons*, 50 CCPA 990, 312 F.2d 821, 138 USPQ 450 (1963); *In re Klechaefer*, 49 CCPA 943, 299 F.2d 866, 132 USPQ 636 (1962); and *In re Eckel*, 50 CCPA 1248, 317 F.2d 401, 138 USPQ 563 (1963) as exemplary of cases in which the actual state of the prior art in addition to the particular patent claims has been considered in determining the existence or non-existence of double patenting. We might add *In re Ockert*, 44 CCPA 1024, 245 F.2d 467, 114 USPQ 330 (1957); *In re Kelm*, 43 CCPA 784, 229 F.2d 466, 108 USPQ 330 (1956); *In re Hadel*, 36 CCPA 1075, 173 F.2d 1010, 81 USPQ 376 (1949); *In re Borge*, 25 CCPA 1058, 96 F.2d 314, 37 USPQ 546 (1938); and *In re Byck*, 18 CCPA 1208, 48 F.2d 685, 9 USPQ 205 (1931) as illustrative that the principle of "obviousness-type double patenting" rejections is hardly "recent," though in our more recent opinions our terminology has been made more explicit than in some of those early cases, many of which antedate the Patent Act of 1952.

We stated the rationale behind this particular type of double patenting rejection in *In re Robeson*, 51 CCPA 1271, 331 F.2d 610, 141 USPQ 485 (1964):

Where, as here, the claimed subject matter is an obvious modification of what has already been claimed, a second patent is contrary to one of the fundamental principles underlying the patent system, namely, that when the right to exclude granted by a patent expires at the end of the patent term, the public shall be free to use the invention as well as obvious modifications thereof or obvious improvements thereon. Thus, to grant a second patent for an obvious variation deprives the public of those rights. If, however, the second patent expires simultaneously with the first, the right to fully utilize the patented discovery at the expiration date remains unimpaired * * *.

Appellant's arguments do not convince us that that policy is unsound or in need of modification when applied to the facts here. By the same token, those arguments do not provide us with grounds to distinguish our earlier decisions in principle from the present situation. Nor would it appear appellant and his assignee are in as much of a "box" as he envisions. See *In re Borg*, 55 CCPA —, — F.2d —, 157 USPQ — (1968); *In re Bowers*, 53 CCPA 1590, 359 F.2d 886, 149 USPQ 570 (1966); *Ex parte Deering*, 157 USPQ 164 (Pat. Off. Bd. App. 1968).

[5] In that regard, appellant and his assignee filed a terminal disclaimer in the Patent Office the day before he filed his Notice of Appeal to this court. Since that document was neither timely filed nor considered below, we will not consider it here. 35 U.S.C. 144; *In re Heyl*, 54 CCPA 1608, 379 F.2d 1018, 154 USPQ 178 (1967).

The decision is affirmed.

AFFIRMED.

SMITH, J., concurs in the result.

KIRKPATRICK, J., took no part in the decision of this case.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,450,152, H. B. Miller, FRUIT PICKER'S CRANE, filed Sept. 19, 1957, D.C. Ind. (Fort Wayne), Doc. 1017, Food Machinery and Chemical Corporation and Howard B. Miller v. Mobile Aerial Towers, Inc. Final judgment, claims 2, 4, and 5 of patent valid and infringed by the defendant, Aug. 9, 1968.

2,628,576, J. S. Finke, ICE-CREAM CONE ROLLING MACHINE, filed June 28, 1968, D.C., N.D. Ill. (Chicago), Doc. 68c1215, Jacob S. Finke v. Keebler Company.

2,637,893, G. Shaw, ARTIFICIAL FILAMENT, filed Mar. 23, 1965, D.C. Vt. (Burlington), Doc. 4223, Gilbert Shaw v. E. B. & A. C. Whiting Company. Consent judgment, plaintiffs' complaint and amended complaint dismissed with prejudice. The claim in patent invalid; defendant has not infringed, June 21, 1968.

2,800,104, Cameron and Hopkins, Jr., RADIO CONTROLLED ELECTRIC CUTANEOUS SIGNAL TYPE ANIMAL OBEDIENCE DEVICE, filed Aug. 16, 1968, D.C., S.D. Tex. (Houston), Doc. CA-68-H-712, Robert C. Cameron v. Thomas Dass.

2,905,445, L. Blum, ORNAMENTAL RAIL STRUCTURES, filed Aug. 7, 1968, D.C. Kans. (Wichita), Doc. W-4037, Blumcraft of Pittsburgh et al. v. Architectural Art Mfg., Inc. and Wenzel W. Thom.

2,987,440, Junkman, Kathol and Richter, INJECTABLE HORMONE PREPARATIONS, filed June 4, 1968, D.C., N.D. Ill. (Chicago), Doc. 68c1020, E. R. Squibb & Sons, Inc. v. Malzel Laboratories, Inc. Consent judgment, defendant has infringed; defendant enjoined, Aug. 12, 1968.

3,026,686. (See 3,327,494.)

3,034,310. (See 3,327,494.)

3,056,066, J. J. Dozier, IGNITION SYSTEM FOR INTERNAL COMBUSTION ENGINES, filed Apr. 2, 1968, D.C., District of Columbia (Washington), Doc. 814-68, Tri State Maintenance Corporation v. Washington Marina Company.

3,146,610. (See 3,327,494.)

3,155,065, L. Strumskis, SHIP STABILIZER, filed Aug. 14, 1968, Ct. of Cl., Doc. 232-68, Louis Strumskis v. United States Coast Guard.

3,161,223, W. G. Marsh, SHEET METAL BRAKE, filed Aug. 16, 1968, D.C., E.D. Mich. (Detroit), Doc. 31627, Tapco Products Company, Inc. v. Van Mark Products Corporation and Eugene Van Cleave.

3,166,112, M. Fisher, TOILET TANK COVER SET, filed Aug. 12, 1968, D.C., S.D.N.Y., Doc. 68-C-3249, Perfect Mfg., Inc. v. Olen Mfg., Inc.

3,246,270. (See D. 204,174.)

3,250,571, R. Richter, NONFERROUS WHEEL HAVING STEEL INSERTS AND STEEL RIM WELDED THERETO; 3,250,572, J. A. Walker, same, filed June 4, 1968, D.C., C.D. Calif. (Los Angeles), Doc. 68-930-FW, Roy Richter, Inc., doing business as Cragar Industries v. Electro Chemical, Inc. et al.

3,250,572. (See 3,250,571.)

3,277,881, A. G. Bruns, COMBINED TABLE FOR COOKING AND EATING, filed June 11, 1968, D.C., N.D. Ill. (Chicago), Doc. 68c1066, Arthur G. Bruns v. Benihana Chicago Corporation. Same, filed July 26, 1968, D.C., C.D. Calif. (Los Angeles), Doc. 68-1228-IH, Arthur G. Bruns v. Yamato, Inc. et al.

3,322,127, C. M. Sachs, ANTI-CREEP BRASSIERE, filed May 28, 1968, D.C., S.D.N.Y., Doc. 68-C-2189; *William Gluckin & Co., Inc. v. International Playtex Corp.*

3,327,494, P. D. Campbell, EVAPORATOR FOR ICE MACHINES; 3,026,686, C. E. Lowe, ICE MAKING REFRIGERATION APPARATUS AND THE LIKE; 3,034,310, same, HEAT PUMP TYPE ICE-MAKING MACHINE; 3,146,610, same, ICE MAKING REFRIGERATION APPARATUS AND THE LIKE, filed Aug. 7, 1968, D.C., E.D. Tex. (Sberman), Doc. 1823, *Hardwicke-Etter Company v. Paul D. Campbell et al.*

3,350,813, A. Isaacson, ELECTRICALLY POWERED WHEELED TOY VEHICLE, filed July 15, 1968, D.C., S.D.N.Y., Doc. 68-C-2896, *Idea Toy Corporation v. De Luze Topper Corporation.*

3,363,800, R. F. Carella, ARCHERY BOW SIGHT ASSEMBLY, filed Aug. 5, 1968, D.C., E.D. Mich. (Detroit), Doc. 31581, *David J. Perkins v. Richard F. Carella.*

3,377,730, K. R. Lewis, BOLT MECHANISM FOR BOLT ACTION TYPE FIREARM AND MECHANISM USED THEREIN FOR CONVERTING ROTARY MOTION TO RECIPROCATING AND ROTARY MOTION, filed Aug. 5, 1968, D.C. Conn. (New Haven), Doc. 12694, *Braening Industries, Inc. v. Karl R. Lewis.*

Re. 25,768, Marous and McCleary, POLYMERIZATION CATALYST FOR VINYL CHLORIDE, filed Jan. 15, 1968, D.C., N.D. Fla. (Tallahassee), Doc. 1905, *Uniroyal, Inc. v.*

Esambia Chemical Corporation. Consent judgment, claims of patent valid; counterclaims dismissed with prejudice, Aug. 16, 1968.

Re. 26,373, H. Hopkes, Jr., SINUOUS SPRING STRIP, filed Aug. 19, 1968, D.C., M.D.N.C. (Greensboro), Doc. C-144-G-68, *National Springs Corp. et al. v. No-Sag Spring Co., and Lear-Siegler, Inc.*

D. 180,180, R. Erenhouse, BOBBY PIN, filed June 29, 1966, D.C., S.D.N.Y., Doc. 66-C-1911, *Rudolph Erenhouse, doing business as Cosmos Products Company v. The Bassar Corp.* Consent judgment, plaintiff owner of said patent, July 29, 1968.

D. 191,144, G. Shaoz, COMBINATION STORING AND STACKING CASE, filed Aug. 30, 1967, D.C., E.D.N.Y. (Brooklyn), Doc. 67C-847, *G. B. Lewis Company v. Gould Products, Inc. et al.*

D. 200,160. (See D. 206,486.)

D. 204,175, B. Zuckerman, GARMENT HANGER; 3,240,270, same, GARMENT SUPPORT MEANS, filed Aug. 12, 1968, D.C., S.D. Fla. (Miami), Doc. 68-957C-JE, *Mr. Hanger, Inc. v. Apparel Plastics, Inc.*

D. 206,486, W. D. Storm, FISHING LURE; D. 200,160, G. D. Pionell, FISHING LURE, filed Aug. 2, 1968, D.C., W.D. Okla. (Oklahoma City), Doc. 68-309, *Storm Manufacturing Company v. Looboye, Inc.*

REISSUES

JANUARY 14, 1969

Matter enclosed in heavy brackets [] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

26,515

DIAPER WITH HYDROPHOBIC YARNS

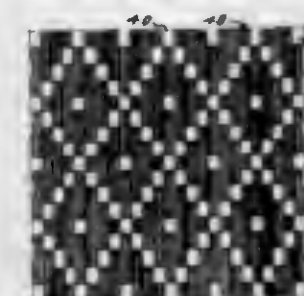
Walter T. Holliday, Gaffney, Thomas R. Lynch, Ware Shoals, and Wesley K. Foosbe, Jr., Greenwood, S.C., assignors to Riegel Textile Corporation, a corporation of Delaware

Original No. 3,113,570, dated Dec. 10, 1963, Ser. No. 252,505, Jan. 18, 1963. Application for reissue Feb. 27, 1964, Ser. No. 354,492

U.S. Cl. 128—284

Int. Cl. A61f 13/00; A61i 15/00

6 Claims



1. A woven diaper adapted to be folded to form a front portion, rear portion, crotch portion, and leg apertures when placed in position on the wearer, said diaper comprising a single layer having hydrophobic yarns and hydrophilic yarns woven together, the hydrophobic yarns being predominantly on one side and the hydrophilic yarns being predominantly on the other side and adapted when folded and worn to have the side containing predominantly hydrophobic yarns in contact with the skin of the wearer to draw moisture away from the skin and the other side of said layer containing predominantly hydrophilic yarns being adapted to hold the moisture away from the skin of the wearer.

26,516

ELECTRONIC CONTROLLER

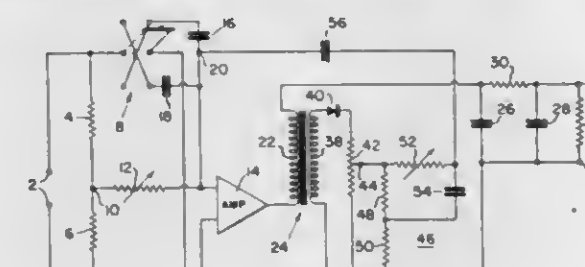
William F. Newbold, Springfield Township, Pa., assignor to Honeywell Inc., a corporation of Delaware

Original No. 3,081,425, dated Mar. 12, 1963, Ser. No. 836,716, Aug. 28, 1959. Application for reissue Nov. 1, 1967, Ser. No. 689,742

U.S. Cl. 323—22

Int. Cl. G05f 1/00; G05f 1/40; H03b 3/04

16 Claims



An electronic controller having an amplifier with an

858 O.G.—13

26,517

PROCESS FOR POLYMERIZING CERTAIN UNSATURATED HYDROCARBONS IN THE VAPOR PHASE AND IN CONTACT WITH A STEREOSPECIFIC CATALYST

Giulio Natta, Milan, Piero Pino, Pisa, and Giorgio Mazzanti, Milan, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy

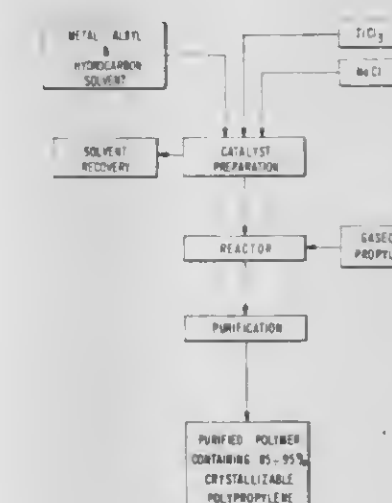
Original No. 3,014,016, dated Dec. 19, 1961, Ser. No. 611,981, Sept. 25, 1956. This application is a continuation of reissue application Ser. No. 215,763, July 30, 1962. Application for reissue June 16, 1967, Ser. No. 647,299

Claims priority, application Italy, Sept. 26, 1955, 13,629/55

U.S. Cl. 260—93.7

Int. Cl. C08f 1/42; C08f 3/10

14 Claims



Unsaturated hydrocarbons $\text{CH}_2=\text{CHR}$ in which R is an alkyl radical containing 1 to 4 carbon atoms are polymerized in the gaseous phase, in the substantial absence of solvents, and in contact with a stereospecific catalyst based on a solid, crystalline halide of a transition metal, to substantially linear, regular head-to-tail polymerizes consisting prevailing of isotactic macromolecules.

369

26,518

THREAD AND OTHER FORM ROLLING DIES
William L. Mau, Shaker Heights, and Ernest A. Nagy,
Cleveland, Ohio, assignors to The National Rolled
Thread Die Co., Cleveland, Ohio, a corporation of
Ohio

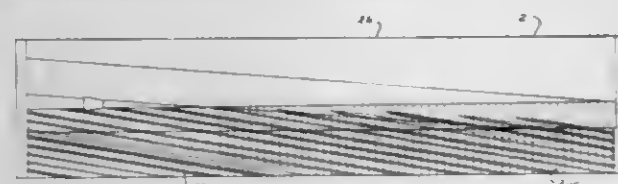
Original No. 3,176,491, dated Apr. 6, 1965, Ser. No.
708,706, Jan. 13, 1958. Application for reissue Apr. 5,
1967, Ser. No. 641,057

U.S. Cl. 72-71

35 Claims

Int. Cl. B21b 3/06; B21d 28/00

Thread rolling dies for cold forming gimlet point
screws from a cylindrical metal workpiece having a body
thread rolling surface for forming a helical thread on the
cylindrical body portion of the screw, a point threading
surface with a first zone gradually increasing in width for
rolling threads on the tapered point of the screw as it is
formed and a second zone for completing threading of
said point, means for extruding the metal axially to form
the tapered point comprising a reservoir and connecting
portion forming surface having a point forming side



edge extending the length of said first zone, being inclined
from that edge away from the axis of the workpiece at
an angle of 0 up to 20 degrees, and converging in the
direction of rolling of the workpiece from the beginning
to the end of said first zone and toward the workpiece
axis, and lateral serrations on said reservoir and connect-
ing portion forming surface for positively rotating the
workpiece.

VARIABLE DISPLACEMENT PUMP
Michael A. D'Amato, 2905 Hillsdale Drive,
Urbandale, Iowa 50322

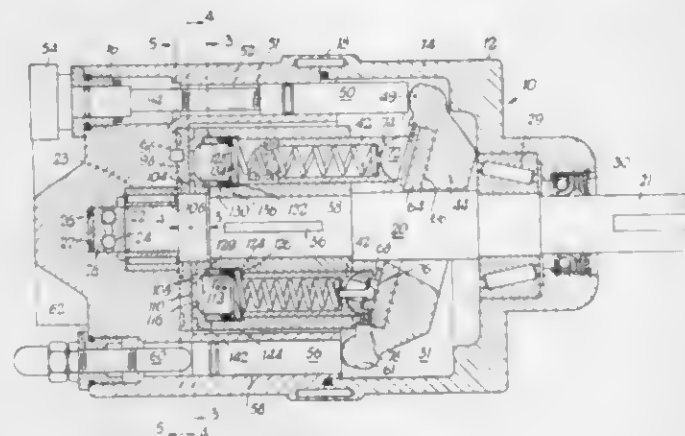
Original No. 3,175,510, dated Mar. 30, 1965, Ser. No.
230,940, Oct. 16, 1962. Application for reissue Mar.
29, 1967, Ser. No. 637,016

U.S. Cl. 103-162

6 Claims

Int. Cl. F04b 1/02

A variable displacement pump including a rotor
mounted for rotation on a drive shaft which is journaled
in the pump casing. Cylinders axially aligned in the rotor
carry pistons which are spring loaded against canted swash
plate. Arcuate intake and outlet ports in the pump casing
communicate with the cylinders through cylindrical



sleeves which are slideably received in counterbored re-
cesses in the cylinders, the sleeves bearing against a wear
plate which in turn bears against that casing surface which
defines the arcuate ports.

PATENTS

GRANTED JANUARY 14, 1969

GENERAL AND MECHANICAL

3,421,158

ARTICULATED JOINT

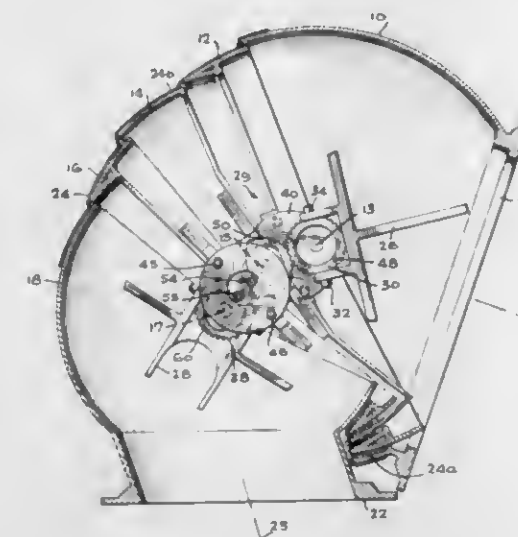
Giusto Fonda-Bonardi, Los Angeles, Calif., assignor to
Litton Systems, Inc., Beverly Hills, Calif.

Filed Sept. 10, 1965, Ser. No. 486,474

U.S. Cl. 2-2.1

25 Claims

Int. Cl. B63c 11/04; F611 27/10; F161 19/00



An articulated joint for interconnecting to portions of a
deep sea diving suit which is adapted to enclose adjacent
members of the human body, comprising a plurality of
substantially spherical segments, including two end seg-
ments secured respectively to the adjacent portions of
the diving suit, and at least one intermediate segment,
adapted to be nested in a predetermined angular relation-
ship as the joint is flexed. The segments are intercon-
nected by at least one gear and linkage assembly for dis-
tributing an angle of flexure of the joint in a predeter-
mined proportion among the segments and for preventing
the segments from separating. The compressive force of
the surrounding water on the spherical segments is trans-
mitted through at least one roller assembly.

3,421,159

WASH AND WEAR SHIRT

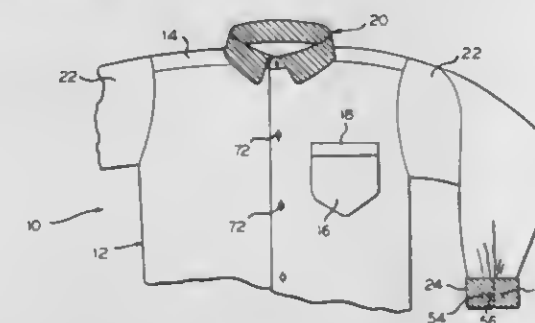
Frank E. Stebley, 3815 Nemesis Ave.,
Gurnee, Ill. 60031

Filed Apr. 24, 1967, Ser. No. 633,284

U.S. Cl. 2-116

8 Claims

Int. Cl. A41b 1/00



A wash and wear shirt including a shirt body and sleeves
constructed of cotton content fabric, and collar and cuffs
constructed of all-synthetic fabric.

3,421,160

BOWLING GLOVE

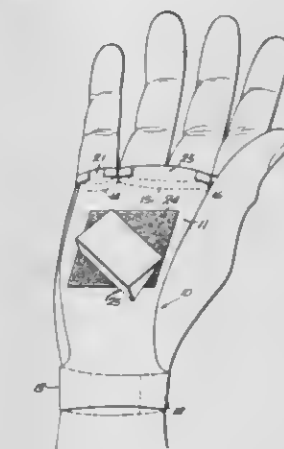
Salvatore Domenico, 6701 SW. 75th Terrace,
South Miami, Fla. 33143

Filed Aug. 14, 1967, Ser. No. 660,257

U.S. Cl. 2-159

4 Claims

Int. Cl. A41d 19/00



A bowling aid glove comprising a flexible palm panel
member having elastic finger loops at one end for attach-
ment of the glove against the palm of the hand at the
outer end, and integrally formed at the other end with
opposed wristband portions adapted to embracingly
encircle the wrist and overlap at the ends at the out-
side of the wrist and having pressure-sensitive means at
said outer ends for securement to the wrist, a wedge-
shaped resilient filler member, and pressure-sensitive
means for adjustably securing the filler member against
the outside of the glove palm panel.

3,421,161

TWO-WAY FLUSH TANK CONTROL

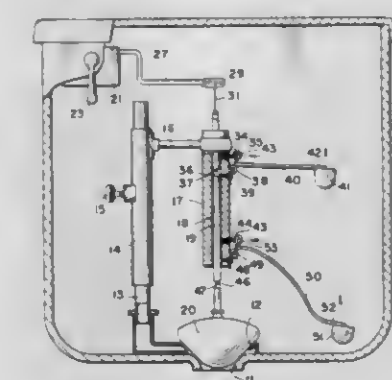
Robert L. Stafford, Centerton, Ind. 46116; and Earl W.
Warriner, Sr., 51 Sunbury Drive, Mooresville, Ind.
46158

Filed June 6, 1966, Ser. No. 555,604

U.S. Cl. 4-67

7 Claims

Int. Cl. E03d 1/34



A flush tank control including a flush valve carried on
a stem guided for vertical reciprocation within the tank,
an oscillable handle outside the tank and operatively con-
nected to the stem to raise the valve off its seat to a pre-
determined height when said handle is turned in one
direction and to a greater height when said handle is
turned in the opposite direction, float controlled catch

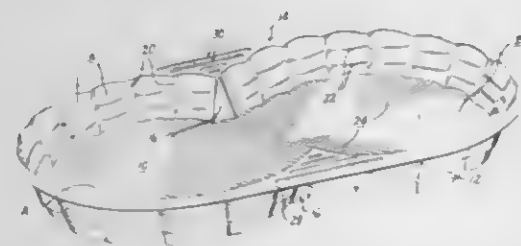
means at one level in said tank and cooperative with said stem when the latter is lifted to said predetermined height, and other float controlled means at another level in said tank and cooperative with said stem when the latter is lifted to said greater height. In a preferred form, the guide for said stem and both of said catch means are supported from a bracket which is mounted within said tank for vertical adjustment, preferably upon the conventional overflow pipe.

3,421,162 RECREATIONAL STRUCTURE FOR POOLS AND THE LIKE

Joseph Diamond, Simsbury, and Leonard Greenberg, West Hartford, Conn., assignors to Coleco Industries, Inc., Hartford, Conn., a corporation of Connecticut

Filed Oct. 3, 1966, Ser. No. 583,746
U.S. Cl. 4-172
Int. Cl. E04h 3/16

7 Claims



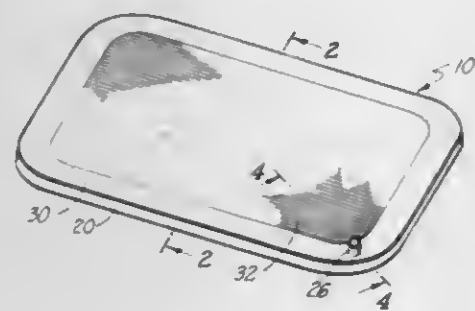
1. A water-retaining recreational structure integrally formed from synthetic plastic with a bottom wall, peripheral wall and top wall, said peripheral wall being of curvilinear configuration defined by a plurality of circular components intersecting at apices with the chord between said apices being of lesser length than the diameter of the intersecting circular components, said peripheral wall having rib portions at said apices joining the peripheral wall portion of said circular components and extending between said top wall and bottom wall, said top wall extending outwardly about the top of said peripheral wall and providing ledge portions extending between said circular components outwardly of said rib portions to provide a seat for users of the structure and to reinforce said structure at said apices.

3,421,163 ORTHOPEDIC CUSHION

Joseph B. Stoughton, 1218 E. Culver, Orange, Calif. 92667

Filed Nov. 14, 1966, Ser. No. 594,181
U.S. Cl. 5-348
Int. Cl. A47c 27/08

3 Claims



This invention is directed to an orthopedic cushion, and particularly to an orthopedic cushion which serves as a back rest cushion and combines the advantages of an air cushion with a foam in such manner that interaction between the two different back supporting methods produces massage-like action. The cushion comprises a

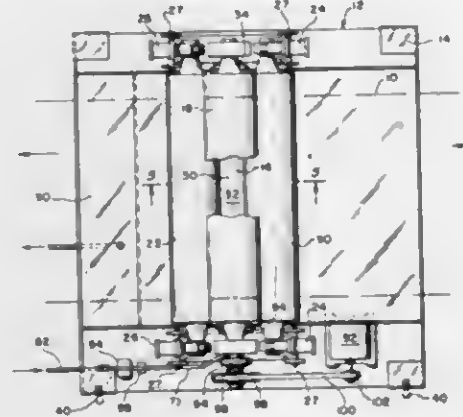
relatively inflexible back board. In front of the back board is positioned a resilient cushion of such nature that it tends to retain its uniform thickness. A single piece of foamed polymer composition material is suitable for this purpose. Positioned in front of the foam cushion is an air envelope which is adapted to be inflated to provide air cushion support. In the preferred construction a single envelope contains the back board, the foam cushion and the air envelope. However, it is desirable that a separate air envelope be used so that the air envelope is separated from the foam cushion. Thus, the air envelope is positioned interiorly of the enclosing envelope and in front of the foam cushion. If desired, a suitable high friction covering can be placed over the exterior to form part of the enclosing envelope. This high friction surface is preferably positioned on the front of the cushion above the air envelope to retain the back in position with respect to the cushion.

3,421,164 METHOD AND APPARATUS FOR PADDING ABSORBENT MATERIALS

John F. Zuczek, New Brunswick, N.J., assignor of one-half interest to Herbert Grodnick, Metuchen, N.J., and Martin Grodnick, Maplewood, N.J.

Continuation-in-part of application Ser. No. 148,549, Oct. 30, 1961. This application July 26, 1966, Ser. No. 567,955
U.S. Cl. 8-151
Int. Cl. D0c 1/00; D06f 29/02; D06f 35/00

16 Claims



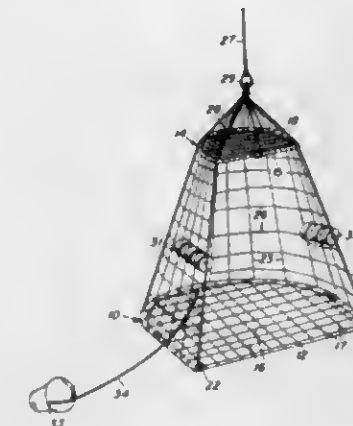
Method and apparatus for padding an absorbent material with a treating liquor in which the material is subjected to a first predetermined pressure for extracting unwanted matter from the interstices of the material, simultaneously the first pressure is released and the material is immersed in a bath of the treating liquor held at a superatmospheric pressure in a container and the superatmospheric pressure is allowed to force the treating liquor to penetrate fully into the interstices of the material such that the material is made to carry treating liquor throughout the interstices thereof in an amount in excess of the amount desired in the padded material, and the material is subsequently subjected to a second predetermined pressure less than the first predetermined for removing excess treating liquor from the material. In addition, air ordinarily introduced into the container by the immersion of the material in the bath is continuously removed from the container to allow the treating liquor to consistently completely fill the container. The container is established by a plurality of rollers cooperating with one another to establish an axially extending cavity and a relatively rigid plate member urged toward the corresponding ends of the rollers. A flexible bearing member of low friction material provides a sealing surface at the corresponding ends of the rollers and a resilient backing member is contiguous with the bearing member and lies between the bearing member and the rigid plate for maintaining the sealing surface in sealing engagement at the ends of the rollers.

3,421,165 PERSONNEL RECOVERY NET

Billy Gene Pugh, P.O. Box 802, Corpus Christi, Tex. 78403

Filed Aug. 3, 1967, Ser. No. 658,187
U.S. Cl. 9-14
Int. Cl. B63c 9/00

3 Claims



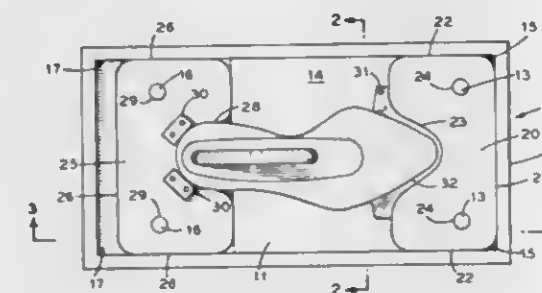
A net structure for use with a lifting cable such as carried by a helicopter for recovering an individual from the water and the net assembly is constructed to act as a scoop to substantially encase an injured person or an inanimate object floating on the surface of the water.

3,421,166 SOLE GAUGE AND CEMENTING DEVICE

Norbert Winig, Gloversville, N.Y., assignor to Winig Slipper Corporation, Gloversville, N.Y., a corporation of New York

Filed May 8, 1967, Ser. No. 636,802
U.S. Cl. 12-33.6
Int. Cl. A43d 89/00

2 Claims



A combination gauge and cementing device for accurately locating an outsole relative to a lasted slipper upper to which it is to be cemented.

3,421,167 CENTER DIAGONAL STAYS FOR USE IN SUSPENSION BRIDGES

Tadaki Kawada, Hirakata-shi, Osaka-fu, Japan, assignor to Kawada Kogyo Kabushiki Kaisha, Naejima, Fuku-nomachi, Higashi Tonami-gun, Toyama-ken, Japan, a corporation of Japan

Filed Dec. 2, 1966, Ser. No. 598,650
U.S. Cl. 14-18
Int. Cl. E01d 11/00; E01d 17/00

3 Claims



Stays for a suspension bridge to improve the rigidity and vibration absorbing characteristics of suspension

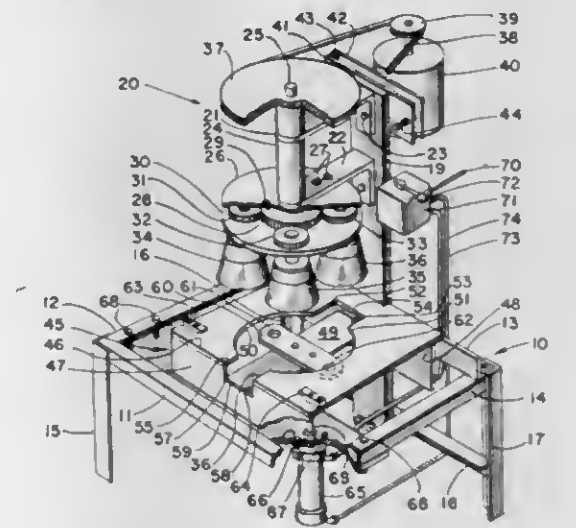
bridges connected between the midpoint of the suspension bridge cable and two points on a girder suspended from the bridge cable.

3,421,168 APPARATUS FOR CLEANING GAS METER SURFACES

Richard F. Bartel, San Diego, Calif., assignor to San Diego Gas & Electric Company, a corporation of California

Filed Dec. 9, 1966, Ser. No. 600,831
U.S. Cl. 15-21
Int. Cl. A46b 13/02

9 Claims



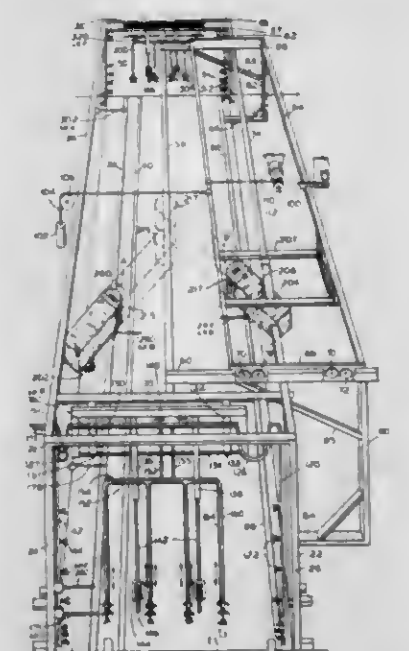
Apparatus for removing gaskets, sealing material, etc., from various gas meter components, the apparatus having a brush assembly including plural circumferentially spaced brushes which simultaneously rotate about a common central axis and their own axes. Beneath the brush assembly is positioned a vertically adjustable jig assembly for holding the meter components to be cleaned. After a component is cleaned by being raised into contact with the rotating brushes it is lowered from the brushes and replaced by another component whose cleaning area may be of a different configuration.

3,421,169 CAR WASHER

Robert W. Hergonson, Syracuse, N.Y.
(2387 Lisa Lane, Apt. 27, Pleasant Hill, Calif. 94523)

Filed Oct. 14, 1966, Ser. No. 586,744
U.S. Cl. 15-21
Int. Cl. B60s 3/04; A47l 25/00

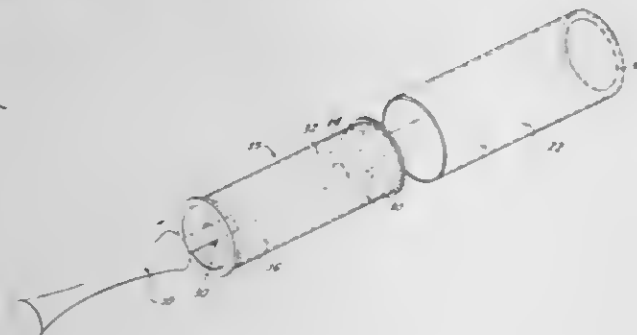
10 Claims



Car washing apparatus comprising a drive through wash tunnel, with means for guiding the wheels on one side

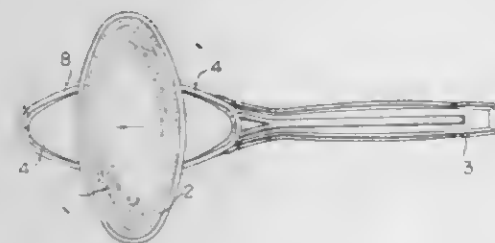
of a car through the tunnel, separate spray means within the tunnel near the entrance and exit thereof for applying wash water and detergent and rinse water to opposite sides of a car passing through, means responsive to the car wheel tread on the other side of the car for varying the spacing between the separate spray means, rotary brush scrubbing means disposed in staggered and inclined relationship on opposite sides centrally of the tunnel with spacing varied by the wheel tread responsive means, and swinging spray jet means in the tunnel for applying water upon the front top, back and rear end surfaces of a car adapted to follow the contour of the car to maintain the jets substantially uniformly spaced from the car surfaces.

3,421,170
JACKETED ROLLER-TYPE LINT REMOVER
Frank S. Thomas, Jr., 1715 Camden Ave.,
West Los Angeles, Calif. 90025
Filed June 20, 1967, Ser. No. 647,391
U.S. Cl. 15—104 6 Claims
Int. Cl. A42I 25/00



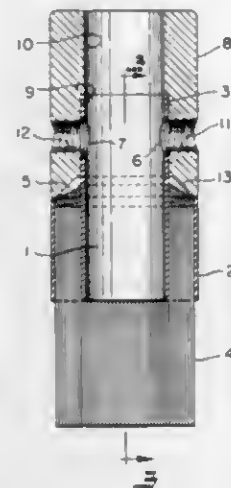
A jacketed roller-type lint remover comprised of a tacky coated cylinder supported at both ends by flanged discs journaled upon a shaft extending from a handle. The outside diameters of the rims of the disc flanges exceed the outside diameter of the tacky cylinder and the latter is effectively covered during non-use by a cylindrical sleeve-like jacket which is axially slipped over the flanged discs and is supported by their rims. The inside of the jacket is preferably coated with silicone.

3,421,171
BRUSH FOR CLEANING
Teruya Tsuruzawa, Suita-shi, Japan, assignor to
Nippou Seal Co., Ltd.
Filed July 12, 1967, Ser. No. 652,870
Claims priority, application Japan, July 22, 1966,
41/69,696 10 Claims
U.S. Cl. 15—172
Int. Cl. A46b



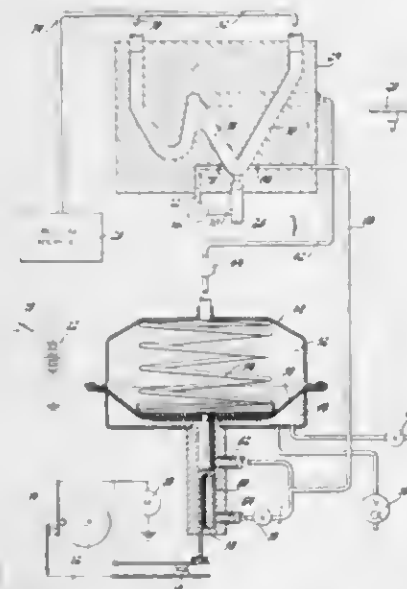
The disclosed brush for cleaning has a brush surface which is implanted and leaned in one direction by short piles, and a holder for securing the brush surface through a base plate. The brush has also means for converting the direction of the brush surface at angle 180° for easy operation of brushing.

3,421,172
END BRUSH ASSEMBLY
Angelo Joseph Martin, Independence, Ohio, assignor to
The Osborn Manufacturing Company, Cleveland, Ohio,
a corporation of Ohio
Filed Feb. 9, 1968, Ser. No. 704,315
U.S. Cl. 15—180 5 Claims
Int. Cl. A46b 13/02; B23b 51/08



A power driven rotary hollow end brush comprising an annular brush element and a holder therefor, adapted to be mounted upon a twist drill or like tool.

3,421,173
PULSE WIPER CONTROL
David L. Jones, Jr., Dayton, Ohio, assignor to General
Motors Corporation, Detroit, Mich., a corporation of
Delaware
Filed June 9, 1967, Ser. No. 644,977
U.S. Cl. 15—250.12 2 Claims
Int. Cl. B60s 1/10; F15b 13/04; F15c 3/00

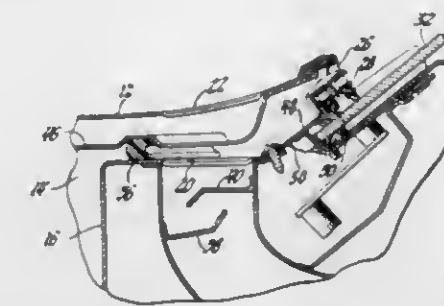


In a preferred form, the present invention teaches a pulse or intermittent windshield wiping system wherein the time delay between pulses is controlled by a monostable fluid amplifier having a high memory and an "and" logic input with a hysteresis controlled shift back.

3,421,174
**WINDSHIELD WIPER SYSTEM RECESSED IN
AUTOMOBILE AIR INTAKE**
Elmer E. Reese, Dayton, Ohio, assignor to General
Motors Corporation, Detroit, Mich., a corporation
of Delaware
Filed Jan. 3, 1967, Ser. No. 606,912
U.S. Cl. 15—250.19 3 Claims
Int. Cl. B60s 1/02; A47I 1/00

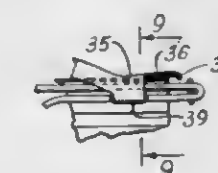
In a preferred form, this disclosure relates to a vehicle windshield wiping and/or washing system physically lo-

cated in the entry to the plenum of the vehicle heater and air conditioning system. The windshield wiper arms and blades are therefore disposed in an elongated slot running



the full width of the windshield while the windshield wiper system is not operating, with the arms and blades rising from the slot to complete a wipe pattern across the windshield while operating.

3,421,175
WINDSHIELD WIPER BLADE
Harry Roberts, 639 Bond Court,
Merrick, N.Y. 11566
Filed Jan. 29, 1968, Ser. No. 701,349
U.S. Cl. 15—250.42 4 Claims
Int. Cl. B60s 1/04; A47I 1/00



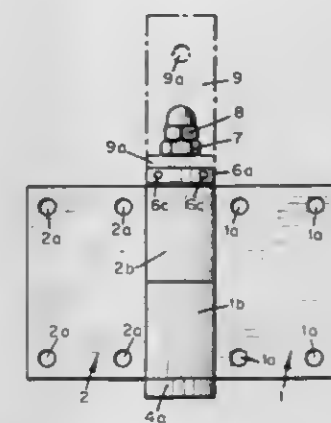
A windshield wiper blade including a pair of notched flanges which are slidably engageable with brackets provided upon a connector for a pressure distributing member. Said brackets are also depressible to compress a wiper element forming part of the blade, thereby permitting the brackets to avoid the notched flanges and be disengaged from the blade.

3,421,176
SPRING DOOR-CLOSING APPLIANCES
Herbert Charles Shead, Birmingham, England, assignor
to William Newman & Sons Limited, Birmingham, Eng-
land, a British company
Filed July 3, 1967, Ser. No. 650,727
Claims priority, application Great Britain, Dec. 20, 1966,
56,851/66 7 Claims
U.S. Cl. 16—49
Int. Cl. E05f 1/00; E05f 3/00



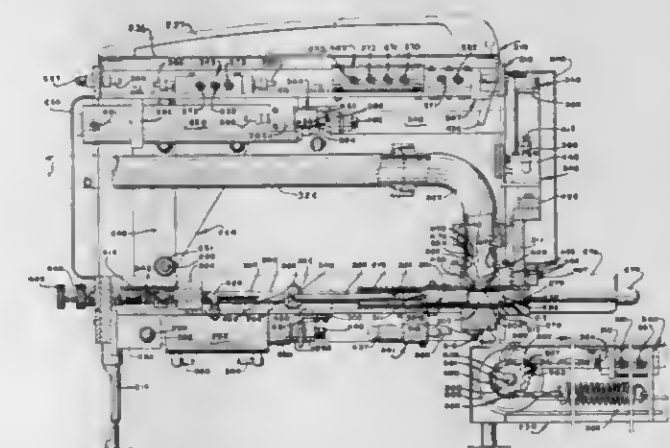
The present invention relates to a spring door closing appliance comprising an elongated hollow body having a check piston and a spring therein, according to which said piston and said vertical operable spindle are adapted to be coupled to each other, one end of said body being adapted to be closed by a removable plug. In conformity with the present invention, flanges provided at opposite ends of said hollow body have screw holes therein which are adapted to be concealed by cover members which also cover the end faces of said hollow body, said cover members having projections resiliently sprung into recesses in the said hollow body.

3,421,177
HINGE OR RIDE FOR DOORS OR WINDOWS
Anton Broghammer, Johann Sebastian Bach Strasse 14,
Singen, Germany
Filed Sept. 24, 1965, Ser. No. 489,856
U.S. Cl. 16—128 4 Claims
Int. Cl. E05d



A hinge assembly having upper and lower flanges for attachment to a door or window sash and frame respectively. A sleeve is provided on each flange for coaxial alignment and a tubular spindle is positioned in such sleeves for rotation. A screw bolt traverses the spindle and a flange on one end bears against the spindle's lower end. The bolt passes through a bushing bearing against the upper end of the spindle and a nut and lock nut threadedly engage the free end of the bolt for enabling the bushing, screw bolt and spindle to be removed from the sleeves so that the flanges can remain attached to the sash and frame.

3,421,178
**PNEUMATICALLY ACTUATED, AUTOMATIC
SKINLESS SAUSAGE MOLDING MACHINE**
Joseph L. Ammons, 1617 Lawson Lane 79106, and
Floyd H. Morrow, P.O. Box 5884 79107, both of
Amarillo, Tex.
Continuation-in-part of application Ser. No. 440,571,
Mar. 17, 1965. This application Nov. 29, 1966, Ser.
No. 597,652 34 Claims
U.S. Cl. 17—32
Int. Cl. A22c 7/00; A22c 11/00

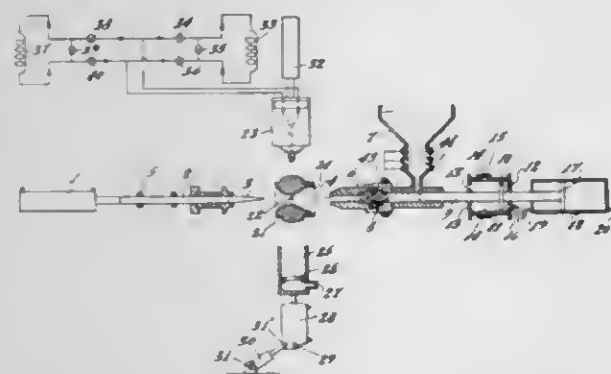


An air actuated machine for molding sausage material into skinless sausages, in a continuous cycle. The plurality of sausages being molded may be joined, if desired, in adjacent, side-by-side relation by thin longitudinal webs of fiber. The sausage may be selectively dispensed on a pre-placed papering machine, and/or onto a conveyor. The machine is so timed that the sequential operations are automatic, once started, and some are simultaneous, but when the sausage pressure ceases, the machine stops,

or if air is bled from the system, the machine stops. The machine may be reloaded with sausage material and/or air pressure may be reinstated, whereupon, the machine will start operating at the point of interruption, and the cycle will be completed and the succeeding cycles automatically resumed.

3,421,179

MACHINE FOR MAKING PLASTIC CONTAINERS
Paul S. Maiworm, deceased, late of Peensburg, Pa., by Aona C. Stout, Finland Village, Pennsburg, Pa. 18073, and Charles S. Thompson, 700 S. Washington Square, Philadelphia, Pa. 19106, executors
Filed Apr. 7, 1966, Ser. No. 547,123
U.S. Cl. 18—5 2 Claims
Int. Cl. B29c 1/14; B29f 1/04; B29f 3/06

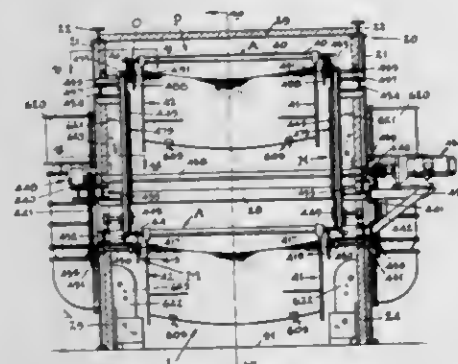


In this disclosure a machine has been devised for making plastic containers, having a mold, a closed cylinder, a ram in the cylinder, means to create an explosive charge acting on the ram to inject the plastic material into the mold to form a parison, means to circulate a heated fluid in the parison and means thereafter to circulate a cooling medium in the parison.

The use of an explosive charge provides a substantially instantaneous impact on the ram and thereby on the plastic material. This results in a reduction in the cost of manufacture, an increase in the number of articles made in a given time and a stronger and more homogenous structure of the article.

3,421,180

APPARATUS FOR TREATING PLASTIC SHEETS
Alfred H. Miller, Glenn Perry and Lawrence C. Wheat, Toledo, Ohio, assignors to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio
Original application Oct. 21, 1964, Ser. No. 405,383, now Patent No. 3,341,889. Divided and this application July 18, 1967, Ser. No. 705,234
U.S. Cl. 18—4 6 Claims
Int. Cl. B29c 3/00; F27b 9/14; F27b 9/12

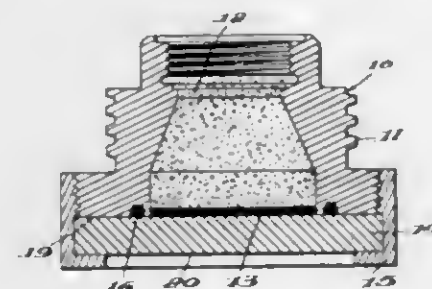


Apparatus for treating plastic sheets, comprising an elongated heating oven and an elongated cooling tunnel above said heating oven and having its entrance end communicating with the exit end of the heating oven, with

means for supporting and conveying the sheets in a vertical position successively through said heating oven and cooling tunnel, cooled dry air being introduced into the cooling tunnel from which it passes into the heating oven where it is dried and heated and then recirculated through said heating oven.

3,421,181

SPINNERET PLATE
Walter Steuber, Springfield, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed June 24, 1966, Ser. No. 566,275
U.S. Cl. 18—8 4 Claims
Int. Cl. D01d 3/00



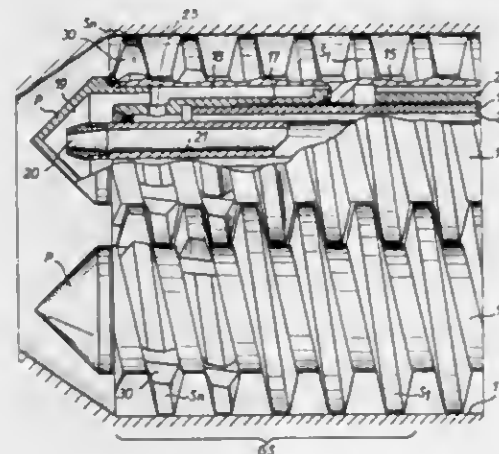
A spinneret plate for producing crimped filaments, especially crimped ultramicrocellular filaments. The plate contains two passages. The first extends through the plate; the second intercepts the first at an acute angle near one surface of the plate. The axes of the passages are offset so that the passages communicate tangentially. In operation, spinning solution passes through both passages. Crimping is apparently due to spiral motion imparted to stream at juncture of passages.

3,421,182

SCREW PRESS FOR EXTRUDING PLASTIC MATERIALS

Roberto Colombo, Turin, Italy, assignor to S.p.A. Lavorazione Materie Plastiche L.M.P., Turin, Italy
Filed Nov. 8, 1966, Ser. No. 592,781
Claims priority, application Italy, Nov. 13, 1965, 25,688/65

U.S. Cl. 18—12 2 Claims
Int. Cl. B29f 3/08



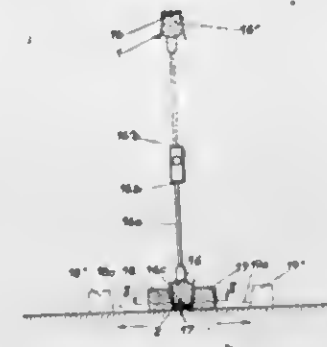
In a screw press having conically tipped screws for extruding plastic, in order to prevent scorching of the plastic material at a high extrusion rate, an internal cooling system is provided in each screw, for preferentially cooling the conical tip and at least the last turns on the metering section of the screw.

3,421,183

MOULDS FOR VENTILATED FOOTWEAR

Théodore Louis Grimmeisen, Paris, France, assignor to Societe Th. Grimmeisen, Paris, France, a company of France

Filed Sept. 30, 1963, Ser. No. 312,509
U.S. Cl. 18—42 2 Claims
Int. Cl. B29c 1/00

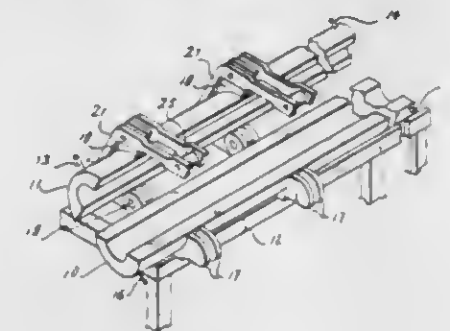


1. A mould for the manufacture of footwear with soles of a material selected from the group consisting of rubber and plastic, and a cloth upper having an outer reinforcing material selected from the group consisting of rubber and plastic extending partially above said sole, comprising an immovable plate, a lower portion for moulding the pattern of the sole fixed on said plate, a movable upper portion for moulding the inner sole, said upper portion containing bosses for moulding ribs in said inner sole, said bosses having guided orifices laterally drilled partially therethrough, two lateral portions, laterally movable parallel to said plate for moulding the sides of the sole, said lateral portions being provided with pins capable of penetrating into said guiding orifices and a movable upper lateral portion provided with perforating pins and adapted to form a reinforced area from said outer reinforcing material extending partially above said sole in said cloth upper, said movable upper lateral portion cooperating with said two lateral portions in their moulding position whereby said perforating pins perforate said reinforcing material without perforating said cloth upper.

3,421,184

CLAMPS FOR MOLDS

Bruce Ford and Stanley A. Swisher, Sand Springs, Okla., assignors to The Youngstown Sheet and Tube Company, Boardman, Ohio, a corporation of Ohio
Filed Sept. 21, 1966, Ser. No. 581,041
U.S. Cl. 18—43 5 Claims
Int. Cl. B29c 1/16; B29h 5/22; B41b 11/54



5. A mold comprising:
a stationary mold half,
a movable mold half,
means for hinging said mold halves together,
a plurality of latch arms,
means pivoting each latch arm on the movable mold half,

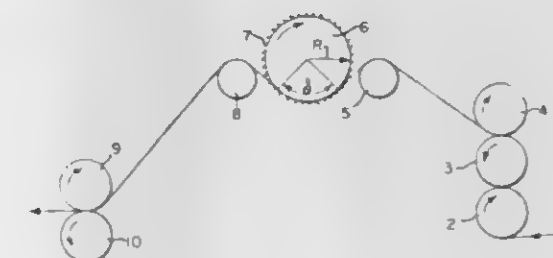
cooperable cam means on one end of each arm and the stationary mold half,
means for rocking each latch arm about its pivot, and means engageable with each latch arm limiting rotation of the arm about its pivot when the cam means is disengaged whereby continued movement of the arms thereafter will rotate the movable mold half about its hinge.

3,421,185

TOW COMBING PROCESS

Adly Abdel-Moniem Gorrafa, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Oct. 3, 1966, Ser. No. 583,832
U.S. Cl. 19—65 9 Claims
Int. Cl. D01b 3/04



A process for combing crimped tow of synthetic fibers wherein moving tow is contacted over a curvilinear path by a moving, substantially cylindrical, needle-bearing surface. The tow feed, speed of the needle bearing surface, and length and inclination of the needles are interrelated variables.

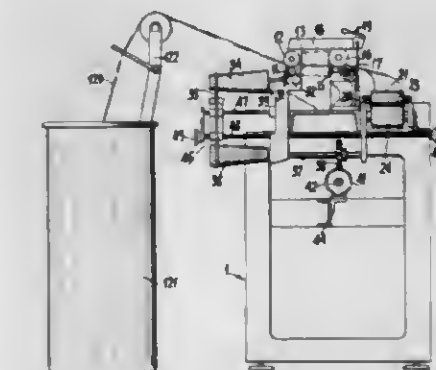
3,421,186

MIXING TEXTILE FIBRE SLIVERS

Hubert Halteux, Mulhouse, Haut-Rhin, and Michel Masurel, Wasquehal, Nord, France, assignors to Societe Alascienne de Constructions Mecaniques de Mulhouse, Mulhouse, France, and Brevets et Applications Textiles Brevatex, Tourcoing, Nord, France, both French companies

Filed Apr. 26, 1966, Ser. No. 545,374
Claims priority, application France, Apr. 27, 1965, 14,759

U.S. Cl. 19—243 1 Claim
Int. Cl. D01h 5/22



A fibre blending machine for producing a composite web of fibres for spinning. Each of a series of separate drawing heads supplies a single component of the final web to a belt conveyor. The output of the individual heads are placed successively on the conveyor in superposed relationship being delivered from the conveyor to an output or blending head. Each individual head comprises supply and drawing rollers. A common drive motor is used, change

gears being provided for adjusting the speeds of the conveyor, the input and drawing rolls of the blending or output head, and the drawing rolls of the individual heads. A manually adjustable continuously variable cone and belt drive in each individual head permits separate adjustment of the feed roller speed, and hence the output of each individual head.

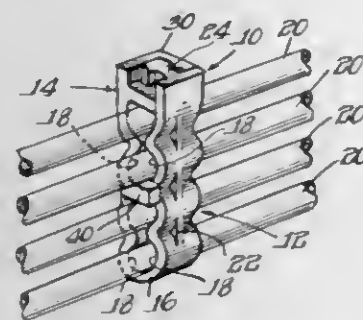
3,421,187 PLASTIC CLIP

Francis E. Ryder, Des Plaines, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware

Filed Oct. 13, 1966, Ser. No. 586,514

U.S. Cl. 24—81
Int. Cl. A44b 21/00

5 Claims



This invention relates generally to plastic clips and more particularly to improvements in plastic clips adapted to accommodate and maintain in predetermined spaced relationship simultaneously a plurality of elongated work elements such as conduits, electrical conductors and the like. The embodiments of the invention disclosed herein include a one-piece plastic member having a pair of elongated arms hingedly coupled at one extremity to permit said arms to be moved into juxtaposition, the facing surfaces of said arms presenting a discrete aperture or recess conforming substantially in shape with the elongate elements to be accommodated thereby, the free extremities of said arms providing a novel snap-type fastener means in the form of a stud and a pair of spaced arms for receiving said stud extending toward each other and having shoulders adapted to be interlocked in response to pressure applied laterally of said arms.

3,421,188

PRESSURE SEALING CLOSURE FOR FULL PRESSURE ASTRONAUT'S OR DIVER'S ASSEMBLY

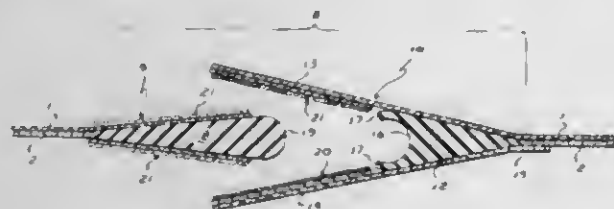
Lee C. Rock, Fairborn, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force

Filed Nov. 29, 1966, Ser. No. 597,820

U.S. Cl. 24—204

Int. Cl. A44b 19/24; A44b 21/00; B63c 11/04

3 Claims



A water- and air-tight closure for the entrance openings of an astronaut's suit and as a substitute for a zipper arrangement, the closure being constituted of a rounded plug member extending along one side of the opening and a concavity member of curved configuration extending

along the other side of the opening. The plug and concavity members fit one within the other to form a hermetic seal when pressure is applied between them. The seal is maintained by a multiplicity of hooks and loops which are secured to certain extended surfaces of the plug and concavity members to rigidly hold the members in the pressed position. The hook and loop structures can be separated by an outward pull when the seal is to be broken in order to expose the entrance openings of the suit.

3,421,189

DEVICE FOR LATERALLY AND LONGITUDINALLY STRETCHING WEB MATERIAL

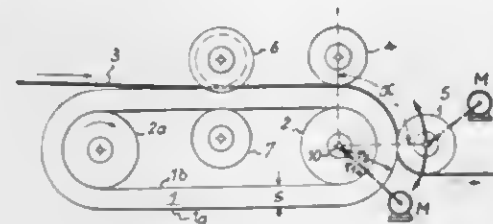
Günter Schiffer, Krefeld-Bockum, Germany, assignor to Joh. Kleinewefers Sohne Maschinenfabrik, Krefeld, Germany

Filed Apr. 6, 1967, Ser. No. 629,005

Claims priority, application Germany, Apr. 7, 1966, K 58,958

U.S. Cl. 26—54
Int. Cl. D06c 31/06

7 Claims



A device for longitudinally stretching web material including an endless elastic belt mounted for movement about supporting rollers and spaced pressure rollers for retaining the web material against a turn of the belt about one of the supporting rollers. The material is stretched between the pressure rollers, one of which may be movable to vary the extent of the stretching. Lateral stretching of the web material may be simultaneously effected by the addition of or the replacement of a pressure roller by an undulated comb roller.

3,421,190

EYECAP

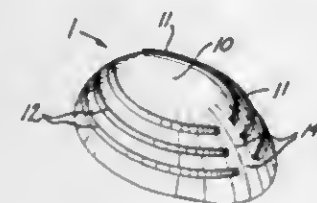
Charles W. Rector, 8311 18th Ave. NW., Seattle, Wash. 98107

Filed May 2, 1966, Ser. No. 547,031

U.S. Cl. 27—21

Int. Cl. A01n 1/00

10 Claims



An eyecap is disclosed for placement beneath the eyelids of a deceased person to hold the lids closed and to present a natural appearance. The cap includes elongated upstanding louvers which engage the eyelid tissue to hold the lids closed without penetrating the tissue. The louvers are curved to correspond to the naturally formed wrinkles in the eyelids. The cap defines a series of louver-forming slits which terminate at their ends leaving a narrow neck portion which is easily severed to extend a pair of such slits completely around the cap and thereby reduce the size of the cap for use on a smaller corpse.

3,421,191

YARN WINDING APPARATUS

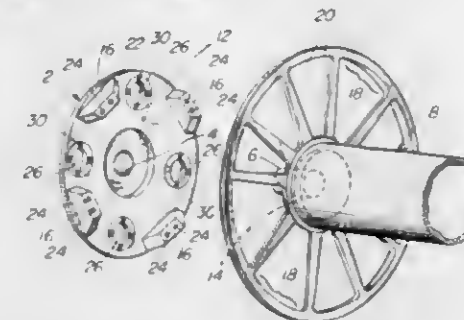
Frank H. Hanna, Rock Hill, S.C., assignor to Celanese Corporation, New York, N.Y., a corporation of Delaware

Filed Dec. 20, 1966, Ser. No. 603,263

U.S. Cl. 28—39

Int. Cl. D02h 13/12; D03d 49/10

8 Claims



This invention relates to apparatus for transmitting drive power to flanged spools utilized in winding yarn, which apparatus enables the expeditious loading and unloading of beams, for example, into a warping apparatus or beamer. The drive adapter is employed in combination with a warping apparatus or the like having a drive mechanism which imparts a rotational force to the adapter. Such force is transmitted by means of one or more lugs which are accommodated in one or more corresponding orifices in the drive adapter thereby engaging said drive adapter for rotational movement. The drive adapter is engaged with a flanged spool or beam by means of at least one protruding element affixed on the drive adapter which element extends into and thereby engages apertures in the spool or beam.

3,421,192

HEATER FOR TEXTILE APPARATUS

Walter Parker, Wilmslow, England, assignor to Ernest Scragg & Sons Limited

Filed Mar. 21, 1967, Ser. No. 624,946

Claims priority, application Great Britain, Mar. 1, 1966, 9,040/66; Mar. 23, 1966, 12,732/66

U.S. Cl. 28—62

Int. Cl. D02j 13/00 D01b 13/26

14 Claims



A yarn contact heater for travelling yarn comprises wall means defining a chamber having two opposite sides one of which has an outer surface over which the travelling yarn moves. At the other side heating means is in contact with the wall means. A fluid is in the chamber and transmits heat from the heating means at the one side to the other side provided with the yarn contacting surface. Guide means located within the chamber serves to guide fluid by convection away from the side having the yarn contacting surface but towards a region of that side at which the yarn first contacts the surface and thus causes a drop in the temperature of the same.

3,421,193

PROCESS FOR CRIMPING MULTIFILAMENT YARN

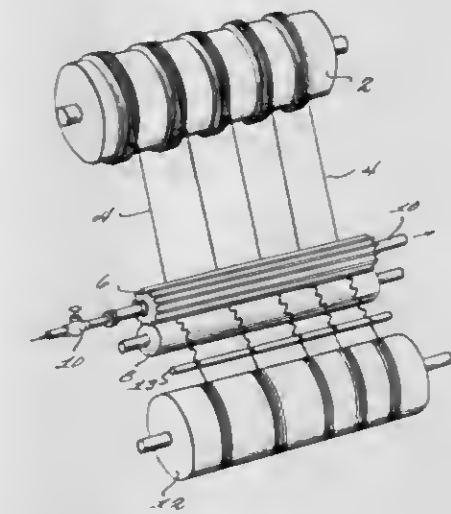
James L. Taylor, Greensboro, N.C., assignor to Burlington Industries, Inc., Greensboro, N.C., a corporation of Delaware

Filed Mar. 31, 1965, Ser. No. 444,229

U.S. Cl. 28—72

Int. Cl. D01d 5/22

9 Claims



There is provided a process for crimping thermoplastic multifilament yarn and for increasing the cover factor and luster of said yarn. The yarn is passed between a pair of crimping rolls one of which is hard and heated to a crimping temperature, the other of which is composed of a substantially softer, yieldable material. The yarn is crimped while passing between the rolls and while the rolls have a pressure of at least 800 pounds per lineal inch. The yarn so produced has a series of permanent, non-uniform lateral loops equally spaced along a central, sinuous axis extending longitudinally along the yarn.

3,421,194

PROCESS FOR TREATING A FILAMENTARY STRAND

Alvin L. Breen and Herbert G. Lauterbach, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Continuation-in-part of applications Ser. No. 698,103, Nov. 22, 1967, and Ser. No. 70,269, Nov. 18, 1960.

This application Oct. 24, 1967, Ser. No. 684,583

U.S. Cl. 28—72

Int. Cl. D02g 3/02; D02j 1/00

4 Claims



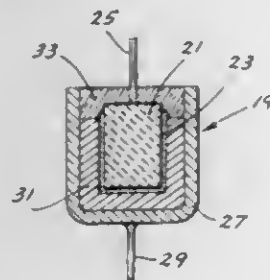
Disclosed is a process for treating synthetic organic filaments to provide improved dyeability with high tenacity by feeding the filaments through a stream of heated

compressible fluid such as air or steam. The temperature, yarn feed and take-up speeds may be controlled to shrink the filaments without introducing crimp. Apparatus is illustrated for jetting heated fluid to form a turbulent stream for rapid plasticization and treatment of yarn.

3,421,195

CAPACITOR AND METHOD OF MAKING SAME
John R. Berryhill, Madison, Wis., assignor to Dale Electronics, Inc., Columbus, Nebr., a corporation of Nebraska

Filed Dec. 23, 1965, Ser. No. 515,817
U.S. Cl. 29—25.42
Int. Cl. H01g 13/00

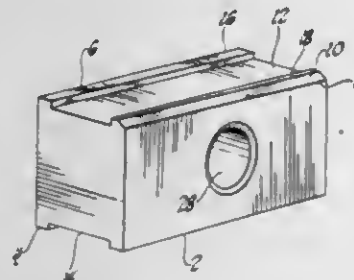


A rutile capacitor and the method of making the capacitor involving converting rutile material to a semiconductor by reducing out a small fraction of its constituent oxygen and then reoxidizing the surface of the reduced rutile crystal by an electrical chemical means, oxidation, to provide a micro thin dielectric layer of micro thin insulating TiO_2 .

3,421,196

CUTTING TOOL INSERT

William A. Reich, Huntington Woods, Mich., assignor to General Electric Company, a corporation of New York
Filed Sept. 12, 1966, Ser. No. 578,646
U.S. Cl. 29—95
Int. Cl. B26d 1/00



A disposable insert for a cutting tool in the form of a generally rectangular block having at least four sharply angled parallel cutting edges, at least one, but not all, of the cutting edges being chamfered to form a relatively blunt cutting edge. This makes possible the use of a single indexable and disposable insert for the machining of workpieces having both a relatively smooth and an interrupted surface.

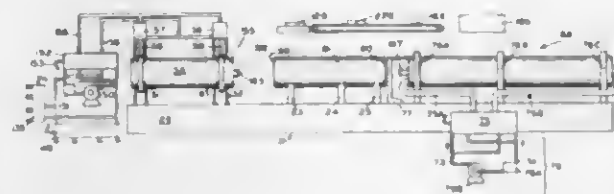
3,421,197

LONG WOOD LINED BEARING AND PROCESS AND APPARATUS FOR ITS MANUFACTURE
Roy E. Thompson and Jurd M. Young, Lubbock, Tex., assignors to Roy E. Thompson, Lubbock, Tex.

Filed Sept. 18, 1967, Ser. No. 668,544
U.S. Cl. 29—149.5
Int. Cl. B21d 53/10; B23p 19/00

A combination of pipe feeding and discharging assemblies and wooden liner alignment and cutting and compressing and drawing assemblies and process of operation and control thereof provides for rapidly and reliably

inserting substantial lengths of oil-impregnated wooden liner elements into steel pipes.

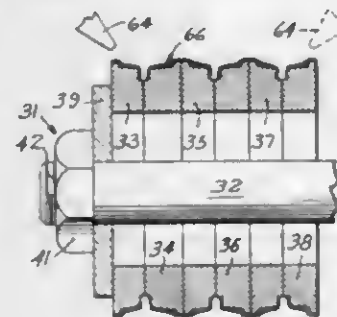


The product of the operation is a stable long oil-impregnated wood-lined bearing with an improved smooth mildly undulated interior bearing surface.

3,421,198

METHOD OF MAKING WEAR RESISTANT PISTON RING

Herbert F. Prasse, Town and Country, Mo., assignor to Ramsey Corporation, St. Louis, Mo., a corporation of Ohio
Continuation-in-part of application Ser. No. 371,231, May 29, 1964. This application Dec. 8, 1965, Ser. No. 512,347
U.S. Cl. 29—156.6
Int. Cl. B23p 15/06



A plurality of piston rings are arranged about a common axis with their radially extending, planar surfaces in abutting relationship. The rings are either pre-grooved or are grooved while in abutting relationship, the groove being between adjacent rings. The assembly is sprayed with a wear-resistant metal at angle sufficient to prevent the sprayed material from reaching the bottom of the groove. Excess wear-resistant metal is removed from the periphery of the rings.

3,421,199

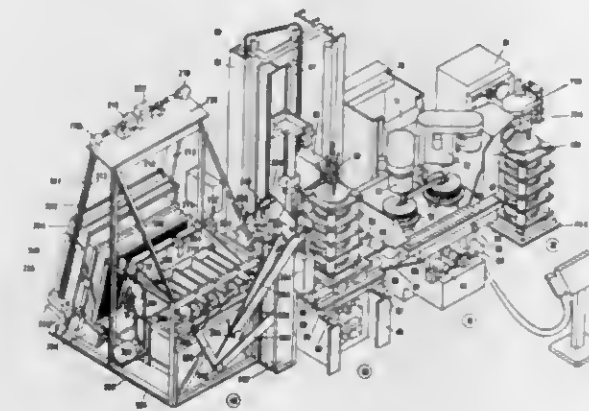
APPARATUS AND METHOD FOR MANUFACTURING TUBE ASSEMBLIES FOR HEAT EXCHANGE DEVICES

Arthur A. Swanson, Erie, Pa., assignor to General Electric Company, a corporation of New York
Filed Sept. 30, 1966, Ser. No. 583,238
U.S. Cl. 29—157.3
Int. Cl. B21d 53/02; B23p 15/26; B21k 29/00

15. A method of making a tube assembly for heat exchange devices which comprise the steps of:

- providing at least two plates each having a plurality of holes therethrough arranged in the same predetermined pattern;
- providing spaced-apart first and second tool means in alignment with each other and arranged for common reciprocating movement;
- locating and securing the plates in spaced-apart relationship so that the holes thereof are all in alignment and with a given hole location in alignment with said first and second spaced-apart, aligned tool means so that the common movement thereof causes one tool means to move in one direction with respect to said plates and the other tool means to move in the opposite direction with respect to such plates;

- moving said first and second tool means in a first direction to cause a guide rod operably associated with one of said tool means to be inserted from end to end through the aligned holes in said plates at said given location;
- locating and securing a tube of a predetermined length determined by the spaced-apart plates between the end of the guide rod emerging from said hole and the other tool means in alignment therewith;

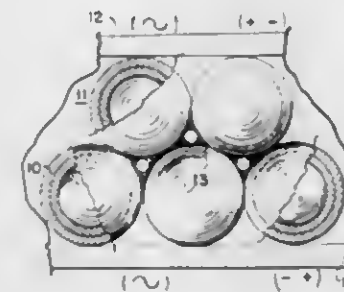


- causing movement of said first and second tool means in a direction opposite said first direction so that said guide rod is withdrawn from the holes at said given location and said tube caused to be inserted therein; and
- securing at least one of the ends of said tubes into the corresponding plates associated with such ends.

3,421,200

METHOD OF FORMING METAL ARTICLES

William C. Gregory, 520 N. Burris Ave., Compton, Calif. 90223
Continuation-in-part of application Ser. No. 213,431, July 30, 1962. This application Aug. 19, 1965, Ser. No. 480,939
U.S. Cl. 29—458
Int. Cl. B23p 3/12; B23p 25/00; E04b 1/06



The method of preparing structures having seed cores of self-combustible mixture, heating said structures in a furnace whereby the structures are united one to the other and the cores are oxidized to create an internal pressure different from the pressure at sea level.

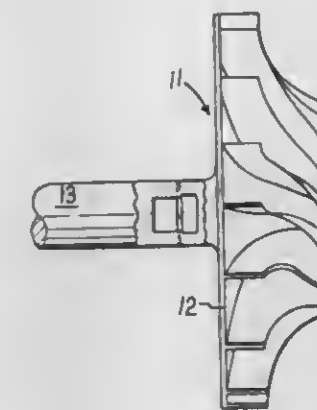
3,421,201

TURBOCHARGERS

Theodore L. Oberle, Washington, and Marion R. Calton, East Peoria, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Dec. 3, 1964, Ser. No. 415,724
U.S. Cl. 29—470.3
Int. Cl. B23k 27/00; B23k 35/24

The speed of relative motion at the interface is limited and the total energy is restricted to minimize the precipitation of intermetallic compounds at the interface of two

friction bonded parts. The bond zone is also worked plastically at low speeds to break up any compound that does



precipitate so that the bond formed is free of films of the intermetallic compound.

3,421,202

PROCESS FOR JOINING METALS AND CERAMICS HAVING GROSSLY DIFFERENT COEFFICIENTS OF THERMAL EXPANSION

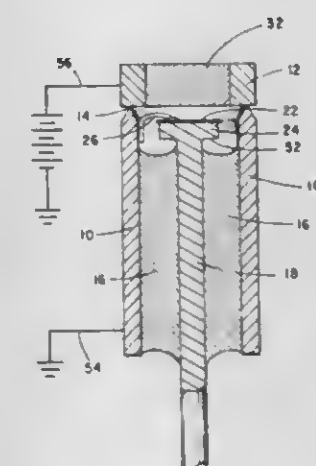
William T. Kaarlela, Fort Worth, Tex., assignor to General Dynamics Corporation, Fort Worth, Tex., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 183,378, Mar. 29, 1962. This application Nov. 4, 1964, Ser. No. 408,749
U.S. Cl. 29—473.1
Int. Cl. B23k 31/02

A process for joining castable, hard, fine-grained ceramic materials to metals which have grossly different coefficients of thermal expansion relative to the ceramic to achieve both good bonds and to prevent cracking of the ceramic or resultant joint by high temperatures or cycling of temperatures, the critical range of the brazing alloy being from 30% to 70% by weight silver, 0.5% to 3.0% by weight lithium and the balance zirconium or titanium. The ceramic and metal are brazed at about 2300° F. but below 2350° F., preferably in an argon atmosphere. The ranges of constituents are critical in that if the titanium or zirconium are below 30% by weight ceramic cracking results, if above 70% by weight adhesion is unsuitable.

3,421,203

PHOTODEVICE ENCLOSURE

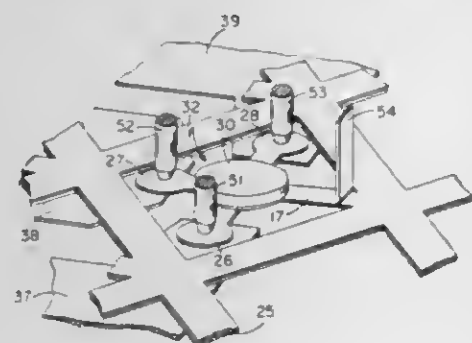
Peter J. Ullman, Palo Alto, and Odle L. Littrell, Sunnyvale, Calif., assignors to Fairchild Camera and Instrument Corporation, a corporation of Delaware
Filed Apr. 6, 1965, Ser. No. 445,944
U.S. Cl. 29—572
Int. Cl. H01g 9/00; H01l 15/02; H01c 7/08



An enclosed photosensitive device and a process for its manufacture, having a conductive supporting and con-

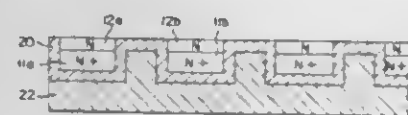
necting pin, a photosensitive device mounted on the pin, and a metal tube and rim assembly, the rim being mounted on the tube and containing a sealing glass with opposed optically flat surfaces so that the device can be exposed to light through these surfaces but is protected by the tube and rim assembly.

3,421,204
METHOD OF PRODUCING SEMICONDUCTOR DEVICES
Allen G. Baker, Cambridge, and Brian Dale, Lynofield, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed May 3, 1967, Ser. No. 635,905
U.S. Cl. 29—577 9 Claims
Int. Cl. H01l 1/16; H01l 7/16; H01l 7/68



Method of forming an array of silicon dice from a wafer by etching away some of the silicon oxide coating the wafer, leaving oxide over the regions of the wafer which are to become dice and also leaving a segment of oxide projecting from the oxide over each region. A grid of supporting members is formed with each of the segments of silicon oxide adhering to the grid. Then, silicon of the wafer is dissolved so as to leave individual dice attached to the grid only by the segments of silicon oxide. Each die can be separated from the grid by breaking of the associated oxide segment.

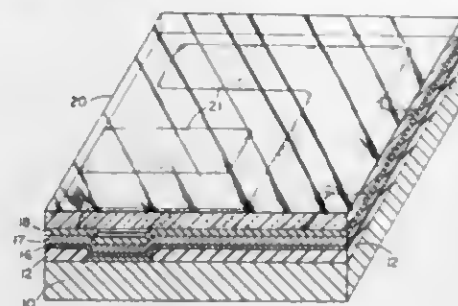
3,421,205
FABRICATION OF STRUCTURES FOR SEMI-CONDUCTOR INTEGRATED CIRCUITS
Larry J. Pollock, Odenton, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 14, 1965, Ser. No. 448,120
U.S. Cl. 29—580 4 Claims
Int. Cl. H01l 5/00; H01l 7/02



This invention relates to a method of forming a plurality of electrically isolated bodies of semiconductor material disposed upon and electrically isolated from a support member.

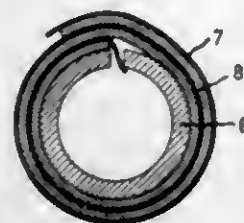
The method includes forming a layer of insulating material on one surface of a body of semiconductor material and thereafter forming a layer of support material on the layer of insulating material. Dividing the body of semiconductor material into a plurality of isolated bodies, forming a layer of insulating material and another support layer on the isolated bodies and removing the first insulation layer and support layer.

3,421,206
METHOD OF FORMING LEADS ON SEMICONDUCTOR DEVICES
Allen G. Baker, Waltham, and Robert C. Ingraham, Topsfield, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Oct. 19, 1965, Ser. No. 497,654
U.S. Cl. 29—589 6 Claims
Int. Cl. H01l 7/02



Methods of forming supporting leads (beam leads) on certain areas of a semiconductor wafer by covering the wafer with aluminum and then copper. Removing the copper and aluminum from the desired areas by photoresist masking and etching techniques. Etching the exposed edges of the copper to expose more of the aluminum. Covering the wafer with titanium and platinum. Dissolving the copper which also removes the overlying titanium and platinum. Oxidizing the exposed aluminum and then electroplating with gold whereby gold plates onto the remaining titanium and platinum to form leads at the desired areas. Then dissolving the aluminum.

3,421,207
METHOD OF MANUFACTURING SOLID BODIES CONTAINING Nb₃Sn
Cornelis Willem Berghout, Pieter Hokkeling, and Anthonie Izaak Lutelijn, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips, Inc., New York, N.Y., a corporation of Delaware
Continuation of application Ser. No. 398,258, Sept. 22, 1964. This application Nov. 16, 1967, Ser. No. 683,735
Claims priority, application Netherlands, Sept. 24, 1963, 298,338
U.S. Cl. 29—599 4 Claims
Int. Cl. H01s 4/00

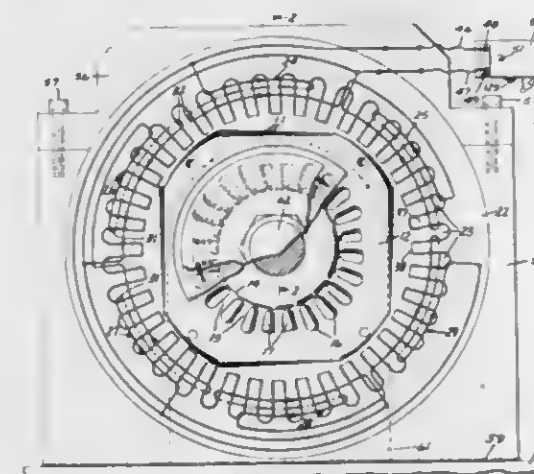


A method of manufacturing bodies of Nb₃Sn in which a porous foil of niobium is assembled with a foil of a high resistivity metal, the assembly is rolled up to yield a total pore volume of between 20% and 45% and is impregnated with molten tin and allowed to cool to permit the tin to solidify in the pores. Thereafter, this composite body, which is mechanically workable, is deformed into a body of desired shape and heated to convert the same into a body of Nb₃Sn.

3,421,208
METHODS FOR SEPARATING ELECTRICALLY CONDUCTIVE AND ADJACENT ELEMENTS
John E. Larsen and Marion W. Sims, Fort Wayne, Ind., assignors to General Electric Company, a corporation of New York
Filed Jan. 21, 1965, Ser. No. 426,933
U.S. Cl. 29—609 7 Claims
Int. Cl. H01f 3/04; H01f 7/06

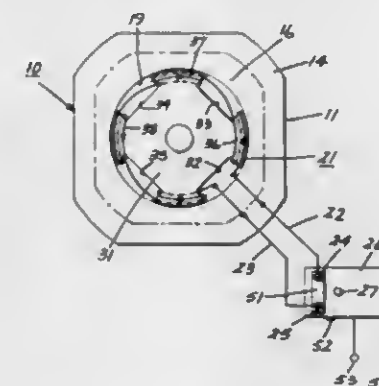
A method substantially or completely separates a number of magnetic elements, such as magnetic laminations at

least temporarily held together by a laminate bond existing between next adjacent laminations as might occur, for example, from subjecting the laminations to an annealing operation. The stuck-together laminations are surrounded by electrical conductors in which at least one electrical energy surge is generated of a magnitude sufficiently great to achieve their desired substantial or complete separation. This surge creates a varying magnetic field distributed around the periphery of the laminations and electromagnetic forces which act upon the laminations to break the interlaminar bonds. Thereafter, the elements, if laminations, may be aligned and secured together to form a core for use in electrical inductive device. Where laminations have already been secured to-



gether to form a core and interlaminar bonds might exist between next adjacent laminations, at least one electrical energy surge may be generated in the electrical conductors which surround the laminated core. The surge produces a varying magnetic field and resultant magnetic forces distributed around the outer regions of the core which interact with the individual laminations to reduce electrical losses in the core by destroying the effectiveness of the interlaminar bond. These methods permit the use of the same type of equipment with structures having a variety of configurations, and with specific reference to stator laminations, inherently weak tooth portions will not tend to be deformed or flared in spite of the relatively high electromagnetic forces which may be employed during the practice of the methods.

3,421,209
METHOD OF REDUCING ELECTRICAL LOSSES IN ELECTRICALLY CONDUCTIVE LAMINATED STRUCTURES
Richard D. Gibbs, Malta, Ill., and Raymond G. Rushing, Ballston Lake, N.Y., assignors to General Electric Company, a corporation of New York
Filed Jan. 21, 1965, Ser. No. 426,991
U.S. Cl. 29—609 7 Claims
Int. Cl. H01f 3/04; H01f 7/06

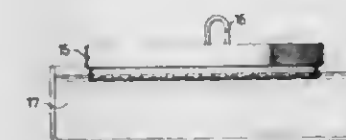


Methods for attaining a desired separation and/or reduction in electrical losses in a number of adjacent

elements formed of electrical conductive magnetic material, for instance, a stack of magnetic laminations of a laminated core to be subsequently incorporated into an electrical inductive device. The core may include interlaminar bonds of the type produced when the core has been annealed. An electrical winding is positioned in the vicinity of adjacent laminations, by way of illustration, into the bore of a dynamoelectric machine stator core, and at least one electrical energy surge generated in the winding of a magnitude selected to achieve the desired results. The electrical energy surge establishes a varying magnetic field near the laminations and electromagnetic forces which interact with the laminations to at least partially destroy intimate contact or the interlaminar bond existing between next adjacent laminations. This, in turn, effects the desired reduction in the electrical losses in the core.

The methods not only attain the desired separation of next adjacent magnetic elements but, in addition, where a laminated core is involved, a reduction in electrical core losses may also be achieved without detracting from the structural quality of the core. The methods are easily and rapidly practiced and yet, at the same time, are quite versatile and economical in nature.

3,421,210
METHOD FOR THE MANUFACTURE OF THE FUSE HEAD ELEMENT OF ELECTRIC FUSES
Maximilian Harms, Hannover, Germany, and Gustav Allan Wetterholm, Gytörp, Sweden, assignors to Nitroglycerin Aktiebolaget, Gytörp, Sweden, a company of Sweden
Filed Aug. 2, 1965, Ser. No. 476,304
Claims priority, application Sweden, Aug. 5, 1964, 9,469/64
U.S. Cl. 29—623 1 Claim
Int. Cl. H01h 69/02

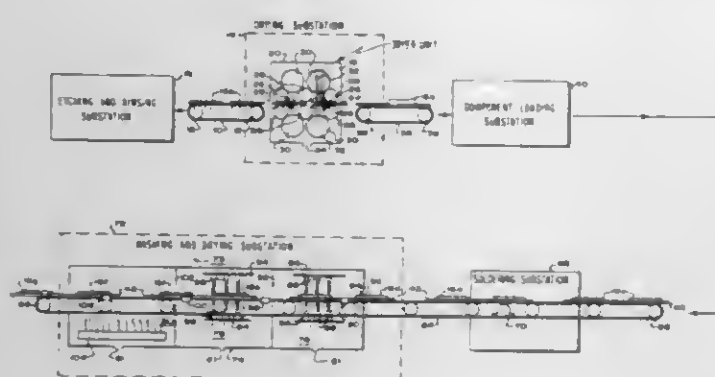


The present invention relates to an improved method for the manufacture of fuse head elements used in electric fuses (which elements include two conductive posts arranged side by side and secured in relation to each other by means of an insulated strap, one end of said said conductive posts being bridged by an electric incandescent wire which is embedded in a priming material) which method includes disposing the fuse head elements in spiral form prior to the dipping operation.

3,421,211
METHOD OF MAKING AND CLEANING PRINTED CIRCUIT ASSEMBLIES
Maynard D. Eaves, Sunnyvale, and John M. Gilbert, Woodside, Calif., assignors to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed Mar. 17, 1966, Ser. No. 535,071
U.S. Cl. 29—626 2 Claims
Int. Cl. H05k 3/30

Moist printed circuit boards are driven between resilient rollers and vacuum suction ports to dry them by squeezing and sucking the moisture therefrom. The dried printed circuit boards are mounted on universal racks and loaded with circuit components. These circuit components are then soldered to the printed circuit boards. The soldered printed circuit boards are washed and dried

by successively conveying them through a washing chamber where they are sprayed with a cleaning solvent, a



blowing chamber where they are blown with a warm gas, and a heating chamber where they are radiantly heated.

3,421,212

METHOD OF PRODUCING COMMUTATOR LEAD CONNECTION

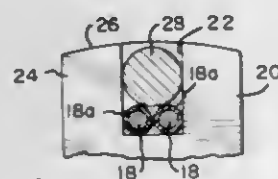
Edward W. Chabot, Greenfield, Mass., assignor to Millers Falls Company, Greenfield, Mass., a corporation of Massachusetts

Filed Feb. 12, 1965, Ser. No. 432,333

U.S. Cl. 29-628

Int. Cl. H01r 43/02

8 Claims



A method of securing electrical leads to a commutator, comprising the steps of inserting a pair of insulated electrical leads into a commutator slot, inserting an uninsulated copper wire into the slot over the insulated electrical leads, and applying a heated tool to the copper wire until the insulation on the electrical leads is broken and a good electrical and mechanical connection is formed between the electrical leads and the commutator.

3,421,213

HAIR TRIMMING DEVICE

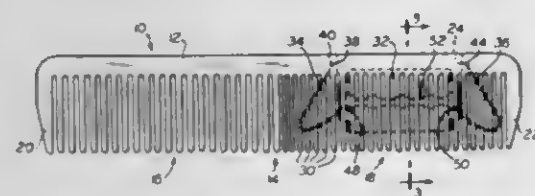
George Pawlikowski, 12 Highpoint Road, Lincroft, N.J. 07738

Filed Jan. 20, 1967, Ser. No. 610,529

U.S. Cl. 30-30

Int. Cl. B26b 21/12

3 Claims



A comb having a planar slot extending through the strip of the comb and into the teeth to a line closely spaced from the free ends of the teeth. Slidably disposed in the slot is a razor blade which is biased towards the free ends of the teeth by spring means.

3,421,214 SHAVING HEAD FOR A DRY SHAVER HAVING A PLURALITY OF CUTTING COMPONENTS

Cornelis Ludwig Rinck and Adam Koroncal, Klagenfurt, Carinthia, Austria, assignors to Firma Carinthia Elektrogerate Gesellschaft m.b.H., Klagenfurt, Carinthia, Austria

Filed June 13, 1966, Ser. No. 556,959

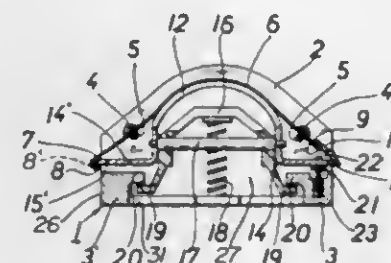
Claims priority, application Austria, June 15, 1965,

A 5,423/65

U.S. Cl. 30-34.1

Int. Cl. B26b 19/06; B26b 19/38

4 Claims



A shaving head for a dry shaver having a shaving component and at least one long hair clipping component arranged adjacent to the shaving component. The shaving component having a stationary arched and perforated shear foil and cooperating reciprocating cutter and the long hair clipping component having a stationary comb and cooperating reciprocating flat cutter comb.

3,421,215

ELECTRIC SHAVER

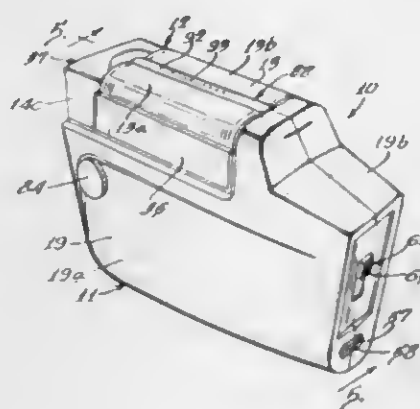
Charles L. Bauer, Carol Stream, Ill., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois

Filed May 27, 1966, Ser. No. 553,575

U.S. Cl. 30-41

Int. Cl. B26b 19/44

13 Claims



An electric shaver of the oscillating cutter type wherein the removable shaving head includes a flexible skin engaging member which provides two spaced parallel cutting surfaces engageable by oscillating cutting blades. By means of a dovetailed arrangement, the cutting head is releasable from the drive means by a mere sliding movement. Means for dispensing a friction reducing substance at the cutting surface is provided with means to insure that it is simultaneously connected and disconnected as the head is applied or removed. The connections and disconnections are accomplished by mere sliding movement of the cutting head by virtue of the dovetailed arrangement. A compact motor structure is embodied in the shaver casing so as to permit room for a container holding the friction reducing substance.

3,421,216

ELECTRIC SHAVER HAVING AN ELECTRIC FIELD FOR RETAINING HAIR DUST IN THE CUTTING HEAD

Otto Konrad Anna, Niederhochstadt, Taunus, Germany, assignor to Braun Aktiengesellschaft, Frankfurt am Main, Germany

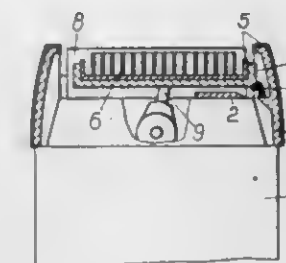
Filed Oct. 31, 1966, Ser. No. 590,951

Claims priority, application Germany, Nov. 4, 1965, B 84,367

U.S. Cl. 30-41

Int. Cl. B26b 19/38; B26b 19/02; A47i 13/40

1 Claim



An electric shaver having a wool wick attached to its moving cutting blade. In one section of the stroke of the blade, the wick lies in contact with a plastic, while in another section, a metallic part is contacted. Metallic part and plastic being physically and electrically separated, an electric field arises between the two and cut whiskers fly to the negatively charged plastic.

3,421,217

HAIR RECEPTACLE FOR ELECTRIC SHAVER

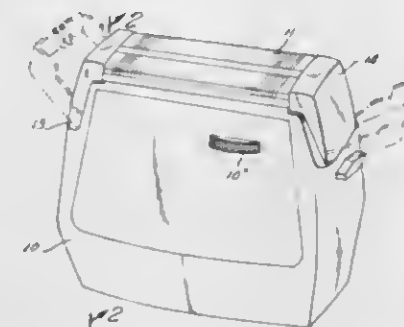
Donald L. Shortlidge, Lancaster, Pa., and James Christensen, Dover, Del., assignors to Schick Electric Inc., Lancaster, Pa., a corporation of Delaware

Filed June 29, 1967, Ser. No. 650,093

U.S. Cl. 30-41.6

Int. Cl. B26b 19/38

2 Claims



A hair receptacle assembly for an electric shaver including a trough-like receptacle and spring attachment arranged as a toggle joint, and a push button actuator maintained in operative relation to one another solely by the configuration of the parts and in which limited movement of the push button pivotally transfers the receptacle from a closed to open position by toggle action.

3,421,218

ELECTRIC SCISSORS

Richard A. Thompson, Detroit, Mich., assignor of forty-nine percent to Ben S. Stephenson, Birmingham, Mich.

Filed Aug. 1, 1966, Ser. No. 569,442

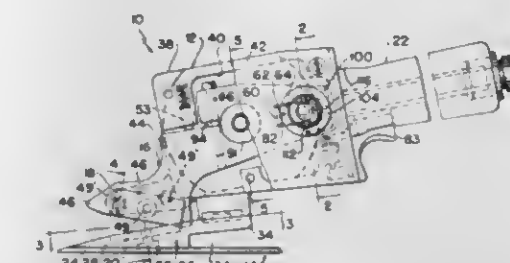
U.S. Cl. 30-228

Int. Cl. B26b 15/00

7 Claims

The cutting device cuts fabric and like material and comprises a first blade mounted on a fixed base and a second blade mounted on an oscillatory member. The oscillatory member has a sliding pivotal connection so that the second blade moves in a generally elliptical orbit. The sliding pivotal connection includes an eccentric pivot

shaft which may be rotated to vary the axis of pivotal movement. The base upon which the first blade is mounted provides a support for the device when placed upon a supporting surface. The blades are in the form of flat



rectangular plates having four cutting edges and being individually invertible and reversible end-for-end so that the cutting V's can be formed by sixteen different combinations of cutting edges of the two blades.

3,421,219

RAZOR BLADE MAGAZINE

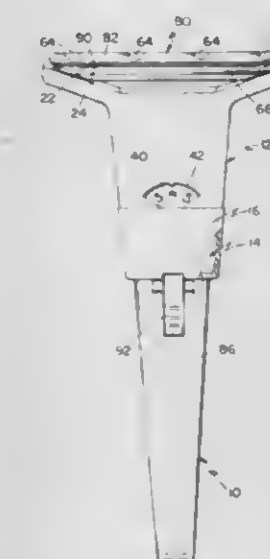
Warren I. Nissen, Topsfield, Mass., assignor to The Gillette Company, Boston, Mass., a corporation of Delaware

Filed Oct. 26, 1967, Ser. No. 678,325

U.S. Cl. 30-346.5

Int. Cl. B26b 21/54; B26b 21/26

11 Claims



A safety razor magazine that houses a stainless steel razor blade band, 0.1895 inch in width, has a flat shaving platform that terminates at each end in a cylindrical surface of 0.062 inch radius over which the blade is bent through an angle of 165°. Two blade guide surfaces are provided at the rear of the shaving platform. The magazine cover has a wing wall surface at each end of the shaving platform that defines the outer wall of the blade guide channel. That wing wall surface includes a conical surface 75° in length which tapers at an angle of 4°48'. This conical surface has a vertical extension at its upper end and a planar fillet extension at its lower end. This lower fillet extension extends below the shaving platform and has a width of 0.185 inch so that it may support all but the rear edge of the blade. When the magazine is inserted in its holder, the blade is forced against the fillet surface as it is clamped on the shaving platform and the taper of that fillet surface tends to maintain the rear edge of the blade in contact with the blade guide surfaces at the rear of the shaving platform so that the "insert" geometry is the same as the "tracked" geometry.

3,421,220 METHOD AND APPARATUS FOR CHEESE MOLDING AND FORMING

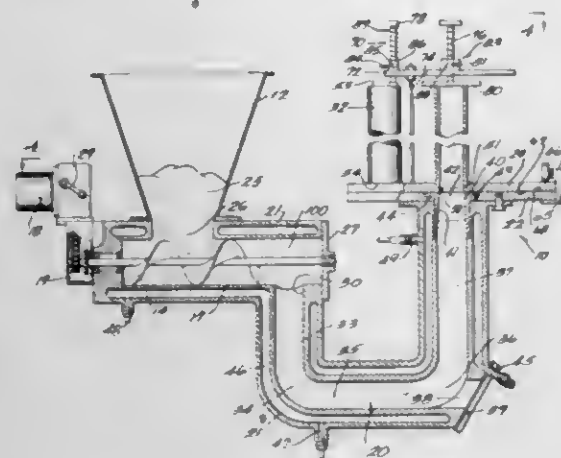
Joseph Stanga, Box 37, Rubicon, Wis. 53078

Filed Jan. 9, 1967, Ser. No. 608,021

U.S. Cl. 31—46

16 Claims

Int. Cl. A01J 25/13; A21c 11/16; B65b 63/08



An apparatus and method for molding and forming plastic curd cheese such as provolone into a cheese with uniform texture, a smooth skin and with the characteristic size and shape in which it is marketed.

The method includes the steps of kneading the cheese, forcing the cheese under pressure through a chamber maintained at a temperature sufficient to melt the fats in the surface of the cheese, extruding the cheese through a constriction into formers having the desired shape for the finished cheese, and cooling the formers in a cold water bath to firm the skin and facilitate removal of the cheese from the former. The apparatus of this invention includes a hopper for containing a supply of cheese curd which is fed into an auger housing containing a pair of counter-rotating augers which urge the cheese column through a smooth-walled working chamber and into a series of removable cheese formers which are mounted on a turntable for successive registration with the outlet of the working chamber. As each former is filled the turntable is rotated, shearing the cheese in the former from the column. The auger housing and working chamber are maintained at an elevated temperature by warm water circulating through a water jacket which surrounds the working chamber and the auger housing.

3,421,221 ORTHODONTIC APPLIANCE

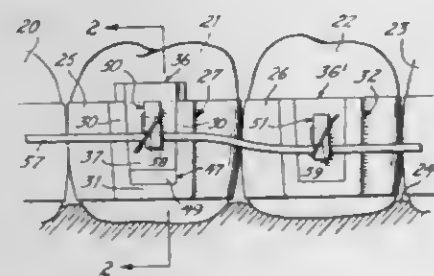
Elliott Silverman, 4829 Atlantic Ave., Ventnor, N.J. 08406, and Morton Cohen, Medical Arts Bldg., Jenkintown, Pa. 19046

Continuation-in-part of application Ser. No. 520,383, Jan. 13, 1966. This application May 18, 1966, Ser. No. 551,022

U.S. Cl. 32—14

10 Claims

Int. Cl. A61c 7/00



This invention is concerned essentially with an orthodontic appliance wherein a socket having only one end open is fixed to a band circumscribed about a tooth, and

a carrier is removably inserted into the socket having a wire-receiving bracket projecting outwardly away from the tooth beyond the socket for attachment to orthodontic wire.

3,421,222 METHOD AND APPARATUS FOR FILLING DENTAL CAVITIES

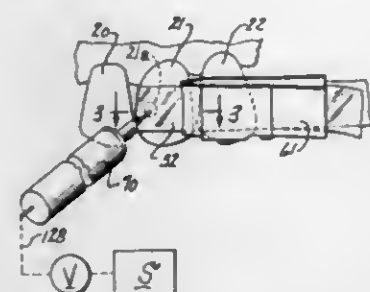
Roy L. Newman, 1023 Lundvall, Rockford, Ill. 61107

Filed Mar. 23, 1966, Ser. No. 538,459

U.S. Cl. 32—15

17 Claims

Int. Cl. A61c 5/12; A61k 5/02



The method includes securing a form over a cavity and providing an opening in the form, inserting a barrel through the opening and into the cavity, and introducing filling material through the barrel to fill the cavity from its inner portion toward the form. The disclosed apparatus includes a dispenser, several types of dental forms, a clamp, and a tool for providing the opening in the forms. The dispenser is operated by air pressure and has a removable cartridge in which the filling material may be prepared.

3,421,223 TOOTH MARKING METHOD AND MEANS

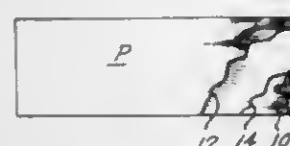
Marvin M. Stark, Los Altos Hills, Calif., assignor to Pascal Company, Inc., Seattle, Wash., a corporation of Washington

Filed Feb. 6, 1967, Ser. No. 614,330

U.S. Cl. 32—19

7 Claims

Int. Cl. A61c 9/00



Substances which on intermixture produce a visible effect are applied separately to the occlusal surfaces of the upper and lower teeth respectively. Upon occlusion these substances intermix to produce visible marks on the teeth at the precise points of contact. Application of the marking substances is effected by means of a pressure transfer pad carrying the marking substances on its opposite surfaces. Upon occlusion of the teeth with the pad removed the contact points will be marked.

3,421,224 AIR TURBINE DRIVE CARTRIDGE FOR DENTAL DRILL

Paul Donald Brehm and Raymond H. Carter, Keene, N.H., assignors to MPB Corporation, Keene, N.H., a corporation of New Hampshire

Continuation-in-part of application Ser. No. 181,974, Mar. 23, 1962. This application Sept. 10, 1964, Ser. No. 396,808

U.S. Cl. 32—27

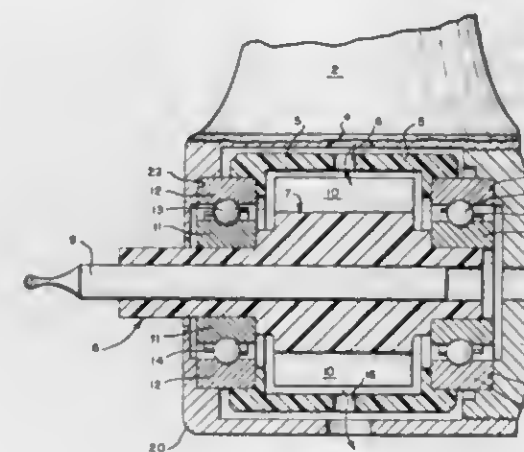
7 Claims

Int. Cl. A61c 1/12

1. In a turbine drive cartridge adapted for insertion into a dental tool handle housing for holding the cartridge and for rotating a tool attached to the cartridge at speeds

in excess of 375,000 r.p.m., the improvement comprising:

- (a) a hard smooth surface plastic cartridge housing adapted to be positioned in fixed relation within said handle housing and having an inlet port in communication with a source of air under pressure and an outlet port in communication with the atmosphere;
- (b) a hard and smooth surface plastic turbine shaft having a low moment of inertia rotatably mounted in said cartridge housing and having a plurality of turbine blades formed integral therewith and extending radially outwardly from the intermediate portion thereof;



- (c) concentric inner and outer cylindrical race members having anti-friction elements therebetween disposed at least partially within said cartridge housing at either end thereof and surrounding said turbine shaft with said inner race members fixed to said turbine shaft, and said outer race member fitted to said cartridge housing, said smooth surface plastic housing, turbine shaft and turbine blades cooperating together when said shaft is rotated at high speeds to substantially reduce the noise of operation of said cartridge, and
- (d) means for securing a working tool to one end of said turbine shaft.

3,421,225 ARTICULATOR GUIDE

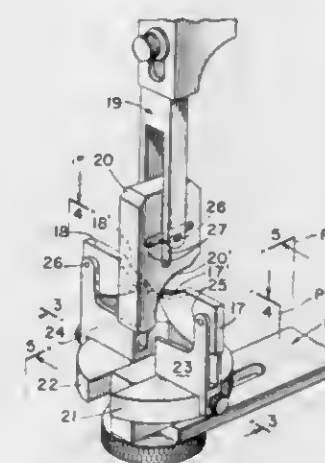
Charles E. Stuart, P.O. Box 891, Ventura, Calif. 93002

Filed Sept. 29, 1966, Ser. No. 582,833

U.S. Cl. 32—32

7 Claims

Int. Cl. A61c 11/00



A dental articulator includes guiding structure for moving the articulator to conform to a patient's physiological jaw movements. The guide structure has first and second

guide means arranged in opposed relationship and adjacent to the ends of the base and arm sections of the articulator. The first and second guide means define, respectively, first and second opposed curved guiding edges lying in mutually perpendicular planes and in engagement with each other so that side to side, back and forth, and up and down relative movements may be guided by the geometry of the first and second curved guiding edges.

3,421,226 COMBINATION LAYOUT AND SPOTTING APPARATUS

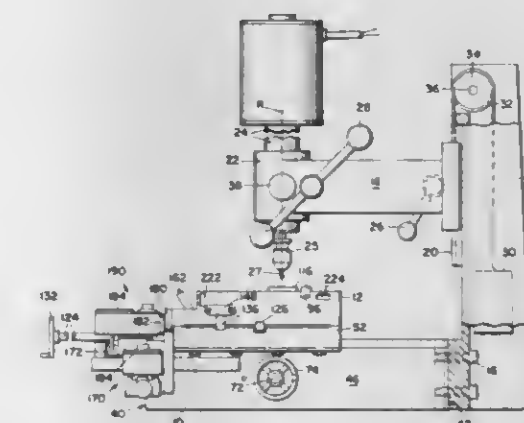
William E. Lauzon, 107 Fillmore St., Bennington, Vt. 05201

Filed Oct. 10, 1966, Ser. No. 585,561

U.S. Cl. 33—189

5 Claims

Int. Cl. G01b 5/14; G01b 7/14; G01b 11/14



A working holding table which is mounted for mutually perpendicular horizontal movements relative to a fixed base and a drill press spindle. The table has a magnetic-chuck mounting and keys seated in grooves for positioning a corner of the work at the zero part of the table. Indicators are also provided for indicating movement of the table relative to the zero point.

3,421,227 TWO AXIS LEVEL DETECTOR

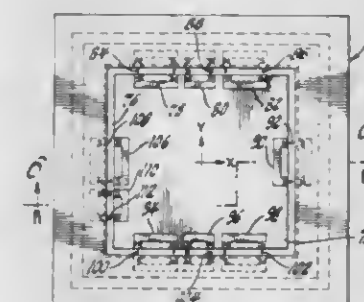
David W. Turner, Hales Corners, and Thomas W. Morrow, Oak Creek, Wis., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed May 23, 1966, Ser. No. 552,142

U.S. Cl. 33—206

5 Claims

Int. Cl. G01c 9/00



A level detector having a mass supported for omnidirectional planar displacement over a support surface by means of a fluid bearing. The displacement in either of two orthogonal directions is sensed by Hall probes mounted between magnets carried by the test mass and the support, and the outputs of the Hall probes control the energization of force coils, also mounted between magnets carried by the test mass and the support 5, which tend to

retain the test mass in a central null position. Rotation of the test mass relative to the support is restrained by similar forcer coils.

3,421,228 HEATING APPARATUS FOR A PRINTING PRESS

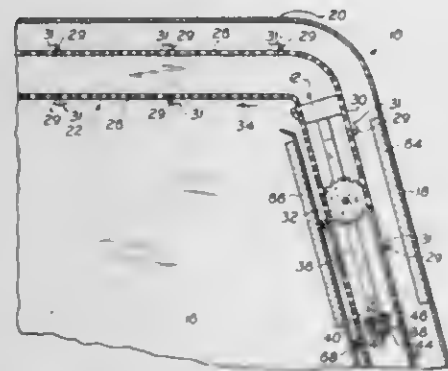
William C. Herbert, Jr., 79 Maryland Ave.,
Freeport, N.Y. 11520

Filed June 28, 1966, Ser. No. 561,166

U.S. Cl. 34-1

Int. Cl. F26b 5/00; B01k 5/00

8 Claims



A heating apparatus for a printing press in which a heater is positioned in heat exchanging relative to the printed material transported by a carrier and the heating area is shielded by shielding means.

3,421,229 METHOD AND DEVICE FOR CONVEYING GOODS TO AND FROM A VACUUM OR PRESSURE CONTAINER

Fritz Kniese, Marbach, Kreis Marburg, Germany, assignor to Industrie-Werke Karlsruhe Aktiengesellschaft, Karlsruhe, Baden, Germany, a corporation of Germany

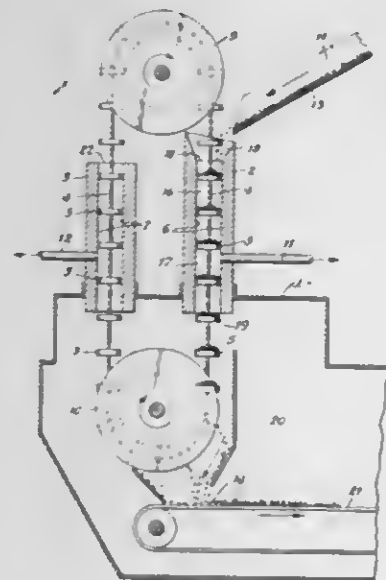
Filed Jan. 20, 1967, Ser. No. 610,546

Claims priority, application Germany, Jan. 27, 1966, J 29,916

U.S. Cl. 34-92

Int. Cl. F26b 17/00; F26b 19/00; F26b 5/06

10 Claims



Goods, such as food stuffs and biological substances, are continuously moved by a number of pistons arranged on an endless conveyor chain through a pair of parallel vertical pipes the inner walls of which are in sealing engagement with the pistons, whereby a vacuum is applied to the chambers formed between the pistons. The lower ends of the pipes are connected with a vacuum chamber containing an endless horizontal conveyor upon which the goods carried by the pistons are deposited.

3,421,230 INDUSTRIAL CONVEYOR BELTS

Lowell G. Ward, East Greenbush, N.Y., assignor to Huyck Corporation, Rensselaer, N.Y., a corporation of New York

Filed June 30, 1966, Ser. No. 561,864

U.S. Cl. 34-95

Int. Cl. F26b 13/26; F16g 1/26; D21f 1/10

11 Claims



This invention relates to a multiple-layer endless belt, useful, for example, in the dryer section of a papermaking machine, characterized by having a longitudinal breaking strength in excess of 500 lbs. per lineal inch of width, a width, when the belt is subjected to longitudinal tension equivalent to 1,000 or less per lineal inch of width, of at least 95% its width when said belt is not under longitudinal tension, and a paper contacting surface which is permeable to fluids and does not significantly mark a web of paper of at least 35% solids content by volume when the belt is subjected to longitudinal tensions in excess of 500 lbs. per lineal inch of width while said surface is in contact with the paper being processed.

3,421,231 ELECTROKINETIC TUTORING MEANS

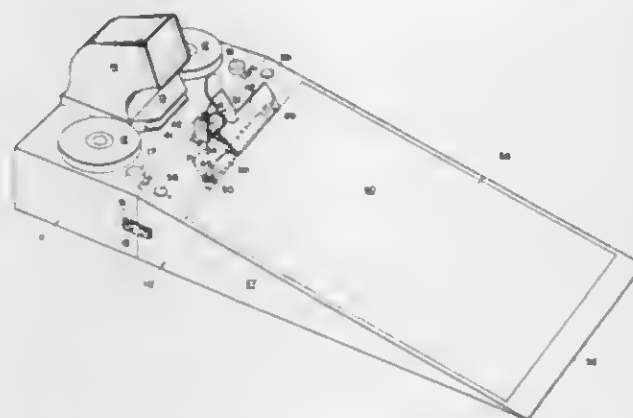
Patrick A. Kane, Hartline, Wash. 99135

Filed Jan. 6, 1967, Ser. No. 607,802

U.S. Cl. 35-9

Int. Cl. G09b 7/00

8 Claims



An electrically powered teaching implement including circuits adapted to energize a digital read-out device alone or selectively said digital read-out device and indicator lights showing "correct" and "incorrect" answers; and drill and test papers having electrical circuits thereon and adapted for use with said implement.

3,421,232 GROUP TRAINING AND EDUCATIONAL APPARATUS

Arthur Tillman Sherman, Swedesboro, N.J., and Robert Harrison Miller, Newark, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed June 29, 1965, Ser. No. 467,972

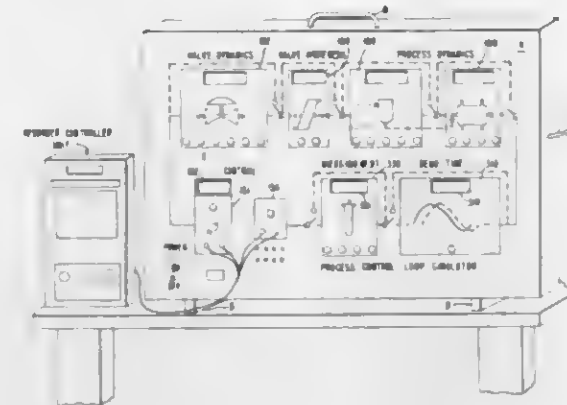
U.S. Cl. 35-13

Int. Cl. G09b 25/02

2 Claims

A compact lightweight plural-section process-simulating group training and educational apparatus with a selectively variable, selectively disconnectable independent computing section for each variable of each component of the process being simulated, the apparatus comprising a housing provided with means for connection to a suitable power supply and the housing provided with means

for selective connection to one of a variety of automatic controller devices to form a control loop, the housing further provided with an enlarged accurate visual representation of the process being simulated and for each variable of the process, each representation comprising



visual indicating means operatively connected to a computing section to provide instantaneous indications of the action of the simulated process, the apparatus provided with means for stopping, running, and rerunning any simulation at selectively varied rates.

3,421,233 VISION TRAINING DEVICE AND METHOD FOR ACHIEVING PARALLEL SIGHTINGS

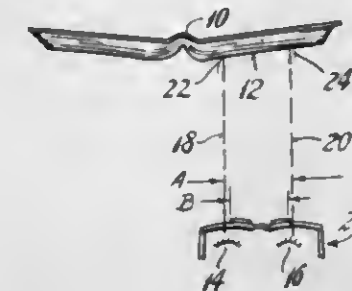
Arpad Gaal, 54 Figlar Ave., Fairfield, Conn. 06430

Filed Oct. 5, 1966, Ser. No. 584,573

U.S. Cl. 35-35

Int. Cl. G09b 21/00

1 Claim



A vision-confining device and method of conditioning a person's vision to improve facility in reading, which involves blocking the lines of sight from the eyes in all those directions extending toward a vertical median plane which is disposed centrally with respect to the eyes, to the end that there is encouraged independent vision respectively of the eyes generally in parallel lines toward a printed page held up in front.

3,421,234 ATTACHABLE TOE GUARD FOR A SHOE

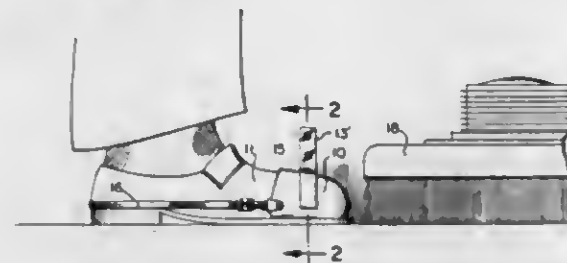
John R. Sargent, 22 Elm Rock Road,
Bronxville, N.Y. 10708

Filed Oct. 11, 1967, Ser. No. 674,546

U.S. Cl. 36-72

Int. Cl. A43b 13/22

3 Claims



A pair of cap members are shaped to fit over the toe portion of a shoe, and the lower edges (preferably ser-

rated) project inwardly to engage the bottom portion of the shoe. Clamp means is provided to clamp the cap members to a shoe, and a heel strap assists in holding the assembly in place. Advantageously an upwardly extending projection is provided to inhibit movement of a shoe under machine guards and the like.

3,421,235 EXCAVATING MACHINE

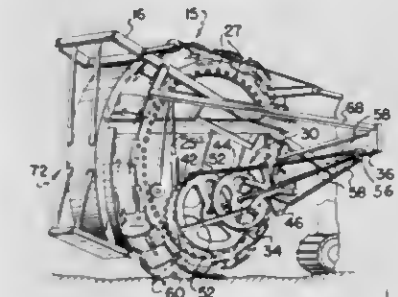
Vincent S. Penote, Shaker Heights, and Melvin K. Rear, Chesterland, Ohio, assignors to The Cleveland Trencher Company, Cleveland, Ohio, a corporation of Ohio

Filed July 21, 1965, Ser. No. 473,695

U.S. Cl. 37-86

Int. Cl. E02f 5/02

16 Claims



A sloper mechanism adapted for mounting on an excavating machine for sloping the side of an excavation including a rotary shaft adapted for operable connection at one end to the excavating machine, a plurality of laterally spaced, wheel-like members mounted on and for rotation with the shaft, the wheel-like members disposed in oblique relationship with respect to the longitudinal axis of the shaft, and cutting members associated with the wheel-like members adapted for oscillatory movement upon rotation of the sloper mechanism.

3,421,236 LINKAGE FOR AN EJECTOR TYPE BUCKET LOADER

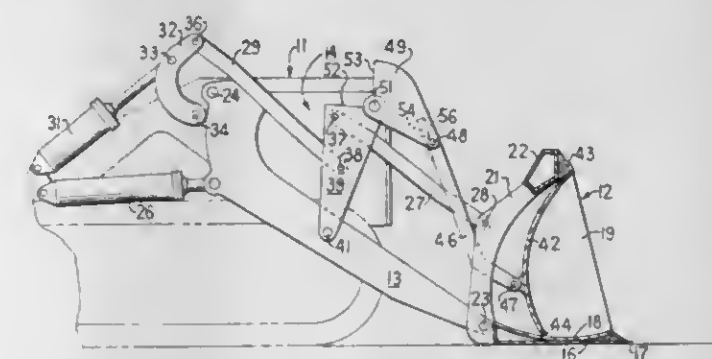
Edward J. Moyer, Marton, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

Filed June 22, 1967, Ser. No. 648,145

U.S. Cl. 37-117.5

Int. Cl. E02f 3/76; E02f 9/00; B60p 1/20

8 Claims



An improvement in tractor loaders having an ejector type bucket, lift arms for raising and lowering the bucket, and tilt linkage for controlling forward and rearward tilting of the bucket. An ejector link extends from the bucket ejector plate to a pivotal connection with the tilt linkage by means of a tilt linkage lever and an ejector lever. The tilt linkage and ejector levers each have contacting surfaces which radially extend from their common pivot connection and pivot into positive contacting relation

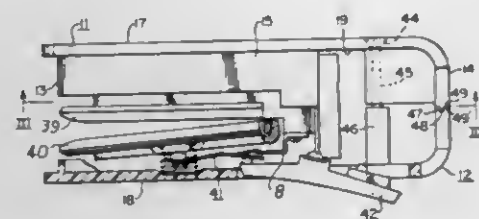
to subsequently pivot the ejector plate forwardly according to operation of the tilt linkage.

3,421,237 COMBINATION STEAMING AND PRESSING DEVICE

Samuel R. Bricker, Shelby, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 6, 1967, Ser. No. 643,854
U.S. Cl. 38—71
Int. Cl. D06f 69/00

6 Claims



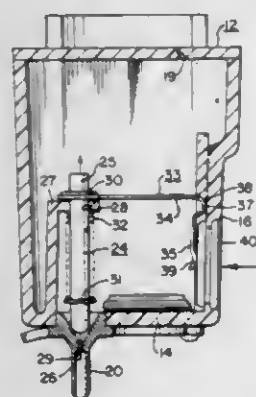
A compact hand-held device for pressing garments or fabrics with or without steam. Since the device is compact resulting in a high heat density per unit of area of its casing, the device is provided with a unique heat shield to which a heater and pressing plate are mounted and which provides air gaps between it and the heater and the casing for reducing the quantity of heat transferred to the casing; the heat shield further has structure carried thereby which supports a water tank or reservoir within the confines of the casing to allow for simultaneous steaming and pressing.

3,421,238 COMBINATION STEAMING AND PRESSING DEVICE AND WATER RESERVOIR THERE- FOR

Samuel R. Bricker, Shelby, Ohio, assignor to Westinghouse Electric Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 8, 1967, Ser. No. 644,730
U.S. Cl. 38—71
Int. Cl. D06f 69/00

7 Claims



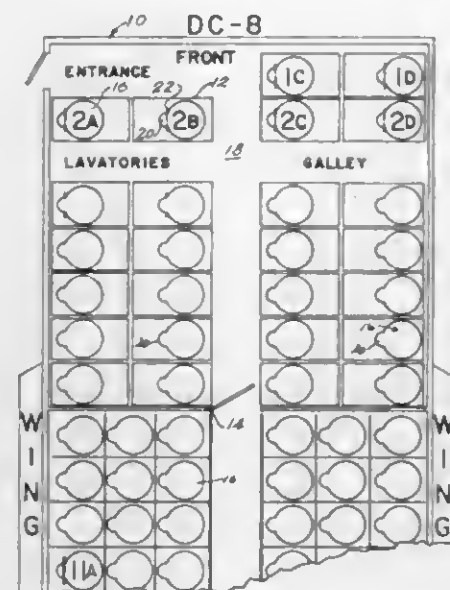
An elongated upright container disposed in a cavity in a combination steaming and pressing device and adapted to hold water to be used in the device. The container is provided with a fill opening in a bottom wall thereof thereby necessitating the removal of the container from the device for filling thereof; the container is further provided with valve structure adjacent a first vertical wall of the container and motion transfer means carried in an opposite vertical wall so that movement imparted to one end of a mechanical amplifier by the motion transfer means produces optimum displacement at the end of the mechanical amplifier adjacent the valve structure.

3,421,239 SELECTION APPARATUS AND METHOD

Jack L. Smith, 1356 Nerine Circle, De Kalb County, near Dunwoody, Ga. 30043

Filed Nov. 2, 1965, Ser. No. 506,038
U.S. Cl. 40—19.5
Int. Cl. G09f 3/18

7 Claims



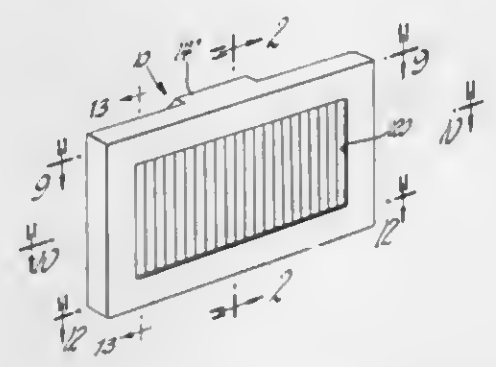
One form of the present invention is an airline reservation schedule and seat selection sheet which is used one time for seat selection by passengers and from which individual seat markers are transferred to tickets or the like indicating on the device which seats are still available. The sheet is multi-ply with a back having a stick-resistant front and the sheet having a front with removable seat selection members removably stuck to the stick-resistant back with tabs on the selection members for easy removal.

3,421,240 SIGN

Michael G. Bardl, 23110 Webster, Oak Park, Mich. 48237

Filed Mar. 3, 1966, Ser. No. 531,464
U.S. Cl. 40—65
Int. Cl. G09f 11/30

11 Claims



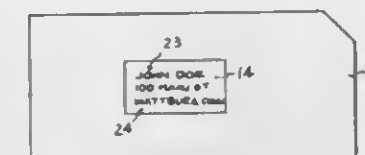
A three-message sign including a plurality of vertical stationary sign strips disposed in overlapping relationship with one another so that each strip has an exposed portion, a plurality of first sign strips interconnected at the top and alternately disposed among the stationary sign strips for movement between a position of concealment behind the stationary sign strips and a position for covering the exposed portions of the stationary sign strips, and a plurality of second sign strips interconnected at the bottom thereof and alternately disposed among the stationary sign strips for movement between a concealed position behind the stationary sign strips and a position covering the exposed portions of the stationary sign strips.

3,421,241 PROTECTED STENCIL APERTURE CARD

David Louis Hochberg, New York, N.Y., assignor to Pitney-Bowes, Inc., Stamford, Conn., a corporation of Delaware

Filed Jan. 18, 1966, Ser. No. 521,270
U.S. Cl. 40—158
Int. Cl. G09f 1/10, 19/12; B42d 15/00

5 Claims



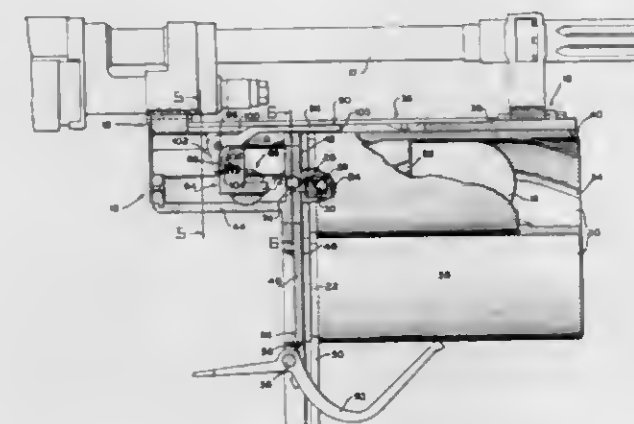
A device useful in the printing art in which a machine sortable coded card has a stencil laminate provided in an apertured portion of the card, the stencil being of such nature that an infrared radiation reflective coating is selectively removable from a transparent backing sheet by transfer from the backing sheet to a receptor sheet as a result of impact pressure between the receptor sheet and the reflective coating, the reflective coating having a protective layer thereon which prevents inadvertent removal of the reflective coating.

3,421,242 FIREARM EJECTOR

Albert J. Lizza, Wilbraham, Mass., assignor to the United States of America as represented by the Secretary of the Army

Filed May 23, 1961, Ser. No. 112,124
U.S. Cl. 42—25
Int. Cl. F41c 15/00

3 Claims



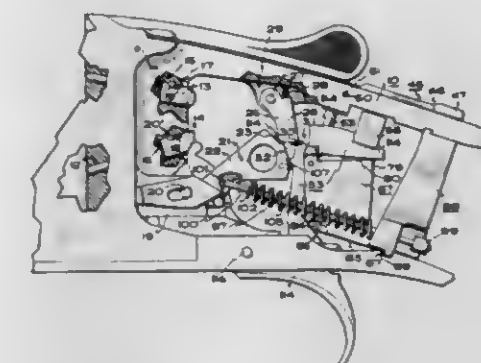
1. A firearm in which a round with a case is fed into the firearm without relative longitudinal movement to a position to be discharged and the case after discharge remains in the fired position until ejected, said firearm including a member energized for reciprocation in forward and rearward movement by the discharge of the round, an ejector carried by said member for displacement therewith and for relative pivotal movement between a retracted and an ejecting position, said ejector including an arm disposed for engagement by the round when fed into the firearm to move said ejector to the retracted position and for sliding contact with the case to hold said ejector in the retracted position during rearward movement of said member, a front end on said arm arranged to clear the case during rearward movement of said member, and means for biasing said ejector to the ejecting position after said front end is clear of the case to position said front end in back of the case for transferring forward movement of said member to the case for ejection from the firearm.

3,421,243 FIRING MECHANISMS FOR DOUBLE BARREL, SINGLE TRIGGER FIREARMS

Val A. Browning, Ogden, Utah, assignor to Browning Industries, Incorporated, Ogden, Utah, a corporation of Utah

Filed Sept. 18, 1967, Ser. No. 668,610
U.S. Cl. 42—42
Int. Cl. F41c 7/00; F41c 11/00

9 Claims



The present invention relates to double-barrel firearms having single triggers, and provides an improved firing mechanism therefor. In particular, structure is provided so that doubling is avoided during both the recoil and counter-recoil cycles; this is accomplished through use of a connector and counterweight combination which keeps the actuating shoulder (of the counterweight), designed to operate the second sear, away from such sear until all recoil and counter-recoil movement has terminated. Ultimate advancement of the counterweight shoulder to sear engagement is accomplished through release of the first sear, during the fall stroke of the first hammer, to permit the connector and the counterweight to advance forwardly so that the latter ultimately assumes operative position relative to the second sear.

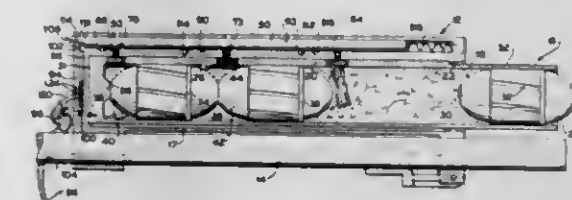
A connector shifting mechanism is provided and, preferably, includes a safety function when the actuating lever is in central position.

3,421,244 FIRING MECHANISM FOR A RIFLE MOUNTED AUXILIARY FIREARM

Frederick P. Reed, Ludlow, Mass., assignor to the United States of America as represented by the Secretary of the Army

Filed Mar. 2, 1962, Ser. No. 177,706
U.S. Cl. 42—69
Int. Cl. F41c 17/00

6 Claims



1. The combination including a cartridge having a rifled tube, a plurality of projectiles arranged in said tube in coaxial tandem alignment, an inclosed chamber formed rearwardly of each of said projectiles, detonators located in said tube for discharge into each of said inclosed chambers, a receiver attachable to a rifle barrel for support thereby, said receiver being of tubular configuration designed to receive said cartridge for discharge, and a receiver-mounted firing mechanism including a trigger, a trigger actuated sear, a hammer of rod configuration disposed in said receiver for longitudinal displacement

therein, a spring located in said receiver so as to press against the front end of said hammer for biasing said hammer rearwardly from a cocked position, a plurality of firing pins respectively positioned for actuation against said detonators for discharge thereof, and striking surfaces arranged on said hammer for respective displacement against successive ones of said firing pins for discharge of the corresponding ones of said detonators.

3,421,245

FISH PUMP SYSTEM WITH COMBINED ARTICULATED SUPPORT BOOM AND CONDUIT

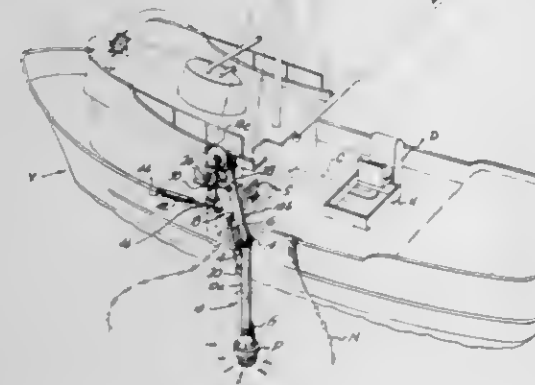
David W. Lerch, Iquique, Chile, assignor to Marine Construction & Design Co., Seattle, Wash., a corporation of Washington

Filed Apr. 21, 1967, Ser. No. 632,622

U.S. Cl. 43-6.5

Int. Cl. A01k 79/00

9 Claims



Transfer of a fish and water mixture discharging from a submersible pump is effected through a tubular conduit made up of rigid segments successively interconnected by joints of a nature to permit controlled articulation movement between segments. Actuators interconnecting successive segments enable the conduit to function also as a structural boom-arm or support for the pump so as to permit moving the pump about as required either while operating or for purposes of extension and retraction between operating and stowed positions, respectively. The remote end of the boom-arm conduit is preferably mounted on a base support such as the deck of a fishing vessel so as to permit swinging of the structure about an upright axis, whereas vertical movements of the pump are preferably effectuated by actuator-controlled articulation movement of the segments relatively about generally horizontal axes. In one embodiment one or more member segments of the boom-arm conduit are of telescoping construction permitting the pump to be thrust deeper into the water when necessary without changing relative angular positioning of the segments.

3,421,246

ELECTRIC NIGHT FISHING FLOAT

Osamu Jinushi, Yoshio Hasegawa, and Takuji Hossaka, Osaka, Japan, assignors to Yuasa Battery Company, Limited, Takatsuki, Osaka Prefecture, Japan

Filed July 7, 1966, Ser. No. 563,495

Claims priority, application Japan, Dec. 30, 1965, 41/48

U.S. Cl. 43-17.5

3 Claims

Int. Cl. A01k 93/00

An electric night fishing float comprising comprising a hollow body and a hollow cap, said hollow cap forming an illuminating chamber containing a miniature bulb and lead wires connected electrically to metal strips provided in a sealing block, said sealing block being fitted into the hollow cap, said hollow body having holes for

allowing sea water to pass therethrough and forming a battery chamber for containing a sea water battery there-



in, said sea water battery being electrically connected to said metal strips.

3,421,247

FISHING ROD

Albert L. Hubbard, 677 E. Channel Islands Blvd., Oxnard, Calif. 93030

Filed May 12, 1967, Ser. No. 638,088

U.S. Cl. 43-18

Int. Cl. A01k 87/00

8 Claims



A fishing rod having a preferably elastic hollow core filled with fluid—liquid or gas—under pressure, loosely wrapped with steel wire, either wound with spaced coils in opposite directions or interwoven in basket-weave fashion, and encased in resin-impregnated overlapped convolutions of fiber glass tape, and heated to set the resin and provide a homogeneous coating over the core that is strengthened by the wire windings.

3,421,248

FISH POLE

George D. Kennedy, 4415 Ocean Beach Blvd., Cocoa Beach, Fla. 32931

Filed July 31, 1967, Ser. No. 657,231

U.S. Cl. 43-24

Int. Cl. A01k 87/04

5 Claims

A fish pole has a line carrying assembly which includes a pair of elongated flexible rod-like members that are spaced apart and interconnected in a generally parallel arrangement. The rods are rigidly interconnected at their

opposite ends but between their ends the rods are spaced apart by loose connecting spacers which are adapted and arranged to pivot on the rods and within certain limits to also move axially on the rods. The spacers may have

the upper and lower frames being slidably interconnected by convolutions on the respective frames, a pair of differently directed wire leaders on the upper frame and a sinker on the lower frame for spacing fishing lures and hooks with respect to each other and with respect to the bottom of a body of water.



line guide portions arranged on the opposite side of the pole from the reel member. The arrangement reduces the tendency of such poles to twist in the users hands when the line is dragged.

3,421,249

FISHHOOK

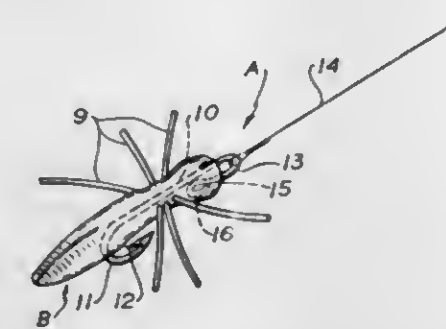
William D. Jeffers, Fresno, Calif., assignor to Jeffers & Bailey, Inc., Fresno, Calif.

Filed May 11, 1966, Ser. No. 549,409

U.S. Cl. 43-42.37

Int. Cl. A01k 85/00

5 Claims



In combination with a molded thermosetting plastic fish-shaped lure body, a fishhook including a pair of shanks arranged generally parallel to each other and defining therebetween a line-attaching eye, one of the shanks being integral with a hook and the other of the shanks being integral with an apertured lateral projection suitable for enclosure within the thermosetting plastic body.

3,421,250

FISHING LURE SPREADER

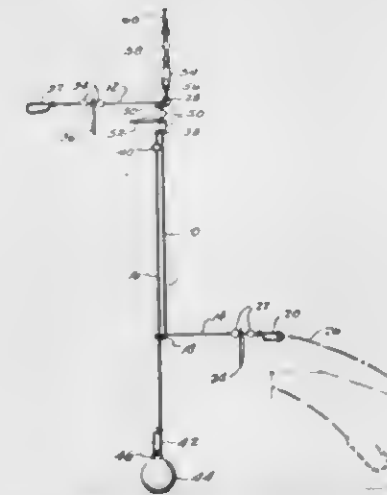
Warren C. Krieg, 108 Maroy Drive, Amherst, Ohio 44001

Filed Aug. 30, 1967, Ser. No. 664,332

U.S. Cl. 43-42.74

Int. Cl. A01k 91/00; A01k 83/00

7 Claims



A spreader for fishing lures and hooks and the like comprising a Z-shaped upper frame and a lower frame,

3,421,251

ANIMAL TRAP

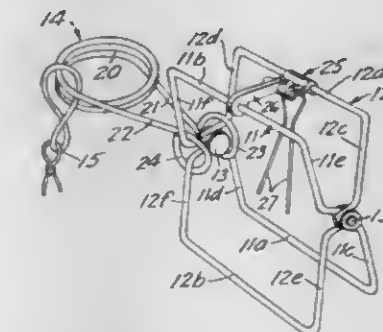
Russell N. Hofmeister, Waseca, Minn., assignor to Herter's Inc., Waseca, Minn., a corporation of Minnesota

Filed June 24, 1966, Ser. No. 560,279

U.S. Cl. 43-92

Int. Cl. A01m 23/28

1 Claim



The trap has spaced jaw members when in the set position. A latch is pivotally mounted on one jaw member and is provided with a detent in one edge and fulcrum surfaces on opposite sides of the detent. A trigger is pivotally mounted on the other jaw member and is provided with a transverse pin spaced from the pivot axis and has camming surfaces on opposite sides of the pin. In set position, the trigger pin engages the latch detent in the space between the jaws. A wire member is attached to the trigger for operation by an animal to release the jaws.

3,421,252

PIPELAYING TOY TRUCK

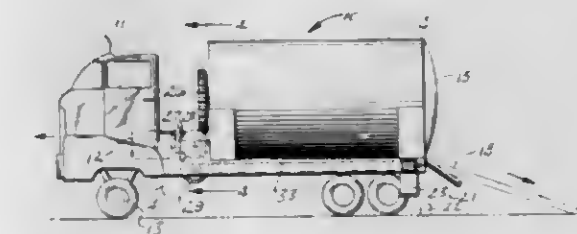
David E. Downey, Rte. 31, Road 3, Lyons, N.Y. 14489

Filed Jan. 17, 1966, Ser. No. 521,182

U.S. Cl. 46-40

Int. Cl. A63h 17/05

5 Claims



1. A battery operated pipe-laying toy truck comprising a truck frame with wheels, a cylinder shaped outer drum positioned on the truck body, an inner drum within said cylinder shaped drum provided with a plurality of slots positioned therein, a drive mechanism operatively connected to said inner drum for turning said inner drum around its axis, a plurality of pipes positioned within said slots, the bottom portion of said cylinder shaped drum having a slot and a guidance chute secured thereto for removal of one of said pipes from said cylinder shaped drum when said inner drum slot is turned by said drive mechanism in direct alignment with the slot of said cylinder shaped drum, a plurality of pipe support members,

a housing within said truck frame, said housing having openings therein for removeably securing said pipe support members, an ejection mechanism on said frame operatively connected to said drive mechanism for ejecting said support members from said housing simultaneously with the ejection of one of said pipes from said inner drum.

3,421,253

MANEUVERABLE JET-PROPELLED TETHERED FLIGHT TOY

James G. Thurston, 711 N. 1st,
Mount Vernon, Wash. 98273

Filed June 14, 1965, Ser. No. 463,558

U.S. Cl. 46-74
Int. Cl. A63h 27/04

1 Claim



A toy is moved by reactive forces created by discharging a fluid through a nozzle of a power pack which removably supports a body simulating an object to be flown in space and which is flexibly connected to a substantially rigid fluid conduit that extends outwardly from a hand operated fluid control valve mechanism. Further tethered control of the movements of the object being simulatedly flown in space is undertaken both directly by movement of the rigid fluid conduit and indirectly by tilting the power pack and its nozzle relative to the supporting fluid conduit structure upon hand operation of a linkage extending from the power pack to the proximity of the hand operated fluid control valve mechanism.

3,421,254

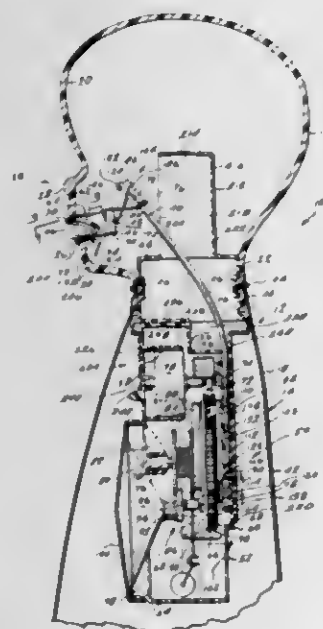
ANIMATING MEANS FOR A FIGURE TOY

John W. Ryan, Bel Air, and Richard L. May, Manhattan Beach, Calif., assignors to Mattel, Inc., Hawthorne, Calif., a corporation of California

Filed Apr. 22, 1966, Ser. No. 544,441

U.S. Cl. 46-118
Int. Cl. A63h 3/36, 5/00

10 Claims



A hollow doll is provided with a phonograph in its body and which synchronously actuates lip moving means. The

lip moving means are crossed levers, pivoted together with their front ends supported entirely and biased to open position by the material of the lips. A Bowden cable connects the rear ends of the levers to the phonograph and holds the rear end of one lever against up-and-down movement. The levers and upper end of the Bowden cable can move rearwardly into a protective housing if the doll's face is unduly distorted rearwardly.

3,421,255

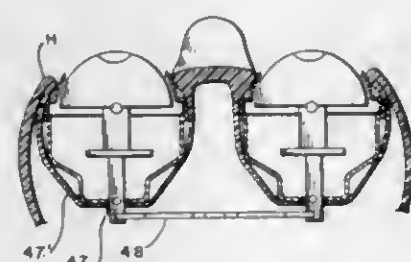
SYNCHRONIZED ROLLING EYES FOR DOLLS

Harry Brudney, New York, N.Y., assignor to Dollac Division, Jacoby-Beader, Inc., Woodside, N.Y.

Filed Feb. 23, 1966, Ser. No. 529,543

U.S. Cl. 46-167
Int. Cl. A63h 3/40

9 Claims



This invention relates to doll eyes and more particularly to eyes that roll or swivel from left to right when the doll head is swung or rotated on a generally vertical axis, wherein motion is induced by weighting of pivotal eyeballs. The prime feature of the invention herein is to link the rotative eyeballs of a pair of unit doll eyes for effecting synchronized motion.

3,421,256

PAPER CAP EXPLODING NOVELTY TOY

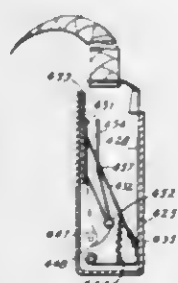
Albert M. Zalkind, Arlington, Va.

(1026 Warner Bldg., Washington, D.C. 20005)

Filed Oct. 1, 1962, Ser. No. 227,331

U.S. Cl. 46-176
Int. Cl. A63h 5/00

22 Claims



1. In a toy of the class described, a handle, an anvil and a hammer carried by said handle, inertia means connected to said hammer whereby said hammer is actuated by a snapping movement of said handle, means for storing a plurality of caps in said handle and means for effecting successive striking of caps by said hammer against said anvil, said last-mentioned means comprising a feed finger connected for movement with said hammer and being biased against a strip of caps wherein movement of said hammer is synchronized with movement of said feed finger for effecting feed, and a hold-back element disposed to maintain a pressure on said strip to effect uni-directional feed by said feed finger.

3,421,257

TOY TRUCK AND STATION

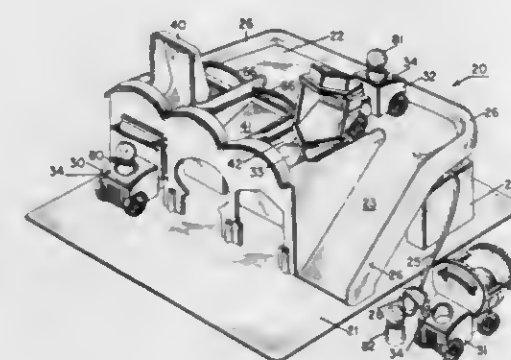
Robert K. Ostrander, Jr., East Aurora, N.Y., assignor to Fisher-Price Toys, Inc., East Aurora, N.Y., a corporation of New York

Filed Feb. 25, 1966, Ser. No. 530,107

U.S. Cl. 46-202
Int. Cl. A63h 11/10

7 Claims

A toy dump truck station is formed with two levels and pivotally mounted hoppers arranged at the upper level for receiving a load dumped from a truck and extending downward to the lower level for transferring a load to a truck backed under a hopper. There is a plu-



ality of trucks having distinctively configured bodies which correspond to similarly configured access openings to the hoppers.

3,421,258

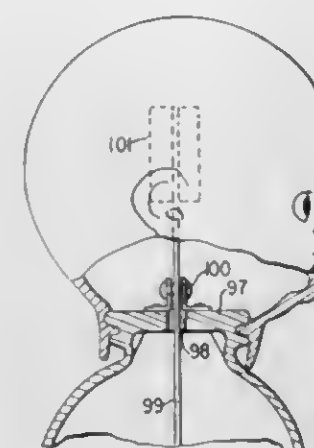
WALKING DOLL MECHANISM

Robert Gardel, New York, and Egon Gorsky, Brooklyn, N.Y., assignors to Lettam, Inc., New York, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 513,380, Dec. 13, 1965. This application Mar. 28, 1967, Ser. No. 626,601

U.S. Cl. 46-247
Int. Cl. A63h 33/26

3 Claims



A spring or electric motor powered mechanism for installation in the body of a doll or other toy figure, including a weight (preferably located as high as possible) which is reciprocated from side to side to unbalance the body alternately in opposite directions due to reaction of the body to the inertial turning movement of the weight assembly, and leg mounting members which cause the legs to swing forward alternately in response to the unbalancing of the body. When the motor is operating, the figure takes steps, i.e., walks, and when the motor is not operating the figure will stand alone and can be "hand walked" by manually rocking the body from side to side.

3,421,259

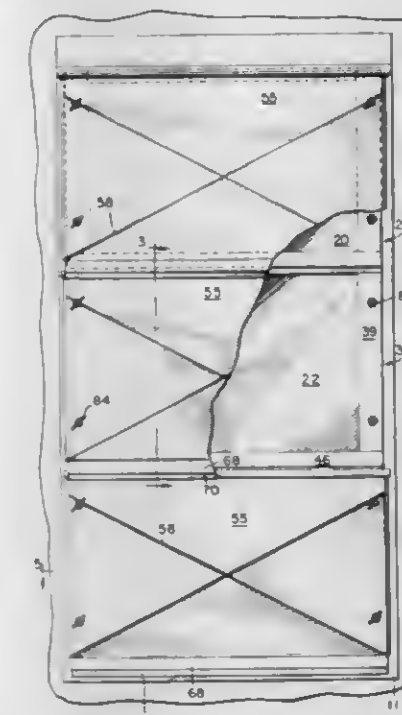
STORM SHUTTERS

Bruce C. Egan, Jr., Fort Lauderdale, Fla., assignor to Broward Hurricane Panel Co., Inc., a corporation of Florida

Filed Aug. 19, 1966, Ser. No. 573,583

U.S. Cl. 49-62
Int. Cl. E06b 3/30

8 Claims



A storm shutter has a pyramidal body and side portions which bear sealingly against the window frame. The tension thus created on the shutter prevents rattling during wind storms.

3,421,260

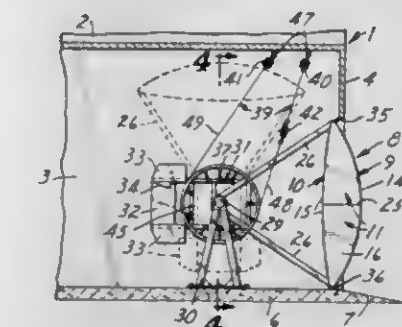
BALANCED HANGAR DOOR

Harold W. Dickinson, % Rafter, Inc.,
Olivia, Minn. 56277

Filed Sept. 27, 1967, Ser. No. 671,027

U.S. Cl. 49-197
Int. Cl. E01d 15/56; E05d 15/38; E05d 15/40

7 Claims



Horizontally elongated door structure of the overhead type and having a transverse sectional shape of substantially a cylindrical segment, including means pivotally mounting the door for swinging movements about a horizontal axis inwardly spaced from the door, between open and closed positions, and equalizing means for imparting said swinging movements to one end of the door responsive to similar swinging movements of the opposite end thereof.

3,421,261

TRAP DOOR

Gerard Guertin, 172 Ave. de l'Elysee, Chomedey, Co.,
Laval, Quebec, Canada

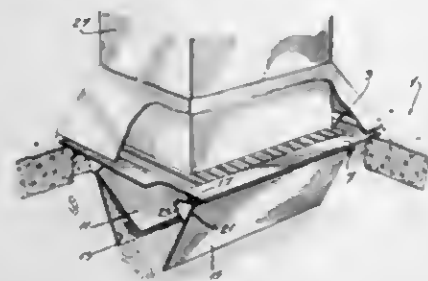
Filed Aug. 18, 1966, Ser. No. 573,407

U.S. Cl. 49-371
Int. Cl. E06b 5/01; E05f 13/04; E05f 13/00

11 Claims

A trap door device for mounting in an opening through a floor. The door is pivoted along one edge to the door opening by means of brackets so that it is divided into a

closure portion on one side of the brackets for closing the opening and actuating portion on the other side of the brackets. The actuating portion of the door is of a weight



greater than the closure portion whereby to normally cause the closure portion to close the opening. The actuating portion is of a weight to cause opening of the closure portion upon material of a predetermined weight falling thereon.

3,421,262

LOAD BALANCER FOR FREIGHT CAR DOORS

Walter L. Floehr, 1043½ Nebraska Ave.,
Toledo, Ohio 43607

Filed Mar. 23, 1967, Ser. No. 625,347

U.S. Cl. 49-386
Int. Cl. E05f 1/10

11 Claims



A load balancer for a hinged drop end door of a railway gondola car in which a single torsion bar acting between the door and the car body over the full range of movement of the door, is so mounted on the car body and connected to the door as substantially to simulate the load curve of the door in its reaction thereon.

3,421,263

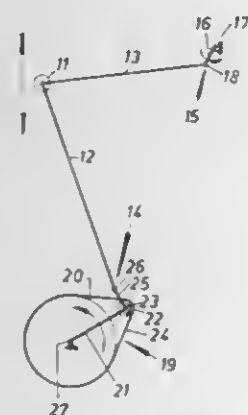
SANDING DEVICE FOR LACQUERED SURFACES

Lothar Johannes Lucas, Werdau, Germany, assignor to
Joachim Kurt Lucas, Scarborough, Ontario, Canada

Filed Sept. 21, 1964, Ser. No. 398,837

U.S. Cl. 51-57
Int. Cl. B24b 7/00

14 Claims



A device for polishing, sanding or grinding a body surface in which a polishing head is pivotally connected with

a pair of pivotally engaged arms each reciprocated independently by at least one eccentric to produce a randomly oriented pattern of movement of the polishing head.

3,421,264

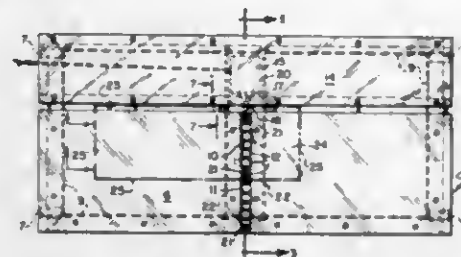
EDGE GRINDING DEVICE FOR DOORS OR THE LIKE

Clyde D. Young, 201 NW. 4th Ave.,
Hallandale, Fla. 33009

Filed Apr. 25, 1966, Ser. No. 544,881

U.S. Cl. 51-74
Int. Cl. B24b 9/00

3 Claims



A device for grinding edging strips affixed to the edges of a door or other panel and initially projecting beyond the faces of the door, the device including a guide rail mounted in a groove in a table and having spaced cams extending above a working surface of the table, and a motor driven grinding mandrel having its top surface in alignment with the tops of the cams. A door with edging strips may be slid across the cams with one strip in contact with the mandrel and another strip between two cams to grind the strip flush with the door. The guide rail may be adjusted vertically by means of shims to realign the cams with the mandrel after the mandrel has been redressed.

3,421,265

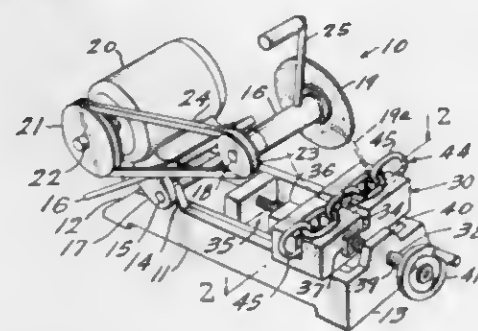
APPARATUS FOR HOLDING CHAIN

Ralph A. Parachek, Toledo, Ohio, assignor to Mill &
Factory Supply Company, Toledo, Ohio, a corporation of Ohio

Filed Mar. 22, 1965, Ser. No. 441,567

U.S. Cl. 51-98
Int. Cl. B24b 7/00

6 Claims



A jig for holding a chain while cutting a chain link. The jig has a base with two stationary, opposed end portions spaced to receive a cutting wheel. Each of the end portions defines in its outer surface at least one chain link receiving recess. When the links of a chain are positioned in the link receiving recess, the chain link to be cut is held in a position normal to the plane of the cutting wheel.

3,421,266

TURNTABLE SAW

Raymond A. Schanafelt, Monte Bello, Robert F. Obear,
Torrance, and Clarence E. Milnikel, Pico-Rivera, Calif.,
assignors to American Railroad Supply Company, Inglewood, Calif., a corporation of California

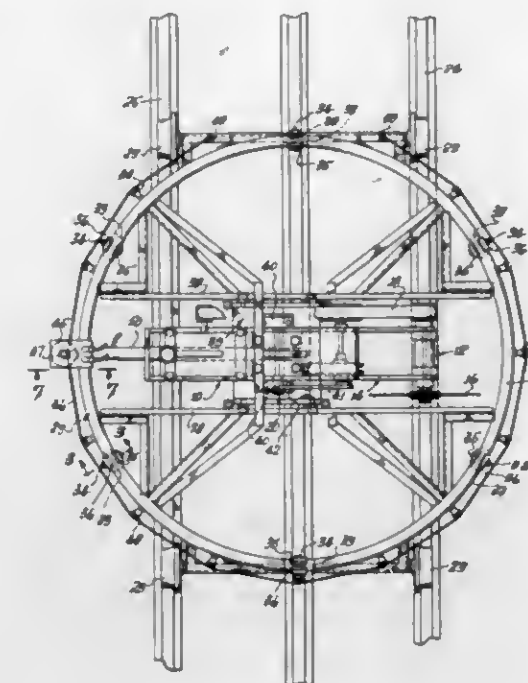
Filed Mar. 10, 1965, Ser. No. 438,619

U.S. Cl. 51-178
Int. Cl. B24b 27/06

3 Claims

A rail saw assembly is described in the following specification which is intended to be used on a railroad for

the replacement of rails. The saw assembly is mounted on a wheeled carriage which is constructed to travel on the railroad, and it includes a transverse carriage and a



rotatable superstructure. The construction is such that the saw may be used to saw through one rail, and the superstructure may be rotated so that the other rail may also be cut.

3,421,267

ROOF EXPANSION JOINT COVERS

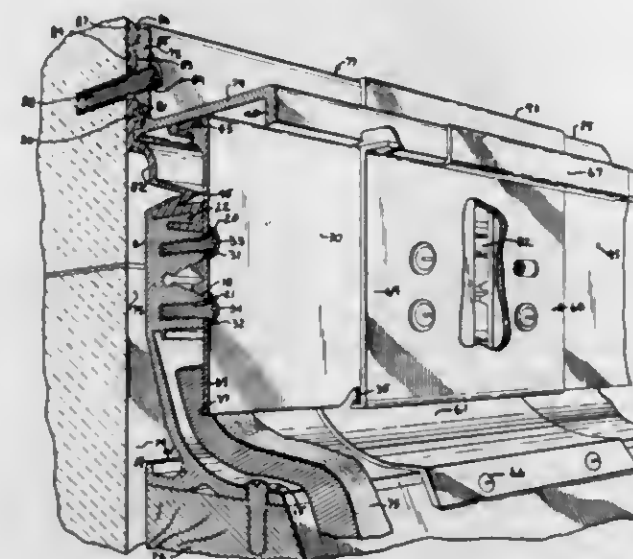
Claude P. Balzer, Edward M. Corman, and Almer A. Relf, Wichita, Kans., assignors to Central Specialties Co., a corporation of Illinois

Filed Nov. 3, 1966, Ser. No. 591,797

U.S. Cl. 52-58

Int. Cl. E04d 13/14; E04b 1/62; E04f 17/00

2 Claims



Expansion joint covers for roof structures include elongated rigid sections having an elongated flexible seal extending therebetween with an upwardly directed crown portion, a walled cover structure for protecting the seal, and weep holes in the cover structure to drain condensate forming within the cover structure. The sections form gutters to catch moisture condensing on joint walls below the seal and the cover structure includes a flexible wall

3,421,268

EXPANDABLE PORTABLE SHELTER

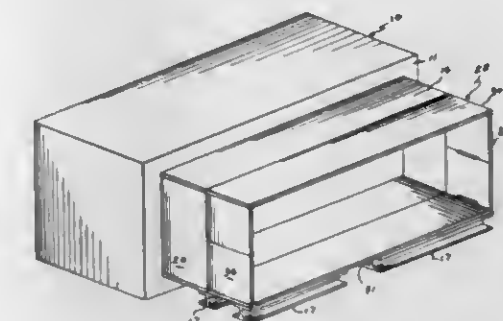
Alex J. Reynolds, New Hartford, and Rinaldo A. lo Russo, Rome, N.Y., assignors to the United States of America as represented by the Secretary of the Air Force

Filed Jan. 20, 1967, Ser. No. 610,731

U.S. Cl. 52-70

Int. Cl. E04 1/343; E04b 7/16

4 Claims



Identical small transportable shelter units are adapted to fit together to form larger units. At least one side wall has a first pair of hinged panels that open outwardly. A second pair of side panels are hinged to one of said first pair of panels and when swung away therefrom form a four-sided enclosure which is adapted to be placed adjacent a like unit on another shelter to provide greater floor space. Additional folding sections having centrally hinged side members are hinged to one of said first pair of panels. A panel support is provided for the lower one of said first pair of panels which forms the floor of the four-sided enclosure. A shield is placed over said panels between the shelter units to keep out water.

3,421,269

ADJUSTABLE ARCH STRUCTURES

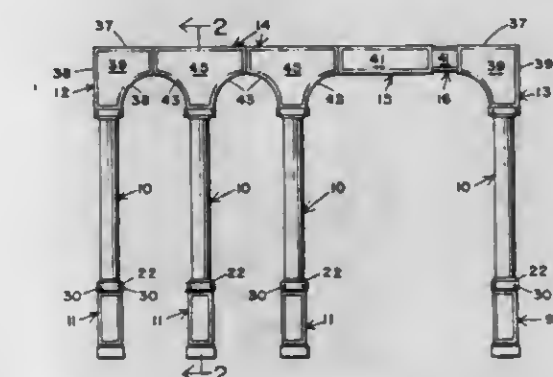
Robert S. Medow, 2051 NE. 160th St.,
North Miami Beach, Fla. 33162

Filed Aug. 28, 1967, Ser. No. 663,741

U.S. Cl. 52-86

Int. Cl. E04h 1/32; E04b 12/00; E04c 3/38

5 Claims



An adjustable arch structure consisting of a base member, a frieze member and a substantially semi-circular and hollow column each of which are prefabricated as separate parts capable of being erected in any sized wall or room by virtue of the column being telescopically mounted in the base and frieze member and secured thereto by a bracket which consists of an elongated body portion with offset portions and shoulders mounted thereon engaging the rear portion of the column at both the outside and inside surfaces and threaded bolts extending through openings in the front wall of the base and frieze members and received by threaded openings in said bracket.

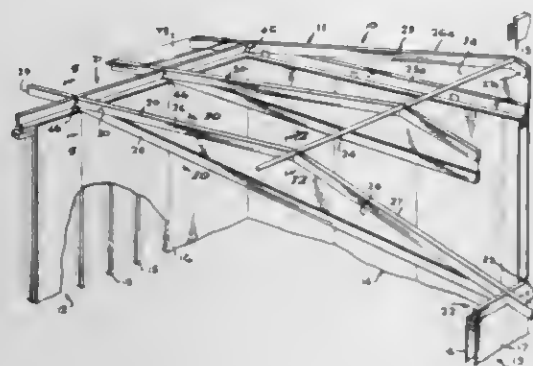
3,421,270

PREFABRICATED ROOFJohn W. Chaney, 932 Tiverton Ave.,
Los Angeles, Calif. 90024Continuation-in-part of application Ser. No. 280,269,
May 14, 1963. This application Mar. 10, 1967, Ser.
No. 622,140

U.S. Cl. 52-90

Int. Cl. E04b 7/02; E04b 1/00; E04b 1/32

10 Claims



A prefabricated roof including a series of spaced beams and a ridge pole extending therebetween, with the beams having upper surfaces inclined upwardly to a peak location at which the beams are recessed beneath the planes of the inclined surfaces to receive the ridge pole essentially beneath those planes. The ridge pole may have spaced markings at which it is to be connected to the beams, to facilitate accurate spacing of the beams during assembly.

3,421,271

CONSTRUCTION OF BUILDINGS CARRIED ON AT FIRST FLOOR LEVEL

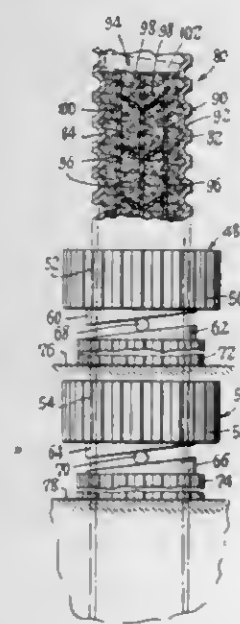
Marshall G. Whitfield, Brookfield, Conn. (% Whitfield Laboratories, Inc., P.O. Box 293, Bethel, Conn. 06801)

Filed June 8, 1966, Ser. No. 556,033

U.S. Cl. 52-126

Int. Cl. E04g 21/00; E04d 15/00

15 Claims



Building industry construction comprising a building structure which is under construction and is periodically hoisted higher above the ground, new stories being added always at the bottom, the hoisting being done by hollow segmented jack screw shells having incompressible fillers and exterior threads. The jack screws constitute a part of the building framework and remain in place as a permanent part of the building.

3,421,272

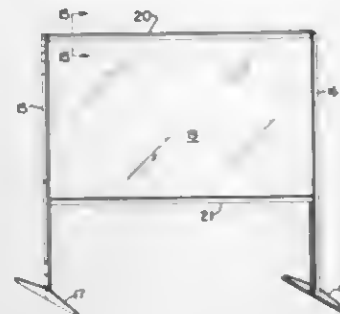
DISPLAY OR DIVIDER PANEL STANDWalker Jamar, Jr., 2008 Lakeview Drive,
Duluth, Minn. 55803

Filed May 20, 1966, Ser. No. 551,619

U.S. Cl. 52-127

Int. Cl. E04b 2/18; E04c 1/10; A47f 5/00

4 Claims



A support device for vertical panels used as a display or room divider including a substantially channel-shaped support frame composed of spaced side walls and a connecting web therebetween. A plurality of clamps are spaced along the length of the support frame between the side walls thereof and operate to clamp a panel within the spaced side walls which protrude beyond the outer ends of the clamps to obscure them. Screw means for operating each of the clamps is located within the spaced walls and is accessible through an opening in the support frame. A movable shelf is mounted within the side walls and may be positioned in an operative position to support a panel or an inoperative position out of the way of a panel.

3,421,273

ACOUSTICAL MEMBERS

Oliver C. Eckel, Carlisle, Mass.

(155 Fawcett St., Cambridge, Mass. 02138)

Filed July 23, 1962, Ser. No. 211,606

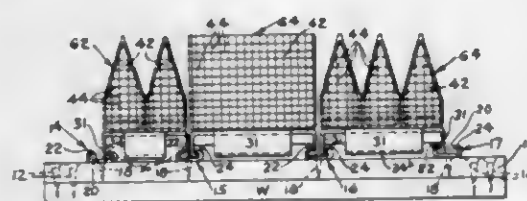
The portion of the term of the patent subsequent to

Apr. 23, 1980, has been disclaimed

U.S. Cl. 52-145

Int. Cl. E04b 1/82; G10k 11/04

2 Claims



1. An assembly of acoustical members comprising a support having three tracks spaced apart different distances whereby there are relatively narrow and wide spaces between them, each said track having two inwardly extending retainer flanges spaced laterally apart, two sound absorbing devices each embodying a joiner one of which is of substantially oblong shape and the other is of substantially square shape, each said joiner having four right-angled side portions and four connector flanges extending angularly inward from said side portions, any two of said connector flanges of said square-shaped joiner that are oppositely disposed being of such size that they are receivable on, and overlapped by one each of the said retainer flanges of the two of said widely spaced tracks, and are slidable along said latter two retainer flanges, and two of said connector flanges of said oblong-shaped joiner that are oppositely disposed being of such size that they are receivable on and overlapped by said retainer flanges of the two of said narrowly spaced tracks and are slidable along said latter two retainer flanges.

3,421,274

STAIR NOSING STRUCTURE

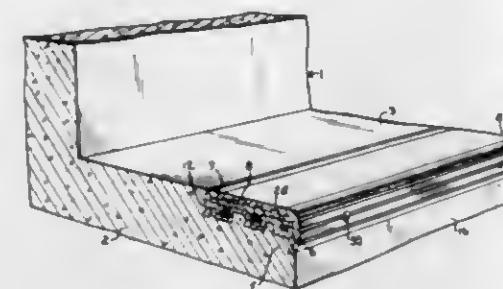
Claude P. Balzer, Edward M. Corman, and Almer A. Relff, Wichita, Kans., assignors to Central Specialties Co., a corporation of Illinois

Filed Dec. 23, 1966, Ser. No. 604,313

U.S. Cl. 52-179

Int. Cl. E04b 11/16

8 Claims



A stair nosing structure consisting of a combination of members secured to a concrete, stone, or masonry stair and secured together into a co-acting rigid non-slip stair nosing forming a portion of the step tread surface, the structure having a plate member, and a removable abrasive cover strip member interlocked therewith. The anchoring of the plate member to the step also including a base plate having portions inter-engaging portions of the plate member to secure same together.

3,421,275

CLOSET STRUCTURE

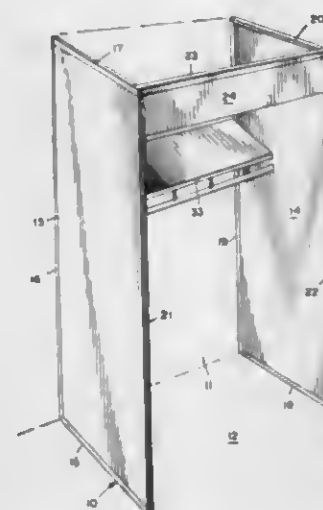
Erle C. Coulter, Chicago, Ill., assignor, by mesne assignments, to Decar Plastic Corporation, Bellwood, Ill., a corporation of Wisconsin

Filed Dec. 1, 1966, Ser. No. 598,303

U.S. Cl. 52-241

Int. Cl. E04b 1/12; A47b 81/00; E04g 21/14

7 Claims



A ceiling-to-floor closet structure adapted for use in a room having a fixed ceiling and floor. The closet structure includes a pair of side wall frames, each frame being provided by vertically aligned horizontally extending channels secured to the floor and ceiling and a vertically extending channel secured to the wall. A generally rectangular side wall panel having a height approximately the same as the height of the room is slidably received within each frame, and each side wall includes a marginal piece extending inwardly toward the other side wall. A header channel is attached to the ceiling and the side flanges of the header channel overlap the marginal walls and secure the side walls in the frames. The header channel is provided with a foreshortened web portion to permit the

header channel to be attached to the wall after the side walls are received by the frames.

3,421,276

TRANSITION JOINT-FORMING DEVICES AND JOINT STRUCTURES INCORPORATING THE SAME

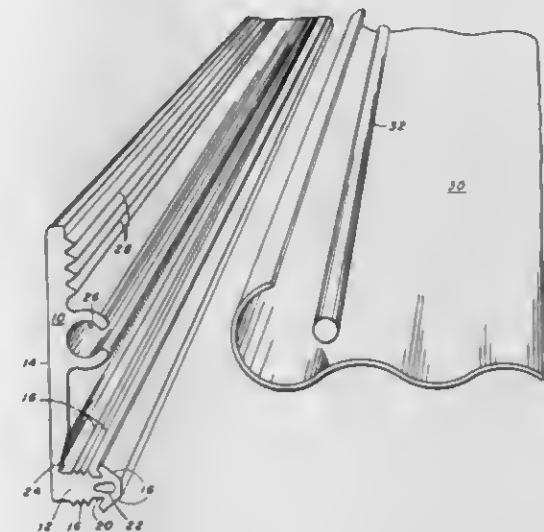
Robert L. La Barge, Richmond, Ind., assignor to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 1, 1966, Ser. No. 576,646

U.S. Cl. 52-287

Int. Cl. E04 2/00

7 Claims



Transition joint-forming devices in the form of compressively deformable elastomeric material in sealingly secured association with substantially moisture and vapor impermeable flexible web material, and joint structures between substantially rigid relatively movable enclosing components incorporating the transition joint-forming devices.

3,421,277

PRE-GROUTED FLEXIBLE TILE PANEL

Robert W. Frischmuth, Shaker Heights, Ohio, assignor, by mesne assignments, to SCM Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed June 3, 1965, Ser. No. 461,160

U.S. Cl. 52-390

Int. Cl. E04f 13/08; B32b 3/14; C09j 5/00

12 Claims

A curable plastic composition for grouting tile and the like in substantially one application, comprising in admixture: a fluent water-continuous phase of an emulsion of thermoplastic particles; and a coarse solids phase of thermoplastic beads, such plastic composition desirably retaining its volume after cure. The invention also relates to a method of using such composition to prepare pre-grouted flexible tile panels and to the panels so prepared.

3,421,278

STRUCTURALLY AUGMENTED, FACED, MASONRY BARRIERVictor Christ-Janer, 70 Elm St.,
New Canaan, Conn. 06840

Filed Feb. 4, 1966, Ser. No. 525,196

U.S. Cl. 52-419

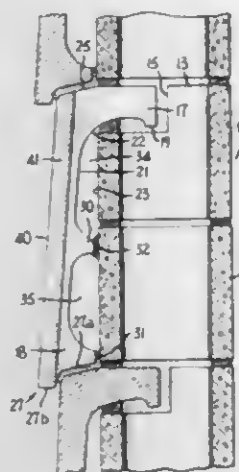
Int. Cl. E04b 2/14; E04c 1/00

9 Claims

The application discloses a masonry load-supporting form composed essentially of an L-shaped structure formed of an upper horizontal flange and a downwardly extending vertical flange. This form is adapted to be laid up integrally in a masonry wall in such a way that each form is fixedly secured in a load transmitting relation to the wall and also fixedly secured in a load transmitting

relation to the lower end of similar superjacent form. Each said form is dimensioned and laid up in the wall

elements forming the space frame structure are held in assembly by means of standardized nuts and bolts, all the elements being provided with corresponding mounting



so as to materially contribute to the structural strength of the wall.

3,421,279

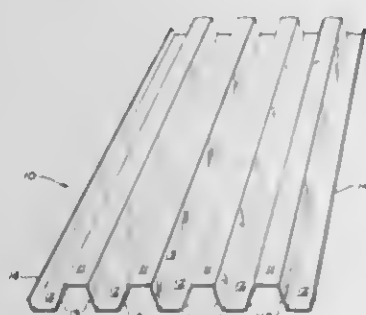
CORRUGATED BUILDING SHEET

Victor G. Franc, Wireton, Pa., assignor to H. H. Robertson Company, Pittsburgh, Pa., a corporation of Pennsylvania

Continuation-in-part of application Ser. No. 418,426, Dec. 15, 1964. This application Oct. 12, 1967, Ser. No. 674,818

U.S. Cl. 52-630
Int. Cl. E04c 2/32

6 Claims



A corrugated building sheet consisting essentially of flat crests, alternating flat valleys parallel with the crests, and essentially flat sloping webs connecting the crests and valleys and diverging from the crests to the adjacent valleys. At least two of the sloping webs, one on each side of the center of the building sheet is arcuate in cross-section across substantially their entire width.

3,421,280

BUILDING CONSTRUCTION

Charles W. Attwood, deceased, late of Wayne, Mich., by James W. Attwood and Warren R. Attwood, executors, 4118 S. Wayne Road, Wayne, Mich. 48184, and Hristo V. Papayoti, Ann Arbor, Mich.; said Papayoti assignor to estate of Charles W. Attwood

Continuation-in-part of application Ser. No. 58,874, Sept. 20, 1960. This application June 24, 1966, Ser. No. 560,929

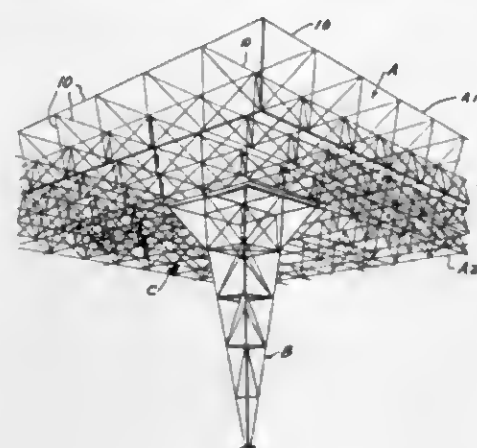
U.S. Cl. 52-648

15 Claims

Int. Cl. E04h 12/00; F16b 1/00

A space frame metallic structure consisting of standardized preformed and prefinished main strut members, reinforcing strut members, interconnected by means of standardized connectors, half-connectors, quarter-connectors and connector reinforcing members. The diverse

holes, projecting lugs and lug receiving recesses adapted to interlock the elements in appropriate structural and spatial relationship.



3,421,281

RESILIENT CHANNEL MEMBER

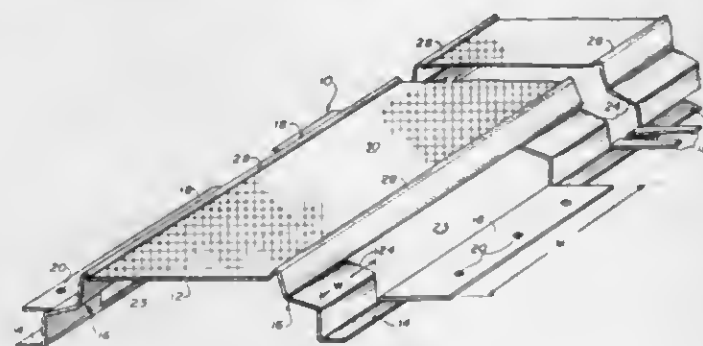
David A. Harris, Castro Valley, Calif., assignor to Fibreboard Corporation, a corporation of Delaware

Filed Oct. 4, 1965, Ser. No. 492,692

U.S. Cl. 52-735

7 Claims

Int. Cl. E04c 3/02; E04f 19/02



A resilient channel member for securing wallboard to studs and rafters to provide acoustical isolation of one wall surface from the other. The channel member comprises a crown portion to which the wallboard is secured, a plurality of bent and angled leg portions supporting the crown portion above laterally extending edge portions, and nailing tabs extending laterally beyond the edge portions for securing the member to studs or rafters.

3,421,282

METHOD FOR OBTAINING CAPSULES HAVING OILY DRUGS CLOSED THEREIN

Masaru Hasegawa, Kamakura, Sadao Hirota, Chigasaki, and Hiroshi Ogawa, Kashiwa, Japan, assignors to Daiichi Kagaku Yakuhin Co., Ltd., Tokyo, Japan a corporation of Japan

No Drawing. Filed Sept. 24, 1964, Ser. No. 399,109
Claims priority, application Japan, Sept. 28, 1963, 38/51,605

U.S. Cl. 53-4

9 Claims

Int. Cl. B65b 7/28; B65b 51/00; A61k 9/04

The leakage of oily drugs from pharmaceutical capsules is prevented by adding fine powdered colloidal silica to the oily drugs in the capsules to gel the oily drugs in the capsules before the capsules are sealed.

3,421,283

MACHINE FOR INSERTING PACKAGES INTO HANDLING CASES

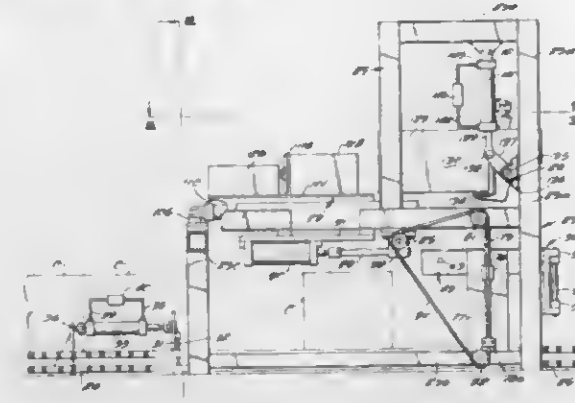
Warren J. Schieser, Columbus, Ohio, assignor to The Corrugated Container Company, Columbus, Ohio, a corporation of Ohio

Filed Apr. 6, 1966, Ser. No. 540,679

U.S. Cl. 53-55

18 Claims

Int. Cl. B65b 5/08; B65b 57/10



A machine which successively receives a plurality of packages and a plurality of handling cases at a loading station, reorients a group of the packages to properly fit into the case at the loading station and supports that group and a case in superimposed relationship, moves the group and case into telescoping relationship, releases the group to load the case, and finally removes the loaded case.

3,421,284

COMPONENT SEQUENCING AND TAPING MACHINE

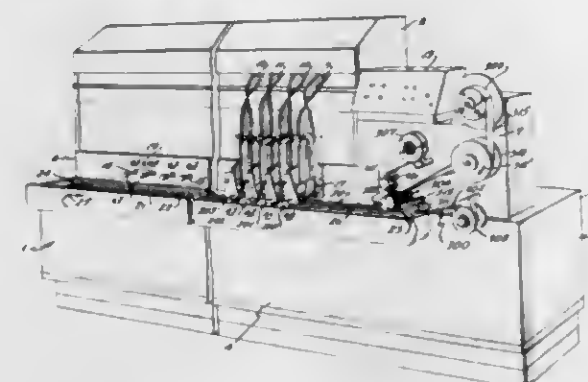
Albert W. Zemek, Binghamton, N.Y., assignor to Universal Instruments Corporation, Binghamton, N.Y., a corporation of New York

Filed Dec. 20, 1965, Ser. No. 514,963

U.S. Cl. 53-59

20 Claims

Int. Cl. B65b 15/04; B65b 57/00



A component sequencing and taping machine for preparing programmed packages of taped components, including a plurality of component dispensers; an endless conveyor; means to control operation of the dispensers whereby components are deposited on the endless conveyor to form predetermined groups of components; and a taping mechanism adapted to remove and apply tape to the groups of components carried on the endless conveyor.

3,421,285

CASE PACKER ARTICLE FEED CONTROL

Theodore L. Barker, Cuyahoga Falls, Ohio, assignor to Geo. J. Meyer Manufacturing Co., Cudahy, Ohio, a corporation of Wisconsin

Filed June 20, 1966, Ser. No. 558,844

U.S. Cl. 53-61

7 Claims

Int. Cl. B65b 57/10

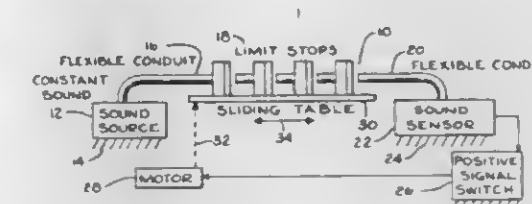
1. In a case packer article feed control the combination of:

a fixed support frame,

an article receiving means mounted on the frame for limited movement in relation thereto,

a plurality of limit stop means to stop the articles in predetermined relation on the first named means, each limit stop means having a small hole there-through aligned with the hole in every other limit stop means,

means to pass a waveform beam through the hole in each of the limit stop means,



flag means associated with the hole of each limit stop means and subject to contact by the articles to selectively control transmission of the beam through the limit stop means, and

control means to provide movement of the first-named means when each of the flag means has been similarly actuated to allow complete transmission of the waveform beam through all of the limit stop means.

3,421,286

AUTOMATIC BAGGING MACHINES

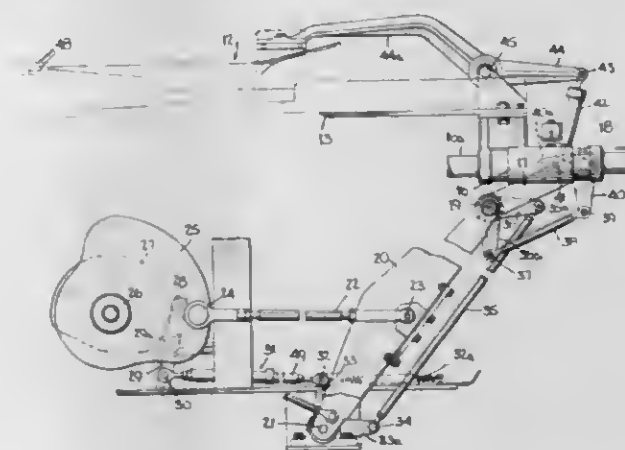
Edward J. Chambless, Jr., Austin, Tex., assignor to St. Regis Paper Company, New York, N.Y., a corporation of New York

Filed Aug. 5, 1966, Ser. No. 570,584

U.S. Cl. 53-190

6 Claims

Int. Cl. B65b 5/00; B65b 9/00



A bagging machine including reciprocally mounted scoop-like elements which travel past the object to be bagged and enter the mouth of the bag, mechanical linkage to spread apart the element to engage the bag, air pressure apparatus operable subsequent to engagement of the element with the bag to exert a predetermined spreading pressure against the mouth of the bag notwithstanding variations of the latter from normal size when spread open, and thence the machine pulls the bag over the object, and then releases the bag.

3,421,287

AUTOMATIC BAGGING MACHINES

Thomas M. Sheets, Atlanta, Ga., assignor to St. Regis Paper Company, New York, N.Y., a corporation of New York

Filed Oct. 19, 1966, Ser. No. 587,837

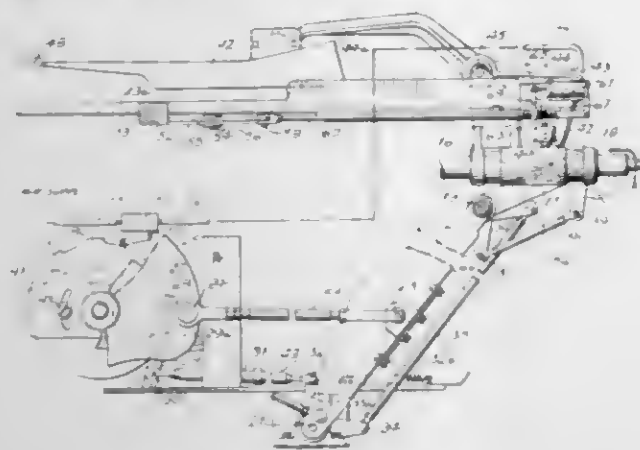
U.S. Cl. 53-190

5 Claims

Int. Cl. B65b 5/00; B65b 9/00

This invention relates to automatic bagging machines

which include clamping apparatus for clamping portions of the bag wall adjacent its mouth, and means for oper-



ating the clamping apparatus in timed relation to the other components of the machine.

3,421,288

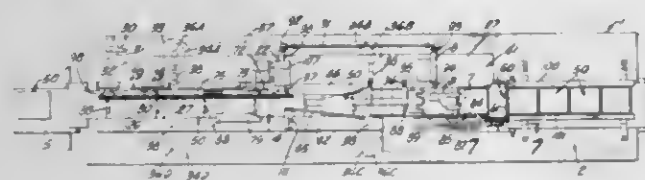
CARTON-CLOSING MACHINE

Elbert L. Bivans, Glendale, and August Kund, Los Angeles, Calif., assignors to Bivans Corporation, Los Angeles, Calif., a corporation of California
Filed Jan. 14, 1965, Ser. No. 425,573

U.S. Cl. 53-376

Int. Cl. B65b 7/20; B65b 7/26

9 Claims



This invention provides for closing the flaps of a shallow carton or tray, the cover of the carton having a lock tab. The filled cartons are fed from a supply conveyor to the main conveyor where the cartons are positioned in spaced relation against successive bars, a friction drag being provided to retard the carton until its bar catches up to engage it and propel it with the conveyor. The cycle of movement of the cartons with the conveyor is in timed relation with the operation of the flap closures. Each carton is conveyed with the hinge axis of its cover extending lengthwise of its direction of travel on the conveyor. To prevent the cover from skewing, an overhead endless member with bars is provided in position to engage the trailing edge of the cover and offset the skew. The overhead endless member accomplishes purposes other than offsetting the skew. These additional functions include the following: (a) the endless member is inclined downwardly in a leading direction to assist in closing the cover; (b) the overhead endless member drives a sprocket to rotate a former which folds the lock tab into vertical position ready for entry into the slot in the front tab; (c) the overhead endless member also drives the sprocket which rotates a pressure device either above the lock tab for a lock-type carton or above the front corners of the cartons in the case of a standard tuck. Suitable adjustments are provided for cartons of different sizes.

3,421,289

VAPORIZABLE LIQUID STORAGE RECEIVER RECOVERY METHOD

Harold E. Adams, Norwalk, Conn., assignor to The Nash Engineering Company, South Norwalk, Conn., a corporation of Connecticut

Continuation of application Ser. No. 405,014, Oct. 12, 1964. This application Sept. 13, 1966, Ser. No. 579,172

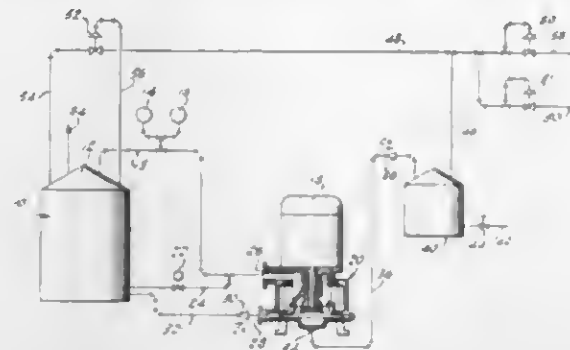
U.S. Cl. 55-89

Int. Cl. B01d 53/00; B01f 3/04

1 Claim

The invention resides in a method of recovering vapors

and gases which form over a volatile liquid situated in a storage tank and which liquid is subjected to a considerable variation in temperature over a period of twenty-four hours. The vapors are directed to the inlet of a pump which is also taking liquid from the tank and centrifugally compresses the absorbable part of said vapors and gases into the liquid and returns the absorbed vapors and gases



together with the liquid into the tank. Simultaneously with the centrifugal compression, the unabsorbable part of the gases and vapors are centripetally separated from the liquid within the pump itself and then the unabsorbable separated part of the gases and vapors is directed to a different location at a pressure higher than the pressure in the storage tank, all of such steps being performed simultaneously.

3,421,290

INDOOR SMOKE REMOVAL SYSTEM

William A. Cheney, Cincinnati, and Durwood G. Rorie, Jr., Cleveland, Ohio, assignors to United Air Specialists, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Feb. 16, 1967, Ser. No. 616,486

U.S. Cl. 55-101

Int. Cl. F24f 3/00; B03c 3/02

1 Claim



System having a ceiling inlet over the primary smoke source, and a remote clean air outlet in the ceiling, and a blower and air cleaning system providing limited air flow between the outlet and the inlet.

3,421,291

ELECTROSTATIC DUST SEPARATOR

Gregori Messen-Jaschin, Sarnen, Switzerland, assignor to G. A. Messen-Jaschin, Sarnen, Switzerland, a corporation of Switzerland

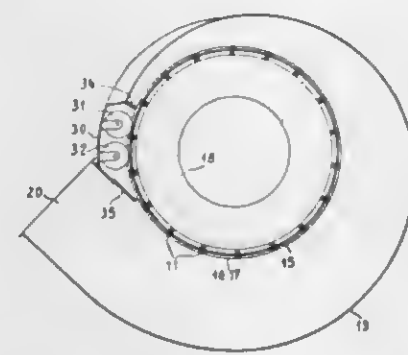
Filed Jan. 10, 1966, Ser. No. 519,738

Claims priority, application Switzerland, Jan. 18, 1965, 748/65

U.S. Cl. 55-114

Int. Cl. B03c 3/00

8 Claims



An electrostatic dust separator having a spiral-shaped housing having an outer intake duct and an axial dis-

charge duct. A hollow cylindrical separation electrode system pervious to gas and a cylindrical ionization electrode system are mounted coaxially in the housing. The ionization electrode system is formed as a rotatable finned block having slender electrodes on its exterior in convolutions spaced from each other axially of the systems. Brush means mounted adjacent the juncture of the smaller diameter part of the housing and the intake duct engage the ionization electrodes for cleaning the latter.

3,421,292

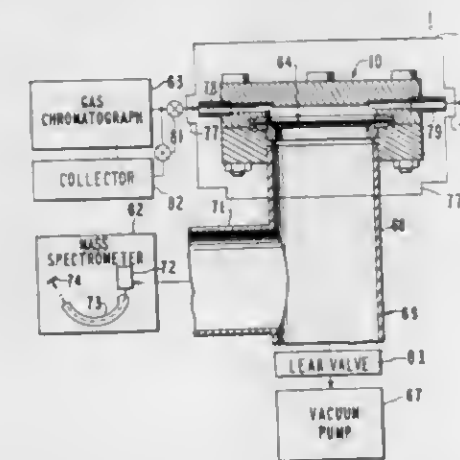
GAS INLET SYSTEM FOR GAS ANALYZERS AND GAS ANALYZING SYSTEM EMPLOYING SAME

Peter M. Llewellyn, Menlo Park, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Continuation-in-part of application Ser. No. 511,756, Dec. 6, 1965. This application June 6, 1966, Ser. No. 555,613

U.S. Cl. 55-158

Int. Cl. B01d 15/08; G01n 31/08

1 Claim



A gas analyzing system including a gas chromatograph and a gas analyzer coupled together through a flow directing valve means and membrane type separator such that a highly enriched portion of the sample effluent from the gas chromatograph may be supplied to the analyzer or alternatively the effluent of the gas chromatograph may be directed through a sample collecting means for collecting the separated gas components.

3,421,293

PAINT SPRAY BOOTHS

James Henry Collins Halls, Beckenham, England, assignor to Schweitzer Equipment Company, Cleveland, Ohio, a corporation of Ohio

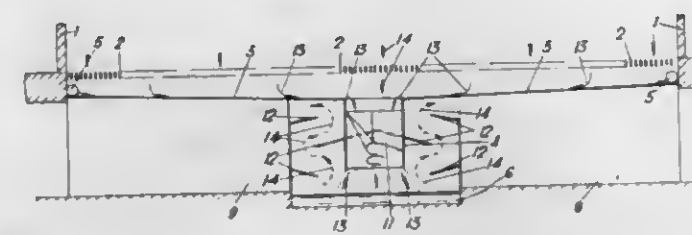
Filed Apr. 19, 1967, Ser. No. 631,932

Claims priority, application Great Britain, Aug. 19, 1966, 37,314/66; Feb. 23, 1967, 8,646/67

U.S. Cl. 55-223

Int. Cl. B01d 47/02; B01d 47/06

7 Claims



Paint is extracted from air in a paint spraying booth by drawing the paint-laden air through a tube or tubes extending downwardly from a guide plate located beneath a grille floor and over which water flows into the tube or tubes which latter are provided with vanes adapted to cause gyratory turbulence of the air and water and form

the water into small droplets to which at least some of the said paint adheres. The air and droplets are exhausted into a trough beneath the tubes and are separated, the paint-laden water being directed to water-cleansing means which are included in a water-circulating system through which the water is continuously circulated.

3,421,294

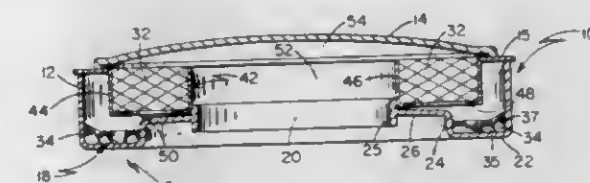
OIL BATH AIR CLEANER

Peter Eugene Sherburn, Chatham, Ontario, Canada, assignor, by mesne assignments, to Fram Corporation, Providence, R.I., a corporation of Delaware
Filed Apr. 18, 1967, Ser. No. 631,725

U.S. Cl. 55-237

Int. Cl. B01d 46/02

11 Claims



An oil bath air cleaner having an annular chamber for centrifugal air flow radially intermediate a circumferential wall of the housing of the air cleaner and a filter element mounted within the housing, an opening in the wall for introducing air into and causing the air to flow centrifugally in the chamber, an oil cup communicating with the chamber and an axial air outlet. A plurality of spaced barriers is provided in the cup for controlling oil flow caused by the centrifugal air flow and one of the barriers extends axially into the air flow chamber to provide a portion of reduced air flow cross-section therein.

3,421,295

GAS FILTERING APPARATUS

Peter Swift, Oadby, and Alfred J. Wells, Leicester, England, assignors to Dust Control Equipment Limited, Thurmaston, England

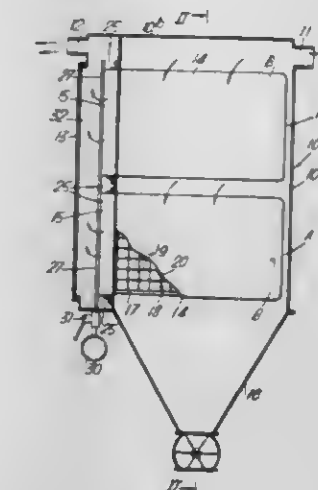
Continuation of application Ser. No. 296,977, July 23, 1963. This application May 22, 1967, Ser. No. 640,421

Claims priority, application Great Britain, July 27, 1962, 28,875/62

U.S. Cl. 55-302

Int. Cl. B01d 29/24

5 Claims



Gas filtering apparatus including a set of flat-sided filter pads, the mouths of each of which are provided with a single elongated substantially rectangular tubular outlet extending along the width of the mouth and shaped to

provide a venturi. Dust-laden gas entering the apparatus is drawn through the walls of the pad, is filtered and passes therefrom via the outlet. Jets of compressed cleaning gas can, at required times, be introduced into the pads through the outlets from jet pipes located alongside the latter, to reverse the normal gas flow therethrough and clean the pads.

3,421,296

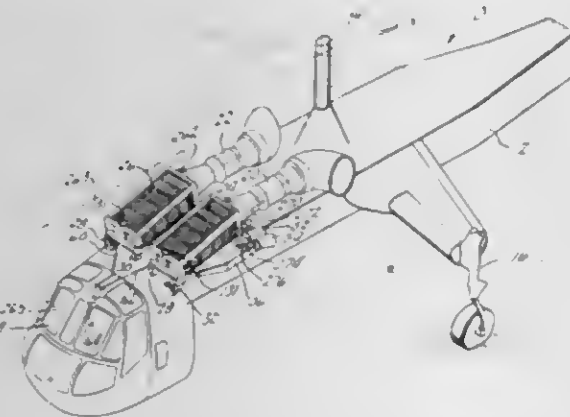
ENGINE INLET AIR PARTICLE SEPARATOR
Frederick C. Beurer, Sr., Hamden, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Nov. 15, 1966, Ser. No. 594,428

U.S. Cl. 55-306

19 Claims

Int. Cl. B64c 21/00; B01d 45/12



In an engine air particle separator including a spaced walled member positioned forward of the engine inlet and shaped to define a passageway therethrough into the engine inlet and a chamber therebetween and having centrifugal separator tubes extending between the spaced walls, which tubes are shaped to receive particle laden air through the outer of the spaced walls, to discharge cleaned air into the passageway and engine inlet, and to discharge separated debris into the chamber between the spaced walls for scavenge therefrom. The separator has minimum pressure loss bypass provisions.

3,421,297

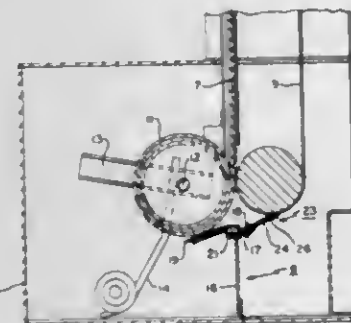
SEALING DEVICE FOR ROLL-TYPE FILTER
Francis E. Dahlem, Louisville, Ky., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware

Filed Dec. 13, 1967, Ser. No. 690,147

U.S. Cl. 55-354

2 Claims

Int. Cl. B01d 33/04; B01d 33/34



A sealing device for a roll-type gas filter to prevent gas by-pass between a roll of filter medium and the housing in which it is disposed including a longitudinally extending flexible fabric member urged into yieldable contacting engagement against the peripheral surface of the roll of filter medium by a plurality of spaced resilient articulated back-up members.

3,421,298
END CLOSURE FOR A DISPOSABLE VACUUM CLEANER DUST BAG

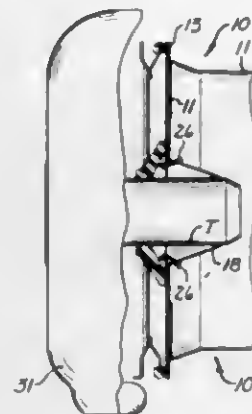
David F. Downey, Stamford, Conn., assignor to Electrolux Corporation, Old Greenwich, Conn., a corporation of Delaware

Filed Mar. 28, 1967, Ser. No. 626,518

U.S. Cl. 55-367

3 Claims

Int. Cl. B01d 29/10; B65d 31/14



An end closure plate consisting of a pair of discs one of which has a plurality of flaps formed therein by die cutting and the other disc has an aperture aligned with the flaps when the discs are united in juxtaposition. Each of the flaps is held in closed position by a rivet-like member of elastic material one end of which is connected with a flap and the other end is connected with the opposite juxtaposed disc. In use the flaps are opened by the suction tube of a vacuum cleaner.

3,421,299

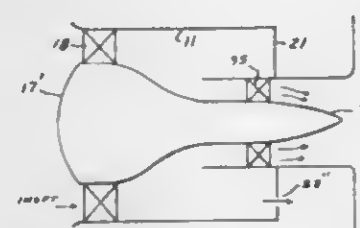
PARTIAL REVERSE FLOW SEPARATOR
Robert Poplawski, Fairborn, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force

Filed Jan. 22, 1968, Ser. No. 699,578

U.S. Cl. 55-448

1 Claim

Int. Cl. B01d 45/12



In a centrifugal separator a reverse flow annular space is provided between the wall of the separator unit and a centrally disposed outlet conduit. Inlet vanes for imparting swirl to the incoming particle laden gas are located around a central hub which has a larger diameter than outlet conduit. A diffuser is located in the outlet conduit.

3,421,300

EDGER ATTACHMENT FOR POWER DRIVEN LAWN MOWERS

Charles W. Rhodes, 1203 Polk Ave., Victoria, Tex. 77901

Filed Dec. 21, 1965, Ser. No. 515,354

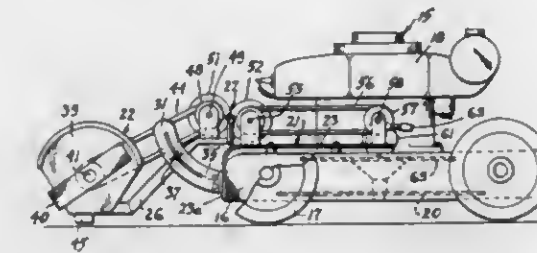
U.S. Cl. 56-25.4

10 Claims

Int. Cl. A01d 35/26

The combination of a rotary blade type lawn mower including a housing and a motor driven vertically disposed blade carrying shaft projecting into said housing, and an edger attachment comprising a fixed attachment unit permanently secured to said housing and a readily removable attachment unit separably connected to said fixed unit, said fixed unit including a rotatable drive mem-

ber driven by said blade carrying shaft, said removable unit including a rotatable driven member in operative engagement with said drive member when the removable unit is applied to the fixed unit and an edge cutter rotatable in a vertical plane by said driven member, said rotatable drive and driven members comprising a pair of



complementary frictional rollers carried by said fixed and removable attachments, respectively, said rollers operatively contacting one another when the removable unit is in operative position and being readily separable when the unit carrying the edge cutter is removed from the mower.

3,421,301

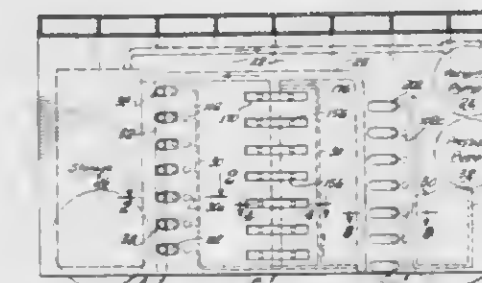
RECOVERY OF PLANT PRODUCTS
William Wentworth Boynton, La Canada, James R. Campbell and Carol R. Nisewanger, Arcadia, Calif., assignors, by direct and mesne assignments, to William W. Boynton and Leland McCarthy

Filed Oct. 22, 1964, Ser. No. 405,769

U.S. Cl. 56-30

24 Claims

Int. Cl. A01d 45/20



Plant products, especially cotton, are harvested by drawing them into suction tubes that are normally closed by individual valves comprising straight tube sections that are resiliently collapsible under super atmospheric pressure. When such products are detected near the inlet of a particular tube, the valve of that tube is opened automatically to cause a sharp, pulse of suction flow. Specific valve structure promotes rapid and reliable closure, while the resilient valve action prevents injury to products accidentally trapped in the valve. Pneumatic mechanism is described for individually projecting each tube with its valve mechanism toward detected plant products.

3,421,302

LAWN MOWER GRASS CATCHING BAG
Einar S. Dahl, Galesburg, Ill., assignor to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware

Filed Aug. 29, 1966, Ser. No. 575,620

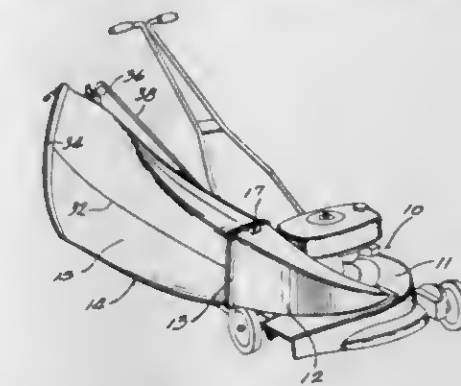
U.S. Cl. 56-202

5 Claims

Int. Cl. A01d 35/22; B01d 29/14; A01d 53/06

Disclosed herein is a grass collection bag for a rotary mower, which bag includes a sack constructed of air impervious synthetic material which is easily cleaned and not susceptible to rot. The forward end of the bag is adapted for connection to the rotary lawn mower. The sack is provided with an upper perforated wall portion which functions as an air vent for continuous discharge of the air stream coming from the mower. The perforated wall portion or vent is located on the side of the bag

opposite the mower operator. The grass catching bag includes a skirt or flap which covers the air vent and which



flares outwardly to afford a downward discharge of the air stream.

3,421,303

BEAN HARVESTING ATTACHMENT FOR TRACTORS

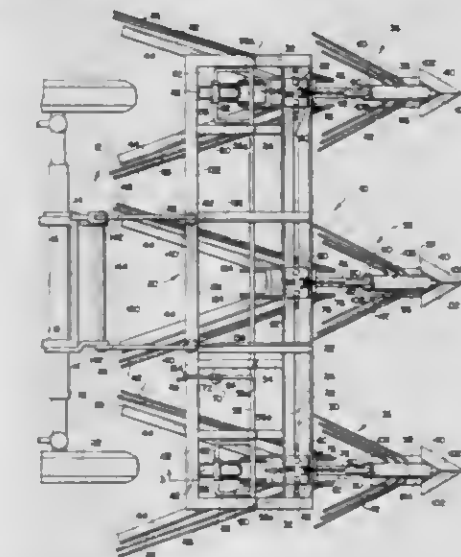
Vern L. Kammerzell, Rte. 1, Box 65B, Milliken, Colo. 80543

Filed Oct. 15, 1965, Ser. No. 496,466

U.S. Cl. 56-229

8 Claims

Int. Cl. A01d 55/00; A01d 33/02; A01d 45/02



This invention relates to an improved bean harvesting machine that includes a transverse frame mounted on the front of a tractor that is raised and lowered between its operative and inoperative positions by a servo-motor powered from the tractor's hydraulic system. At least two sub-assemblies are mounted on the frame for relative transverse adjustment, each of said subassemblies including a vine-untangling unit that sweeps the tangled vines from the furrows preparatory to their being cut by the second part of the subassembly following along therebehind, namely, the cutter unit having rearwardly divergent generally V-shaped blades. Provision is made for adjusting the height of the vine-untangling unit relative to the cutter unit and for the whole subassembly relative to the ground so as to vary the depth of cut, the latter being accomplished by a second servo-motor operatively connected to a crank arm which raises and lowers a pair of ground wheels relative to the frame.

3,421,304

FRUIT PICKING APPARATUS AND IMPROVEMENTS THEREIN

Joel P. Phillips, Jr., Winter Park, Fla., assignor to Phillips Harvesting Co., Winter Park, Fla., a corporation of Florida

Filed Dec. 10, 1965, Ser. No. 513,016

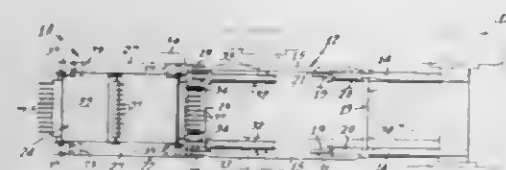
U.S. Cl. 56-328

13 Claims

Int. Cl. A01g 19/00

A self-propelled vehicle carries a fruit harvester on a front end pivot frame and the harvester has a picking

mechanism which includes a plurality of finger containing assemblies that are belt mounted for movement through the branches of a tree and whereat the fingers act like a comb or rake in detaching the fruit. The fingers are mounted for pivotal movement between working and nonworking positions and a spring type device is provided for retaining each finger in its working position in the assembly. These devices, however, yield when the



fingers encounter a nonyielding obstruction in the tree and permit the finger to pivot into its nonworking position and whereat the finger is retained by the device until again set up along the path traversed by the belt. Each finger assembly has a set up device for returning the fingers to their working positions and the device includes a yoke component which is carried by the belt and which is actuated by an appropriately located cam.

3,421,305

FRUIT PICKING APPARATUS

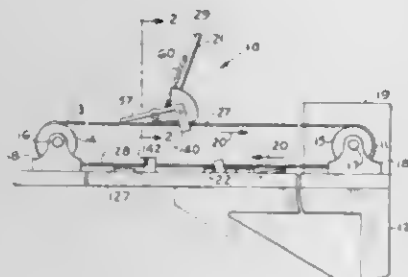
Joel P. Phillips, Jr., Winter Park, Fla., assignor to Phillips Harvesting Co., Winter Park, Fla., a corporation of Florida

Filed Aug. 1, 1966, Ser. No. 569,291

U.S. Cl. 56-328

Int. Cl. A01g 19/00

10 Claims



1. In a citrus fruit picking apparatus having a pair of spaced fingers arranged to trap tree attached citrus fruit therebetween, the improvement comprising the combination therewith of a detecting device for detecting tree attached citrus fruit, and a cutting device controlled in its actuation by the detecting device for severing the detected fruit from the tree.

3,421,306

ROVING FRAME

Jean Frederic Herubel, Guebwiller, France, assignor to N. Schlumberger & Cie, Guebwiller, Haut-Rhin, France, a French company

Filed Apr. 10, 1967, Ser. No. 629,576

Claims priority, application France, Apr. 26, 1966, 59,081

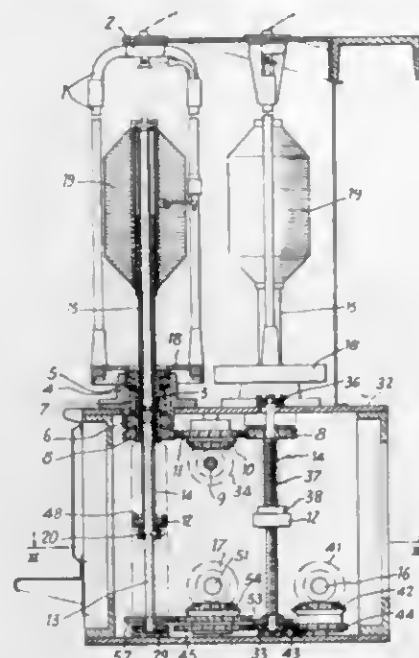
U.S. Cl. 57-71

Int. Cl. D01h 1/04; D01h 7/26; D01h 13/00

4 Claims

A roving frame with closed flyers and a bobbin-carrier spindle driven in up-and-down motion whereby any danger of vibration and attendant wear of moving parts is reduced by providing a flyer base which is rotatably mounted relatively to the base of the roving frame by

means of a pair of ball bearings in which each flyer base is adapted to engage by means of a sleeve or collar which



is rigidly fixed to said flyer base, said ball bearings being preferably in spaced axial relation.

3,421,307

BEARING MEMBER HAVING A COMPOSITE COATING

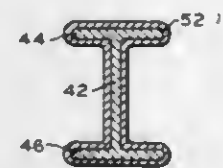
Dallas F. Lunsford, Cambridge City, Ind., assignor to Dana Corporation, Toledo, Ohio, a corporation of Virginia

Filed Dec. 24, 1964, Ser. No. 420,883

U.S. Cl. 57-119

Int. Cl. D01b 7/52

9 Claims



A ferrous bearing member having an outer coating of a composite oxide formed utilizing a heating and quenching operation, the coating comprising a composite of $\text{FeO-Fe}_3\text{O}_4$.

3,421,308

TRAVELER FOR RING SPINNING AND TWISTING

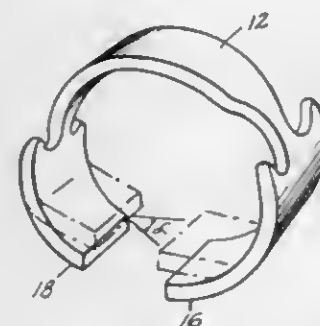
Necdet Senturk, Greensboro, N.C., assignor to Burlington Industries, Inc., Greensboro, N.C., a corporation of Delaware

Filed Sept. 6, 1967, Ser. No. 665,892

U.S. Cl. 57-125

Int. Cl. D01h 7/60

8 Claims



A traveler for use with a ring used in the textile industry on spinning and twisting frames. The traveler is generally C-shaped and is provided with at least one

hook-shaped cutout portion in at least one edge of the same, the cutout portion being used to guide the yarn and isolated the same from the contact area between the traveler and the ring thereby reducing damage to fibers and yarn, the traveler having a short moment arm with respect to ring traveler contact area thereby minimizing excessive wear due to tilt.

3,421,309

UNITIZED TUNING FORK VIBRATOR

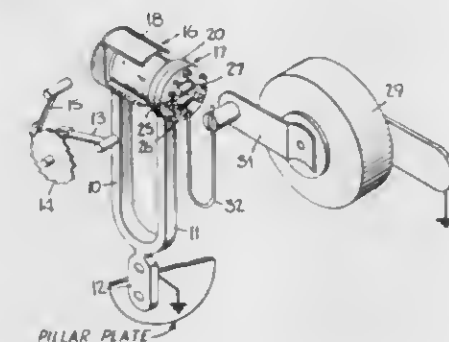
William O. Bennett, Bayside, N.Y., assignor to Bulova Watch Company, Inc., New York, N.Y., a corporation of New York

Filed June 13, 1966, Ser. No. 557,180

U.S. Cl. 58-23

Int. Cl. G04c 3/00

12 Claims



A unitized electromagnetically-actuated oscillator structure including a pair of oscillating members oscillating in phase opposition. A magnetic element is secured to one of the members and oscillates therewith, the element having an air gap across which magnetic lines of flux extend. A coil and an electronic circuit assembly are secured to the other oscillating member, the coil being disposed in the air gap. The circuit is operatively coupled to the coil to deliver drive pulses thereto to create a magnetic force imparting a forward momentum to the magnetic element and a backward momentum to the assembly.

3,421,310

ACTUATING MECHANISM FOR TIMEPIECE DATE INDICATOR

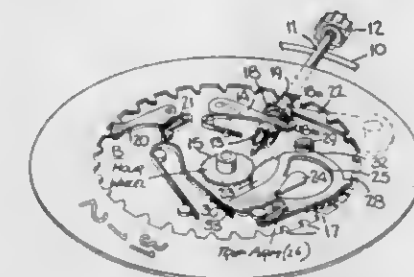
William O. Bennett, Bayside, N.Y., and William W. Mutter, Paramus, N.J., assignors to Bulova Watch Company, Inc., New York, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 538,840, Mar. 30, 1966. This application Oct. 5, 1966, Ser. No. 598,543

U.S. Cl. 58-58

Int. Cl. G04b 19/24

3 Claims



A calendar timepiece for indicating the days of the month as well as the time, and including a rotatable date ring having a series of inner teeth thereon, one for each day of the month. An automatic trigger mechanism is provided to advance the date ring only one tooth per twenty-four hour period, the mechanism being operated by a driven wheel which undergoes a full revolution in the course of this period. The mechanism comprises a slidably-mounted member having an opening therein which is

contoured to include a projection, the member having a nose extending outwardly therefrom, and being engaged at one end by a spring which urges it in a slide path directing the nose toward the teeth of the ring. Operatively coupled to the driven wheel is a trip finger which rotates within the opening and, in the course of rotation, engages the projection to slide the trip member against the action of the spring in an opposite direction until the member is cocked, the finger thereafter releasing the member to cause the nose thereof to reach a point at which it strikes a tooth on the ring to advance same. A bumper is disposed in the slide path to limit the displacement of the released member and to prevent rotation thereof, whereby the nose remains momentarily at the point to intercept the next tooth in the ring, thereby preventing an advance thereof in excess of one tooth.

3,421,311

ACTUATING MECHANISM FOR TIMEPIECE DATE INDICATOR

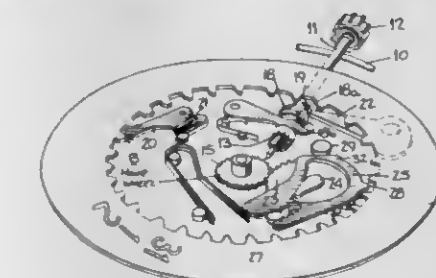
William O. Bennett, Bayside, N.Y., and William W. Mutter, Paramus, N.J., assignors to Bulova Watch Company, Inc., New York, N.Y., a corporation of New York

Filed Mar. 30, 1966, Ser. No. 538,840

U.S. Cl. 58-85.5

Int. Cl. G04b 27/00

8 Claims



A timepiece is provided with a date-indicating ring having an inner toothing which is engaged by a corrector finger projecting from a collar mounted on the crown stem, such that when the crown is at its running position and is manually turned, the ring is caused to advance one date for each revolution of the crown without disturbing the time-indicating hands. An automatic trigger mechanism is also provided to move the date-indicating ring one day per twenty-four hour period.

3,421,312

ELECTRIC TIMEPIECE

Gaston Raval, La Neuveville, Switzerland, assignor to OMEGA Louis Brandt & Frere S.A., Biel, Bern, Switzerland

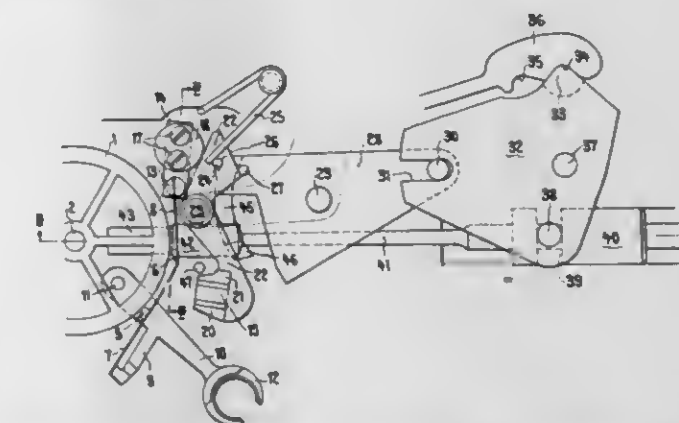
Filed July 5, 1966, Ser. No. 562,825

Claims priority, application Switzerland, July 8, 1965, 9,603/65

U.S. Cl. 58-85.5

Int. Cl. G04c 5/00

11 Claims



An electric timepiece comprising a resonator and means for electrically sustaining oscillation of this resonator,

wherein the hands are driven by pawl means engaging a ratchet-wheel, said pawl means being disengageable for hand setting of the timepiece.

3,421,313 LINK CHAIN

Masao Harada, Kitaadachi-gun, Mitoshi Kai, Miyazaki-gun, and Yasuyuki Sagawa, Kita-Adachi-gun, Japan, assignors to Honda Giken Kogyo Kabushiki Kaisha, Tokyo, Japan

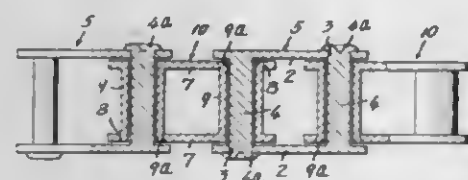
Filed Aug. 17, 1967, Ser. No. 661,288

Claims priority, application Japan, Aug. 18, 1966, 41/77,548

U.S. Cl. 59-78

Int. Cl. F16g 13/06; F16g 13/08; F16g 13/02

10 Claims



A link chain in which a plurality of pin units and a plurality of bush units are connected in alternation, each pin unit being constituted by a pair of opposed link members each of which is constructed as a plate with an opening at one end and an integral pin at the other end, the bush units each being constituted by a pair of opposed link members each of which is constructed as a plate with an opening at one end and an integral bushing at the other end secured in the opening of the opposed bush link member and receiving an associated pin of a pin link member which in turn is secured in the opening of the other pin link member of the respective pin unit.

3,421,314 AIR-FUEL RATIO CONTROL SYSTEM

Reinhard Michalke, Kiel-Pries, Germany, assignor to Maschinenfabrik Buckau R. Wolf Aktiengesellschaft, Grevenbroich, Germany

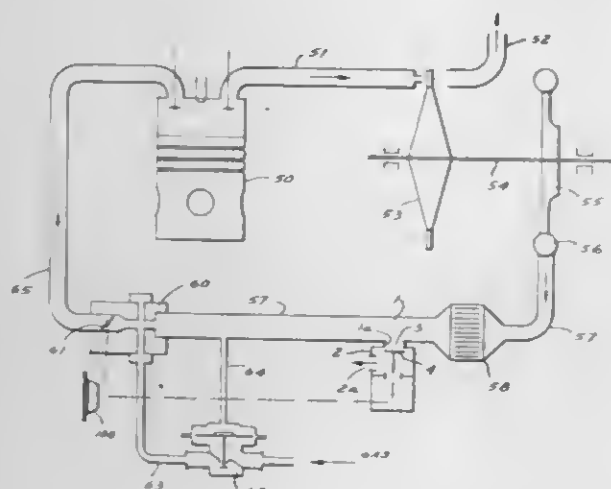
Filed Mar. 21, 1966, Ser. No. 536,158

Claims priority, application Germany, Mar. 20, 1965, M 64,597

U.S. Cl. 60-13

Int. Cl. F02b 41/10; F01k 23/14; F02b 33/00

5 Claims



A blow off valve in an air conduit through which air is charged by a blower into a combustion engine, is automatically controlled in accordance with the opera-

tional conditions of the engine to blow off air so that the fuel-air ratio is maintained substantially constant at sudden load changes.

3,421,315 EXHAUST GAS PURIFIER FOR AUTOMOBILE

Katashi Aoi, 480 Juniso, Kamakura-shi, Kanagawa-ken, Japan

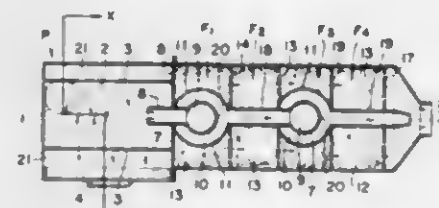
Filed Jan. 25, 1967, Ser. No. 611,725

Claims priority, application Japan, Feb. 1, 1966, 41/5,964; May 30, 1966, 41/34,662; Aug. 13, 1966, 41/76,406; Dec. 12, 1966, 41/113,334, 41/113,335

U.S. Cl. 60-29

Int. Cl. F02b 75/10

6 Claims



1. An exhaust gas purifier for an automobile comprising: a pretreatment separator including a heat-insulating expansion chamber for receiving raw exhaust gas, means for introducing the raw exhaust gas into the expansion chamber with a swirling motion to cause the exhaust gas to undergo expansion and consequent separation of water droplets and coarse carbon particles by centrifugal action, and a settling chamber which surrounds said heat-insulating expansion chamber for receiving separated water droplets and carbon particles; and at least one filter connected to the pretreatment chamber for receiving pre-treated exhaust gas therefrom, said filter comprising a gas expansion chamber which receives the pre-treated exhaust gas from said separator, a condensing chamber surrounding said gas expansion chamber and filter means surrounding said condensing chamber, at least a part of said gas flowing through said expansion chamber, condensing chamber and filter means, a sludge collecting chamber mounted on and in direct communication with at least said pretreatment separator at the bottom thereof, and a collecting tank connected with each said sludge collecting chamber for receiving sludge therefrom.

3,421,316 GAS GENERATOR FOR ENHANCING PROPELLANT IGNITION

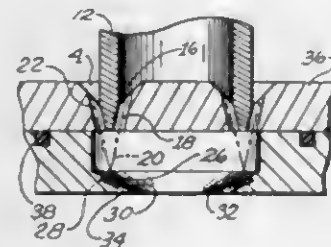
Harland L. Burge, Jr., Canoga Park, Gary L. Falkenstein, Encino, and Robert W. Roberts, Woodland Hills, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware

Filed Jan. 20, 1966, Ser. No. 521,866

U.S. Cl. 60-39.06

Int. Cl. F02g 3/00; F02c 7/26

7 Claims



A hypergolic gas generator incorporating a catalyst positioned in its combustion chamber for decomposing a

hydrazine-type fuel after it has been impinged with an oxidizer so as to minimize residual fuel that tends to cause erratic combustion and lagging ignition. The catalyst is positioned slightly downstream from the point where the propellants are impinged.

3,421,317 ELECTRICAL CONTROL SYSTEMS FOR ENGINES

Alan Bedford, Hatfield, England, assignor to Hawker Siddeley Dynamics Limited, Hatfield, England, a company of Great Britain

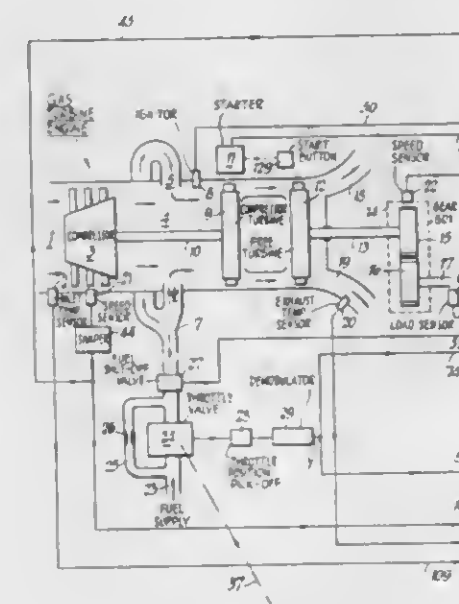
Filed Apr. 5, 1966, Ser. No. 540,280

Claims priority, application Great Britain, Apr. 7, 1965, 14,758/65

U.S. Cl. 60-39.28

Int. Cl. F02c 9/04; F02g 3/02

20 Claims



The invention provides a control system for an engine having a rotatable part, the control system including means for deriving a demand signal and for modifying that demand signal to an allowable value, the modified demand signal having a frequency which represents the allowable demanded speed of the rotatable part, means for deriving an actual speed signal having a frequency representing the actual speed of the rotatable part, and means for comparing the modified demand signal and the actual speed signal to obtain an error signal controlling the fuel supply to the engine.

3,421,318 MULTIPLE DIGITAL SIGNAL TRANSDUCER

Ronald E. Falk, Bristol, Conn., assignor to Chandler Evans Inc., West Hartford, Conn., a corporation of Delaware

Filed May 16, 1966, Ser. No. 550,541

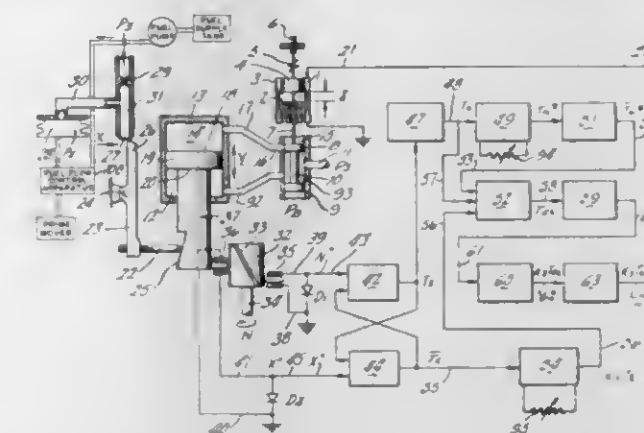
U.S. Cl. 60-39.28

Int. Cl. F02g 3/00; F02c 9/04

16 Claims

A device for producing two electric pulses that are fed into an electronic circuit to simultaneously condition both pulse signals to produce a single pulse width modulated signal to control the operation of a gas turbine. The first pulsed input signal is indicative of relative control actuator position, and the second pulsed input signal is indicative of turbine speed. Appropriate pulse width modulation circuitry designed to receive the pulsed input speed signal and the pulsed input position signal and condition said two input signals to generate a single pulse

width modulated output signal that is applied to a proportional solenoid device to position a control actuator



responsive to said single pulse width modulated output signal.

3,421,319 HYDRAULIC TRANSMISSION WITH DIRECT SPEED-CONTROL

Pierre Charles Patin, 58 Rue de Sevres, Boulogne-sur-Seine, France

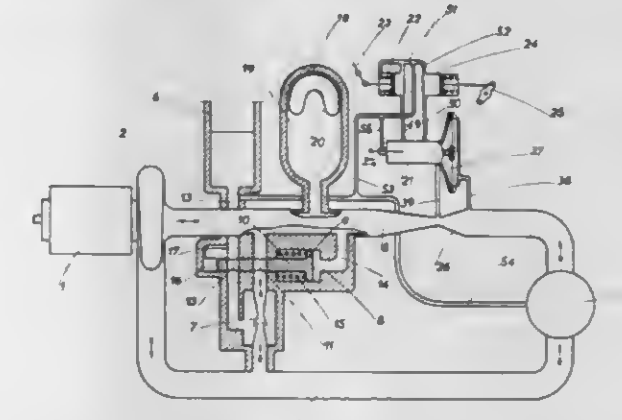
Filed July 19, 1967, Ser. No. 654,623

Claims priority, application France, Aug. 30, 1966, 74,600

U.S. Cl. 60-53

Int. Cl. F16d 31/00; F16d 33/00; F04b 23/04

3 Claims



A hydraulic transmission with direct speed-control, capable of use in particular for a motor vehicle, wherein the liquid-transmitter is a turbo-pump, and the receiver is a volumetric motor. This transmission comprises a diaphragm-type servomotor regulator. The motor delivery conduit comprises a venturi, and pipes link, on the one hand, upstream of the venturi and the enclosure situated on one side of the diaphragm, and on the other hand the venturi and the enclosure situated on the other side of the diaphragm. The diaphragm is linked to a distributor piston moving in a jacket actuated by a speed-control pedal. The jacket slides in a sleeve having two orifices, one communicating with acceleration-control means, and the other with brake-control means.

3,421,320 HYDRAULIC BOOSTER-EQUALIZER VALVE ASSEMBLY

Osborn A. Kershner, St. Joseph, Mich., assignor, by mesne assignments, to Lambert Brake Corporation, St. Joseph, Mich., a corporation of Michigan

Filed May 24, 1967, Ser. No. 640,954

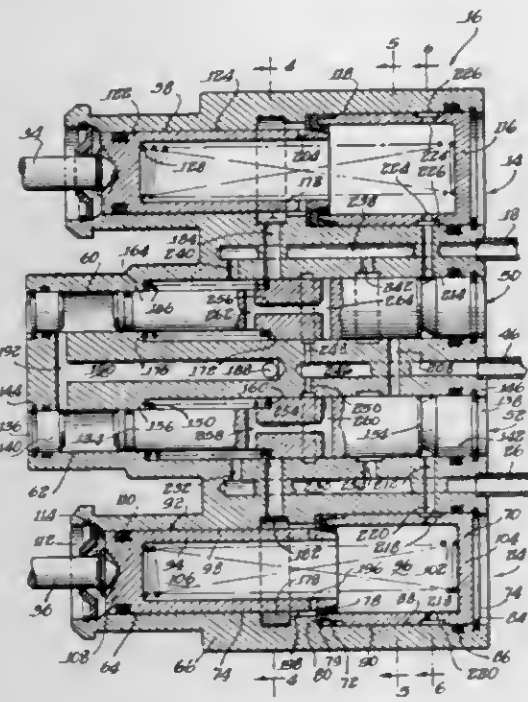
U.S. Cl. 60-54.5

Int. Cl. F15b 7/00

12 Claims

This invention relates to a combination booster and equalizer assembly for a power braking system. More

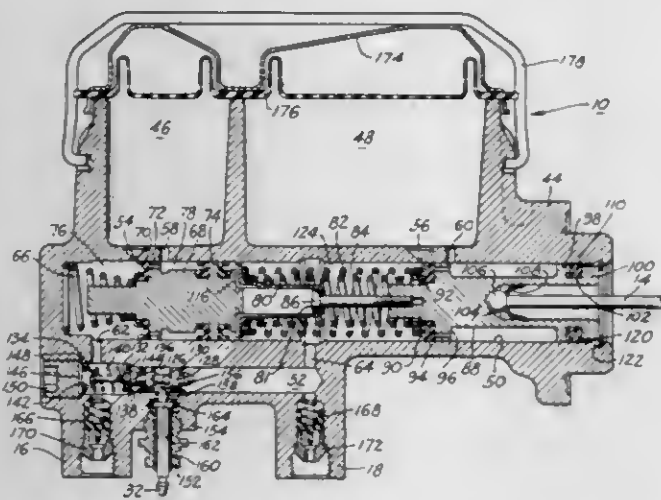
particularly this invention relates to an assembly having a master cylinder associated with a valve means to connect



a brake means to a source of fluid under pressure upon actuation of the master cylinder.

3,421,321 INDICATING DEVICE FOR DUAL HYDRAULIC SYSTEM

Richard L. Lewis, St. Joseph, Mich., assignor to The Bendix Corporation, a corporation of Delaware
Filed Oct. 24, 1966, Ser. No. 588,900
U.S. Cl. 60-54.6 14 Claims
Int. Cl. B60t 17/22

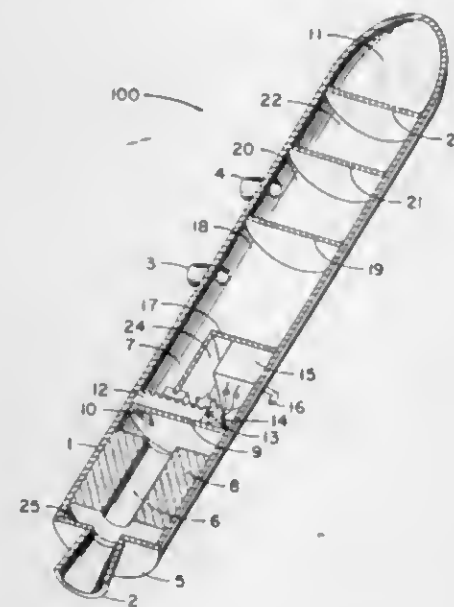


A pressure warning switch means that is integrated to a split master cylinder having a piston operated switch that is biased to a neutral position by a caged spring which piston is interposed between outlet ports from the separate variable volume chambers of the split master cylinder; and further having a caged spring assembly for connecting the master cylinder piston which has a sound deadening means precluding metal contact between a retainer and a caging bolt therefor.

**3,421,322
MASTER CYLINDER MALFUNCTION INDICATOR**
Raymond A. Reznicek, St. Joseph, Mich., assignor to The Bendix Corporation, a corporation of Delaware
Filed June 6, 1967, Ser. No. 643,922
U.S. Cl. 60-54.6 11 Claims
Int. Cl. F15b 7/08; F60t 15/46; F60t 11/10
Warning signal switch means for a brake master cylinder

master cylinder secondary piston, the cage spring assembly, and the primary piston within the master cylinder.

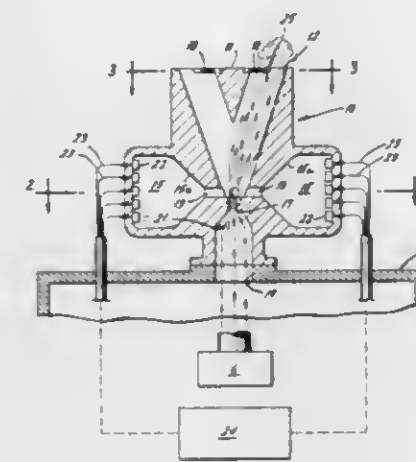
**3,421,323
FLUID FUEL AND NON-FLUID OXIDIZER
ENERGY GENERATION METHOD**
Donald Perry Bennett, Jr., Diamond Bar, Calif., assignor of one-half to Martin E. Gerry, Santa Ana, Calif.
Continuation-in-part of application Ser. No. 480,080, Aug. 16, 1965. This application Nov. 14, 1966, Ser. No. 611,188
U.S. Cl. 60-220 9 Claims
Int. Cl. F23r 1/02; C06d 5/00



This disclosure deals with the use of certain compounds of fluid fuels in combination with oxidizing compounds in hypergolic combination to create heat and energy. The oxidizing compounds are of non-fluid character while the fuels are of fluid character. Uses of this energy source include propulsion systems, power generation means, and flame-out devices for aircraft.

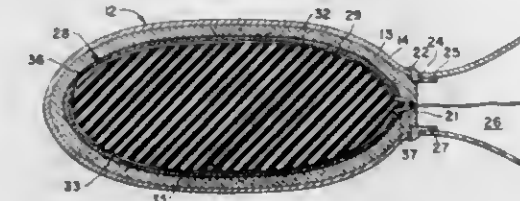
**3,421,324
FLUID FLOW CONTROL APPARATUS**
William R. Balas, Tustin, Calif., assignor to Philco-Ford Corporation, a corporation of Delaware
Filed May 3, 1966, Ser. No. 547,306
U.S. Cl. 60-231 3 Claims
Int. Cl. F02k 1/14; F15c 1/08; B05b 7/08
A rocket propulsion system including a split-path propulsion nozzle and means for deflecting the propellant gas stream to cause it to flow through one or the other of said paths to steer the rocket. Deflection of the gas stream is achieved by the fluid amplification principle, and

the required control jets are produced by suitably positioned control-jet ports energized by arrays of pyrotechnic charges (squibs). Each array of squibs is housed in an



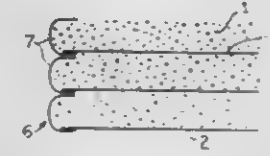
individual chamber communicating with the ports and can be fired in desired sequence by the missile's guidance system.

**3,421,325
SOLID PROPELLANT ROCKET MOTOR**
Joseph G. Thibodaux, Jr., 116 Selden Road, Newport News, Va. 23606
Continuation-in-part of application Ser. No. 8,200, Feb. 11, 1960. This application Nov. 8, 1961, Ser. No. 151,110
U.S. Cl. 60-255 9 Claims
Int. Cl. F02k 9/04



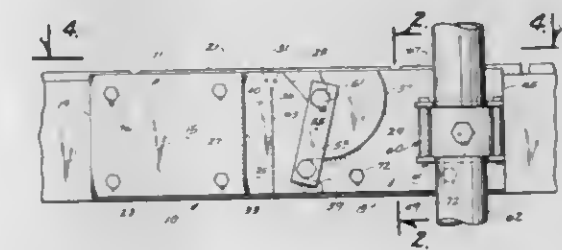
I. A rocket motor comprising a motor casing, an aperture formed in said casing, an exhaust nozzle connected to said casing about said aperture, a foamed rigid plastic mandrel having a diameter greater than said aperture permanently disposed within said casing until combustion occurs to form a propellant-receiving cavity between the casing and the mandrel, said mandrel having a plurality of projections extending radially outwardly toward said casing, each said projection incorporating a string igniter-receiving slot therein, a string igniter disposed within the slot of each mandrel projection below the surface thereof, igniter means carried by said mandrel adjacent the radial extremities of said projections electrically connected to each of said string igniters adjacent the casing aperture, a polysulphide perchlorate propellant disposed in the cavity formed between said casing and said mandrel in sealed relation to the mandrel body and mandrel radial projections, said propellant providing a plurality of relatively enlarged, concavity-shaped propellant burning surfaces conforming respectively to the body and radial projection portions of the mandrel and in proximity to the string igniters incorporated in the radial projections; said mandrel being initially sealed to the propellant adjacent the radial extremities of the projections and the aperture of the casing and subsequently demolished by combustion and said propellant ignited upon ignition of said igniter means.

**3,421,326
CONSTRUCTIONAL WORKS**
Henri Charles Vidal, 17, Rue Armengaud, Saint-Cloud, Hauts-de-Seine, France
Filed Mar. 26, 1964, Ser. No. 354,947
Claims priority, application France, Mar. 27, 1963, 929,421
U.S. Cl. 61-39 16 Claims
Int. Cl. E02d 5/00; E02b 7/06



Earth reinforcement constructed by assembling a mass of pulverulent material frictionally bonded by elongated frictional elements which extend through the mass of particles. The particles frictionally engage the surface of the elements in a boundary layer and sufficient normal force is applied by internal pressure in the mass to resist relative movement of the boundary layer along the elements. Additional particles fill the space between the boundary layers of adjacent elements. Also abutments provided near the ends of the elements contain the particles along the exterior of the mass.

**3,421,327
DOCK HINGE**
Glen E. Donaldson, P.O. Box 63, Laurens, Iowa 50554
Filed June 6, 1966, Ser. No. 555,595
U.S. Cl. 61-48 10 Claims
Int. Cl. E02b 3/20; E05d 15/50; A47f 5/08



A hinge for use with boat docks or the like comprising first and second hinge sections which are secured to the ends of first and second support members. The hinge sections are detachably secured together by pivoting one of the hinge sections with respect to the other hinge section whereby a pair of posts on one of the hinge sections will be received by a pair of slots on the other hinge section.

**3,421,328
INSULATED UTILITY CONSTRUCTIONS**
Marvin D. Oosterbaan, Sanford, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed June 28, 1965, Ser. No. 467,508
U.S. Cl. 61-72.1 4 Claims
Int. Cl. F16l 1/00; E03b 7/12



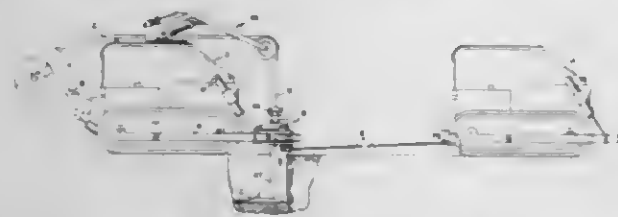
A utility line construction for carrying freezable liquids through a soil exposed to a freezing environment. A substantially water impermeable plastic foam insulating layer is located above the utility line and specifically adapted to provide a frost-free zone thereabove such that

the utility line can be located at a fixed depth where such freezable liquids would otherwise have become frozen.

3,421,329 OSCILLATING GROUND ENGAGING INSTRUMENT

Frank R. Kinnan, Camas Valley, Oreg., assignor to Hengkels and McCoy Inc., Blue Bell, Pa., a corporation of Pennsylvania

Filed Oct. 24, 1965, Ser. No. 504,836
U.S. Cl. 61—72.6 9 Claims
Int. Cl. F16l 1/00; E02f 5/02; A01b 35/08

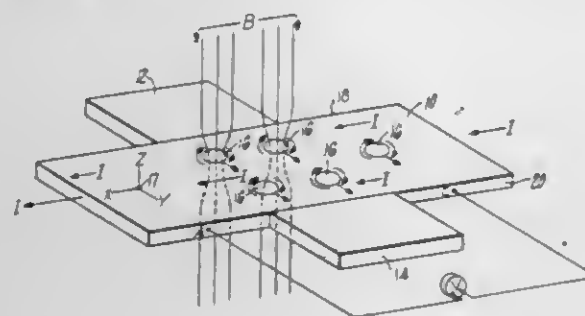


An apparatus for the forming of a kerf within the ground and for deposit therein of cables or conduits, the apparatus being shown forwardly mounted on a tractor type vehicle and having an upright blade loosely coupled at its upper end to means for imparting oscillatory motion to the blade. The blade is rockably mounted for movement about a horizontal axis. Further, the blade is mounted for steerable movement to facilitate changes in direction of the supporting vehicle. The blade may be coupled with a second vehicle forwardly located from the first vehicle to exert a forward pull on the blade.

3,421,330 THERMOMAGNETIC TRANSFER OF HEAT THROUGH A SUPERCONDUCTOR

Fred A. Otter, Jr., Manchester, Peter R. Solomon, Bloomfield, and George B. Yntema, Bolton, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Apr. 17, 1967, Ser. No. 631,480
U.S. Cl. 62—3 14 Claims
Int. Cl. F25b 21/00



Heat is transported from one side of a superconductor to the other by means of moving vortices formed therein when the superconductor is placed in a magnetic field and an electrical current is passed through the superconductor in a direction perpendicular to the magnetic field thereby exerting a force on the vortices in a direction perpendicular to the field and to the current.

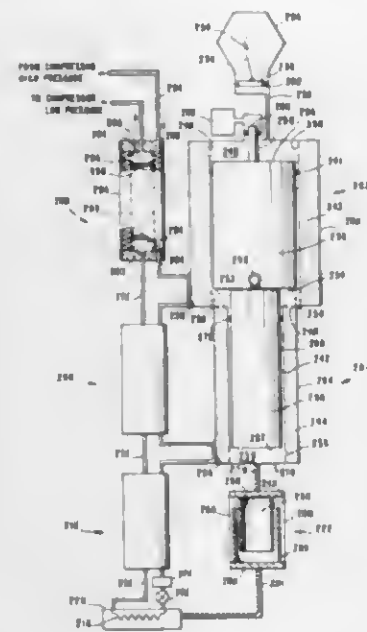
3,421,331 REFRIGERATION APPARATUS

James E. Webb, Administrator of The National Aeronautics and Space Administration with respect to an invention of Walter H. Higa, Tujunga, Calif.
Continuation-in-part of application Ser. No. 574,282, Aug. 19, 1966. This application Jan. 26, 1968, Ser. No. 700,985

U.S. Cl. 62—6 8 Claims
Int. Cl. F25b 9/60

A refrigeration apparatus is disclosed which is based on the utilization of a constant intermediate pressure

acting on the upper surface of a piston, coupled to the surface of a displacer. In this manner, the displacer can be reciprocally driven by a very simple two position valve assembly. A cryogenic assembly for attaining liquid helium temperatures is provided by utilizing the inventive refrigerator to cool through a counter-current



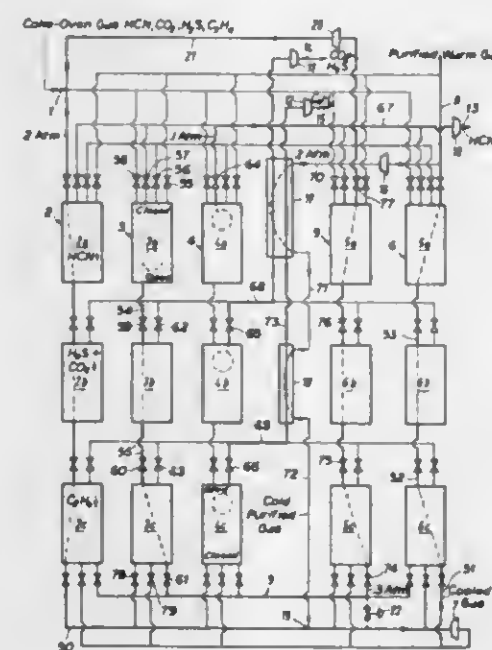
heat exchanger comprising a cylinder having a helically corrugated surface disposed between concentrically oriented bodies defining two adjacent passages, a stream of gas which is filtered and expanded in a fixed, distributed restriction Joule-Thompson valve. A gas-filled thermal switch selectively couples the refrigerator in heat conducting relation with the heat load.

3,421,332 FLUSHING WITH RESIDUAL UNCONDENSED GAS MIXTURE AFTER VACUUM REMOVAL OF CON- DENSED COMPONENTS

Rudolf Becker, Munich-Solln, Germany, assignor to Gesellschaft für Linde's Eismaschinen Aktiengesellschaft, Wiesbaden, Germany, a corporation of Germany

Filed Dec. 14, 1964, Ser. No. 418,234
Claims priority, application Germany, Dec. 13, 1963, G 39,373

U.S. Cl. 62—13 2 Claims
Int. Cl. F25j 3/02



Method for the purification of gases and especially for the removal of HCN, CO₂, H₂S, C₂H₄, for example, from

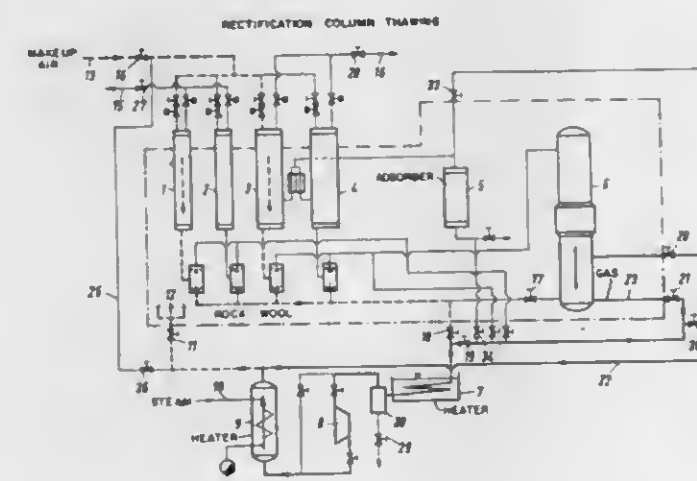
coke-oven gas in a low-temperature installation wherein these gas components are fractionally condensed in heat exchangers, and the heat exchangers are subjected to an exhaust period to eliminate all residual oven gas without substantial volatilization of the condensate; the condensate is subsequently extracted under vacuum without admission of any scavenging gas to the heat exchanger. A final flushing by the gases discharged from the condensate-containing exchanger and cooling of the heat exchanger by the pure gas, thereby preparing the heat exchanger for subsequent condensation, completes the cycle.

3,421,333 THAWING TECHNIQUE FOR A SINGLE AIR SEPARATION PLANT

Georg Plötz, Munich, Andreas Mayer, Pullach, Isartal, and Adolf Lewandowski, Grosshesselohe, Germany, assignors to Linde Aktiengesellschaft, Wiesbaden, Germany

Filed Aug. 20, 1965, Ser. No. 481,201
Claims priority, application Germany, Aug. 28, 1964, G 41,399

U.S. Cl. 62—13 2 Claims
Int. Cl. F25j 3/04



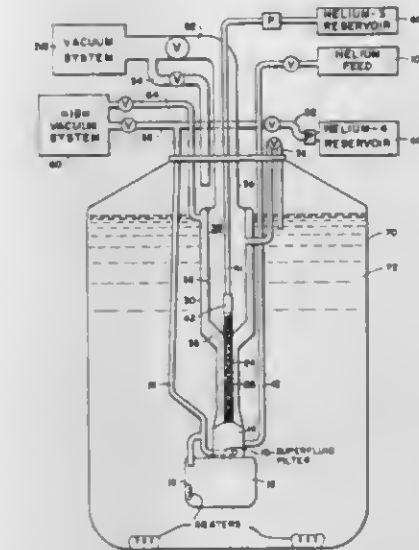
Air is cleaned of impurities and separated in a single air separation plant. Apparatus-to-be-thawed in the single air separation plant is thawed by employing the clean gas as the thawing gas for the apparatus in the single plant. The cleaned gas, in a substantially closed cycle is warmed in indirect heat exchange with water at ambient temperature, passed through a blower and is then further warmed by indirect heat exchange with steam. The clean gas is repeatedly recycled in direct contact with the interior of the apparatus-to-be-thawed while a portion of warmed thawing gas is passed directly into the rock wool surrounding the apparatus-to-be-thawed.

3,421,334 APPARATUS AND METHOD FOR SEPARATION OF HELIUM ISOTOPES

John L. McKinney, Dayton, and William L. Taylor, Cincinnati, Ohio, assignors to the United States Atomic Energy Commission

Filed Aug. 10, 1966, Ser. No. 571,652
U.S. Cl. 62—28 3 Claims
Int. Cl. F25j 3/02

The separation of helium isotopes from an isotope mixture comprising reducing the mixture temperature until the helium-4 therein partially becomes a superfluid to provide a maximum difference in helium-3 and helium-4 viscosity, filtering a portion of the helium-4 from the mixture through a superleak, heating the remaining mixture



to boiling with an adjacent outer helium bath maintained at a pressure and temperature higher than that of said

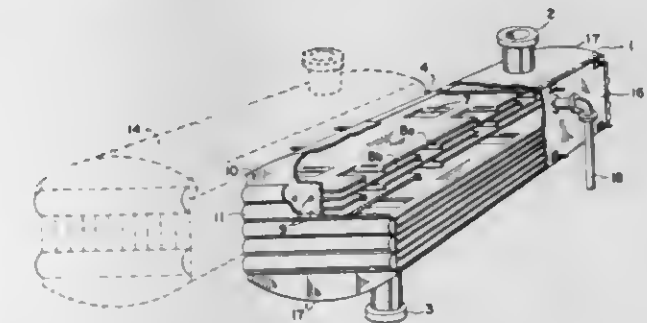
mixture to provide vapors for distillation, and distilling the vapors to produce high purity helium-3.

3,421,335 RECTIFICATION COLUMN

Rudolf Becker, Munich, Germany, assignor to Linde Aktiengesellschaft, Hohlriegelskreuth, Germany, a corporation of Germany

Filed Oct. 18, 1966, Ser. No. 587,450
Claims priority, application Germany, Oct. 22, 1965, L 51,951

U.S. Cl. 62—42 6 Claims
Int. Cl. F25j 3/02



A rectification column having a greater horizontal dimension than its vertical dimension and provided with an array of thick and thin vertically spaced rectification plates with throughgoing openings allowing the passage of gas and liquid between the stages. The housing of the column has a pair of vertical walls which are spanned by the thicker plates constituting reinforcing members welded to the walls along respective horizontal lines while the thin plates are disposed between the thick plates. Along its exterior, the walls are formed with outwardly convex metal strips joined to the structure at the seams at which the thicker plates are welded to the walls.

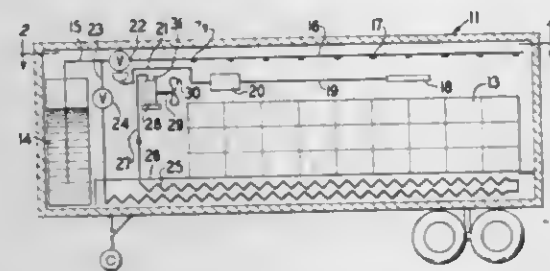
3,421,336 INTRANSIT LIQUEFIED GAS REFRIGERATION SYSTEM

Horst W. Lichtenberger, Tonawanda, and David P. Maurer, Williamsville, N.Y., assignors to Union Carbide Corporation, a corporation of New York

Filed June 5, 1967, Ser. No. 643,709
U.S. Cl. 62—45 9 Claims
Int. Cl. F17c 5/04; F17c 17/02; B60h 3/04

A system for more uniform distribution of refrigeration in long-haul trailers and railcars is provided by inter-

mittently spraying cold fluid into the product chamber and continuously expanding vaporized cold liquid into the same



chamber with the production of external work which is recovered to circulate the sprayed cold fluid.

3,421,337

REVERSE CYCLE REFRIGERATION SYSTEM

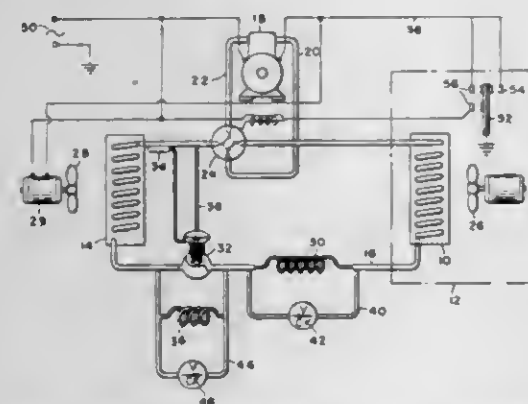
Robert A. Johannsen, Onalaska, Wis., assignor to The Trane Company, La Crosse, Wis., a corporation of Wisconsin

Filed July 17, 1967, Ser. No. 653,730

U.S. Cl. 62-115

Int. Cl. F25b 13/00

6 Claims



A reverse cycle refrigeration system using a variable orifice superheat responsive thermal expansion valve and a capillary tube arranged in parallel relation to throttle refrigerant liquid into an outdoor heat exchanger at a rate maintaining at the outlet thereof an acceptable degree of superheat over a wide range of outdoor temperatures and the method of operating the same

3,421,338

SELF-DEFROSTING REFRIGERATORS

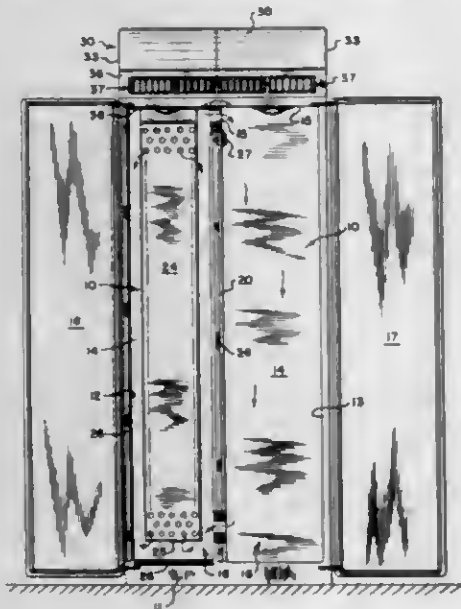
Edward D. Gidseg, Kings Point, Great Neck, N.Y. (% Defiance International Limited, 108-16 Merrick Blvd., Jamaica, N.Y. 11433)

Filed Dec. 5, 1966, Ser. No. 599,039

U.S. Cl. 62-155

Int. Cl. F25d 21/06; F25d 17/04; F25d 21/14

10 Claims



A self-defrosting refrigerator includes a food storage

compartment and a refrigerating compartment adjacent and insulatable from the food storage compartment but inter-connected by first and second passageways. A refrigeration system is mounted within the refrigerating compartment which includes a compressor, a freezer coil, a defroster coil, a blower for circulating frigid air through the passageways to cool the storage compartment during the refrigeration cycle and for circulating hot air through the refrigerating compartment during the defrost cycle, means for sealing the passageways during the defrost cycle and means for collecting and exhausting the melted frost from the refrigerating compartment into the ambient environment.

3,421,339

UNIDIRECTIONAL HEAT PUMP SYSTEM

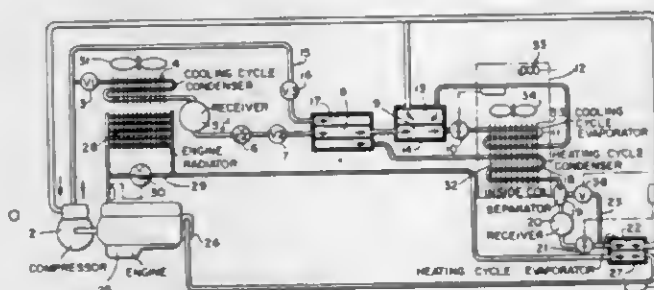
Rodney H. Volk, La Crescent, Minn., and David J. Relste, Onalaska, Wis., assignors to The Trane Company, La Crosse, Wis., a corporation of Wisconsin

Filed May 31, 1967, Ser. No. 642,579

U.S. Cl. 62-159

Int. Cl. F25b 29/00; F25b 27/00; F25b 17/06

7 Claims



A heat pump system having a heating circuit and a cooling circuit which contemplates only one direction of refrigerant flow in said circuits, a common compressor for said circuits and means for transferring the refrigerant from one circuit to the other. The disclosure also includes an internal combustion engine drive for the aforementioned system with specific means for utilizing the engine heat to vaporize the refrigerant in the heating circuit and special provision for controlling the refrigerant flow in the heating circuit in response to engine cooling fluid temperature.

3,421,340

POD MOUNT TRANSPORT REFRIGERATION SYSTEM

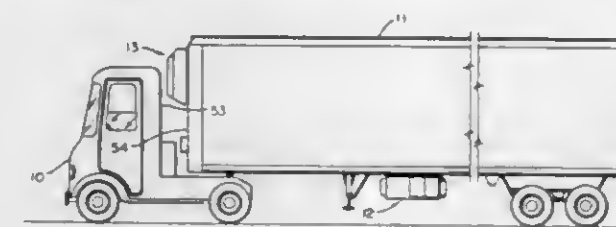
Richard E. Von Berg, Santa Ana, Calif., assignor to Transcold Corporation, Montebello, Calif., a corporation of California

Filed Apr. 26, 1967, Ser. No. 633,930

U.S. Cl. 62-239

Int. Cl. B60h 3/04; F25d 19/00; F25d 17/06

9 Claims



The evaporator unit of a transport refrigeration system and the evaporator blower are mounted outside the refrigerated load compartment. Circulating air leaves the load compartment to pass through the evaporator unit, and the blower discharges air into the load compartment. A removable cover on the evaporator unit forms part of the circulatory path and, when removed, the circulation of air will be interrupted. The vertical corner edges of the cover are relieved to permit close spacing between tractor

and trailer without limiting the turning capability of the rig. A bulkhead spaced from an interior wall within the load compartment forms an air duct to the evaporator unit. The remaining components of the system are carried beneath the load compartment.

3,421,341

CLASP COMBINED WITH DETACHABLY MOUNTED ORNAMENT

Philip Allan Hodge, Warwick, R.I., assignor to Anson, Inc., Providence, R.I., a corporation of Rhode Island

Filed Oct. 18, 1966, Ser. No. 587,591

U.S. Cl. 63-4

Int. Cl. A44c 5/02; A44c 17/20

5 Claims



A jewelry catch for clasping the ends of a flexible member and for simultaneously detachably securing a medallion to the exterior of a hollow housing forming the female portion of the catch. The medallion has a portion extending into the hollow housing and secured by male portion of the catch.

3,421,342

UNIVERSAL JOINT CLAMP

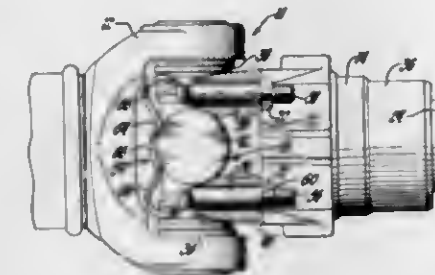
William A. Rossiter, Lapeer, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Jan. 3, 1967, Ser. No. 606,917

U.S. Cl. 64-17

Int. Cl. F16d 3/26

5 Claims



A clamp for securing a universal joint bearing cup to a yoke includes a spring portion engaging the bearing cup and a pair of legs which extend through the yoke. Nuts threaded on the legs are engageable with shoulders on the legs and with a surface of the yoke to locate the clamp with respect to the yoke and limit the force supplied by the spring portion of the clamp to a predetermined amount.

3,421,343

ENGINE DRIVE SYSTEM

William A. Wiseman, Muskegon, Mich., assignor to Continental Motors Corporation, Muskegon, Mich., a corporation of Virginia

Filed Aug. 1, 1966, Ser. No. 569,489

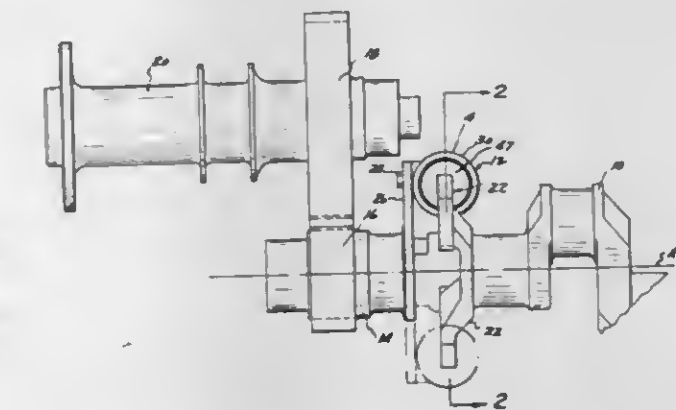
U.S. Cl. 64-27

Int. Cl. F16d 3/14

22 Claims

A driving system connecting the crankshaft of an engine with a driven shaft and including a first means providing a relatively rigid connection between the crankshaft and the driven member, a second means providing a resilient connection between the crankshaft and the driven member and a hydraulic system including a centrifugally movable valve member for automatically

changing the connection from the first means to the second means at a predetermined speed to thereby change



3,421,344

HIGH-SPEED KNITTING MACHINE

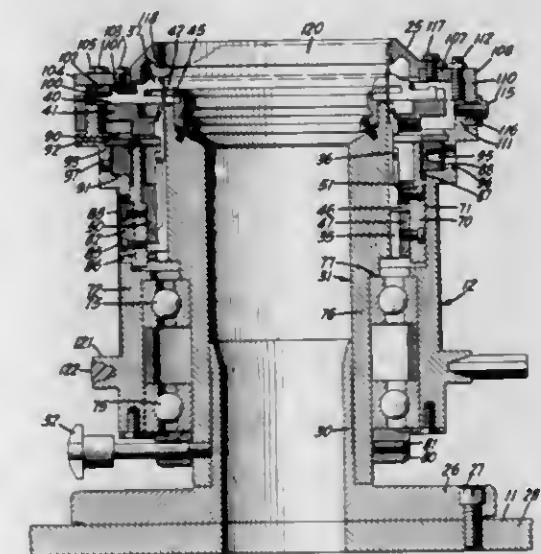
James D. Moyer, Wyomissing, and Douglas C. Lang, Reading, Pa., assignors, by mesne assignments, to North American Rockwell Corporation, Pittsburgh, Pa., a corporation of Delaware

Filed Dec. 22, 1965, Ser. No. 515,555

U.S. Cl. 66-55

Int. Cl. D04b 9/02; D04b 15/24; D04b 15/32

11 Claims



A knitting machine having a fixed cylinder, needles in the cylinder, sinkers on the cylinder, an outer sleeve rotatable on the cylinder, an inner sleeve connected to the outer sleeve for rotation therewith and for axial movement relatively thereto, cam means on the inner sleeve for operating the needles and means for axially adjusting the inner and outer sleeves relative to each other to vary operating movements of the needles in relationship to the sinkers. The cam means includes different portions for operating the needles at different speeds from a high stitch clearing level to a low stitch drawing level and different portions for again raising the needles at different speeds from the low to the high level.

3,421,345

PRESSURE CONTROL, ESPECIALLY IN CONNECTION WITH THE TREATMENT OF TEXTILES

Günter Schiffer, Krefeld, and Karl-Peter Lopata, Krefeld-Uerdingen, Germany, assignors to Joh. Kleinfewers Söhne, Krefeld, Germany

Filed June 29, 1966, Ser. No. 561,618

Claims priority, application Germany, July 2, 1965, K 56,525

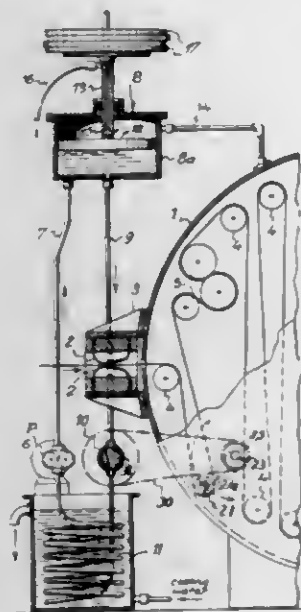
U.S. Cl. 68-5

Int. Cl. D06f 39/12; D06f 47/06; F26b 25/16

8 Claims

A device for finely controlling the sealing pressure in a hydraulic or pneumatic sealing diaphragms, for use in con-

nection with the inlet and outlet slots for the goods in pressure dampers for treating textiles, said sealing pressure being controlled by the inner pressure of the boiler, in which said device comprises a double acting fluid pressure cylinder with a piston reciprocable therein and having one side acted upon by the inner pressure of the pressure damper whereas the other side of said piston is acted upon by



the pressure medium of the sealing diaphragms, the required low over-pressure for the sealing lips being produced by an additional pressure acting upon said piston or piston rod connected thereto, and the required correction of the sealing pressure necessitating the varying frictional values of the goods, and/or the impregnated liquor being effected by a control device controlled by the tension of the goods in the pressure damper.

3,421,346

WASH-DRAW APPARATUS

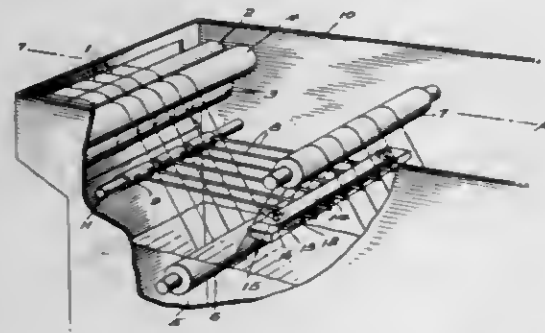
Billy J. Wilson, Camden, S.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed May 5, 1967, Ser. No. 636,452

U.S. Cl. 68-175

Int. Cl. D06f 29/02

4 Claims



A wash-draw apparatus is provided having a plurality of rods mounted between the upper and lower rolls parallel to the direction of travel of the filament bundles. These rods act as guides to the filament bundles and separate them, resulting in decreased lateral shifting, fewer roll wraps, and increased operating speed.

3,421,347

CHILD-SAFE PILL BOX

Gene E. Sotory, 1164 Summit Ave., Jersey City, N.J. 07307

Filed Apr. 17, 1967, Ser. No. 631,278

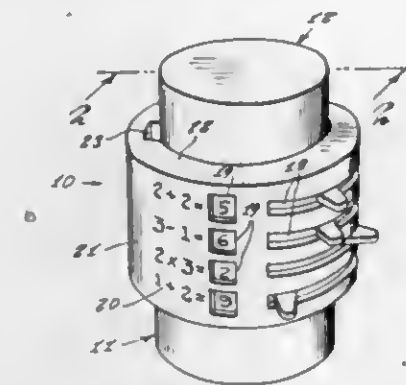
U.S. Cl. 70-63

Int. Cl. E05b 65/52; B65d 55/14; E05b 37/02

3 Claims

A pill box including a case and cover removably secured together by a series of rotatable rings each of

which has a specially positioned groove to clear an obstruction on the cover, the rings being retained by the



case, and the rings being required to be particularly positioned to allow clearance of the obstruction and thus let the pill box be opened.

3,421,348

MAGNETICALLY OPERATING LOCK

Hermann Hallmann, Hamburg, Germany, assignor to Huwil-Werke, Hugo Willach & Sobne, Bezirk Cologne, Germany, a business firm of Germany

Filed July 12, 1967, Ser. No. 652,962

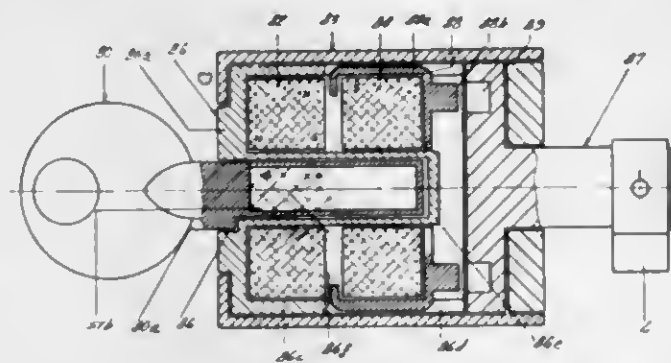
Claims priority, application Germany, July 29, 1966,

H 60,103

U.S. Cl. 70-276

Int. Cl. E05b 47/00

8 Claims



A key cylinder (86) retains a magnetic body (82) which is rotatable in the key housing (83) and an adjacent longitudinally slideable coupling element (84), retained in a specific angular position; upon insertion of a key (80) having zones of magnetization, the body (82) is rotated to a position at which magnetic poles repel the slideable element to cause engagement of the key cylinder and a locking element for rotation of key and locking element jointly; upon withdrawal of key, the coupling element (84) is attracted by the body (82) and slides out of engagement so that the disengaged key cylinder can rotate freely.

3,421,349

RETRACTABLE KEY HOLDER

Harold R. St. Clair, Jr., Rte. 8, Lexington, Ohio 44904

Filed Jan. 23, 1967, Ser. No. 611,096

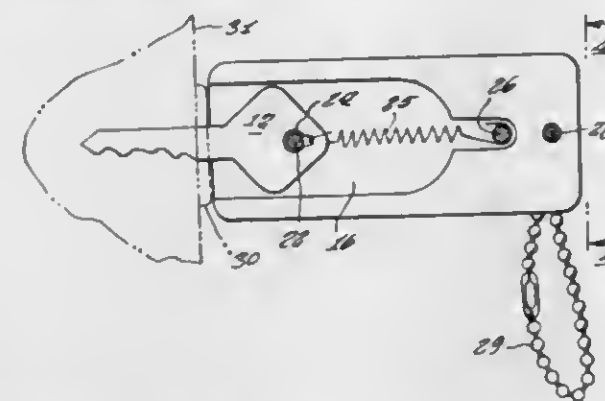
U.S. Cl. 70-414

Int. Cl. E05b 19/00

1 Claim

A key case for supporting a key therewithin, but which is retractable outward from the case by simply pushing against a button extending out of the case and which causes the key to be moved outwardly through a slot against the action of the return spring, this construction

being particularly adaptable for use as a holder for an automobile ignition key whereby the key will instantly



disengage with the ignition switch and retract into the case when the case is turned to an off position.

3,421,350

PROTECTIVE COVER FOR A KEYHOLE ASSEMBLY

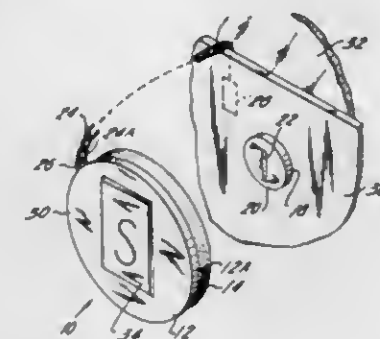
Victor Shanok and Jesse P. Shanok, Brooklyn, N.Y., assignors to Glass Laboratories Company, Brooklyn, N.Y., a limited partnership of New York

Filed Feb. 2, 1967, Ser. No. 613,559

U.S. Cl. 70-455

Int. Cl. E05b 17/18

6 Claims



This invention is concerned with the provision of a protective device for a keyhole or key receiver which is subject to moisture and/or freeze up through exposure to the elements or otherwise. The subject protective device is in the form of a protective cover which is adapted to be self-mountable around the said key receiver and thus protect the key receiver and the lock of which it forms apart from freezing in cold weather or become damaged by moisture.

3,421,351

METHOD OF FORMING BAR SCREWS

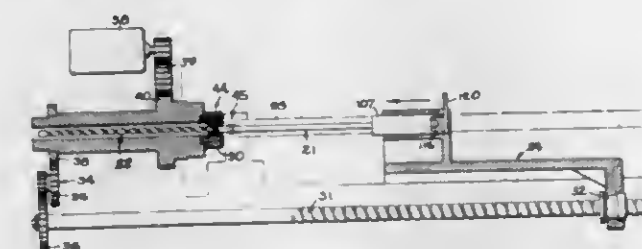
William G. Newman, Oak Park, Leo F. Doran, Clawson, and Irving J. Ezyk, Utica, Mich., assignors to Beaver Precision Products, Inc., Clawson, Mich., a corporation of Delaware

Filed Feb. 2, 1967, Ser. No. 613,669

U.S. Cl. 72-64

Int. Cl. B21b 15/02; B21d 11/14

11 Claims



A method and apparatus for twisting a bar of rectangular cross section to form a double lead screw of uniform pitch. The bar is held at one end by a first gripper which applies a twisting torque to the bar and, at a

point spaced from the first gripper, a second gripper holds the bar against turning. The bar is advanced longitudinally through both grippers at a preselected speed and the first gripper is turned at a rate correlated with this speed to twist the bar to provide uniform turns of the desired pitch.

3,421,352

METHOD OF AND APPARATUS FOR REBENDING STRIP-LIKE MATERIAL

Jeremiah Wagner O'Brien, Pittsburgh, Pa., assignor to United Engineering and Foundry Company, Pittsburgh, Pa., a corporation of Pennsylvania

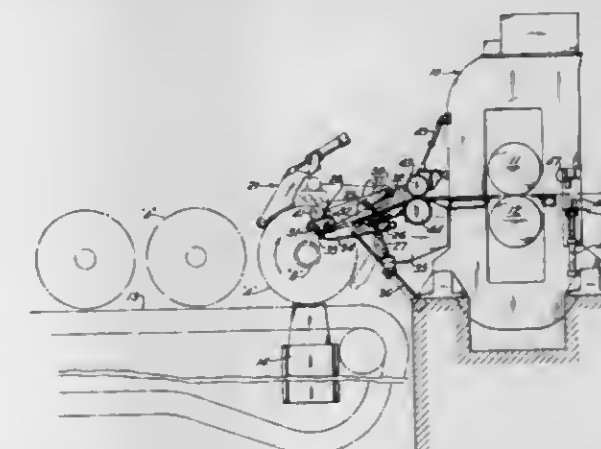
Filed July 13, 1966, Ser. No. 564,860

Claims priority, application Great Britain, July 27, 1965, 32,137/65

U.S. Cl. 72-146

Int. Cl. B21c 47/02; B21d 11/14

11 Claims



This invention relates to a method of and apparatus for rebending strip-like material after it has been uncoiled from coil form for feeding to a processing apparatus, such as a rolling mill. More particularly, the present invention relates to a method and apparatus for rebending a portion of the trailing end of a coil which has been uncoiled, which portion for one reason or another is to be recoiled and not passed into the processing apparatus. Without any intention to limit the present invention, and only for the sake of explanation, the invention will be explained in combination with the operation of a rolling mill.

3,421,353

METHOD AND APPARATUS FOR MAKING CORRUGATED BUILDING SHEETS

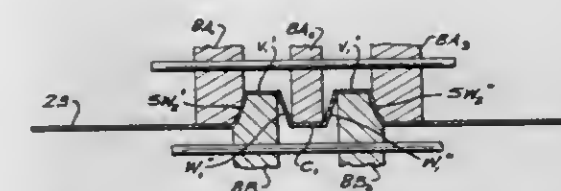
Victor G. Franc, Wireton, Pa., assignor to H. H. Robertson Company, Pittsburgh, Pa., a corporation of Pennsylvania

Original application Dec. 15, 1964, Ser. No. 418,426. Divided and this application Oct. 12, 1967, Ser. No. 683,059

U.S. Cl. 72-181

Int. Cl. B21d 5/08; B21b 1/24

5 Claims



A method and apparatus for making corrugated building sheets consisting essentially of plural flat crests, alternating flat valleys, and essentially flat sloping webs connecting the crests and valleys and diverging from the crests to the adjacent valleys. At least two of the sloping webs, one on each side of the building sheet, being altered

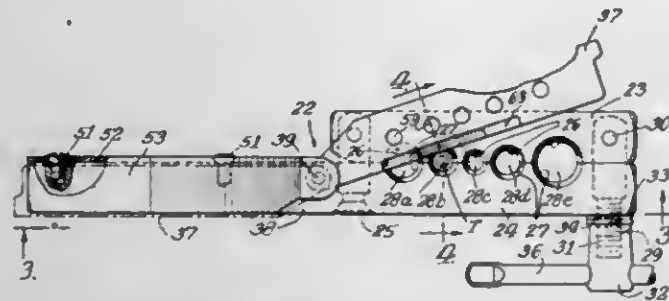
from an initial essentially flat configuration to an arcuate configuration wherein the curvature extends across substantially the entire width of the said two of the sloping webs.

3,421,354

INTEGRAL DOUBLE FLARE ADAPTER

Richard V. Strybel, Elk Grove Village, and Leonard J. Kowal, Prospect Heights, Ill., assignors to Imperial Eastman Corporation, a corporation of Illinois
Filed June 23, 1966, Ser. No. 559,782
U.S. Cl. 72—317
Int. Cl. B21d 41/02

8 Claims



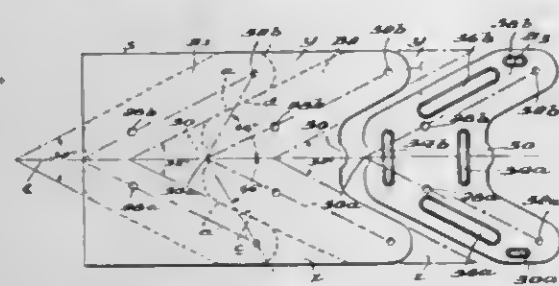
A tool for double flaring the end of metal tubing. The tool includes a pair of tube clamping bars defining a plurality of different size tube clamp recesses, and a flaring cone carried on a suitable yoke cooperatively associated with the clamping bars to permit movement of the flaring cone forcibly coaxially of any one of the tube clamping recesses for flaring a tube end retained therein. A carrier is movably mounted on one of the clamping bars for selective disposition in overlying relationship to the recesses and in spaced relationship thereto adjacent a handle portion defined by one of the clamping bars. The carrier is provided with a plurality of adapters corresponding to the different tube holding recesses for providing a suitable initial beveling of the tube end for subsequent completion of a double flare operation by the flaring cone upon withdrawal of the carrier to the retracted position adjacent the handle.

3,421,355

HINGE BRACKETS

Hyman Kramer, 2764 E. 16th St., Brooklyn, N.Y. 11235
Continuation-in-part of application Ser. No. 458,148, May 24, 1965, now Patent No. 3,310,268, dated Mar. 21, 1967. This application Oct. 22, 1965, Ser. No. 501,431
U.S. Cl. 72—338
Int. Cl. B21d 22/00; B21c 37/02

5 Claims



A method of fabricating hinge brackets for connecting tubular and like members adapted for swinging movement between substantially right angular and parallel positions with respect to one another from an elongate sheet metal strip with a minimum of scrap, which comprises the steps of blanking out a succession of bracket blanks of general V-shape from a sheet metal strip of width equal to the overall width of the brackets in their flattened-out bracket-blank stage and being characterized by apical portions defined by edges extending generally transversely to the center line of said blanks, during each blanking-out operation forming from the material of each preceding blank which extends along the relatively outer

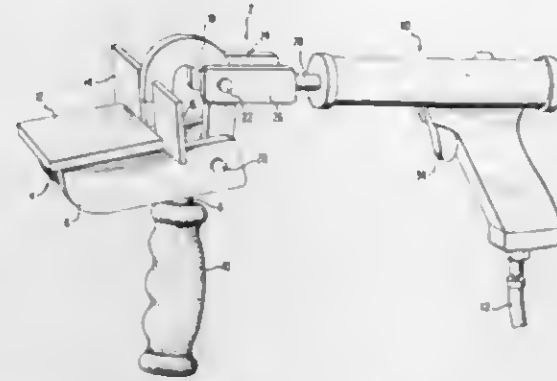
edge of its apical portion a tab on the next succeeding blank and which projects from the relatively inner edge of the apical portion thereof, successively bending said blanks to general U-form and successively bending said tabs substantially at a right angle to the apical portions from which they extend and in direction such that they extend into the spaces between the leg portions of the so-bent blanks.

3,421,356

PANEL CRIMPING TOOL

Gerd Buske, Gowrie, Iowa, assignor to Buske Industries, Inc., a corporation of Iowa
Filed Apr. 28, 1967, Ser. No. 634,681
U.S. Cl. 72—387
Int. Cl. B21d 9/05; B21d 19/08

4 Claims



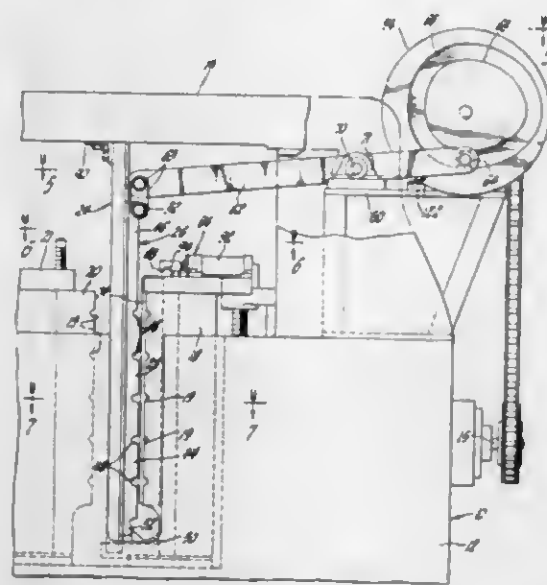
The tool is designed for use in crimping an upstanding flange on one panel downwardly over the edge of another overlying panel. Typically, the panels are those of an automobile door. The panels are arranged with the edges of the overlying panel disposed against the upstanding flange of the lower panel. The tool has a flat anvil which underlies the lower panel and upstanding stop plates which lie against the lower panel's upstanding flange. A hammer head, pivoted to the tool frame, is adapted to be connected to the piston rod of an air hammer. When the air hammer is actuated, the hammer head swings over and bends the upstanding flange on the lower panel down over the edge of the overlying panel.

3,421,357

AUTOMATIC TRANSFER MECHANISM FOR UPSETTER

Carl Wayne Elliott, Clarence, and James J. McNeil, East Aurora, N.Y., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 28, 1966, Ser. No. 530,517
U.S. Cl. 72—405
Int. Cl. B21d 43/00; B21d 45/00

2 Claims



A transfer mechanism for progressively advancing a workpiece through a series of work stations and having

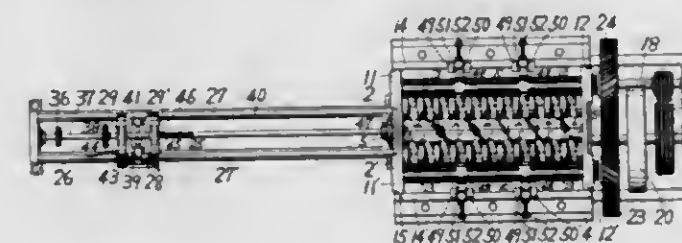
transfer bar means formed with a plurality of spaced workpiece supports which align with the work stations when the transfer bar means is in a first position and in an advanced second position. An air cylinder feeds the workpiece into one of the workpiece supports while the transfer bar means is in the first position and a cam drive is provided for moving the transfer bar means from the first position to the second position whereat the workpiece is located adjacent a work station. A spring biased pressure bar serves to remove the workpiece from the work station upon completion of the work operation and move it into the next workpiece support of the transfer bar means while the latter is in the first position.

3,421,358

SWAGE APPARATUS

Susumu Yamaura and Matsue Yamaura, both of No. 265, Koshienguchi 2-chome, Nishinomlya-shi, Japan
Filed Feb. 21, 1966, Ser. No. 528,956
Claims priority, application Japan, Feb. 24, 1965, 40/10,612
U.S. Cl. 72—408
Int. Cl. B21d 37/02; B21j 9/18

3 Claims



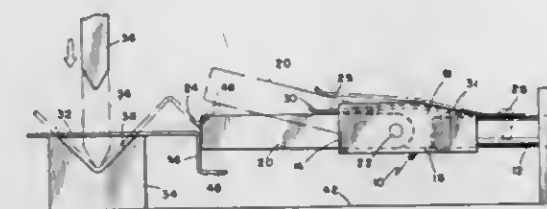
A swaging apparatus includes pairs of mating die halves arranged in longitudinally aligned relation to define a longitudinally tapering die passage. Respective intermediate hammering blocks are associated with each die half, and arranged in longitudinal alignment with each other on either side of the split dies. The split dies are formed of magnetizable material and are magnetized with respective polarities such that the halves of each split die repulses each other, maintaining each die half in engagement with its associated intermediate hammering block. A pair of rotary hammering rods extend along respective opposite sides of the two series of hammering blocks in contact with the outer surfaces thereof to impart inwardly directed impacts to the hammering blocks to impact the associated die halves.

3,421,359

KICK-UP BACK STOP FOR PRESS BRAKE

Daniel M. Gibbs, 788 Grossmont Ave., El Cajon, Calif. 92020
Filed Sept. 16, 1966, Ser. No. 579,952
U.S. Cl. 72—461
Int. Cl. B21d 11/22

1 Claim



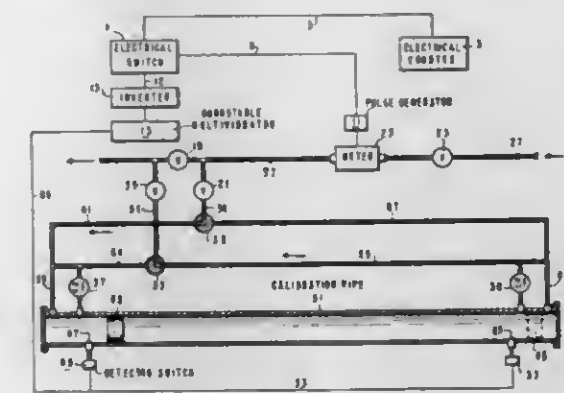
A back stop for a press brake with the stop bar pivoted in a U-shaped saddle fixed to the end of a support bar designed to be fixed horizontally, the saddle holding the stop bar against side sway and receiving a leaf spring pivoted on the support bar when the leaf spring, along with the stop bar are in operative position.

3,421,360

PIPELINE METER PROVER

Wallace K. Luse and George E. Smith, Houston, Tex., assignors to Esso Research and Engineering Company
Filed Sept. 12, 1966, Ser. No. 578,666
U.S. Cl. 73—3
Int. Cl. G01f 25/00

1 Claim



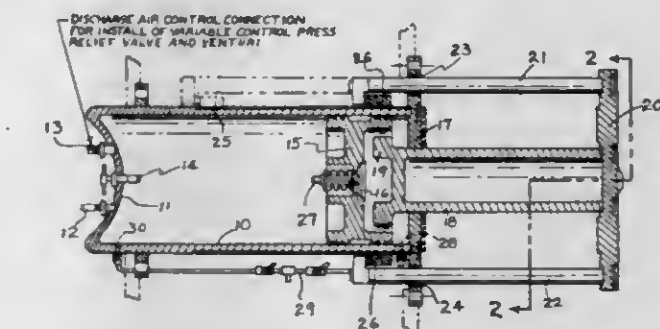
The accuracy of a bi-directional meter prover is increased by providing detection means which are actuated by detecting passage of the leading and trailing edges of the bi-directional piston and by providing particular circuitry for closing a switch on passage of the leading edge of the piston and opening same on passage of the trailing edge; improved results are also obtained by locating the piston detection means substantially opposite and under first and second check valve means on the calibration barrel which allows use of substantially the total length of the barrel in proving the meter.

3,421,361

VARIABLE LOAD DECELERATION MECHANISM

Marcel A. Stowell, Petersburg, Va., assignor to the United States of America as represented by the Secretary of the Army
Filed July 6, 1966, Ser. No. 563,655
U.S. Cl. 73—12
Int. Cl. G01n 3/30

6 Claims



Apparatus is provided for decelerating a moving mass at a desired rate to obtain a desired G-force. A cylinder-piston is precharged with a fluid. The moving mass presses on the piston while the cylinder is held stationary. Escape of the fluid is restricted as desired to resist movement of the piston. Therefore, the G-force acting on the mass during deceleration may be increased by restricting fluid escape, or decreased by allowing less-restricted escape.

3,421,362

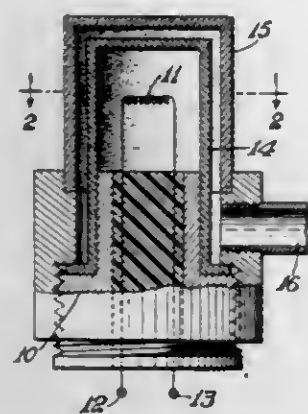
DEVICE OR APPARATUS FOR DETECTING IN AIR THE PRESENCE OF COMBUSTIBLE OR INFLAMMABLE GASES

Matthew J. Schaeffer, West Caldwell, N.J., assignor to Davis Emergency Equipment Co., Inc., Newark, N.J., a corporation of New York
Filed Apr. 30, 1965, Ser. No. 452,148
U.S. Cl. 73—23
Int. Cl. G01n 31/00

4 Claims

A gas detector includes a body member on which is mounted means for checking the detector means. A porous cap forms with the body member a chamber

which encloses the detector means so that an external sample gas being tested may pass by diffusion through said porous cap into said chamber. The body member has a conduit leading into said chamber, and a second porous cap is disposed in said chamber between said



conduit and said detector means thereby providing for introduction of a known gas by diffusion through said second porous cap into contact with said detector means so that the detector means may be zeroed on pure air or calibrated on a known combustible gas.

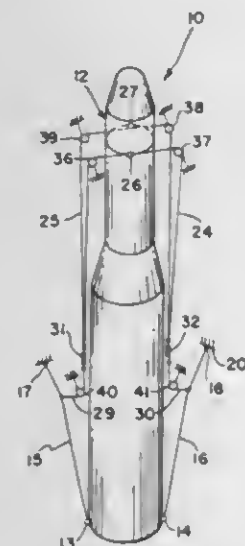
3,421,363

HARNESS FOR VERTICALLY SUPPORTING SLENDER BODIES FOR VIBRATION TESTING

Robert W. Herr, Hampton, Va., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed July 1, 1965, Ser. No. 469,011

U.S. Cl. 73-67.2
Int. Cl. G01n 29/00

7 Claims



A restraint harness for a vertically oriented, long, slender body. A support structure has support cables tied to it and to the body being supported. The support cables are located entirely below the center of gravity of the body. Restraint cables are connected to the body at points above the center of gravity of the body, entrained over pulleys anchored to the support structure, and fixed to the support cables completing the harness.

3,421,364

METHODS OF AND APPARATUS FOR MEASURING THE HARDNESS OF MATERIALS

Harold Kenneth Moneyppenny, Wolverhampton, and Ronald Kitchener, Penn., Wolverhampton, England, assignors to G.K.N. Group Services Limited, Smethwick, England, a British company

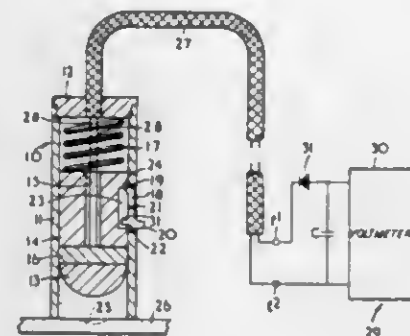
Filed Aug. 4, 1965, Ser. No. 477,187

U.S. Cl. 73-82
Int. Cl. G01n 3/42

9 Claims

A method of and apparatus for testing the hardness of materials in which an indenter penetrates the material to

cause permanent deformation thereof. The indenter is given a predetermined quantum of kinetic energy either by being accelerated to a given velocity or by being struck by a known mass accelerated to a given velocity. A piezoelectric element is so associated with the indenter tip that



it is stressed during deceleration of the tip as it penetrates the material so that the output from the piezoelectric element is proportional to such deceleration and is measured to give a reading representative of the hardness of the material.

3,421,365

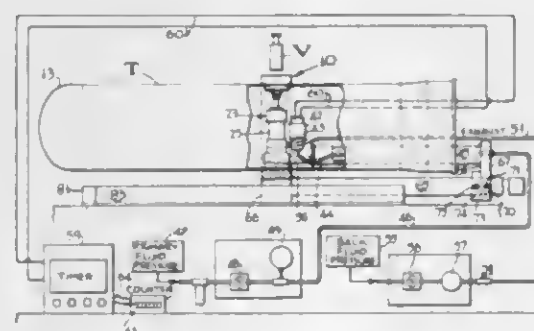
APPARATUS FOR INDUCING FATIGUE CRACKS IN MATERIALS

Walter B. Dean, Narberth, Pa., and John A. Germer, Blackwood, N.J., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army

Filed Apr. 18, 1966, Ser. No. 543,421

U.S. Cl. 73-91
Int. Cl. G01n 3/08

3 Claims



An apparatus for inducing a fatigue crack in a discrete area of the outer surface of a tubular test specimen including a support to engage the outer surface of the specimen, bounding the discrete area and supporting the specimen against movement when a force applying means is applied to the discrete area of the test specimen from the inside of the tube. The apparatus includes a slidable positioning means to permit the force applying means to be moved relative to the support means and the test specimen being investigated.

3,421,366

MULTIAXIAL STRESS APPARATUS

Richard E. Ely, Huntsville, Ala., assignor to the United States of America as represented by the Secretary of the Army

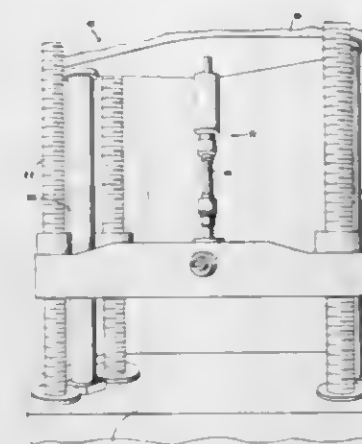
Filed Sept. 26, 1966, Ser. No. 582,480

U.S. Cl. 73-93
Int. Cl. G01n 3/10

4 Claims

Apparatus for testing cylindrical tube specimen in both the tension-tension and tension-compression quadrants. The apparatus includes a piston and cylinder assembly disposed in series with a tubular specimen wherein the cylinder and specimen are filled with a compressi-

ble fluid and a universal testing machine is disposed for safety monitoring networks may be used without modification thereof.



sembly while simultaneously subjecting the specimen to axial loads.

3,421,367

COMPRESSION TESTING METHOD AND APPARATUS

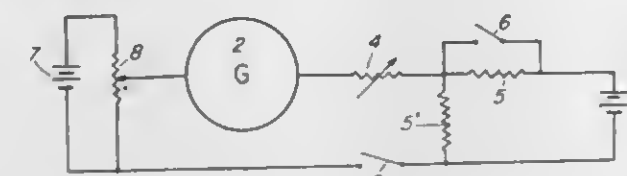
William G. Mears, Philadelphia, Pa., and Karl R. Schmidt, Sewell, and Herman J. vander Straeten, Brooklawn, N.J., assignors to Mobil Oil Corporation, a corporation of New York

Filed July 5, 1966, Ser. No. 562,779

U.S. Cl. 73-116

Int. Cl. G01m 15/00

12 Claims



The compression pressures in the cylinders of an internal combustion engine are tested by driving the pistons in the cylinders with a starter motor and battery and preventing combustion in the cylinders. Signals representative of electrical load on the battery or of the speed of the engine are generated and displayed to provide an indication of the compression pressure in the cylinders. Reference signals are also generated and displayed to provide an indication of piston position.

3,421,368

IGNITION SYSTEM SAFETY CIRCUIT FOR INTERNAL COMBUSTION ENGINES AND THE LIKE

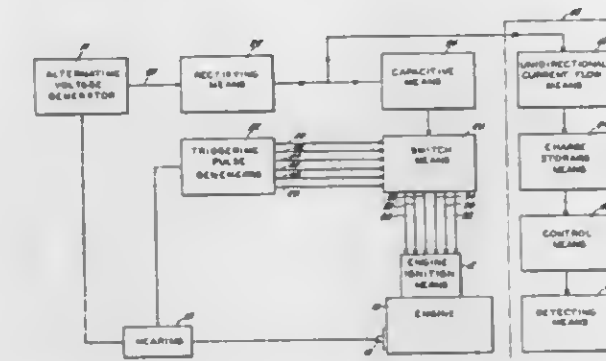
Joe Baron Stephens, Columbus, Miss., assignor to AMBAC Industries, Incorporated, Columbus, Miss., a corporation of New York

Filed Jan. 23, 1967, Ser. No. 610,979

U.S. Cl. 73-117.3

Int. Cl. G01n 15/00; G01r 1/00; G01r 13/42

16 Claims



A safety circuit for internal combustion engines which makes high frequency ignition systems compatible with conventional safety monitoring networks so that existing

ERRATUM

For Class 73-141 see:
Patent No. 3,422,445

3,421,369

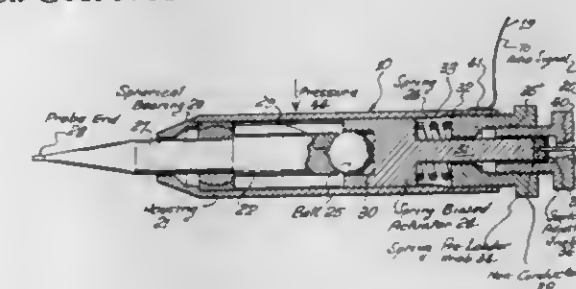
PRESSURE INDICATING PROBE

Eugene G. Frechaut, Ontario, Calif., assignor to General Dynamics Corporation, a corporation of Delaware
Filed Jan. 31, 1967, Ser. No. 612,913

U.S. Cl. 73-141

Int. Cl. G01l 5/18

10 Claims



The disclosure relates to a testing device which includes a probe unit arranged to apply a maximum, pre-set force to an article for use in checking, for example, suspected weak weld joints. The unit comprises an elongated rod having an article engaging probe end, and a conical depression at the other end. The rod is pivotally mounted intermediate its ends through a spherical bearing to the housing structure. The housing contains a spring loaded assembly containing a ball at one end to engage in the conical depression of the probe rod and a switch mechanism coupled, for example, to an audible signal system at the other end. An adjustment knob is provided to pre-load the spring and set the load conditions under which the switch is actuated. In use, a probe is pressed against the article to apply a transverse force to the probe end such that the rod will pivot in its bearing element thereby forcing the ball out of the conical depression and compressing the spring to close the switch when the predetermined force has been achieved.

3,421,370

RATE OF CLIMB AND DESCENT READOUT DEVICE

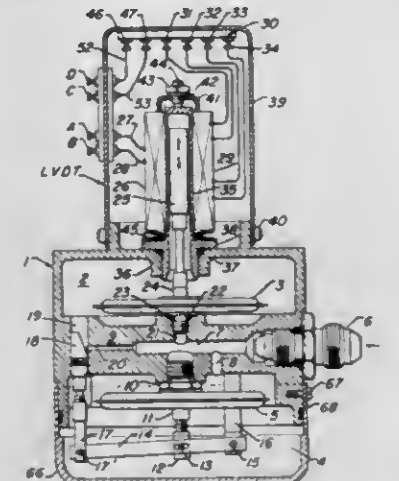
Emanuel J. Di Noia, Briarcliff Manor, N.Y., and Theodore R. Breunich, Stamford, Conn., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Nov. 4, 1966, Ser. No. 592,191

U.S. Cl. 73-179

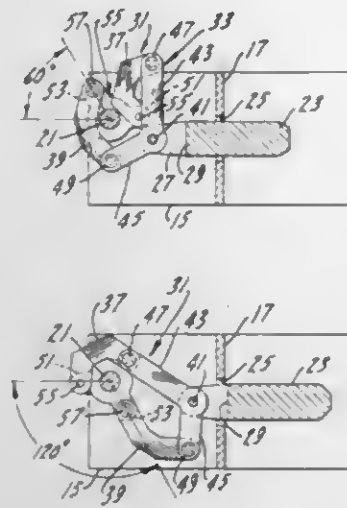
Int. Cl. G01c 21/00

10 Claims



Rates of climb and descent can be continuously determined in an apparatus in which an altitude sensing

connected together to form a foldable polygonal structure. Each link member is pivotally connected to two of the other link members. One of the link members is rigidly connected intermediate its ends to the shaft and another of the link members is pivotally connected intermediate its ends to the plunger. The link means rotate the shaft through an arc of approximately 180° upon linear movement of the plunger between first and second positions which are located at different distances from the shaft and also move the plunger between first and second



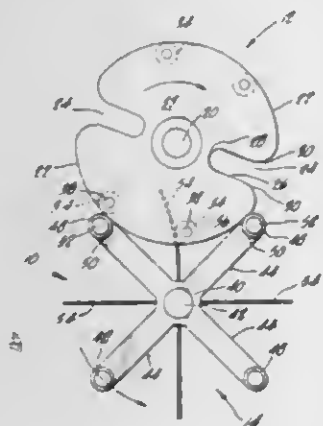
positions upon rotation of the shaft through an arc of 180°. The link members are arranged so that the link member pivotally connected to the plunger does not pivot relative to the plunger during the first increments of movement of the plunger away from the shaft but commences to pivot about its pivotal connection with the plunger as the plunger continues to move along a generally linear path away from the shaft. A source of linearly applied power such as a solenoid may be connected to the plunger to move it along the generally linear path.

3,421,380

INTERMITTENT MOTION APPARATUS
Montaz Nossli Mansour, Duarte, Calif., assignor to Unitek Corporation, Monrovia, Calif., a corporation of California

Filed June 7, 1967, Ser. No. 644,200

U.S. Cl. 74-84 Int. Cl. F16h 27/08; F16h 55/04 12 Claims



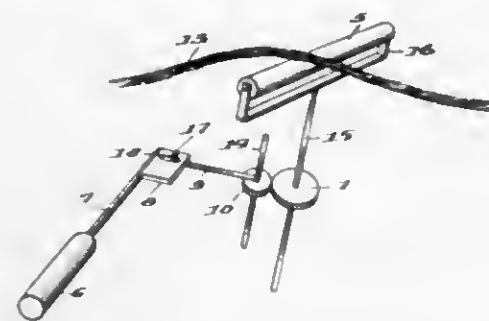
Apparatus having a driving member defining an indentation and an arcuate surface concentric with its axis. A driven member is mounted on an axis laterally spaced from that of the driving member and has means for engaging the arcuate surface and the indentation. The driven member is spring biased in the direction of rotation imparted to it by the driving member.

3,421,381

MECHANICAL OSCILLATING DEVICE
Walter Cunningham Berry, Jr., Staunton, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed June 19, 1967, Ser. No. 647,138

U.S. Cl. 74-103 Int. Cl. F16h 21/44; F16h 21/54; F16h 25/18 2 Claims



A mechanical oscillating device for attachment to a canting roll of a tow piddler, providing uniform lateral traverse of a tow into a canister.

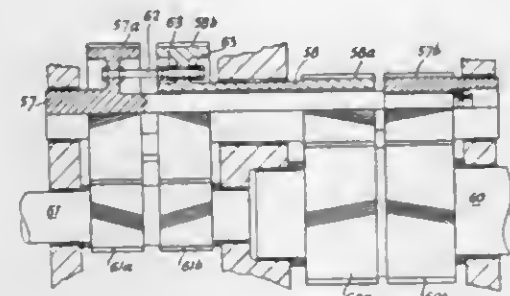
3,421,382

POWER TRANSMISSION GEARING WITH MEANS FOR CANCELING LOAD-GENERATED FORCES

John Anthony Henshaw, Maple, and Kenneth Ellis Lea, High Lane, Stockport, England, assignors to Mirreles National Limited, a corporation of Great Britain

Filed Feb. 28, 1967, Ser. No. 623,793

U.S. Cl. 74-410 Int. Cl. F16h 1/00 14 Claims



Power transmission gearing consisting of coaxial input and output shafts, a double helical gear on the input shaft, a double helical gear on the output shaft, at least one two-part set of gear members complementary to the double helical gears, the parts of each set of gear members being capable of relatively small axial and rotational movements, cushion means located against the parts forming each set of gear members to provide reaction forces opposed to the load-generated axial forces in these sets of gear members.

3,421,383

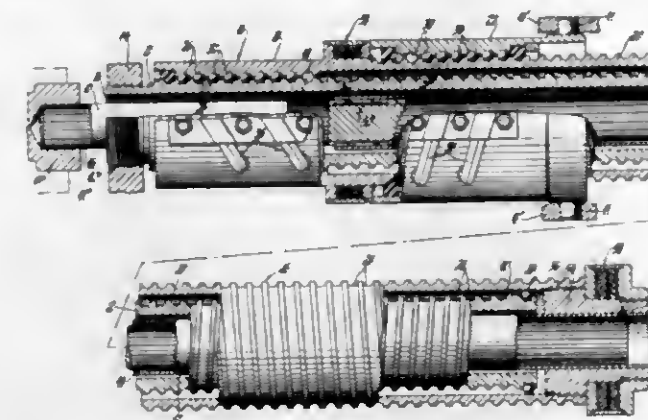
MULTIEXTEND SCREW MECHANISM
Lowell F. Smith, Dayton, Ohio, and George A. Wildmoyer, Saginaw, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed June 11, 1964, Ser. No. 374,428

U.S. Cl. 74-424.8 Int. Cl. F16h 1/18; F16h 1/20 12 Claims

1. In a multiextend screw mechanism the combination of
(a) an inner member, a first intermediate member encircling said inner member, a second intermediate member encircling said first intermediate member, an outer member encircling said second intermediate member,

(b) first thread means operatively threadably connecting said first intermediate member and said second intermediate member having a pitch angle extending in one direction, second thread means operatively threadably connecting said second intermediate member and said other member having a pitch angle extending in the opposite direction,



(c) and torque transmitting means operable to prevent relative rotational movement and permit relative longitudinal movement between said inner member and said second intermediate member.

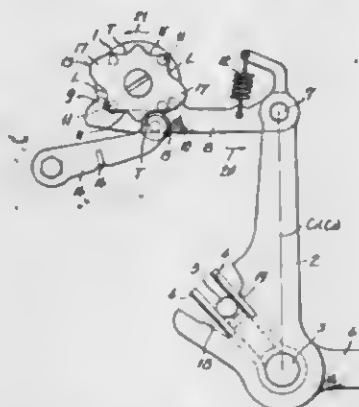
3,421,384

CHANGE SPEED APPARATUS FOR A VEHICLE
Yoshinori Okamoto and Takanori Onda, Tokyo, Japan, assignors to Kabushiki Kaisha Honda Gijutsu Kenkyusho, Shimonikura, Oaza, Yamato-machi, Kitaadachi-gun, Saitama-ken, Japan

Filed Sept. 22, 1967, Ser. No. 669,816

U.S. Cl. 74-474 Int. Cl. G05g 9/08; F16h 5/06; G05g 9/16 10 Claims

Claims priority, application Japan, Sept. 22, 1966, 41/62,334



Change speed apparatus on which a rotatable drum operates a change speed mechanism by the actuation of a pivotal swing arm which when successively moved in a forward direction serves to intermittently rotate the drum and place the change speed mechanism alternately in first and second speed positions, whereas when the swing arm is moved in reverse direction the drum is driven in reverse by half the angular distance as in the forward direction and the change speed mechanism is placed in neutral position.

3,421,385

MOVABLE STEERING COLUMN HAVING VERTICAL TILT ADJUSTMENT AND SWING-AWAY POSITION

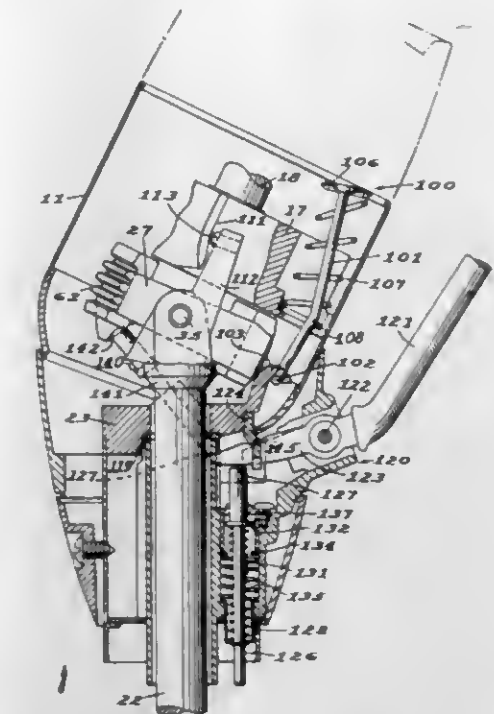
Donald G. Sippel, Windsor, Ontario, Canada, assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Oct. 22, 1965, Ser. No. 501,595

U.S. Cl. 74-493 Int. Cl. B62d 1/18; B60k 27/00 12 Claims

A jointed steering column for a vehicle having means permitting the steering wheel to tilt vertically for adjust-

ment of its driving position and to swing laterally and vertically for access to the driver's seat. A cam stop device locates the wheel in a set swing-away position ir-



respective of the vertically adjusted position of the wheel, and a single spring that urges the wheel toward both its tilt-up and swing-away positions.

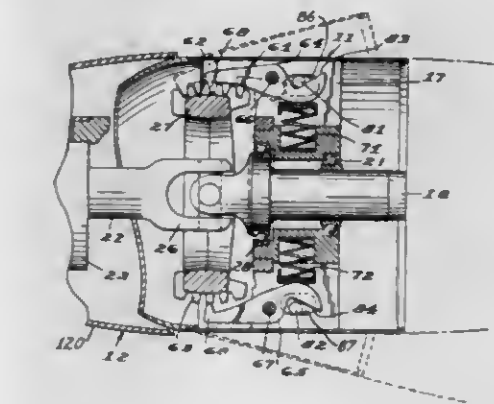
3,421,386

MOVABLE STEERING COLUMN HAVING RELEASABLE LATCH MEANS

Donald G. Sippel, Windsor, Ontario, Canada, assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Oct. 22, 1965, Ser. No. 501,596

U.S. Cl. 74-493 Int. Cl. B62d 1/18 5 Claims



A jointed steering column has means permitting the steering wheel carrying portion to swing laterally and vertically. A pair of releasable pawl and ratchet means hold a desired vertical angular relationship between the two column portions.

3,421,387

RACK AND PINION ASSEMBLIES

Frederick John Adams, Campton, near Shefford, England, assignor to Cam Gears Limited, Luton, England, a company of Great Britain

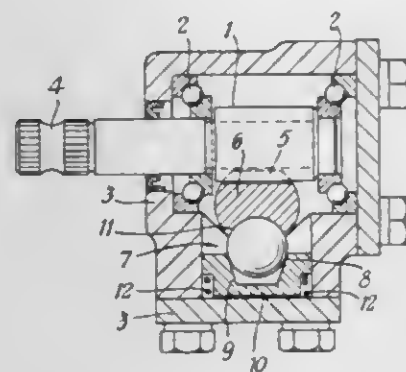
Filed May 4, 1966, Ser. No. 547,636

U.S. Cl. 74-498 Int. Cl. B62d 1/20 8 Claims

Claims priority, application Great Britain, May 4, 1965, 18,679/65

A rack bar and pinion construction where the rack bar is supported on the side thereof remote from the rack

teeth and also on both lateral sides of the bar to maintain the rack bar teeth in good meshed engagement with the pinion. The support member for the rack bar is slidably



mounted in the pinion housing and carries an anti-friction roller, ball, reel, spool, cylinder or the like to provide free rolling engagement with the rack bar thereby reducing friction.

3,421,388

ACTUATING AND REDUCING GEAR FOR HEAVY VALVES AND OTHER EQUIPMENT

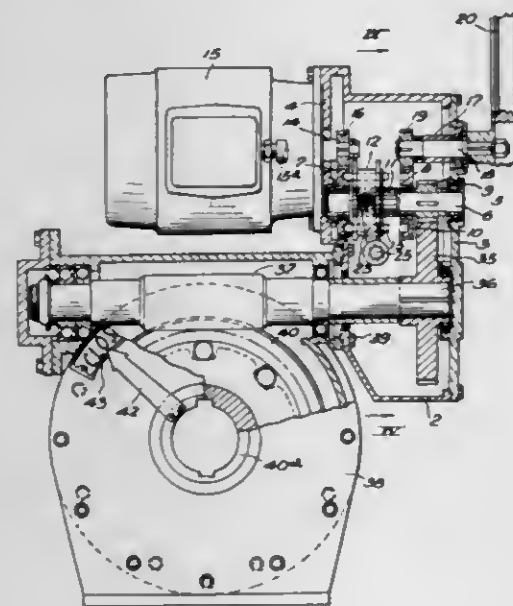
Hugh B. Carr, McMurray, Pa., assignor to S. P. Kinney Engineers, Inc., Carnegie, Pa., a corporation of Pennsylvania

Filed Aug. 18, 1966, Ser. No. 573,397

U.S. Cl. 74-625

4 Claims

Int. Cl. F16h 3/10; F16h 45/00



An actuating and reducing gear mechanism is disclosed that may be selectively motor driven or hand-operated. A clutch provides for easy hand operation and operation of the clutch prevents operation by the motor while the actuator is being normally operated, however, when manual operation stops, motor drive of the actuator resumes automatically.

3,421,389

VARIABLE SPEED DRIVE

Jean Fauchere, Bourg-la-Reine, France, assignor to Societe Anonyme dite: Richier, Paris, France, a French company of France

Filed Sept. 6, 1966, Ser. No. 577,288

Claims priority, application France, Sept. 9, 1965,

30,941

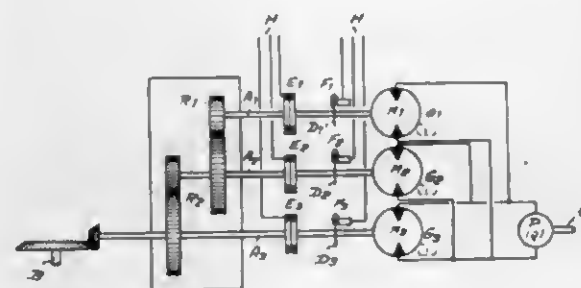
U.S. Cl. 74-665

3 Claims

Int. Cl. B16h 47/04; B16d 27/00

A variable speed drive is provided by a novel inter-

relationship of a fixed volumetric pump with a plurality, n , of fixed volumetric motors in combination with a cor-



responding number of gear, clutch, and brake sets, to produce $2^n - 1$ output ratios on a driven shaft.

3,421,390

POWER TRANSMISSION

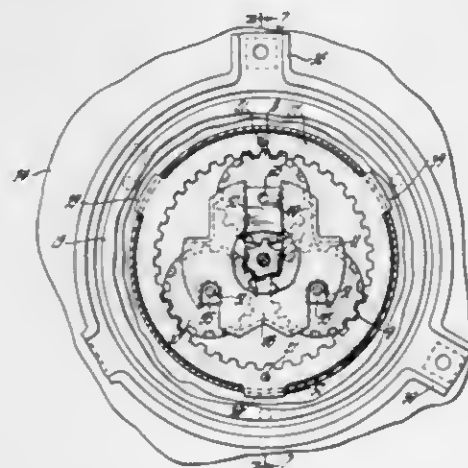
Thomas E. Lohr, Warren, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Aug. 25, 1966, Ser. No. 575,067

U.S. Cl. 74-801

10 Claims

Int. Cl. F16h 1/32



In the preferred embodiment, the planetary gear unit has a one-piece carrier with spaced sides having slots which receive the bearings for the planet gears, the input sun gear and the output ring gear. The output ring gear is piloted into the input sun gear and peripherally engages an annular thrust bearing and seal mounted in an outer cover member. A ring gear which meshes with the planet gears is fixed to a face plate to provide the reaction for conditioning the gear unit for a predetermined speed ratio.

3,421,391

INDEXING MECHANISM FOR ROTARY TABLE

John J. Delaney, West Pittston, Pa., assignor to Medico Industries Inc., Pittston, Pa., a corporation of Pennsylvania

Filed Nov. 10, 1966, Ser. No. 593,449

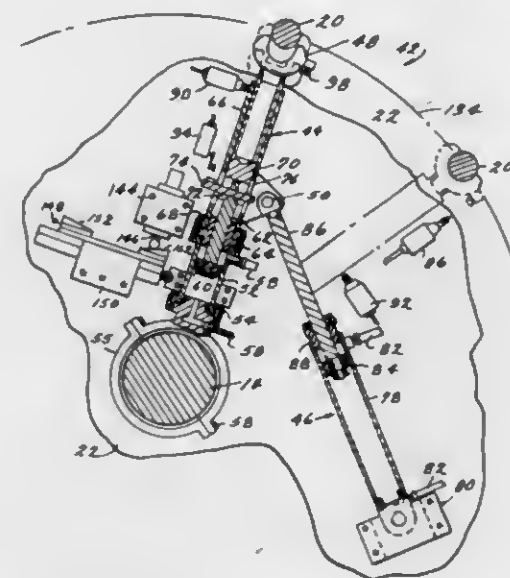
U.S. Cl. 74-822

7 Claims

Int. Cl. B23g 17/02

An indexing mechanism for a rotatable table includes two hydraulic rams one of which is swingable about the axis of rotation of the table and adapted upon extension to engage one of a plurality of index pins projecting from the table. The second ram is pivoted at one end for swing-

ing movement about an axis parallel to the axis of rotation and is pivotally connected at its other end to the pin to cause the waste material to be pushed automa-



first ram whereby alternate extension and contraction of the second ram reciprocates the first ram through an arc.

3,421,392

POWER OPERATED DRILL HAVING FLUID SUPPLY MEANS

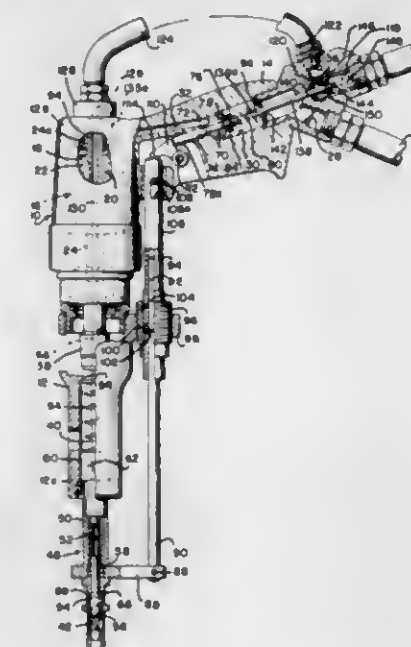
Kenneth R. Bangerter, Ithaca, N.Y., and Duane S. Gable, Athens, Pa., assignors to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey

Filed July 26, 1967, Ser. No. 656,235

U.S. Cl. 77-7

9 Claims

Int. Cl. B23b 39/14; B23b 47/08



A pneumatically operated hand drill including passage means for supplying fluid through the drilling implement to a workpiece being drilled thereby. Fluid flow through the passage means is controlled by a normally closed valve which is arranged to be opened after the pneumatic motor of the drill has been actuated by pressurized air.

3,421,393

CUTTING DEVICE

Walter Kugler, Neuffen, Wurttemberg, Germany

Filed Mar. 28, 1966, Ser. No. 540,458

Claims priority, application Germany, Mar. 31, 1965,

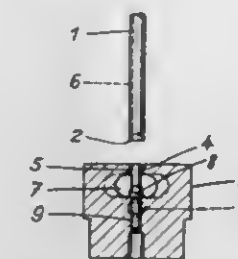
K 55,686

U.S. Cl. 77-69

5 Claims

Int. Cl. B23b 51/04

Cutting tool for cutting apertures into paper and like material comprising a rotary cutting member of tubular configuration which cuts against a cutter die having a



ically into the tubular passageway of the cutting member. The pin is dimensioned to permit dust waste to fall into the opening of the cutter die.

3,421,394

APPARATUS FOR PLACING SHEET MATERIAL ON A SURFACE AND CUTTING TO A PREDETERMINED LENGTH

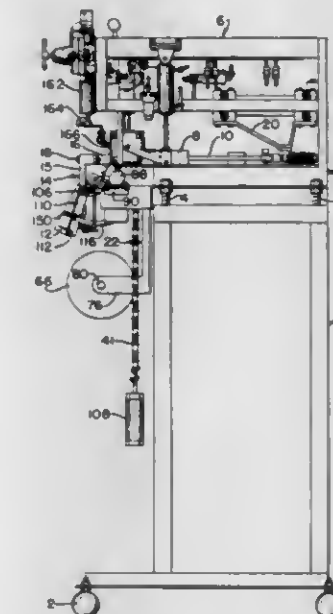
Joseph L. Ammons, 1617 Lawson Lane 79106, and Floyd H. Morrow, P.O. Box 5884 79107, both of Amarillo, Tex.

Filed Mar. 17, 1965, Ser. No. 440,438

U.S. Cl. 83-157

13 Claims

Int. Cl. B26d 5/20; B26d 7/06



A machine for placing a sheet of film or paper onto a surface in timed sequence to a dispensing machine and cut the film or paper to a predetermined length from a roll of film. The machine is fluid operated and is so constructed to operate under damp, cold conditions and even when subjected to animal matter without damaging the machine. The machine provides for severing of the film upon the termination of the dispensing or ejection cycle and is adaptable to be used in refrigeration vaults, on sausage molding machines and the like in conjunction with conveyors.

3,421,395

DEVICE FOR EDGE TRIMMING METAL SHEET MATERIAL IN SHEARING LINES

Karl Greis, St. Inghert (Saar), Germany, assignor to Moeller & Neumann G.m.b.H., Inghert (Saar), Germany

Filed Nov. 23, 1966, Ser. No. 596,643

Claims priority, application Germany, Nov. 26, 1965,

Reg. No. (utility model) V 18,295

U.S. Cl. 83-436

1 Claim

Int. Cl. B26d 5/38; B26d 9/00

A device for double edge trimming of metal sheets comprising two trimming shears disposed on opposite sides of a roller table and supported on base plates for

sheet trimming width adjustment transversely of the roller table between a trimming width greater than the roller

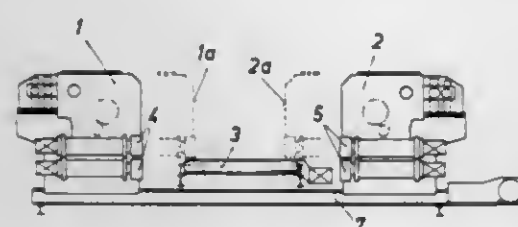


table width and a trimming-width less than the roller table width after removal of a roller table section.

3,421,396

AUTO LOOP DRUM

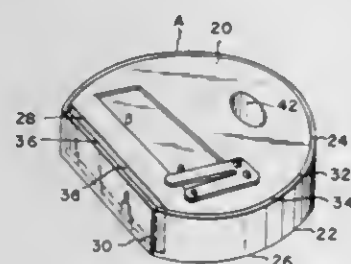
James L. Bates, 2030 N. El Paso St., Colorado Springs, Colo. 80907

Filed Dec. 28, 1966, Ser. No. 605,381

U.S. Cl. 83-451

7 Claims

Int. Cl. B26d 7/00



A film measuring device for use with a camera of the type having a detachable external film magazine, for temporary attachment to the magazine when detached from the camera, the device being drum shaped and its peripheral surface being exactly the length of the film loop which must be within the camera when it is operative. The device also carries a film cutter which is constructed to bisect transversely aligned socket holes in the film.

3,421,397

ROTARY CAM ACTUATED RECIPROCATING STAMPING PRESS

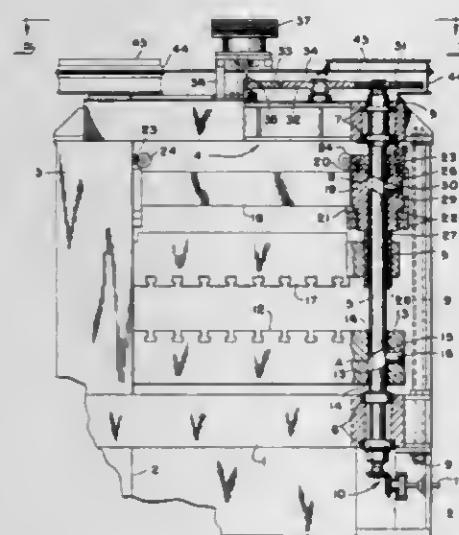
Harry S. Clark, Rte. 3, Delaware, Ohio 43015

Filed Dec. 6, 1965, Ser. No. 511,885

U.S. Cl. 83-623

9 Claims

Int. Cl. B26d 5/16; B30b 1/26



A stamping press and the like including a plurality of

vertically extending rotatable rods on which the dies are guided for sliding movement, drive means which rotates such rods in synchronism, and cam means interconnecting the dies and rods operative to reciprocate the dies as the rods are rotated, one form of the invention including opposed dies with both being guided and driven by the rods.

3,421,398

MUSICAL INSTRUMENT BEARING INSERT

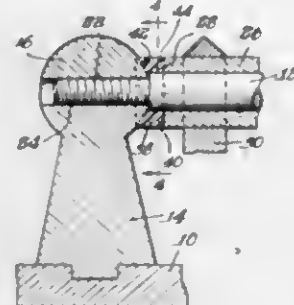
Walter D. Whiteside and Robert H. Hampel, Kenosha, Wis., assignors to G. Leblanc Corporation, Kenosha, Wis., a corporation of Wisconsin

Filed Oct. 1, 1965, Ser. No. 492,035

U.S. Cl. 84-380

3 Claims

Int. Cl. G10d 9/04; G10d 7/08; G10d 7/10



A plastic bearing insert between a square ended hinge rod and a cylindrical headed hinge post on a clarinet or the like, the bearing insert having a flat end and a concave end adapting to the confronting surfaces.

3,421,399

KEY PADS FOR MUSICAL INSTRUMENTS

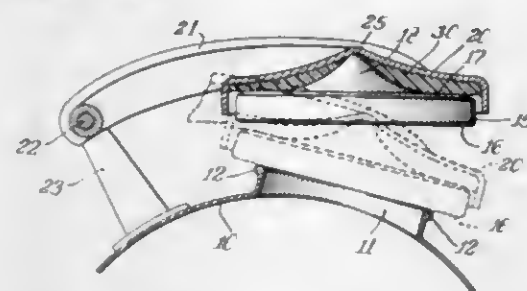
Leland B. Greenleaf, Elkhart, and James Timothy Bryant, Goshen, Ind., assignors to C. G. Conn Ltd., Elkhart, Ind., a corporation of Indiana

Filed Aug. 8, 1967, Ser. No. 659,110

U.S. Cl. 84-380

7 Claims

Int. Cl. G10d 7/00



Key pad for covering tone opening of a musical instrument, such as a saxophone, supported on pad cup pivotally mounted on the body of the instrument. The pad is secured in the cup by a plastic material interposed therebetween. A portion connected to the pad, or to the cup, or separate therefrom, permits the pad to rock within the cup when the plastic material is pliable for accurate alignment of the pad with respect to the edge of the tone opening. The plastic material hardens at room temperature to hold the pad fixed in the aligned position.

3,421,400

DRUM AND DRUM HEAD CONSTRUCTION

Hidekazu Yokoi, 24, 3-chome, Amaike-cho, Showa-ku, Nagoya, Japan

Filed Dec. 19, 1966, Ser. No. 602,891

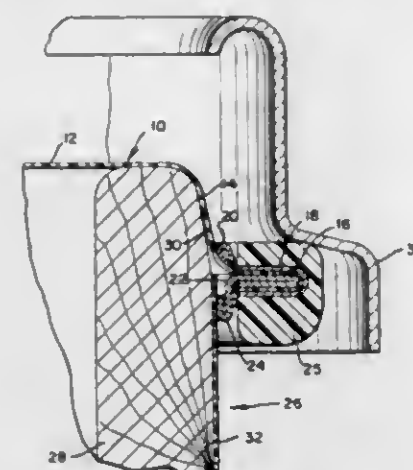
U.S. Cl. 84-411

8 Claims

Int. Cl. G10d 13/02

1. A drumhead for mounting on a supporting drum comprising a drumhead sheet of synthetic plastic material having a generally flat circular crown, a shoulder disposed about the circumferential edge of said crown and extending away from the plane of said crown, and a brim about the outer edge of said shoulder folded to form two spaced

layers; and clamping means having an annular outer clamp with a U-shaped body portion folded about and engaging the outer surface of said spaced layers of said brim, said outer clamp having a flange engaging the shoulder of the drumhead sheet; said clamping means



also having a cooperating annular inner clamp with an engaging portion disposed snugly between said spaced layers for clamping said brim securely between said inner and outer clamps, said inner clamp having a flange for engaging the supporting drum so that said inner and outer clamps tighten their engagement with said brim when a strain is put on said drumhead sheet during use.

3,421,401

MICROPHONE ATTACHMENTS FOR MUSICAL INSTRUMENTS

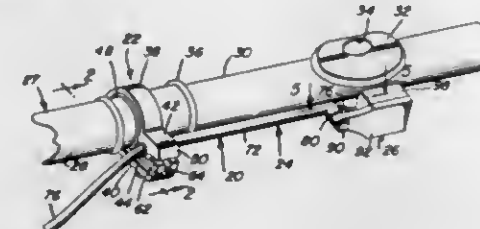
Joseph Edgar Lichtenstein, 2135 Drexel St., Hyattsville, Md. 20783

Filed Dec. 23, 1965, Ser. No. 516,016

U.S. Cl. 84-453

10 Claims

Int. Cl. G10g 7/00



An attachment for musical instruments that attaches directly to a musical instrument and holds a microphone allowing the microphone to be placed in an optimum position in relation to the sound producing section of the musical instrument.

3,421,402

VISUAL TUNER

Clair Omar Musser, 12997 Blairwood Drive, Studio City, Calif. 91604

Filed May 31, 1966, Ser. No. 554,080

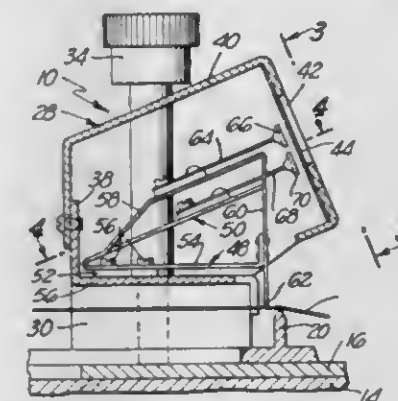
U.S. Cl. 84-455

9 Claims

Int. Cl. G10g 7/02

This invention is directed to a visual tuner particularly useful for the tuning of stringed instruments. It has been found on stringed instruments that strings do not vibrate in the classic sinusoidal wave form over their full length, but adjacent the bridge thereof the string vibrates more in the nature of a reed or tuning fork. The visual tuner of this invention critically contacts the point of change from reed-like vibration to the traditional sinusoidal wave form portion of the string vibration. This juncture is considered an antinode. A flexible driver contacts each string at this antinodal point, and a tuned reed is mounted upon each flexible driver. Each tuned reed has a fundamental reso-

nant frequency equal to the desired fundamental frequency of the particular string with which its driver is in contact. A plurality of drivers and reeds can be positioned along the instrument, adjacent the bridge, at the



3,421,403

APPARATUS FOR MAKING ROLLS FOR PLAYER PIANOS AND ORGANS

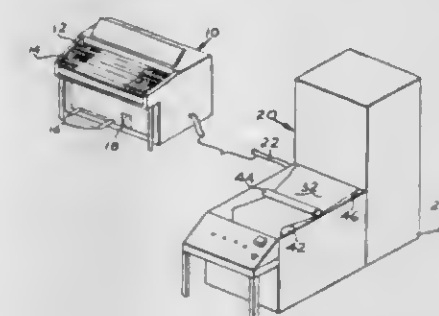
Alan B. Welsh and Roger West, Jasper, Ind., assignors to Jasper Electronic Mfg. Corp., Jasper, Ind., a corporation of Indiana

Filed May 25, 1965, Ser. No. 458,674

U.S. Cl. 84-462

5 Claims

Int. Cl. G10g 3/04



Method and apparatus for making perforated player rolls for player pianos and player organs in which a strip of record member is moved in the direction of its length at a constant speed through a recording station and marks are applied thereto in conformity with the actuation of the keys and expression elements of a key operated musical instrument. Thereafter, the same, or another record member is moved stepwise through a perforating station and punches in the perforating station under the control of the markings on the marked record member operate in the interval between successive movements of the record member in the perforating station and punch the said record member.

3,421,404

EXPANSION BOLT ASSEMBLY

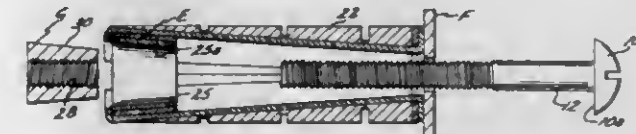
Harold J. Jacobs, 810 W. Hamilton St., San Pedro, Calif. 90731

Filed Dec. 13, 1967, Ser. No. 690,192

U.S. Cl. 85-73

3 Claims

Int. Cl. F16b 13/06; F16b 13/08



An expansion bolt assembly that may be removably disposed in a cavity in a rigid body or a bore that extends

through the body to removably lock said assembly in either said cavity or said bore and comprises a plurality of expandable fingers with a ductile metal bonded thereto, and a tapered nut and a tapered sleeve which cause expansion of the fingers upon axial movement of the tapered nut by the bolt member.

3,421,405 BRAIDED RUG EMPLOYING THERMOPLASTIC TUBING

James Logripp, Norristown, Pa., assignor to Norristown Rug Manufacturing Company, Norristown, Pa., a partnership of Pennsylvania

Filed Oct. 14, 1964, Ser. No. 403,781
U.S. Cl. 87—6 2 Claims
Int. Cl. D04c 1/04

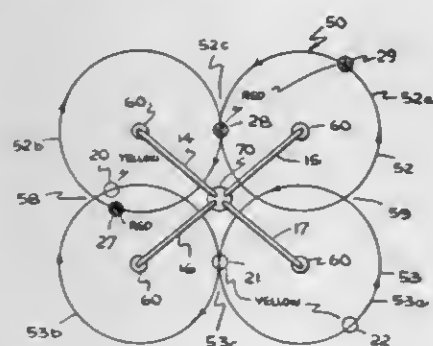


1. A braided rug comprising at least one length of spiral wound braid, said braid comprising a tubular filler portion and an outer decorative portion covering said filler, said filler comprising a thermoplastic waste material, at least some of said waste material exhibiting elastomeric properties and having randomly suspended and dispersed therein short lengths of fiber, said thermoplastic waste material containing a foaming agent causing the walls of said filler to contain bubbles.

2. A braided rug in accordance with claim 1 including a sheet of material wrapped about said tubular filler portion, said material intermediate said tubular filler and said decorative portion.

3,421,406 APPARATUS FOR MAKING A BRAID

Robert G. Mitchell, Weston, Mass., and Francis A. Egert, Philadelphia, Pa., assignors to The Wool "O" Company, Philadelphia, Pa., a corporation of Pennsylvania
Original application Jan. 10, 1964, Ser. No. 336,935, now Patent No. 3,338,129, dated Aug. 29, 1967. Divided and this application June 15, 1967, Ser. No. 649,070
U.S. Cl. 87—30 7 Claims
Int. Cl. D04c 3/00; D04c 3/08



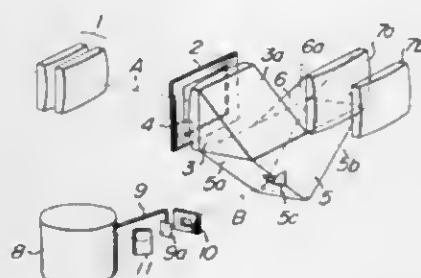
This invention provides apparatus for forming a braid strip comprising essentially a plate defining two tracks of

figure-8 configurations and movable in these tracks are two groups of carriers for surface yarns. The figure-8 tracks are disposed side-by-side and so that they overlap each other to define a common track zone, whereby only the surface yarns of one color and/or pattern of colors are visible on one side of the braid and on the other side of the braid only the surface yarns of the other color and/or pattern of colors are visible.

3,421,407 PORRO PRISM VIEWFINDER COMBINED WITH AN EXPOSURE METER

Kenji Hiruma, Tokyo, Japan, assignor to Kabushiki Kaisha Ricoh, Tokyo, Japan, a corporation of Japan

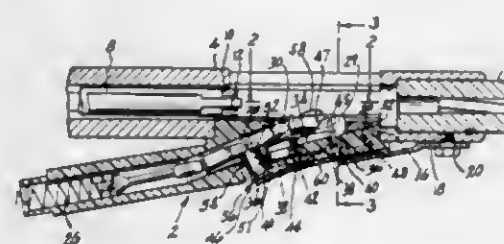
Filed Dec. 8, 1964, Ser. No. 416,699
Claims priority, application Japan, Dec. 18, 1963, 38/94,730
U.S. Cl. 88—1.5 1 Claim
Int. Cl. G03b 13/02; G01j 1/00; G03b 19/00



A real image type viewfinder and exposure meter in which the latter is mounted in lateral juxtaposition of a Porro prism of the viewfinder, a movable pointer of the exposure meter intersecting an axis of a path of light impinging upon a light-transmitting surface of the prism at right angles thereto at such a point which is at an optical distance from an ocular lens which is the same as the optical distance between the ocular lens and a field mask between the prism and the objective lens.

3,421,408 FEED SYSTEM FOR CARTRIDGES

Joseph A. Badali, 492 Shore Drive, Branford, Conn. 06405, and Arnold L. Fowler, 2569 Long Hill Road, Guilford, Conn. 06437
Filed Jan. 31, 1967, Ser. No. 612,926
U.S. Cl. 89—33 3 Claims
Int. Cl. F41d 9/00; F41c 25/00; F41c 11/00

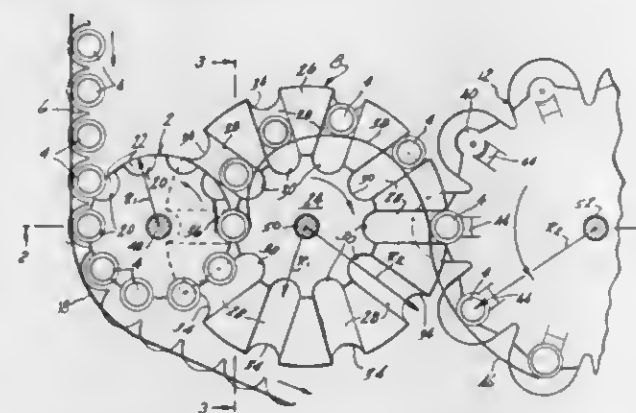


A firearm having a magazine extending rearwardly from a position below the opening of the cartridge chamber is provided with a cartridge cutoff including an arm pivotally attached to the firearm and having a projection adapted to extend into the path of the breech bolt. The cutoff also includes a U-shaped portion extending transversely of said arm and forming two lips spaced apart in the direction of the path of the cartridges and movable into and out of the path of the cartridges in the magazine. Spring means is provided to urge the lips into the path of the cartridges.

3,421,409 CARTRIDGE FEED SYSTEM

David Findlay, Guilford, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

Filed May 9, 1967, Ser. No. 637,237
U.S. Cl. 89—33 8 Claims
Int. Cl. F41d 9/00; F41c 25/00

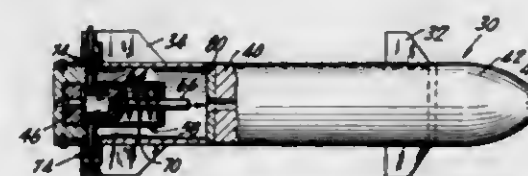


A cartridge feed system wherein a transfer roller is provided to transfer cartridges from a belt to a feed wheel. The feed wheel transfers cartridges from the transfer roller to the breech block of the firearm. The feed wheel is provided with an inner cartridge receiving station and an outer cartridge transferring station. Cam means are also provided for moving a cartridge from the inner station to the outer station as the feed wheel rotates. The cartridge transfer point between the transfer roller and feed wheel is spaced 180° from the transfer point between the feed wheel and the breech block.

3,421,410 MISSILE AND HAND HELD LAUNCHER

George Kayalan, 129 Cambridge Ave., Hicokville, N.Y. 11801

Filed Aug. 25, 1967, Ser. No. 663,344
U.S. Cl. 89—1.807 3 Claims
Int. Cl. F41f 3/04



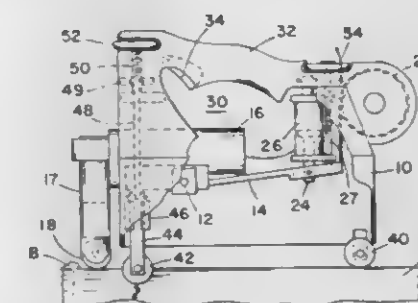
This invention is a hand held, tube launched, two-stage projectile adapted to be fired initially by exploding a cartridge which propels the projectile out of the launching tube and ignites the main propellant in the projectile a safe distance from the launching location.

3,421,411 WELD TRIMMING APPARATUS

Robert D. Lowry and Russell B. Strout, Winchester, Mass., assignors to Lowry Development Corporation, Winchester, Mass., a corporation of Massachusetts
Filed Dec. 30, 1966, Ser. No. 606,327
U.S. Cl. 90—12 7 Claims
Int. Cl. B23c 1/20; B23d 1/00

Compact power driven weld trimmers have a cutting wheel, motor and drive connections mounted on a rocker arm carried by a carriage borne on adjustable wheels. The wheels are mounted on axes parallel to the cutting wheel axis for use in trimming welds between flat, concave or convex surfaces according to the particular adjustment of the wheels and are mounted on axes angularly related to the axis of the cutting wheel for use in trimming welds on the inside of variously angled surfaces, according to the adjustment of the wheels. The limit of cut

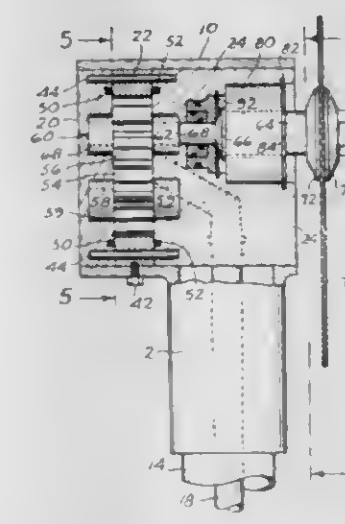
is controlled by adjustment of the outer limit of rocker arm motion and the characteristics of the pivot motion of the cutting wheel are governed by imposing a constant tension on the rocker arm which is so related to the motor



torque that the wheel lifts before the r.p.m. decreases below a predetermined cutting speed due to overload. The cutting wheel also has, by reason of incorporation of a dash pot arrangement, a quick up, slow down motion for reducing cutting wheel bounce.

3,421,412 HIGH SPEED ROTARY HYDRAULIC MOTOR

Edward L. Ackley, 1916 SE. 50th, Portland, Oreg. 97215
Original application Feb. 26, 1965, Ser. No. 435,471, now Patent No. 3,350,985, dated Nov. 7, 1967. Divided and this application Sept. 15, 1967, Ser. No. 668,032
U.S. Cl. 91—87 2 Claims
Int. Cl. F01c 1/18; F16j 15/54; F16c 33/78



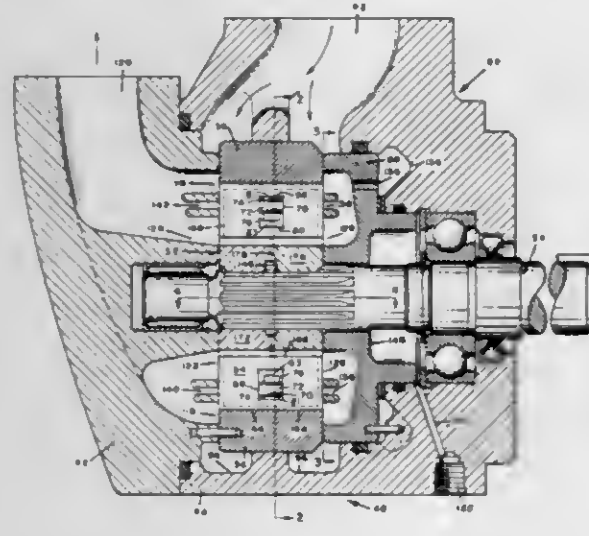
A cylindrical case houses recessed front, rear and central core segments supporting a drive shaft. One of a pair of gears in the central segment is secured to the drive shaft, and hydraulic fluid under pressure is conveyed to and from the gears through passageways in the front segment and conduits in a handle connected to the case. Bearings and seals are associated with the segments and drive shaft, and the outer end of the latter supports a rotary tool.

3,421,413 ROTARY VANE FLUID POWER UNIT

Cecil E. Adams, Columbus, and John F. Hedge, Worthington, Ohio, assignors to Abex Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 18, 1966, Ser. No. 543,292
U.S. Cl. 91—135 16 Claims
Int. Cl. F01c 3/02; F03c 3/00; F04c 3/00

A rotary vane fluid power unit in which a plurality of vanes slidably supported in a rotor are individually maintained in optimum engagement with an encircling cam surface by fluid pressure acting radially on four surfaces all formed on the individual vane itself. The inward force of fluid pressure on the surface of the outer edge

of each vane is offset continuously by the outward force of a similar fluid pressure on the surface of the inner edge of each vane. A differential outward force of fluid pressure is continuously applied to each vane by high and low fluid pressures applied respectively and continuously to third and fourth surfaces on the vane in such manner that all surfaces which slide in relation to each



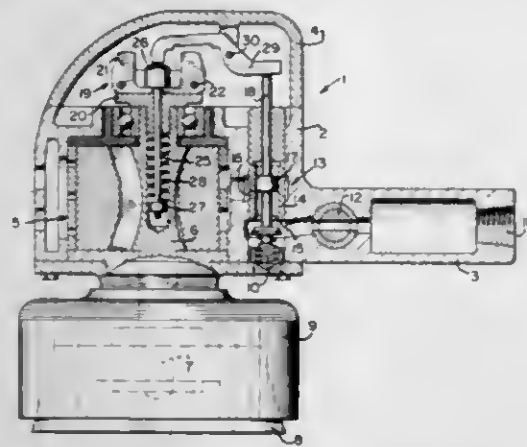
other, as an incident to radial movement of the vane, support the vane. Moreover, the working structure which moves radially with each vane can be confined to the vane itself with consequent simplification of working parts of the unit and avoidance of costs and service problems otherwise associated with the use of additional working parts.

3,421,414 FLYWEIGHT

Alfred N. Peale, Waverly, N.Y., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey

Filed Mar. 15, 1966, Ser. No. 534,497
U.S. Cl. 91-458
Int. Cl. F01c 21/12; F15b 13/04

6 Claims

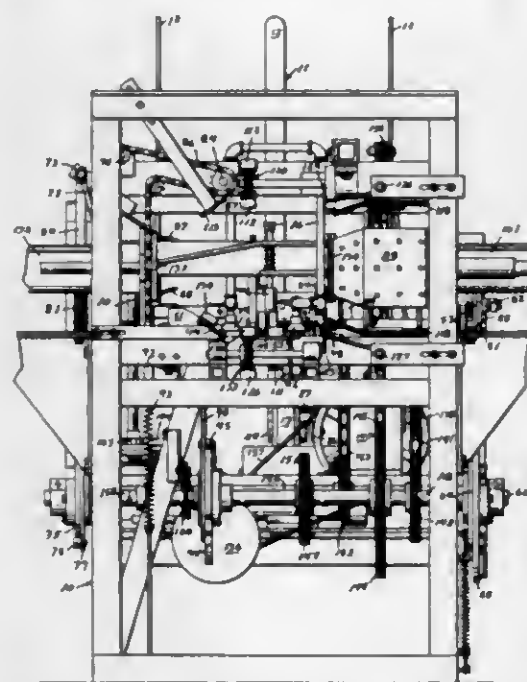


A motor speed control mechanism including a variable speed motor, a valve controlling the supply of energy to the motor, a radially movable flyweight pivoted on the rotary shaft of the motor and a linkage interconnecting the flyweight to the valve to vary the speed of the motor in response to the radial movement of the flyweight. The flyweight includes a bore arranged with one end being closer to the axis of the flyweight pivot and the other end being closer to the axis of the shaft in the retracted position of the flyweight. A weight is movably enclosed in the bore whereby the weight is urged by the centrifugal force to the one end of the bore in the retracted position of the flyweight and to the other end of the bore in the extended position of the flyweight resulting in the center of gravity of the flyweight shifting away from the flyweight pivot as the flyweight moves radially outward toward its extended position.

3,421,415 APPARATUS FOR SETTING UP AND GLUING CARTONS

Reinhold A. Pearson, % R. A. Pearson Company, S. 12 Division, Spokane, Wash. 99202
Filed Sept. 27, 1965, Ser. No. 490,303
U.S. Cl. 93-36.3
Int. Cl. B31b 1/26; B31b 1/76; B31b 5/26

25 Claims



An apparatus for opening carton blanks having pairs of interconnected end flaps. The apparatus separates the respective pairs of flaps and folds them back against the side walls from which they extend prior to erection of the carton to a rectangular condition. The apparatus further comprises a flap handling and pressing apparatus for gluing the independent end flaps of the carton.

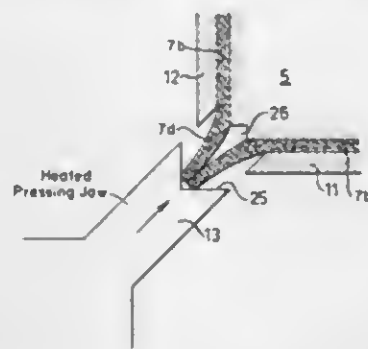
3,421,416 METHOD AND APPARATUS FOR JOINTING SIDE PANELS OF A CARTON MADE FROM THERMO- PLASTIC COATED CARTON MATERIAL

Boye Benzon-Petersen, Lund, Sweden, assignor, by mesne assignments, to AB Akerlund & Rausing, Lund, Sweden, a Swedish company

Filed Oct. 1, 1965, Ser. No. 492,101
Claims priority, application Switzerland, Oct. 14, 1964, 13,327/64

U.S. Cl. 93-51.1
Int. Cl. B31b 1/32; B31b 1/26; B31b 1/44

2 Claims



In jointing plastic-coated carton and similar rigid plastic material, the free end edge portions are brought together with the edges lying along each other and the plane side lying against each other; the material adjacent the portions to be joined is locked between rigid supports with the end edge portions free; the end edges are pressed inward against the rest of the material—with associated heating in the case where the material is heat-sealable—by a pressing member, acting against said supports, whereby the material in the joint is creased forming a tight seal.

3,421,417 PAVEMENT

Jan Carel Pilaar, Boslaan 3, Warnsveld, Netherlands
Filed July 11, 1966, Ser. No. 564,167
Claims priority, application Netherlands, Nov. 7, 1965, 6514966

U.S. Cl. 94-11
Int. Cl. E01c 5/00

18 Claims



A paving block and a pavement made therefrom, said block having a bottom surface and an upper surface and at least two intersecting grooves extending in the plane of said upper surface, at least one of said grooves being spaced from the edges of said block, and at least one channel extending from the bottom of the intersection of said grooves through said bottom surface so that vegetation may grow in the channels and bend into the grooves.

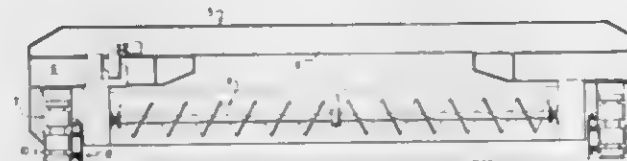
3,421,418

SLIP FORM PAVER WITH SLIP FORM RELEASE

Michael I. Hudis, Brookfield, Wis., assignor to Rex Chainbelt Inc., Milwaukee, Wis., a corporation of Wisconsin

Filed July 27, 1966, Ser. No. 568,262
U.S. Cl. 94-39
Int. Cl. E01c 19/00

5 Claims



A slip form concrete paver includes slip forms which are adjustable relative to one another to vary the distance between the slip forms on opposite sides of the paver. The adjustment may be operated and controlled by the operator. Sealing arrangements are provided between the slip form and frame to prevent concrete from interfering with the adjustment and the slip form may be mounted on links. The adjustment may be made by a screw and nut arrangement.

3,421,419

PLACING OF REINFORCEMENT IN CONCRETE ROADS AND THE LIKE SURFACES

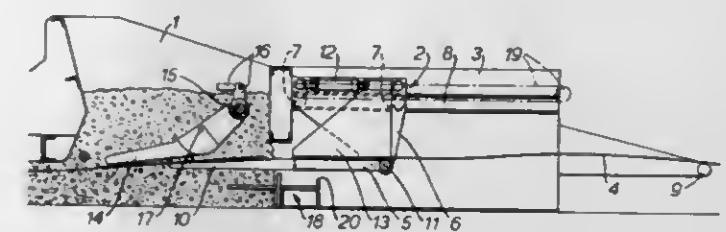
Joseph N. Adcock, Woodsetts, near Worksop, England, assignor to The United Steel Companies Limited of The Monnt, Broomhill, Sheffield, England

Filed Oct. 14, 1966, Ser. No. 586,728
U.S. Cl. 94-39
Int. Cl. E01c 19/52; 21/00

11 Claims

A paving machine for laying concrete roadways and having a tiltable sledge-like platform which supports and positions a reinforcing mesh in the freshly laid concrete as the machine is advanced along the roadbed. The plat-

form is longitudinally displaceable on the machine so that it can be shifted out of the concrete and tilted to allow



the exposed mesh to be secured to a structural joint assembly such as expansion and contraction joints.

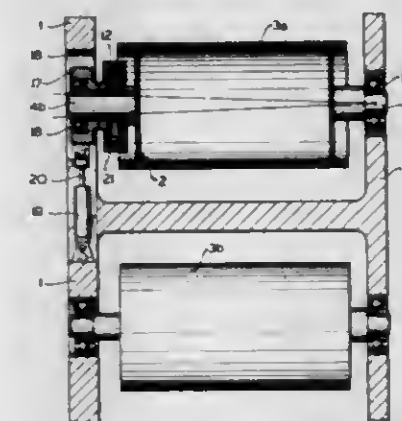
3,421,420 VIBRATORY ROAD ROLLER WITH STEERING ARRANGEMENT

Paul Piatkowski, Kiel, Germany, assignor to Maschinenfabrik Buckau R. Wolf Aktiengesellschaft, Grevenbroich, Germany

Filed Feb. 20, 1967, Ser. No. 617,242
Claims priority, application Germany, Feb. 23, 1966, M 68,496

U.S. Cl. 94-50
Int. Cl. E01c 19/26

9 Claims



A vibratory road roller including a frame and a pair of spaced rollers turnably mounted in bearings carried by the frame. The bearings of at least one roller are mounted on the frame so that one of the bearings is turnable about a substantially vertical tilting axis and the other movable in a plane normal to the tilting axis. The road roller includes further means for moving the movable bearing in the aforementioned plane to tilt thereby the axis of said one roller about the aforementioned tilting axis for steering the road roller along curves.

ERRATUM

For Class 95-1.1 see:
Patent No. 3,422,446

3,421,421

PHOTOGRAPHIC AND CINEMAGRAPHIC CAMERAS

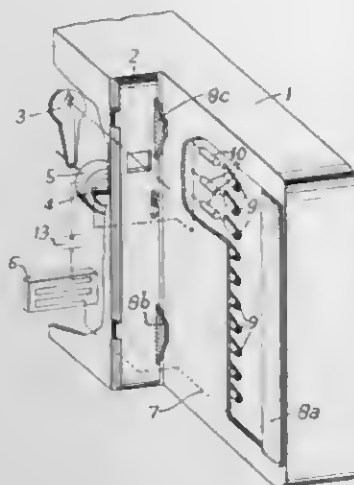
Werner Hahn, Wolfgang Planert, Heinz Schulze, and Heinz Wolf, Dresden, Germany, assignors to VEB Pentacon Dresden Kamera- und Kinowerke, Dresden, Germany

Filed Nov. 18, 1965, Ser. No. 508,522
U.S. Cl. 95-10
Int. Cl. G01j 1/00; G03b 19/04; G03b 7/08

3 Claims

In a camera having a photoelectric exposure control and an insertable film cassette, the cassette is rendered

simpler and more reliable by providing on the cassette a contact bar that extends beyond a corresponding stop on the camera as far as a row of resilient contacts likewise provided on the camera. The resilient contacts are in



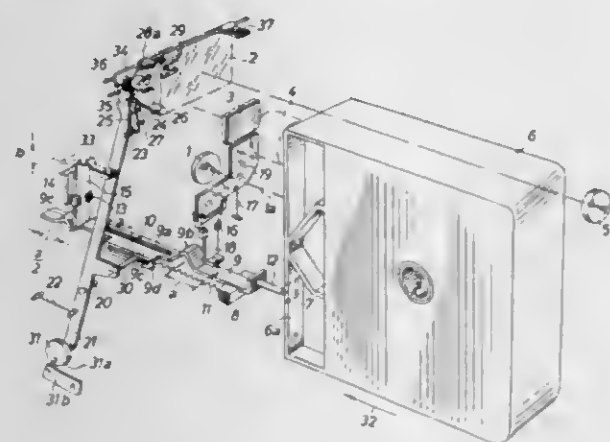
circuit with resistances of the exposure control, and contact is established between the contact bar and the contacts upon insertion of the film cassette.

3,421,422 CAMERA

Alfred Winkler, Munich, Germany, assignor to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany
Filed Mar. 15, 1966, Ser. No. 534,440
Claims priority, application Germany, Mar. 27, 1965, A 48,756

U.S. Cl. 95—11
Int. Cl. G03b 19/00

27 Claims

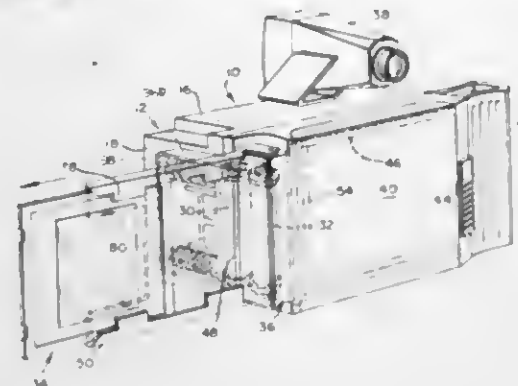


A motion picture camera which uses magazines containing daylight and artificial-light film and having markers which indicate the type of the film therein. The camera consists of a displacing member which is movable between three positions including a first position in response to engagement with a marker of a magazine for daylight film and a second position in response to engagement with a marker of a magazine for artificial-light film. A selector can move the displacing member to the third position to thereby move or maintain a filter away from the path of incoming light. The filter is located away from such path in the first position and extends across such path in the second position of the selector. When the artificial-light film is to be used in artificial light, the operator actuates the selector to effect movement of the filter away from the light path by way of the displacing member which then assumes the third position.

3,421,423 PHOTOGRAPHIC APPARATUS

Rogers B. Downey, Lexington, and Gerald H. Cook, Lynfield, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Oct. 21, 1966, Ser. No. 588,358
U.S. Cl. 95—13
Int. Cl. G03b 17/50

8 Claims

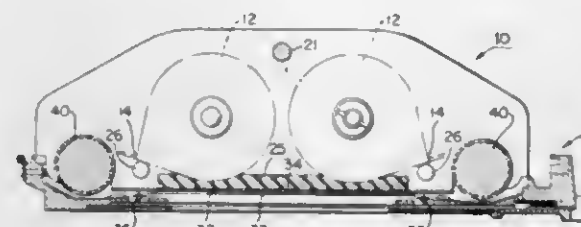


1. A demountable pressure-roll unit adapted to be mounted on a camera which includes cooperative retentive latching means therefor and which is of a type for advancing a film assembly embodying a releasably-contained processing substance between compressive elements of said pressure-roll unit to provide a completed photographic print, said pressure-roll unit comprising a pair of pressure rolls, a generally-rectangular housing forming therewithin a chamber and including rear surface areas for contacting mating forward surface areas of said camera to establish a correct front-to-rear location of said pressure-roll unit on said camera, flange means integral with and projecting from said housing for contacting mating side housing portions of said camera to establish a correct lateral location of said pressure-roll unit on said camera, latching means adapted to cooperate with said latching means of said camera for releasably holding said pressure-roll unit at mounted position, and means mounted in said chamber and partially extending rearwardly therefrom for mounting said pressure rolls for rotation and permitting substantially linear movement of one of said pressure rolls relative to the other.

3,421,424 PHOTOGRAPHIC ROLL FILM HOLDER

Charles R. King, East Rochester, and William R. Sanderson, Irondequoit, N.Y., assignors to Graflex, Inc., Rochester, N.Y., a corporation of New York
Filed Sept. 29, 1965, Ser. No. 491,108
U.S. Cl. 95—34
Int. Cl. G03b 19/04

13 Claims

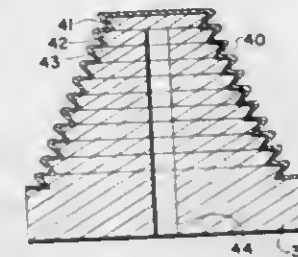


A photographic roll film holder arranges supply and take-up spools behind the image plane and supports one end of such spools on a hinged opening wall. Film between such spools is guided over a pair of guide rollers extending forward of the image plane and over a pair of flattening rollers at the image plane to produce substantial transverse bends in the film to flatten it in the image plane.

3,421,425 CAMERA BELLOWS

Edison R. Brandt, Cobasset, Mass., and Frank W. Knight, Jr., Salem, N.H., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Original application Sept. 10, 1964, Ser. No. 395,402.
Divided and this application June 26, 1967, Ser. No. 652,397
U.S. Cl. 95—39
Int. Cl. G03b 17/00

10 Claims

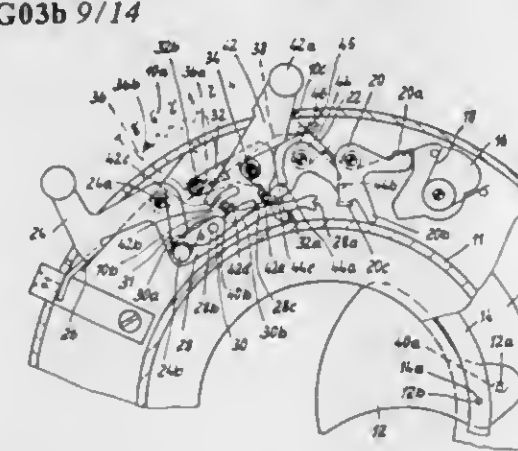


This application relates to photography and more particularly to a novel construction of a camera bellows.

3,421,426 PHOTOGRAPHIC SHUTTER

Franz Singer, Munich, Germany, assignor to Compur-Werk, Gesellschaft mit beschränkter Haftung & Co.
Filed Sept. 23, 1965, Ser. No. 489,672
Claims priority, application Germany, Nov. 19, 1964, C 12,445
U.S. Cl. 95—63
Int. Cl. G03b 9/14

3 Claims



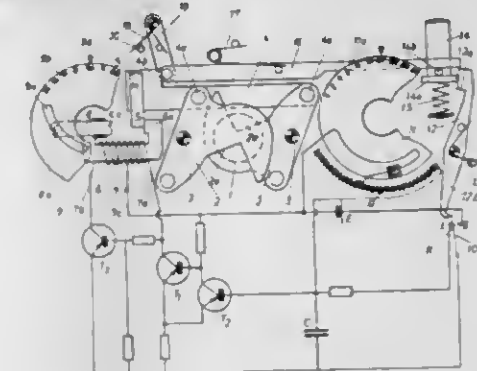
A photographic shutter has a main driving member capable of being tensioned, a locking lever for holding the driving member in tensioned position, means for tensioning the driving member, a speed setting ring selectively setttable to positions for controlling any one of a series of internally timed exposures or a position for controlling an externally timed "T" exposure, a trip lever, and an opening lever for opening the shutter blades for inspection of the image. The opening lever is manually operable at all times, independently of any film feeding operation and independently of any tensioning operation and regardless of whether the main driving member is in tensioned or untensioned position. The opening lever is spring-biased to blade-closed position, and a ratchet or latch lever resiliently holds it in blade-open position. The lever is so shaped that it occupies one position when the opening lever is in blade-closed position and a second position when the opening lever is in blade-open position. Pivoted to the trip lever is a slide member guided by a control lever whose position is determined by the position in which the speed setting ring is set. If the trip lever is actuated while the speed setting ring is set for an internally timed exposure and while the opening lever is in blade-open position, the free end of the slide member will engage the latch lever, now in its second position, and release it so that the opening lever will return to blade-closed position under its spring power; then upon a second actuation of the trip lever, the same free end of the slide member will clear the latch lever, now in its

first position, and engage the locking lever to release the holding action thereof and permit the main driving member to make an internally timed exposure. If the trip lever is actuated while the speed setting ring is set for a "T" exposure and while the blades are closed, the slide member now moves through a different path of travel because of the different position of the control lever, and its free end does not engage the locking lever, but instead, the slide member in combination with a driving lever pivoted thereon forms a jaw which engages the opening lever and moves it to its latched blade-open position. The blades may then be closed either by direct manual actuation of the opening lever to blade-closed position, or by a second actuation of the trip lever, which will now move the slide member so that its free end will engage the latch lever to release it and allow the opening lever to return to blade-closed position under its spring power.

3,421,427 PHOTOGRAPHIC CAMERA DIAPHRAGM SHUTTER

Franz W. R. Starp, Calmbach, Black Forest, Germany, assignor to Prontor-Werk Alfred Gauthier G.m.b.H., Calmbach, Black Forest, Germany
Filed Mar. 3, 1966, Ser. No. 531,640
Claims priority, application Germany, Mar. 11, 1965, P 36,258
U.S. Cl. 95—63
Int. Cl. G03b 9/14

6 Claims



1. A photographic camera diaphragm shutter with an aperture setting member adapted to be set by hand to preselected aperture values, the shutter blades normally covering the lens opening swinging out to an opening width corresponding to the preselected aperture value, comprising a plurality of pivoted shutter blades, a permanent magnet operatively attached thereto, a two-pole electromagnet with its poles on opposite sides of one pole of said permanent magnet and limiting the movement of said pole, an electronic switching circuit energizing said electromagnet in either a forward or a reverse sense, delay means in said circuit for determining a shutter opening time, and means to determine the degree of separation of the said pole pieces of said electromagnet.

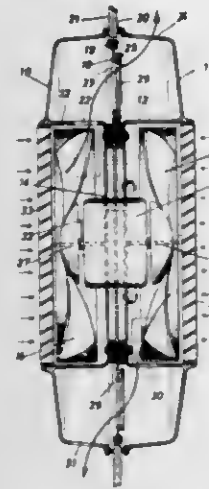
3,421,428 VENTILATING FAN UNIT

Ludwig Baumann, Niederhelfenschwil Saint Gall, Switzerland, and Benno Schütze, Frankfurt am Main, Germany; said Schütze assignor to said Baumann
Filed Jan. 4, 1967, Ser. No. 607,269
Claims priority, application Switzerland, Jan. 6, 1966, 274/66
U.S. Cl. 98—33
Int. Cl. F24f 7/00; F04d 17/16; F04d 25/08

9 Claims

A ventilating fan unit insertable into an opening for the purpose of propelling air from the outside atmosphere into a ventilated interior and at the same time to exhaust air from the ventilated interior to the outside. The unit has two half shells covering the outside and inside respectively of the said opening and bearing against

the opposite sides of the edges thereof. Each of the shells has a central recessed portion with a floor at its base.



A fan motor is fixedly mounted to each said floor so as to accomplish the particular result of propelling air both inwardly and outwardly simultaneously.

3,421,429

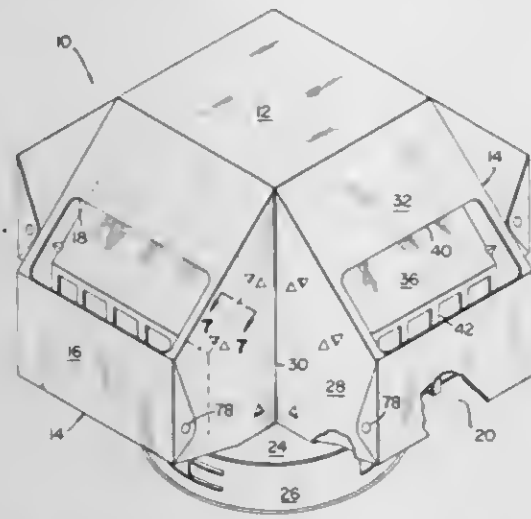
VENTILATOR CAP WITH AIR DEFLECTORS
Richard L. Stone, Los Altos Hills, Calif., assignor to
Wallace-Murray Corporation, New York, N.Y.,
a corporation of Delaware

Filed May 1, 1967, Ser. No. 634,987

U.S. Cl. 98-78

12 Claims

Int. Cl. F23I 17/02



A vent cap adapted for connection to vent pipes that extend above the roof level for exhausting heated gases from buildings. It comprises a central chamber having an imperforate top cover with a plurality of discharge members extending outwardly therefrom, each having upper and lower openings in sloped surfaces. The latter cooperate with internal baffle means spaced inwardly from the openings to deflect the air flow through them to provide an aspirating effect that always exceeds any back pressure within the central chamber despite the direction or force of wind on the cap.

3,421,430

BEVERAGE DISPENSING DEVICE

William G. Freise and Benjamin M. Przybyszewski,
Chicago, Ill., assignors to Paymax Syrup Corpora-
tion, Chicago, Ill., a corporation of Illinois

Filed Aug. 3, 1965, Ser. No. 476,977

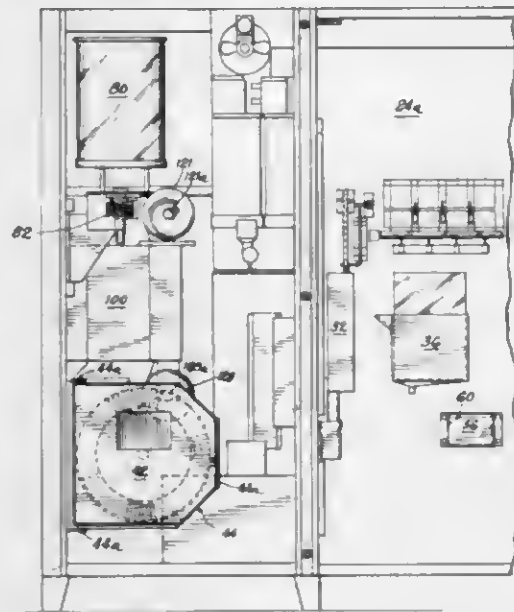
U.S. Cl. 99-289

15 Claims

Int. Cl. A23f

1. A beverage dispensing device having a brewing arrangement that brews beverage individually comprising: a brewing device having a rotating wheel, a pair of brewing chambers mounted on said wheel, brewing and cleaning means operably associated with said wheel to brew

coffee with one of said brewing chambers while simultaneously cleaning the other of said brewing chambers whereby each of said brewing chambers can be succes-



sively used while the brewing chamber not in use is cleaned and means for providing a predetermined quantity of water to the brewing chamber for brewing the beverage.

3,421,431

TEA BAG DISPOSERS

Louis W. Rosen, New York, N.Y.

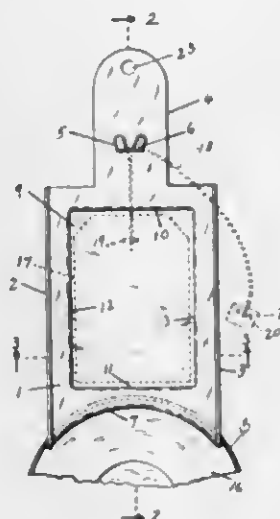
(70-25 Yellowstone Blvd., Forest Hills, N.Y. 11375)

Filed Aug. 15, 1967, Ser. No. 660,807

U.S. Cl. 99-289

7 Claims

Int. Cl. A23f



A protective device against drippings from a steeped tea bag on outer surfaces while being transferred by its string from a cup, consisting of a mountable platform leading to an integrated well along its path for the reception of such bag, concentrically adjustable at its front end on a top edge of said cup, the rear end of which being shaped as a handle for manually supporting said device in operative position, with means thereon for the central guidance of said bag through such string while being slidably withdrawn from said cup in the course of such transfer.

3,421,432

ELECTRIC BROILER

Hubert M. Glepen, 6939 S. Bennett Ave.,

Chicago, Ill. 60649

Filed Oct. 26, 1966, Ser. No. 589,572

U.S. Cl. 99-332

10 Claims

Int. Cl. A47J 27/62

A broiler embodying a pair of horizontally disposed, laterally spaced apart parallel rollers and means operatively engaging at least one of the rollers for the rota-

tional movement thereof about its axis and at least one pair of heating elements mounted immediately above the rollers in closely spaced apart axial relation with the heating elements arranged to direct heat towards the space in between, an open cage having a width less than the spaced relationship between the heating elements and having an outer portion of circular shape dimensioned to have a diameter greater than the spaced relationship between the rollers to enable the cage to be displaced onto and off the rollers between the heating elements with the cage cradled between the rollers to

to be removed to facilitate removal of ash and unconsumed fuel from the fire-box after use, and means to support skewers in offset relation to the fire-box which are removably mounted on the fire-box.

3,421,434

APPARATUS FOR FORMING SAUSAGE

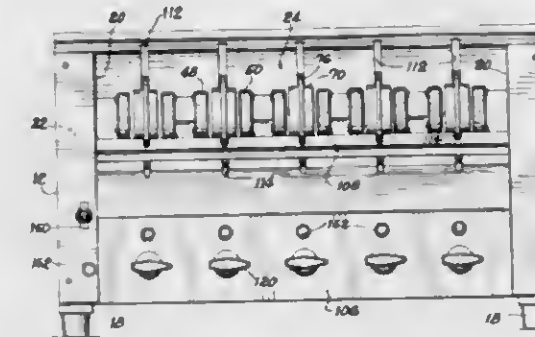
Robert C. Krachmer, Austin, Minn., assignor to Geo. A. Hormel & Company, Austin, Minn., a corporation of Delaware

Filed Aug. 12, 1966, Ser. No. 572,047

U.S. Cl. 99-352

3 Claims

Int. Cl. A23p 1/00



effect rotational movement thereof responsive to rotational movement of the rollers, means for opening and closing the cage for access to the interior thereof for introducing a product to be broiled into the cage, means communicating the heating elements to a power source for the generation of heat and means for controlling the operation of the heating elements in response to the amount of broiling desired to be effected and in which, in the preferred embodiment, a plurality of such units are arranged in laterally spaced apart relation with individual control of heating elements for each unit.

Apparatus and process for continuously molding and partially cooking an elongate, rod-shaped food product, such as sausage, including an elongate endless flexible mold structure comprising a flexible belt. The inner run of the mold structure being moved successively through a heating structure of tubular configuration and a cooling structure. A nozzle mechanism for injecting a flowable meat product into the belt structure as it is shaped into cylindrical configuration to thereby cause at least partial cooking of the product while in cylindrical configuration and subsequent cooling.

3,421,433

PORTABLE COOKING GRILL

Carmen Vitale, Newark, N.J.

(227 Berkeley Ave., Bloomfield, N.J. 07003)

Filed Aug. 19, 1966, Ser. No. 573,665

U.S. Cl. 99-340

4 Claims

Int. Cl. A47J 37/06



A cooking grill has a hollow, unenclosed fire-box having two opposite open sides, a standard to pivotally support the fire-box body in horizontal or vertical position, hanger rods connected to the fire-box to support a wire broiler grid and contents adjacent the fire-box when in vertical position, a plurality of fuel-supporting partition members extending transversely across the fire-box at different vertical levels, a screen member slidably mounted to close at least one open side of the fire-box and adapted

3,421,435
**FRENCH CUTTING DIE WITH
REMOVABLE INSERT**

Joseph F. Mueller, Dedham, Mass.

(490 Centre St., Quincy, Mass. 02169)

Filed Jan. 9, 1967, Ser. No. 608,215

U.S. Cl. 101-28

9 Claims

Int. Cl. B44b 5/02



A French cutting die has a cutting edge corresponding to the outline to be impressed surrounding a plastic insert bearing in relief the image desired to be embossed. There is a space between the plastic insert perimeter and the cutting edge, and the plastic insert is removable and replaceable so that a variety of textures may be embossed within the outline defined by the cutting edge.

3,421,436

**SELECTIVE DOCUMENT POSITIONING MEANS IN
BED AND CYLINDER PRINT MACHINES**

James MacDowell Patterson, Jr., Fairfax County, and
Rhodes W. Davis, Alexandria, Va., assignors to Far-
rington Business Machines Corporation, Springfield,
Va., a corporation of Massachusetts

Filed Jan. 9, 1967, Ser. No. 607,941

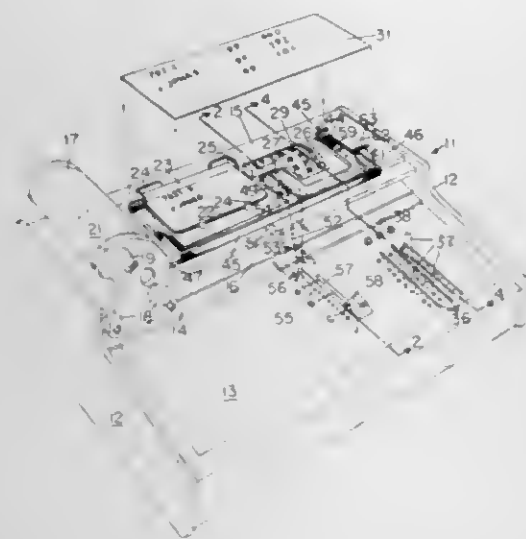
U.S. Cl. 101-45

7 Claims

Int. Cl. B41J 13/32; B41f 21/00

An apparatus in a printing machine to shift a document relative to a printing bed, which bed affords support for a printing member having raised indicia for

recording data onto the document. A carrier, for supporting a document to be printed upon, is mounted on the printing machine and connected to a handle or knob operated to selectively place the carrier into any one of



a number of positions relative to the printing bed, allowing similar and/or different data imprints to be made at any one of a number of corresponding areas on the document.

3,421,437

REVOLVING STAMP

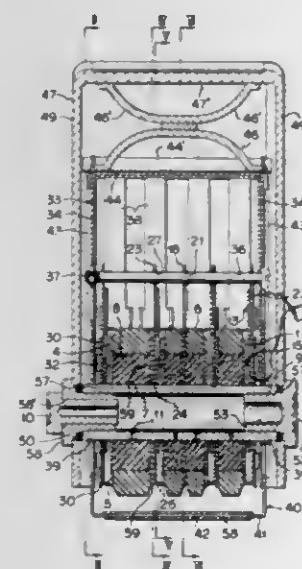
Takaji Funahashi, 1, 2-chome Kitakajo-machi, Nishi-ku, Nagoya-shi, Aichi-ken, Japan

Filed Feb. 9, 1967, Ser. No. 614,923

U.S. Cl. 101-106

Int. Cl. B41j 1/60

12 Claims



A revolving stamp with a self-contained ink supply in a hollow shaft on which are mounted an absorber block and a surrounding rotary stamp member, and an actuator.

3,421,438

METHOD OF PRINTING OPTICAL COINCIDENCE CARDS

Roger D. Marshall, 2256 N. Wakefield St., Arlington, Va. 22207

Continuation-in-part of application Ser. No. 389,372, Aug. 13, 1964. This application Sept. 18, 1967, Ser. No. 668,594

U.S. Cl. 101-211

Int. Cl. B41m 1/14

5 Claims

An optical coincidence card for indexing items of information germane to a selected primary value and comprising a base of clear, transparent plastic material

having a coating and a grid of contrasting colors overprinted one upon the other only on one side of the clear base. The grid divides the coating into discrete, ordered spaces, and a numbering system printed on the card identifies the ordered spaces defined by the grid. At least one of the ordered spaces, the base is free of the coating



to expose the said base and thereby provide a clear light transmitting spot for identifying an item of information germane to the primary value by visual inspection. When a deck of such cards are stacked and aligned, the desired common items of information on the cards is observable by passage of light through the aligning clear spots.

3,421,439

INCENDIARY PROJECTILE

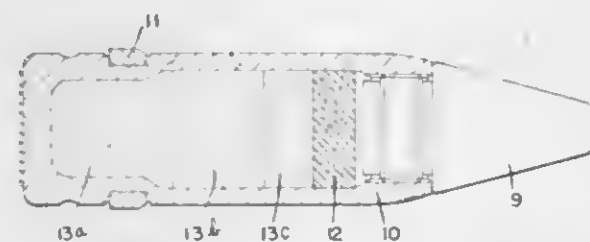
George H. Custard, Denver, Colo., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army

Filed Sept. 29, 1961, Ser. No. 141,919

U.S. Cl. 102-66

Int. Cl. F42b 13/14; F42b 13/44

1 Claim



1. An incendiary projectile of 20 millimeter size having a hollow body containing an impact responsive primer in a nose of said projectile body, a booster charge adjacent said primer and of an explosive selected from the class consisting of tetryl, TNT, and RDX, and a main charge adjacent the booster of approximately 100 grams of an explosive capable of raising the temperature on the inner surface of said body to about 3000° to 3600° K. when said body is of a metal selected from the group consisting of zirconium and titanium, said main charge being an explosive having the composition consisting of about the following materials by weight: ammonium perchlorate 35%, aluminum atomized 52%, cyclotrimethylene trinitramine wax 6%, calcium stearate 2%, graphite 1%, trinitrotoluol 4%, whereby on explosion and fragmentation portions of the body become ignited and may burn for as long a time as about 1 minute.

3,421,440

ELECTROMAGNETIC ATTENUATED DETONATING SYSTEM

Richard N. Snyder, Annandale, Va. (6505 Lignum St., Springfield, Va. 22150)

Filed Apr. 11, 1967, Ser. No. 630,131

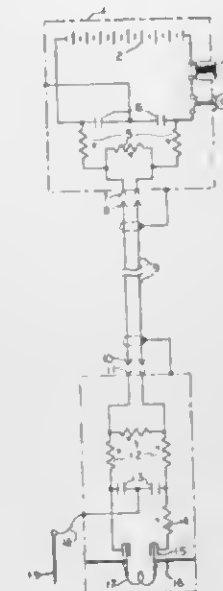
U.S. Cl. 102-70.2

Int. Cl. F42c 15/00

1 Claim

This invention relates to a firing circuit for a remotely controlled explosive charge wherein circuitry is rendered immune to ambient RF energy. The circuitry is comprised of an initiation circuit having a battery; spring loaded plunger switch; a safety interlock switch; and an RF filter network utilizing thermistors being housed in a

control box and a shielded transmission line feeding a shielded initiator containing a second RF filter network



and wherein the resistive elements are thermistors. All circuitry is balanced to ground.

3,421,441

CHEMICAL IMPACT-SENSITIVE FUZE

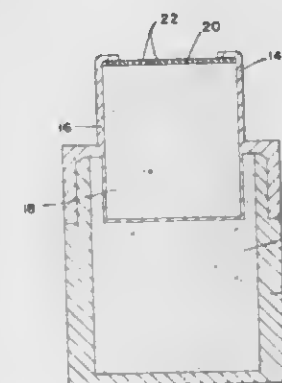
Alfred F. Mardarello, Hoboken, and Allen Berman, Dover, N.J., assignors to the United States of America as represented by the Secretary of the Army

Filed Aug. 1, 1966, Ser. No. 570,138

U.S. Cl. 102-73

Int. Cl. F42c 1/04

7 Claims



An impact sensitive fuze which employs an explosive comprising lead azide, RDX, a thickener, and glass powder, and a desensitizer mixed therein of trichloroethane or difluorodichloromethane which is controllably volatilized at a predetermined time to render the fuze sensitive.

3,421,442

ENVIRONMENTAL FUZE DEVICE FOR AIR-DROPPED FLARES AND THE LIKE

Donald R. St. Clair, Skokie, Ill., assignor to General Time Corporation, Stamford, Conn., a corporation of Delaware

Filed Sept. 11, 1967, Ser. No. 666,906

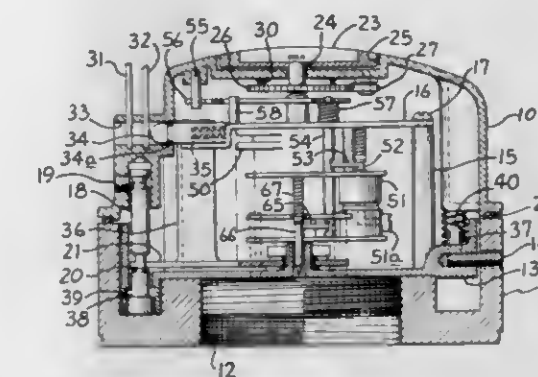
U.S. Cl. 102-83

Int. Cl. F42c 9/02; F42c 5/00; F42c 15/00

8 Claims

An improved environmental fuze device for use with air-dropped flares and the like. The fuze includes a timed firing mechanism for firing the launched flare or other article a preselected time interval after launching. The fuze includes several safety features, one of which disables the firing mechanism for a preselected time delay interval after launching, so that the flare or other article cannot be fired until it has dropped a safe distance below the launching aircraft. Another safety feature is a pressure responsive device which measures a preselected pressure change as the fuze descends through the atmosphere

after launching. This pressure responsive device is operatively connected to the firing mechanism for blocking the firing of the launched article until the preselected pressure change has been measured. In the illustrated embodiment, the pressure responsive device is in the form of a bellows



which is enclosed within the fuze until it has been launched. After launching, the fuze opens to expose the interior of the bellows to the ambient atmosphere, and then the bellows is closed to initiate measurement of the preselected pressure change.

3,421,443

THERMOSENSITIVE DELAYED ACTION MEANS FOR ORDNANCE MISSILES

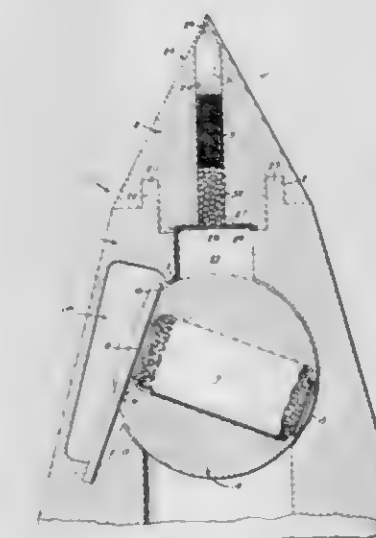
John J. Furlani, Washington, D.C., assignor to the United States of America as represented by the Secretary of the Army

Filed Aug. 25, 1958, Ser. No. 757,164

U.S. Cl. 102-85

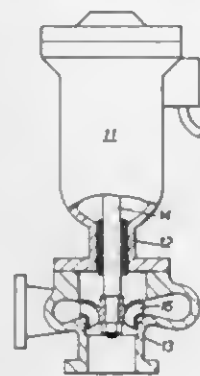
Int. Cl. F42c 9/00

2 Claims



1. In an elongated ordnance missile having a body and a nose affixed thereto at one end thereof, means for destroying said missile at a predetermined time, said means including a bore within said nose, said bore being coaxial with the longitudinal axis of said missile, the forwardmost end of said bore being adjacent the forwardmost end of said missile and spaced from the outer surface of said missile; a temperature sensitive powdered material contained in said forwardmost end of said bore, said temperature sensitive material having forward and rearward portions in said bore and being of a type which explodes when any portion of the material reaches a predetermined temperature, said predetermined temperature corresponding to that which is produced by flight of the missile for some predetermined time; a time delay powder train in said bore having forward and rearward portions, forward portions of said powder train contacting rear-

ward portions of said temperature sensitive material; an explosive charge contained in said bore the rearward portion of said bore being closed by a closure means, forward portions of said explosive charge contacting rearward portions of said powder train, rearward portions of said explosive charge contacting said closure means; and a detonator mounted for rotation in said body and positioned so as to align with said closure means and said explosive charge upon rotation of said missile about its longitudinal axis, said temperature sensitive material igniting said time delay powder train as a result of said nose reaching said predetermined temperature, said time delay powder train detonating said explosive charge, detonation of said explosive charge exploding through said closure means and causing the aligned detonator to explode and thusly initiate destruction of said missile.



3,421,444

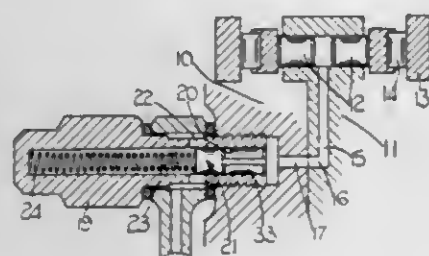
LIQUID FUEL PUMPING APPARATUS

Kelth Finer Hutcheon, Gerrards Cross, and John Charles Powell Thornber, Ealing, London, England, assignors to C.A.V. Limited, London, England, a British company
Filed May 26, 1967, Ser. No. 641,626
Claims priority, application Great Britain, May 31, 1966, 24,086/66

U.S. Cl. 103—2

Int. Cl. F04b 13/02; F04b 1/10; F02b 3/10

6 Claims



A liquid fuel pumping apparatus comprising a pumping plunger arranged to be moved inwardly by a cam to deliver fuel to an engine through an outlet port connected by way of a cylinder to a pipeline, the cylinder containing a loosely fitting spring loaded piston which is moved against its spring loading to permit flow of fuel through the pipeline during the inward movement of the plunger, the cam being so shaped that limited outward movement of the plunger occurs followed by a dwell period, the piston serving to return fuel to the outlet to ensure that the piston follows the cam, it being arranged that the communication between the outlet and the pumping chamber associated with the plunger, is broken during the dwell period.

3,421,445

GLANDLESS ELECTRICALLY DRIVEN PUMPS
Victor Ivanoff, Harpenden, England, assignor to Hayward Tyler & Company Limited
Filed June 21, 1966, Ser. No. 559,261
Claims priority, application Great Britain, June 24, 1965, 26,799/65

U.S. Cl. 103—87

Int. Cl. F04d 13/06; F04d 29/10; F04d 29/02

2 Claims

The invention relates to glandless electrical motor/pump combinations in which the motor housing and pump housing are in communication with each other through a narrow annular clearance between the shaft and a neck portion surrounding the shaft. In such combinations, there is a tendency, when the pump is at rest, for convection currents to be established which convey hot liquid up one side of the narrow annular clearance and cooler liquids down the other side. This results in distortion of the pump shaft which is removed in accordance with the invention by providing the shaft, in

the neck region, with a sleeve of thermal insulating material. This can take the form of a layer of asbestos

or heat resistant plastics material, or may be constituted by a layer of liquid within an outer retaining sleeve.

3,421,446

SUCTION BEND FOR CENTRIFUGAL PUMPS

Michael Strscheletzky, Friedrichshafen (Bodensee), and Heinz-Bernd Matthias, Heldenheim (Brenz), Germany, assignors to J. M. Volth G.m.b.H., Heideheim (Brenz), Germany

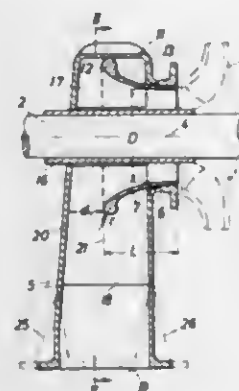
Filed July 12, 1967, Ser. No. 652,836

Claims priority, application Germany, July 15, 1966, V 31,515

U.S. Cl. 103—111

Int. Cl. F04d 29/00; F04d 1/14

12 Claims



The present invention relates to a suction bend for centrifugal pumps with inclined bend portion and with front and rear walls and with another bend portion merging with said inclined bend portion, said other bend portion being co-axial with the runner axis, while a funnel is provided which extends into said inclined bend portion and decreases in diameter in the direction toward the runner.

A suction bend according to the invention is characterized primarily in that the lateral wall portions which are located in spaced relationship to and opposite said funnel are on that funnel side which faces away from the inlet into the inclined bend portion to designed as to meet each other and to form a spur-shaped formation while together with said funnel defining fluid passages around a portion of said funnel.

3,421,447

FLUID PUMP

Robert E. Jackson, Newport Beach, and Harry E. Idolne, Anaheim, Calif., assignors to Challenge-Cook Bros., Incorporated, City of Industry, Calif., a corporation of California

Filed Oct. 26, 1966, Ser. No. 589,682

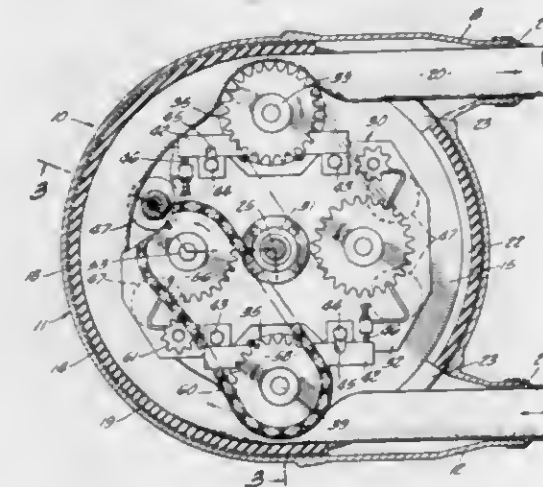
U.S. Cl. 103—149

Int. Cl. F04b 43/08; F04b 9/02

21 Claims

A pump for fluids that are difficult to pump such as concrete wherein a deformable hose is mounted on the

inner cylindrical surface of the pump housing, a central shaft rotatably supports a rotor frame on which a pair of diametrically positioned rollers are rotatably mounted to engage and deform the hose for pumping upon planetary movement, with the rollers being adjustable radially to establish the desired engagement and to accommodate



wear of the rollers and hose, and a separate chain or combination chain and gear drive allowing such adjustment operably connects the rollers to the shaft to drive the rollers in the opposite direction as the shaft rotation whereby the rotor and shaft rotate in the same direction.

3,421,448

FLUID PRESSURE ACTUATED RECIPROCABLE PUMP

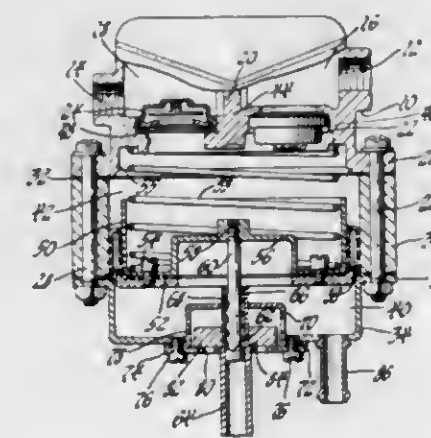
Lee M. Brewer, Saginaw, and John F. Yonker, Frankenth, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Jan. 11, 1967, Ser. No. 608,542

U.S. Cl. 103—152

Int. Cl. F04b 43/02; F04b 17/00; F01c 21/16

7 Claims



This invention relates to pumps and more particularly to reciprocable fluid pressure actuated pumps operable by secondary fluid under the control of a spring and magnet operated valve means.

3,421,449

GAS LIFT WELL PRODUCTION APPARATUS

Chudleigh B. Cochran, Houston, Tex., assignor to Ciero C. Brown, Houston, Tex.

Original application Oct. 11, 1965, Ser. No. 494,686, now Patent No. 3,373,816. Divided and this application Oct. 10, 1967, Ser. No. 674,294

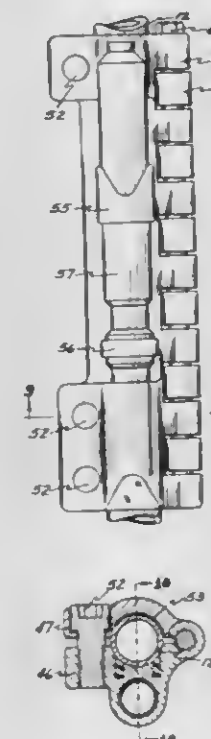
U.S. Cl. 103—233

Int. Cl. F04f 1/12

2 Claims

Apparatus for insertion in a well bore or casing for the production of well fluids by the use of gas injection. The

invention includes a novel system utilizing injector type tubing inserted into the well from a spool or the like,



with gas lift valves attached to the tubing during insertion thereof into the well.

3,421,450

TRANSPORTATION SYSTEM

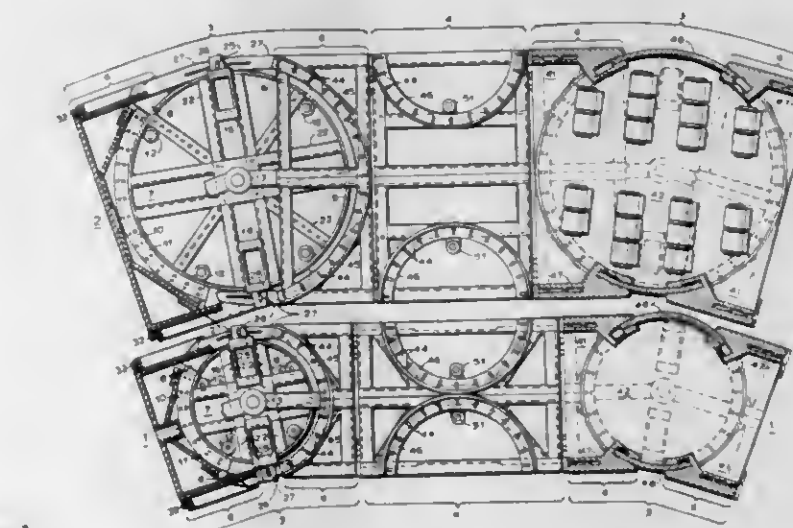
Larry S. Bell, Champaign, Ill.
(1310 Mitchem, Urbana, Ill. 61801)

Filed Oct. 22, 1965, Ser. No. 500,750

U.S. Cl. 104—20

Int. Cl. B61k 1/00; A63g 1/00

7 Claims



A transportation system has an elongate closed loop constant speed conveyor and a series of closed loop variable speed conveyors each of which picks-up loads from a number of stationary platforms spaced about its loop and accelerates to the speed of the constant speed conveyor to interchange its load therewith and then stops to pick-up another load. All of the conveyors are synchronized so that loads are transported between any two stationary platforms within uninterrupted forward motion. A pair of semicircular platforms are brought into alignment and then rotatably exchanged to effect load interchange between the conveyors and the stationary platforms.

3,421,451

DUNNAGE PLUG

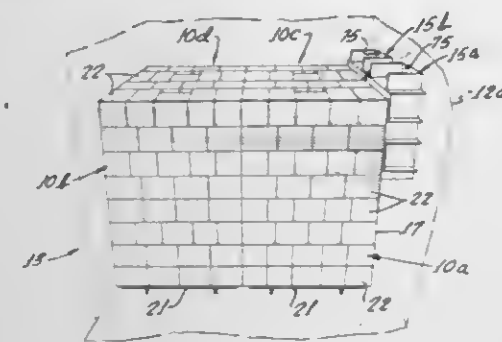
Walter H. Brucks, Brea, Calif., assignor, by mesne assignments, to Hunt-Wesson Foods, Inc., Fullerton, Calif., a corporation of Delaware

Filed May 31, 1966, Ser. No. 553,902

U.S. Cl. 105—369

Int. Cl. B61d 45/00; B61d 3/16; B65d 25/14

1 Claim



In a freight car loaded with boxed goods, a dunnage plug is positioned between the upper rows of boxes and the side wall of the freight car to prevent the load from shifting laterally. The plug is formed of interlocking cardboard U-shaped channel members.

3,421,452

HAND BRAKE ARRANGEMENT FOR RAILWAY FLAT CARS

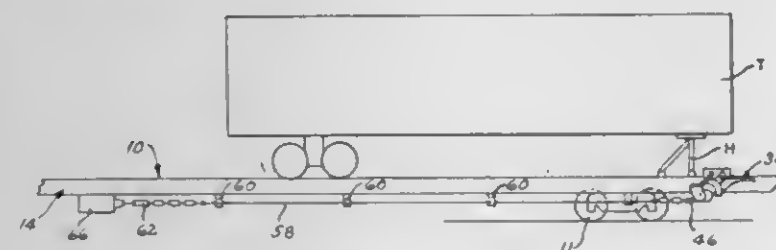
Asa Franklin Charles, St. Charles, Mo., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey

Filed Oct. 17, 1966, Ser. No. 587,269

U.S. Cl. 105—404

Int. Cl. B61d 49/00; B61d 17/00

2 Claims



A hand brake arrangement mounted on the side sill of a railway flat car and having an operating mechanism with a housing enclosing the mechanism. An elongate hand lever actuates the operating mechanism and the housing is secured to a support bracket which extends laterally outwardly from the outer surface of a generally vertical side sill web. The operating mechanism and associated hand lever are positioned closely adjacent the outer surface of the side sill web to remain within the AAR clearance line.

3,421,453

VERTICAL CORRUGATED SIDE FOR GONDOLA CAR

John W. Allen, Flossmoor, Ill., and Lucien C. Williams, Palos Verdes Estates, Calif., assignors to Stanray Corporation, Chicago, Ill., a corporation of Delaware

Filed Oct. 5, 1966, Ser. No. 584,593

U.S. Cl. 105—406

Int. Cl. B61d 17/08

6 Claims

A side wall structure for gondola or other open-top cars wherein said side walls function as girders between the ends of the car and also carry part of the load to the

body bolsters by extending down over both side sills of the car for stiffness and whereby a resisting moment is



provided by the floor structure against the pressure of the load on the side wall.

3,421,454

BRIDGE PLATE FOR RAILROAD CARS

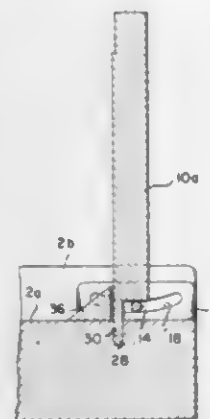
Edwin B. Connerat, Alexandria, Va., assignor of one-fourth each to Denver Eyler, Atlanta, Ga., and Albert J. Hinton, Fairfax County, Va.

Filed Apr. 15, 1966, Ser. No. 542,881

U.S. Cl. 105—458

Int. Cl. B61d 47/00; B61d 45/00

5 Claims



Means for bridging the gap between railway flat cars, including a bridge member connected at one end with one car for pivotal movement about both horizontal and vertical axes. The invention is characterized by the provision of horizontal pivot pin means that extend laterally outwardly from one end of the bridge member into corresponding slots contained in vertical support plates secured to the load supporting surface of a car.

3,421,455

STENCILING APPARATUS

Frank Charles Werner, Grand Rapids, Mich., assignor to Werner Machinery Company, Grand Rapids, Mich., a corporation of Michigan

Filed May 5, 1967, Ser. No. 636,503

U.S. Cl. 107—1

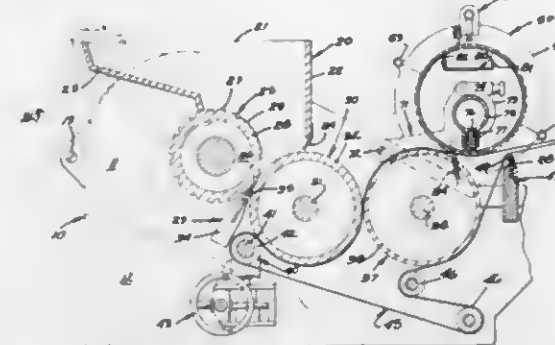
Int. Cl. A23g 3/20; B05c 5/02; B05c 3/12

8 Claims

A rotary stenciling apparatus having a stencil roll rotatably mounted such that sequential sections of its periphery contact sequential sections of the conveyor belt upon which the goods to be stenciled are riding. The periphery of the stencil roll has a plurality of band-shaped recess areas through which the goods to be stenciled pass. The peripheral surface of each of the recesses has a series of groups of cuts which correspond to the desired stenciling pattern.

Mounted within the open interior of the stenciling drum

is an elongated orifice into which the stenciling material is fed under pressure. The interior periphery of the stenciling drum contacts the tips of this orifice in a valve-like



fashion and stenciling material issues therefrom only when one of the apertures passes thereunder. The orifice, of course, is held stationary and pointed toward the point of tangency of the conveyor belt with respect to the stenciling drum.

3,421,456

POWERED FOOD PRODUCT SCOOPER

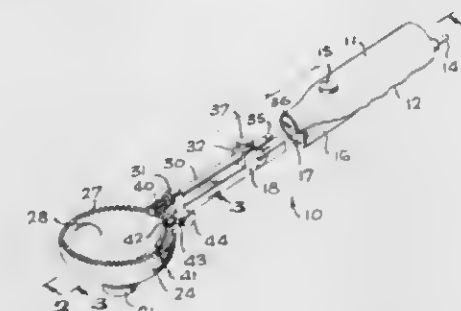
Edward Weinstein, 20310 Clark St., Woodland Hills, Calif. 91364

Filed Feb. 13, 1967, Ser. No. 615,767

U.S. Cl. 107—48

Int. Cl. A47j 43/28

14 Claims



A powered scooper is disclosed having a handle for housing an electric motor for rotatably driving a bowl member via a drive shaft rotatably mounted on a body extending from the handle and a pinion gear carried on the end of the drive shaft in mesh with a ring gear formed about the annular peripheral edge of the bowl member. The ring gear functions as a cutting edge for separating a portion of the food product from its surrounding bulk.

3,421,457

TILTABLE TABLE

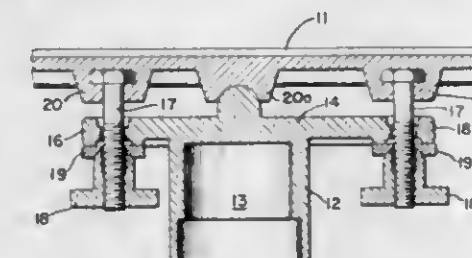
Leta S. Taylor, Paul B. Johnson, and Eugene D. Huskey, Dallas County, Tex., assignors to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana

Filed Apr. 28, 1967, Ser. No. 634,699

U.S. Cl. 108—4

Int. Cl. A47f 5/12

2 Claims



A table of the type shown in Patent No. 3,115,849 in which the bolts mounted in the table top are cast into rigid position in the table top and extend loosely through relatively large apertures in a plate, or cover portion which is mounted on a supporting member. The bolts

being each threadedly engaged by a nut having a convex spherical surface to press a concave spherical surface of a washer that slidably engages the surface of the plate or cover portion on its side remote from the table top so that the bolts are subjected to almost no bending stress which stress, in the Patent 3,115,849 caused early failure of the device and precluded forming the table top as an integral plant surface. The undersurface of the table top being formed with ribs that include the bosses.

3,421,458

COMBINED HINGE MOUNTING AND SHELF

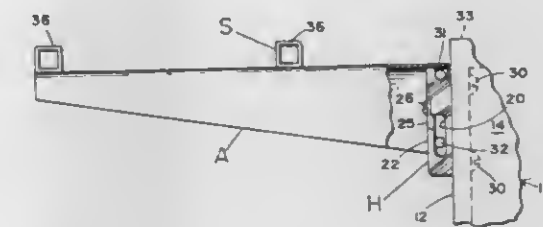
Goodwin Salkoff, Coral Gables, and Elmer R. Nusbaum, Hialeah, Fla., assignors to Atlas Metal Industries, Inc., Hialeah, Fla., a corporation of Florida

Filed July 17, 1967, Ser. No. 653,747

U.S. Cl. 108—134

Int. Cl. E04b 3/00; E47b 1/04; E04b 5/00

4 Claims



This invention comprises a combined hinge mounting shelf having a pair of hinge mountings that are attachable to any supporting structure, the hinge mountings having an elongated slot extending through the sides of the hinge mountings and an open ended slot at the top portion, and a shelf pivotally mounted at one end to the hinge mountings, the shelf having a pair of U-shaped arms each having a pair of pins mounted at one end of the arms and received by the elongated and open ended slots when said shelf is in its extended position.

3,421,459

CONVERTIBLE STRUCTURAL UNIT FOR WALL AND TABLE USE AND ATTACHMENTS THERE TO

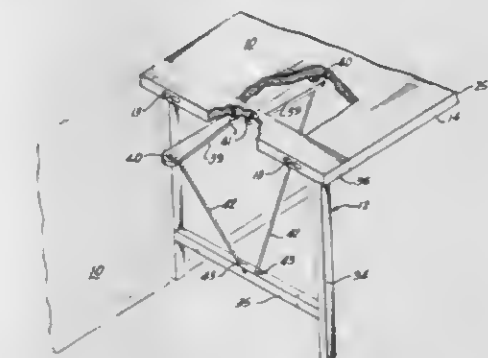
John C. Sherwood, 4932 La Crescenta Ave., La Crescenta, Calif. 91214

Continuation-in-part of applications Ser. No. 342,004, Ser. No. 342,005, and Ser. No. 342,006, Feb. 3, 1964. This application Oct. 19, 1965, Ser. No. 497,903

U.S. Cl. 108—153

Int. Cl. A47b 3/06; A47b 5/04

2 Claims

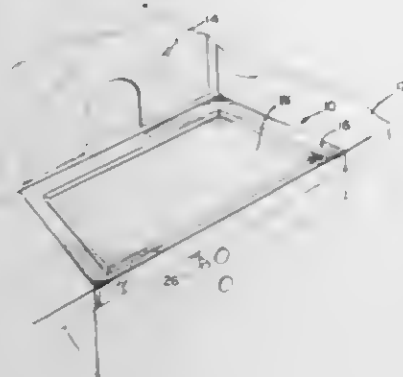


Convertible structural units or panels are equipped with cam-type edge fasteners and are joined together as tables and joined with leg support assemblies as tables, being at all times readily convertible upon quick and convenient operation of the cam-type edge fasteners.

3,421,460 ROBBERY PREVENTION DEVICE

Lawrence B. McKay, Arlington, Va., assignor of thirty-three and one-third percent each to Lola M. McKay, Arlington, and George T. Boswell, Springfield, Va.
Filed Aug. 8, 1967, Ser. No. 659,193

U.S. Cl. 109—11 7 Claims
Int. Cl. E06b 3/00; E06b 5/00; E05g 3/00

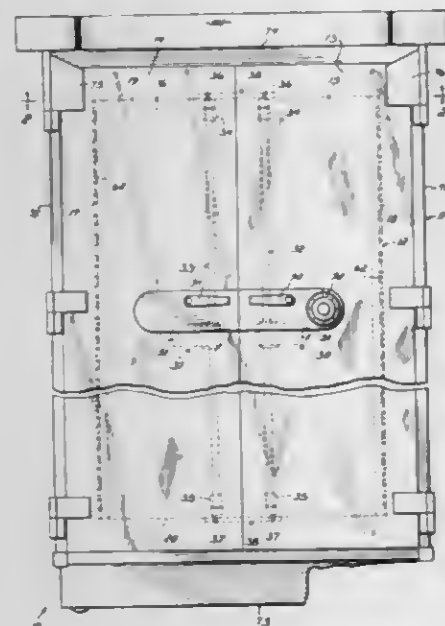


A robbery prevention device for counters and the like having a movable counter portion connected to a fixed counter portion through a movable pivot. The movable portion is biased toward a vertical position to provide a shield for a person standing behind the counter. The movable counter portion is normally stored in a horizontal position flush with the counter and is released by a trigger mechanism actuatable from behind the counter.

3,421,461 SAFE

Albert R. St. Clair, Hamilton, and Robert W. Maynard, Cincinnati, Ohio, assignors to The Mosler Safe Company, Hamilton, Ohio, a corporation of New York
Filed Dec. 1, 1966, Ser. No. 598,496

U.S. Cl. 109—24 18 Claims
Int. Cl. E05g 3/00



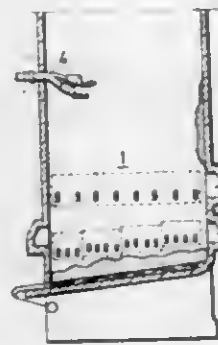
A double walled, double enclosure fire-responsive safe having inner and outer door closures operable, in response to detection of a condition present during a fire, to close outer doors of the safe and to simultaneously close, lock and seal inner doors so as to prevent smoke, moisture or heat from damaging the contents of the safe. Two different types of actuators are disclosed for closing the doors in response to a fire; a power weight-operated embodiment in which the weights are released to effect closing of the

doors in response to detection of a fire and a fluid motor operated embodiment in which the motor effects closing of the doors in response to detection of a fire.

3,421,462 COMBUSTION FURNACES FOR WASTE LIQUOR

Jacob Erland Magnus Wessberg, Torslanda, Sweden, assignor to Aktiebolaget Gotaverken, Goteborg, Sweden, a corporation of Sweden
Filed Apr. 28, 1967, Ser. No. 634,679

Claims priority, application Sweden, Apr. 29, 1966, 5,844/66 2 Claims
U.S. Cl. 110—7
Int. Cl. F23g 7/00; F23d 7/00; F23d 11/00

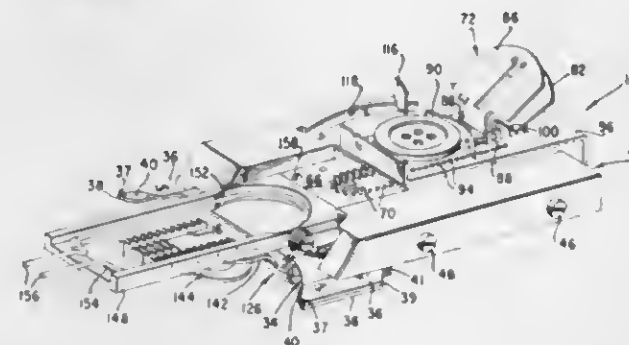


In a combination furnace for dehydrating and thereupon burning waste pulping liquor, improved atomization effected through use of two or more injection nozzles disposed one above the other, each nozzle having a spraying plate and being individually supplied with waste liquor in adjustable volume.

3,421,463 BUTTONHOLE ATTACHMENT FOR SEWING MACHINES

Reynold Happe, Whippany, N.J., and Werner von Rymon, deceased, late of Pompton Plains, N.J., by Karola von Rymon, executrix, Richmond Hill, N.Y., assignors to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Jan. 2, 1968, Ser. No. 696,970

U.S. Cl. 112—77 7 Claims
Int. Cl. D05b 3/06

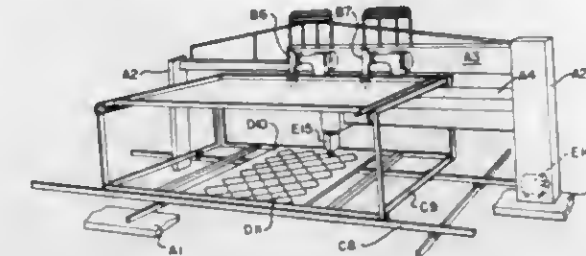


A buttonhole attachment for zigzag sewing machines including a frame removably mounted in the sewing machine bed over the slide plate. The attachment includes an endwise and laterally movable work shifting unit mounted on the frame and driven by a rack and pinion arrangement in turn driven by the feed-dog. The path that the work shifting unit follows is determined by a template unit fixedly mounted on the work shifting unit. The template unit includes a manually adjustable end section the position of which, relatively to the length of the template unit, may be determined by the diameter of a button placed between a fixed and movable jaw, the movable jaw being connected to the manually adjustable end section.

3,421,464 QUILTING MACHINE GUIDE-TRACK

David R. Cash, Louisville, Ky., assignor to James Cash Machine Co., Louisville, Ky., a corporation of Kentucky
Filed Feb. 16, 1965, Ser. No. 433,148

U.S. Cl. 112—118 11 Claims
Int. Cl. D05b 11/00

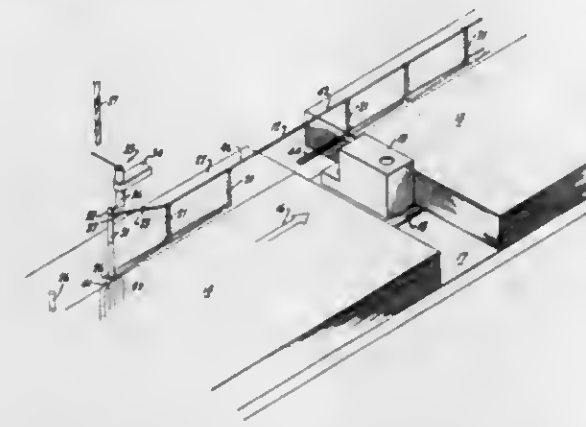


A sectional guide-track for use on quilting machines of the type wherein a frame-mounted follower drives a carriage-mounted guide-track to move a carriage-mounted quilt assembly along a given path reproducing a given sewing line design while frame-mounted sewing means sews that design into the quilt. The track, which is composed of a plurality of sections connectable in different ways to provide endless guide-tracks of different sizes, is particularly suited for use in manufacturing variously sized quilt assemblies for variously sized mattresses, such as those ranging from twin size through full size to king-size, which vary in side-to-side width from about 30% below to about 48% above full size and in top-to-bottom length from about full size to about 14% above full size.

3,421,465 THREAD TRIMMING DEVICE

William F. Marek, 4690 Francis Court, Sacramento, Calif. 95822, and Fred Higgs, Jr., 5632 20th St., Rio Linda, Calif. 95673
Filed Feb. 21, 1967, Ser. No. 617,693

U.S. Cl. 112—252 8 Claims
Int. Cl. D05b 65/00



The disclosure relates to an attachment for an automatic book sewer, such as a "McCaine Sewer," utilizing a single thread chainstitch for sewing the side of a book. The attachment is effective automatically and continuously to trim away the upper thread and the lower loop left by the book sewing operation.

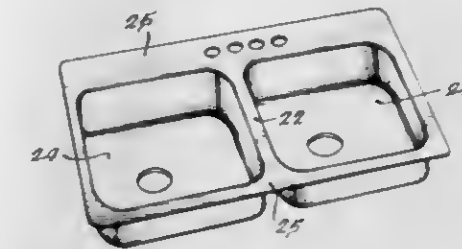
3,421,466 SINK-FORMING METHOD

Kenneth G. Hess, Sheboygan, Wis., assignor to Polar Ware Company, a corporation of Wisconsin
Filed Apr. 20, 1965, Ser. No. 449,528

U.S. Cl. 113—120 14 Claims
Int. Cl. B21d 51/18

A method and apparatus for forming a unitary sink having a plurality of bowls with bowl divider partitions therebetween from a blank of stainless steel in a double-

action press. The press includes a base, a lower gripping member for the blank, a punch, and an upper movable gripping member cooperating with the punch so that the upper gripping member descends prior to the punch to hold the blank between the upper gripping member and the lower gripping member while the punch descends to draw the blank. The base and lower gripping member have openings to form the female die for the press. A plurality of shims of varying thicknesses are placed between the base and the lower gripping member to provide a variable

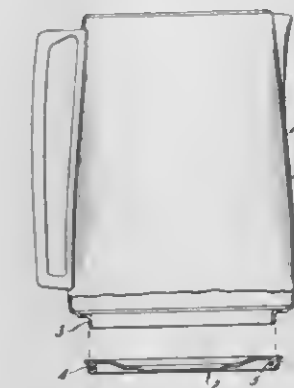


gripping pressure between the upper and lower gripping members during the holding and the drawing stroke of the press. Shims are located adjacent the bowl divider partitions of the blank so that the variable pressure is maximum adjacent the bowl divider partitions to permit minimum draw adjacent the partitions to eliminate wrinkling of the blank. Shims of a lesser thickness are also located at the ends of the blank to compensate for any undesirable bowing of the draw face yet to permit maximum draw at the ends of the blank.

3,421,467 METHOD OF ATTACHING A METAL BASE PLATE TO A PLASTIC CONTAINER

Rudolph Himelsbaugh, North Royalton, Ohio, assignor to Thermal Engineering & Design Company, Akron, Ohio, a corporation of Ohio
Filed Oct. 14, 1963, Ser. No. 316,049

U.S. Cl. 113—121 9 Claims
Int. Cl. B21d 51/38



A method of securing a plastic container and a metal bottom section therefor together by an interlocked joint is provided. A downwardly extending end wall of the container is received in an upwardly open groove in the bottom section and is secured therein by special localized rolling forces applied initially to the inner wall of the groove and thereafter to the outer wall of the groove. The upper surface of the bottom section may be reinforced while forcing the outer wall inwardly.

3,421,468 HYDROFOIL CRAFT

Bobby G. Newsom, Rte. 2, Box 1915-A, Daytona Beach, Fla. 32019

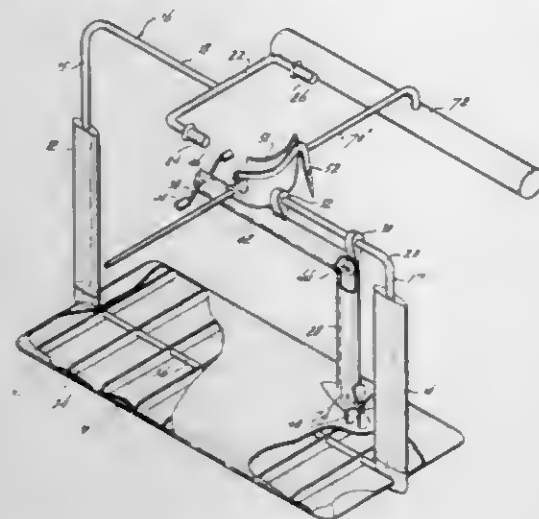
Filed Apr. 16, 1968, Ser. No. 721,712

U.S. Cl. 114—66.5 10 Claims

Int. Cl. B63b 1/18; A63c 5/08; B63b 1/14

A hydrofoil craft buoyed by compressed air and including a frame with transverse ribs longitudinally ex-

tending through the foil and having fore and aft vertical struts extending above said foil and a rudder. Pivoting



of the vertical struts longitudinally fore and aft or laterally from side to side warps the foil to a variety of attacking attitudes.

3,421,469

WATERTIGHT SEAL ASSEMBLY

Kazuyoshi Yamada and Juro Doi, Yokohama-shi, Japan, assignors to Mitsubishi Jukogyo Kabushiki Kaisha Chiyoda-ku, Tokyo, Japan

Filed Feb. 14, 1968, Ser. No. 705,521

Claims priority, application Japan, Apr. 10, 1967, 42/22,768

U.S. Cl. 114-77
Int. Cl. B63h 3/02

19 Claims



A removable watertight seal assembly for the exterior of a ship's hull is formed of a plurality of flexibly interconnected longitudinally extending U-shaped wall members with a sealing member disposed between adjacent wall members. Transverse and longitudinally extending reinforcing sections are located within the wall members to provide adequate strength to withstand exterior water pressure. Additional sealing members are disposed along the longitudinal edges of the wall members for contacting the surface of the hull. Support means are attached to individual wall members for securing the assembly in water tight engagement with the exterior underwater surface of the hull. After being secured to the hull, the interior of the wall members can be dewatered and the hull cut in two, or if the hull comprises two separate sections, they can be joined together along a line in register with the assembly of wall members. After the cutting or joining operation is completed, the assembly can be easily removed by disconnecting the support means and flooding the compartment provided between the wall members and the floating structure.

3,421,470

JIB HOOK MAGAZINE

Frederic Michelsen Schaefer, Jr., Wellesley Hills, Mass., assignor to Schaefer Equipment Company, New Bedford, Mass., a corporation of Pennsylvania

Filed Feb. 5, 1968, Ser. No. 703,095

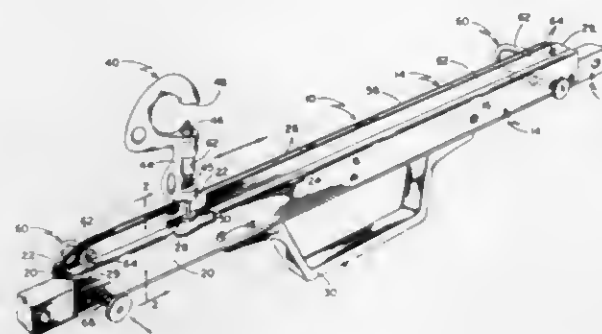
U.S. Cl. 114-102

Int. Cl. B63h 9/04

10 Claims

A magazine for storing a sail equipped with a series of hook assemblies and comprising a longitudinally-extending base and a pair of longitudinally-extending flanges

thereon, the flanges defining a longitudinal slot and shaped to provide a first portion and a second portion of lesser width than the first portion. One of the portions is adapted to receive the operating knob of the hook assemblies; the



other to receive the axially slidable rod to which the knob and hook closure are secured. The dimensions of the flanges are such that, when the hooks are in the magazine, they retract the rods and closures and hold the assemblies in their open position.

3,421,471

HATCH DOGGING AND SEALING MECHANISM

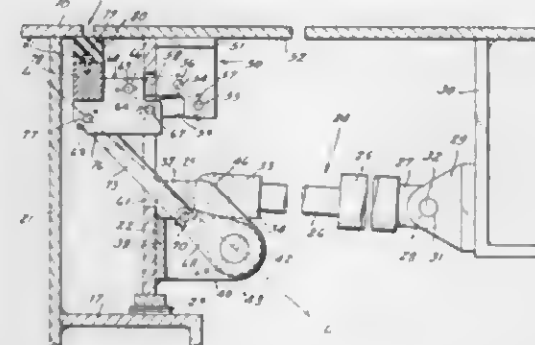
Philip Richter, Bethlehem, Pa., assignor to Fuller Company, Catasauqua, Pa., a corporation of Delaware

Filed July 27, 1967, Ser. No. 656,508

U.S. Cl. 114-203

Int. Cl. B63b 3/48; E06b 3/48

13 Claims



A hatch dogging and sealing mechanism having a multiplicity of movable gasket strip carrier members, movably mounted on hatch cover panels, the carriers being actuated by suitable actuating means for shifting the carriers and gasket strips between sealing and unsealing positions of the space defined between the juxtaposed edges, respectively, of a hatch opening and a hatch panel, the carriers being connected to the actuating means by linkage which is shifted to passed dead center in sealing position, whereby the gasket is maintained in compressed condition, sealing said peripheral space and locking said panels in closed position.

3,421,472

AMPHIBIOUS VEHICLE

Hugh E. Oberg, Fresno, Calif., assignor of twenty-five percent each to Frank Fasano and Edmund C. Glust, Fresno, Calif.

Filed Apr. 10, 1967, Ser. No. 629,530

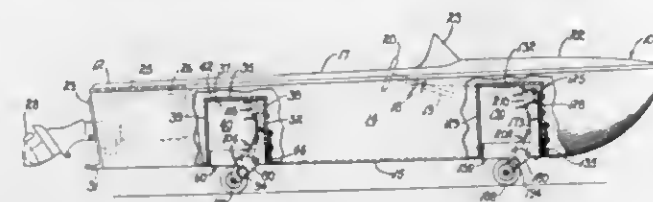
U.S. Cl. 115-1

Int. Cl. B60f 3/00

7 Claims

A vehicle having a water-tight hull providing a plurality of forwardly and rearwardly disposed support wheels which are extendibly and retractably mounted individually within wells disposed within the hull. The wells include pairs of doors which are disposed in selectively

opening and closing relation to the wells. The doors are opened to permit extension of the wheels for supporting the hull for land travel and closed upon retraction of the wheels into the wells to provide a clean bottom along the hull during water travel. A forwardmost wheel is



connected to a rudder steering system on the vehicle through an interlock mechanism for steering the vehicle during land travel. The forwardmost wheel is releasable from the interlock mechanism to disconnect the wheel from the steering system when the wheels are retracted for water travel.

3,421,473

STREET BOUNDARY POST

Erich Weichenrieder, Post Zorneding,

Ingelsberg 14, Germany

Filed Dec. 9, 1966, Ser. No. 600,580

U.S. Cl. 116-63

Int. Cl. G08b 1/00; G08b 1/02; G09f 17/00

7 Claims



1. A street boundary post comprising an upright tubular base member, said base member having an internal integral concentric guide sleeve at the upper end thereof, said sleeve being inwardly spaced from the inner wall of said member, a first rod member telescopically received within side guide sleeve and extending into said base member, vertically spaced female catch means formed internally in the inner wall of said guide sleeve, and vertically spaced complementary male catch means formed exteriorly in the wall of said rod member, said male catch means respectively cooperating with said female catch means to selectively maintain said rod member in an extended position and a retracted position within said base member.

3,421,474

SNAP-IN INDEX POINTER FOR THERMOSTAT VALVES AND THE LIKE

Roy C. Deml, Greensburg, Pa., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

Filed Aug. 2, 1965, Ser. No. 476,453

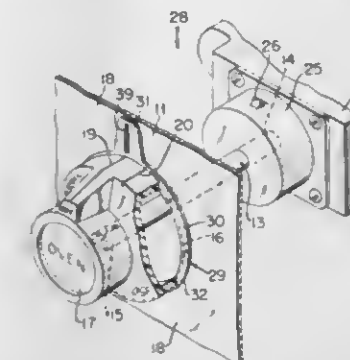
U.S. Cl. 116-133

Int. Cl. G09f 9/00

12 Claims

A crescent-shaped indicator member is provided with a rearwardly directed flange that can resiliently engage the inner peripheral edge of a control panel that surrounds an opening thereof to hold the indicating member to the

panel and permit a control device to be disposed on one side of the panel and a control knob on the other side of



3,421,475

MACHINE FOR COATING POPCORN

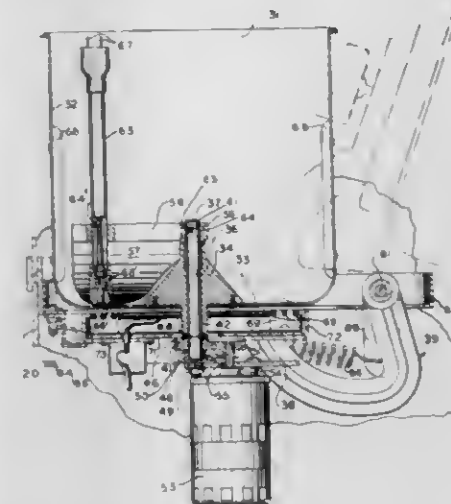
David B. Evans, Sycamore Township, Hamilton County, and John C. Evans, Columbia Township, Hamilton County, Ohio, assignors to Gold Metal Products Co., Cincinnati, Ohio, a corporation of Ohio

Filed Mar. 9, 1967, Ser. No. 621,929

U.S. Cl. 118-5

Int. Cl. B05c 3/08; A23g 3/20

6 Claims



A machine for coating popped popcorn which includes a rotatable pot having a heater below the pot and a plow-like agitator in the pot, the axis of the pot being swingable between an upright melt position, an inclined mix position and a second inclined discharge position.

3,421,476

APPARATUS FOR APPLYING MATERIALS TO LOCALIZED AREAS OF A ROADWAY SURFACE

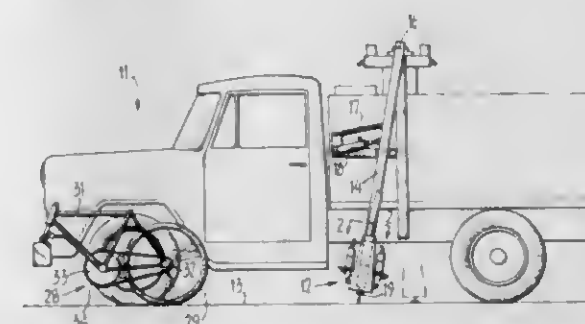
Donald Joseph Mattos, Fremont, Calif., assignor to Mattos Const. Co., Inc., Union City, Calif., a corporation of California

Filed Mar. 9, 1967, Ser. No. 621,858

U.S. Cl. 118-8

Int. Cl. B05c 11/00

5 Claims



Apparatus for applying material to localized areas of a roadway surface including an arm pivotally attached

to a vehicle and having an applicator head at the lower end thereof. The arm is arranged so that the head remains in a fixed position relative to the roadway surface during movement of the vehicle so that material may be dispensed onto such surface.

3,421,477

DIP COATING APPARATUS

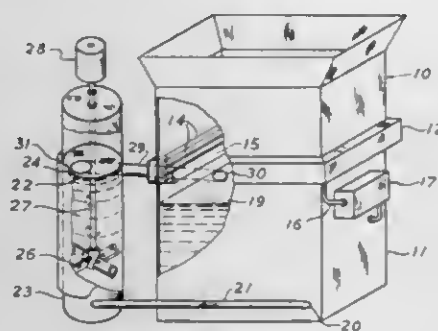
Theodore E. Gilbert, Grand Island, and Otto H. Lindemann, Buffalo, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

Filed May 25, 1964, Ser. No. 369,967

U.S. Cl. 118-602

2 Claims

Int. Cl. B05c 11/00

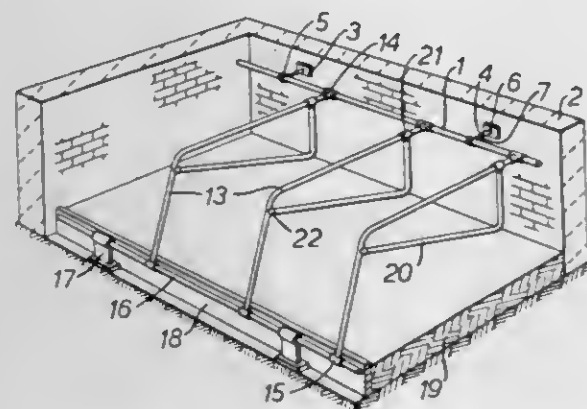


Dip coating apparatus which includes a coating tank and a mixing chamber which is located externally of the coating tank. Inlet and outlet means are tangentially disposed adjacent the top and bottom, respectively, of the coating tank and adjacent the bottom and top, respectively, of the mixing chamber, conduit means being provided to connect the outlet of the coating tank and the inlet of the mixing chamber, and vice versa. Agitation means are provided in the mixing chamber which effect withdrawal of the coating composition from the coating tank to the mixing chamber and maintain a coating composition level in the mixing chamber which is above that in the coating tank, thereby causing a substantially non-turbulent, gravity flow of the admixed coating composition from the mixing chamber back into the coating tank.

3,421,478

CATTLE STALLS

John A. M. Warmerdam, Drimvor Farm, Kilmichael Glassary, by Lochgilphead, Argyll, Scotland
Filed Sept. 15, 1966, Ser. No. 579,647
Claims priority, application Great Britain, Sept. 21, 1965, 40,169/65; Dec. 20, 1965, 53,821/65
U.S. Cl. 119-27 18 Claims
Int. Cl. A01k 1/00; A01j 1/00



A livestock stall having rails at the front and back to which are slidably attached adjustable length side bars to form stalls of varying sizes.

3,421,479
THERMALLY CONTROLLED AUTOMATIC FEED DISPENSING APPARATUS

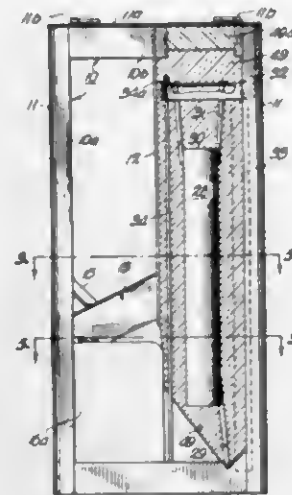
Bruce N. Fleming, 430 Beech St.,
Ottawa, Kans. 66067

Filed Dec. 9, 1966, Ser. No. 600,428

U.S. Cl. 119-51.11

5 Claims

Int. Cl. A01k 5/02; B67d 5/28; G05d 23/02



1. An apparatus for automatically dispensing particulate material such as fish feed, said apparatus comprising;
a hopper, said hopper having a discharge opening defined in the lower portion thereof,
a reversing bucket, said bucket having two separated compartments and mounted for pivotal movement so that one of said compartments is in communicating relationship with said discharge opening while the other compartment is in a dispensing position, and
means for thermally controlling the pivotal movement of said bucket said means having a lever bucket release associated therewith.

3,421,480

DISINFECTING APPARATUS

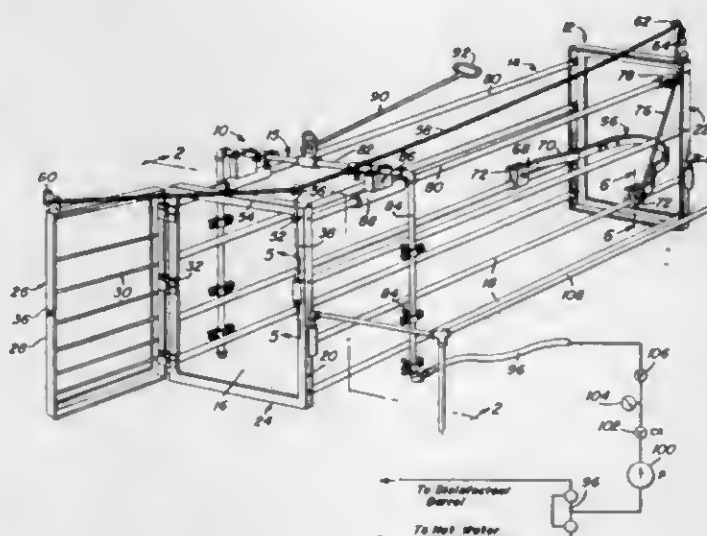
Lynn A. Cole, R.F.D. 1, Mount Blanchard, Ohio 45867

Filed Nov. 28, 1966, Ser. No. 597,314

U.S. Cl. 119-159

8 Claims

Int. Cl. A01k 29/00



Apparatus for use in disinfecting animals comprising a pen-like enclosure having laterally spaced walls and opposed selectively closed ends for confining an animal between the walls. Each of the walls includes a guide rail along the top thereof for the support of a U-shaped spray unit which travels along the walls and discharges disinfectant inward on a retained animal. The exit end of the

enclosure is selectively opened and closed by means of an elongated flexible member controlled from the entrance end of the enclosure.

3,421,481

MULTI-STAGE VAPORIZATION STEAM GENERATOR

Mario Carloni, Via di Montenero 98,
Leghorn, Italy

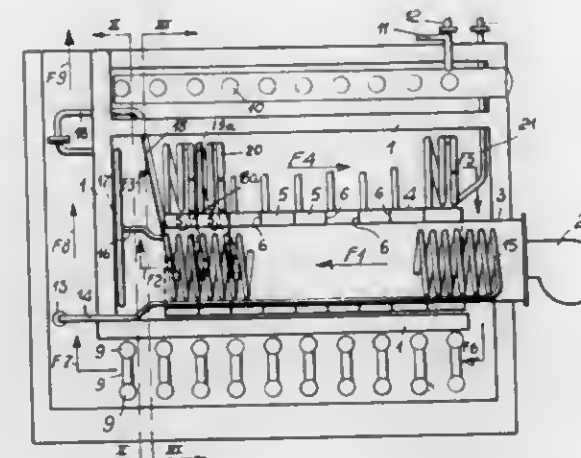
Filed Apr. 17, 1967, Ser. No. 631,296

Claims priority, application Italy, Apr. 19, 1966, 143/66

U.S. Cl. 122-248

4 Claims

Int. Cl. F22b 37/10; F22d 7/00



This disclosure relates to a steam generator including a boiler, a burner, a plurality of pipes within said boiler, a non-linear path between said pipes for the combustion products originating from said burner, a preheater occupying part of said boiler, water inlet and dry steam outlet pipes.

3,421,482

OUTDOOR SWIMMING POOL HEATER

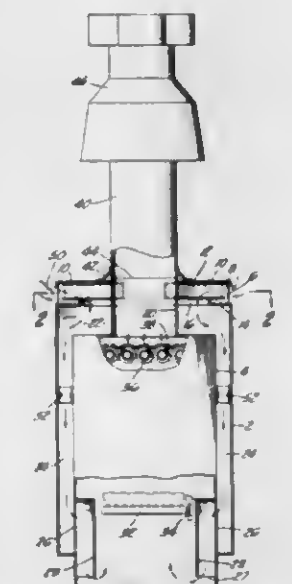
Robert Ortega, Huntington Beach, Calif., assignor to
Anthony Pools, Inc., South Gate, Calif., a corporation of Delaware

Filed Jan. 19, 1967, Ser. No. 610,281

U.S. Cl. 122-264

12 Claims

Int. Cl. F22b 15/00; F23j 11/00



An outdoor swimming pool heater having an upper air chamber containing four diagonally positioned air spacers, a second air chamber connected to the upper air chamber and leading to an air passage contacting the burner chamber, a hole in the burner chamber through which air is drawn from the air passage, and a baffle within the burner chamber to direct the flow of incoming air to a level below that of the burner.

3,421,483

SUPPLEMENTAL FUEL SYSTEM

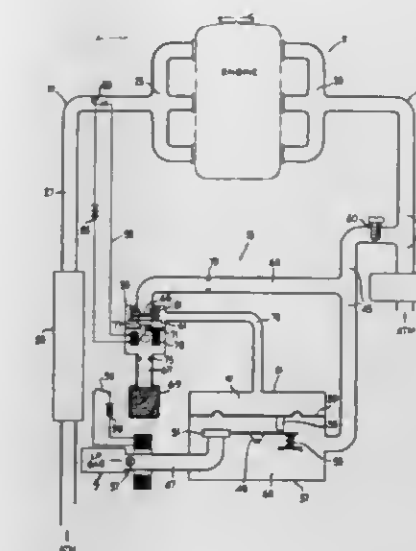
Clarence D. Fox, Decatur, Ill., assignor to Borg-Warner Corporation, a corporation of Illinois

Continuation-in-part of application Ser. No. 575,088, Aug. 25, 1966. This application June 16, 1967, Ser. No. 646,708

U.S. Cl. 123-27

17 Claims

Int. Cl. F02b 3/00; F02m 21/00; F02m 13/06



A supplemental fuel system for diesel engines. The supplemental fuel system provides a supply of gaseous fuel in response to engine operation at, or above, a predetermined load. The system includes a gaseous fuel regulator, a control valve assembly, and a load sensing and control means responsive to engine load to control the valve assembly which in turn activates the fuel regulator to supply gaseous fuel to the engine.

3,421,484

AUTOMATIC ANIMAL FEEDING DEVICE WITH RETRACTABLE NIPPLE

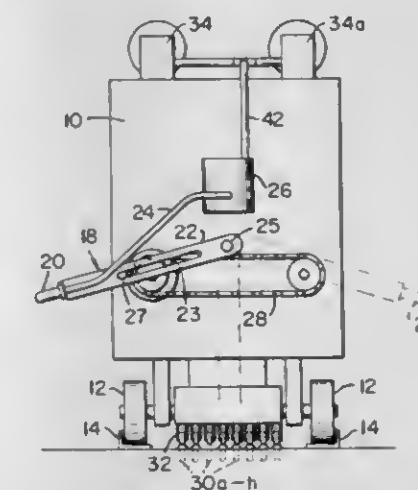
Andrew J. Flocchini, 7078 Lakeville Highway,
Petaluma, Calif. 94952

Filed Jan. 6, 1967, Ser. No. 607,737

U.S. Cl. 119-71

7 Claims

Int. Cl. A01k 9/00, 7/00



An automatic animal feeding apparatus for periodically feeding suckling animals in stalls and provided with a feeding nipple assembly which retracts when the supply of liquid feed is exhausted in order to prevent the sucking of air and further provided with bypass pipes for keeping the feed supply mixed and separate tanks for exhausting the older liquid feed prior to supplying the fresh liquid feed.

3,421,485 FUEL MIXING DEVICE FOR INTERNAL COMBUSTION ENGINES

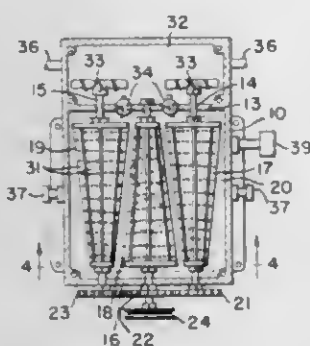
De Witt M. Fessenden, 911 Summit Blvd.,
West Palm Beach, Fla. 33405

Filed June 19, 1967, Ser. No. 646,819

U.S. Cl. 123-119

Int. Cl. F02m 7/12; F02b 33/00; C10j 1/12

5 Claims



A fuel mixing device for internal combustion engines, the device being a housing communicating at its bottom with the intake manifolds, and having a fuel mixing chamber with conical rotary mixers therein and an exhaust receiving chamber with rotary pumps therein for forcing the exhaust gas into the mixing chamber.

3,421,486 FUEL INJECTION CONTROL

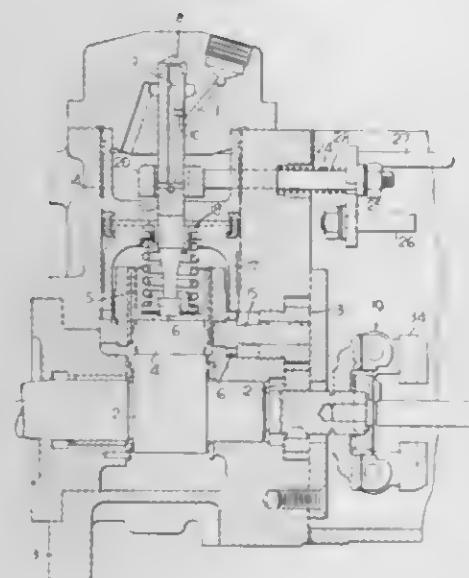
Walter A. Parrish, Jr., Homewood, Ill., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed Apr. 10, 1967, Ser. No. 629,625

U.S. Cl. 123-139

Int. Cl. F02m 39/00; F02d 1/04; F04b 13/02

10 Claims



A fuel delivery control responsive to speed and a fuel or an air condition to provide a timing and quantity control for fuel delivery to an internal combustion engine.

3,421,487 FUEL METERING APPARATUS FOR AN ENGINE

Jean G. Cadiou, Paris, France, assignor to Societe Anonyme Andre Citroen, Paris, France, a French society

Filed Sept. 30, 1966, Ser. No. 583,331

Claims priority, application France, Oct. 19, 1965, 35,264

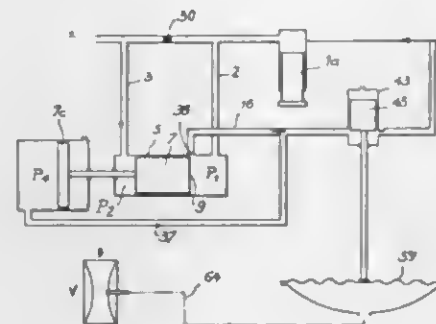
U.S. Cl. 123-140

Int. Cl. F02d 1/06; F02m 7/00; F02b 33/00

13 Claims

Apparatus for metering the amount of fuel injected into an internal combustion engine, comprising a continu-

ous or pulsatory pump forcing fuel under high pressure through a jet and adjusting the output with the aid of the regulation of the pressure drop across the jet by means of movable metering piston exposed on opposite ends to the pressure picked up upstream and downstream of the jet and subjected to a force opposing the resultant of the pressures and wherein a counterpressure is effected in a return circuit downstream of the metering piston and acts



against the piston so that the opposing force applied to the piston is made to vary in proportion to this counterpressure. The counterpressure being produced by a throttling device at normal speeds of the engine, the movement of which depends upon the supply of air taken in by the engine and the mean value of the counterpressure being constant for a given supply of air, and the counterpressure being produced by an additional jet at the idle speed of the engine.

3,421,488 PHOTOACTUATED SOLID STATE IGNITION SYSTEM

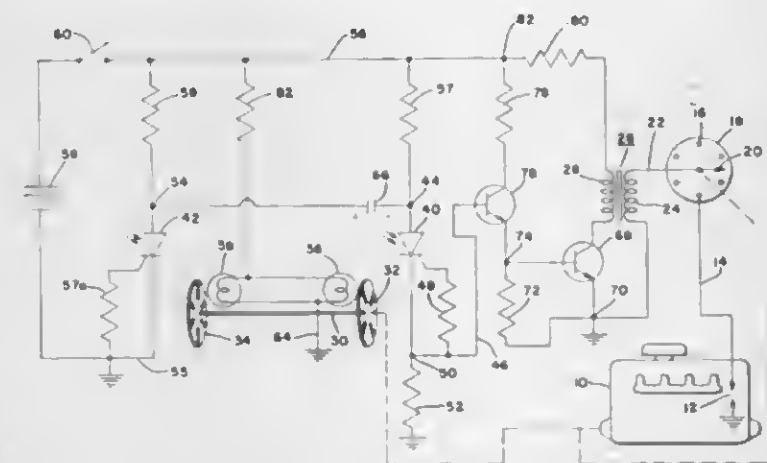
Ralph E. Tarter, Anderson, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 26, 1964, Ser. No. 406,293

U.S. Cl. 123-148

Int. Cl. F02p 3/00; F02p 23/00

7 Claims



This invention relates to an ignition system for an internal combustion engine where a semiconductor switch such as a transistor or a gate controlled switch controls current flow through the primary winding of an ignition coil. The semiconductor is switched on and off by a timing circuit including two photocontrolled rectifiers which have light energy applied to them sequentially under the control of two disks carried by a shaft which is driven by the engine. The disks have slots which are angularly offset to provide the sequential application of light to the two photocontrolled rectifiers.

3,421,489 PROTECTIVE SYSTEM FOR INTERNAL COMBUSTION ENGINES

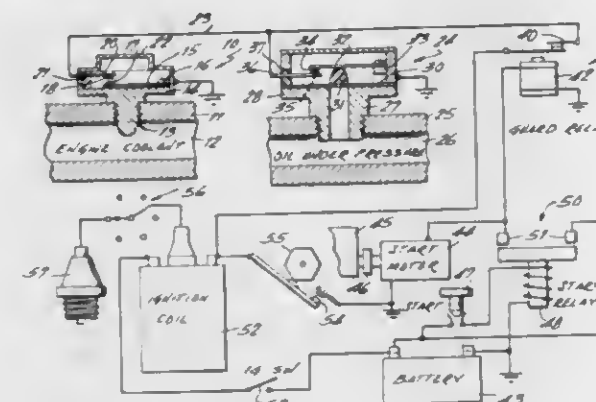
Martin C. Rhoads, Oakland, N.J., assignor to The Nycal Company, Inc., Carlstadt, N.J., a corporation of New Jersey

Filed Mar. 1, 1967, Ser. No. 619,855

U.S. Cl. 123-179

Int. Cl. F02n 17/08; F02p 1/00

5 Claims



A protective system for gasoline internal combustion engines using spark plugs. The engines are automatically stopped by short-circuiting the breaker contacts when either the engine is overheated or the oil pressure is too low. Circuitry is provided which permits emergency starting of the engine when the oil pressure is low.

3,421,490 ENGINE CONSTRUCTION

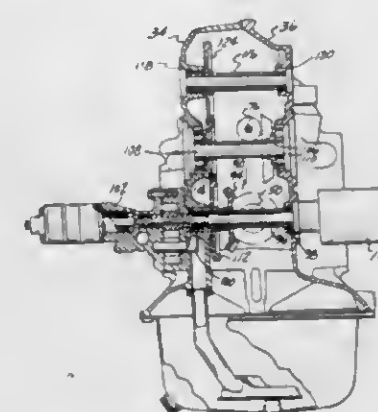
William A. Wiseman, Muskegon, Mich., assignor to Continental Motors Corporation, Detroit, Mich., a corporation of Virginia

Filed July 10, 1967, Ser. No. 652,061

U.S. Cl. 123-195

Int. Cl. F02f 7/00

6 Claims



A horizontally opposed engine component arrangement incorporating a longitudinally split crankcase, each crankcase half internally supporting a forward reduction gear section, a center power section, and a rear accessory section drivably connected to sideward extending accessories. All accessories are integrally mounted to the crankcase to eliminate external connections.

3,421,491 NON-CYCLIC OSCILLATING DRIVE MECHANISM FOR TARGET TRAPS

Christian H. Brown, 635 Rome-Hillard Road, Columbus, Ohio 43228

Filed Dec. 9, 1966, Ser. No. 600,630

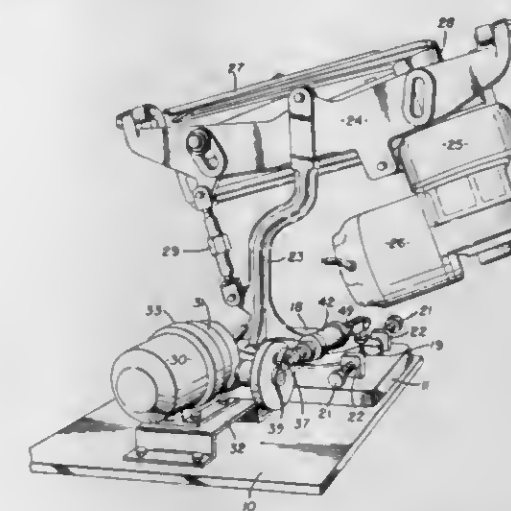
U.S. Cl. 124-9

Int. Cl. F41b 3/04; F41f 7/00

3 Claims

This application discloses a non-cyclic, variable stroke, oscillating drive mechanism for a target-throwing trap

in which a relatively extensible and retractable pneumatic check cylinder-piston device is employed as a coupling between a continuously operable, motor-driven crank and the oscillatory turntable of the target-throwing trap, and



wherein the cylinder-piston device functions to vary the pattern and stroke of oscillation of the turntable in a manner to render the cycle of oscillation of the trap unpredictable.

3,421,492 PIPE FINISHING TOOL

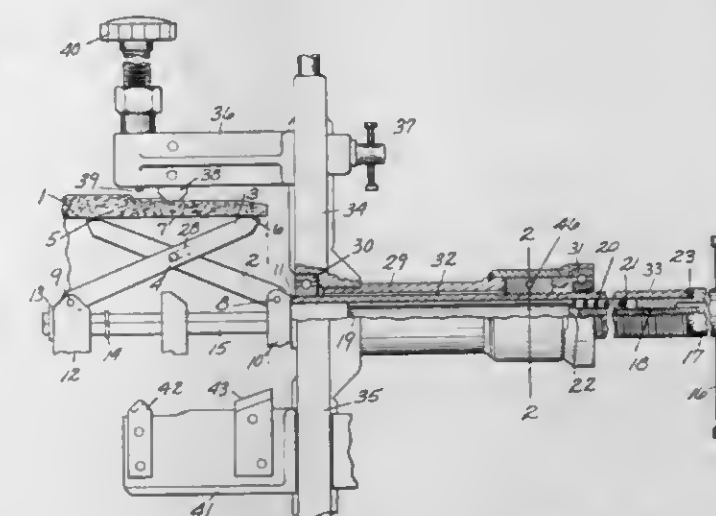
Thomas G. Brown, Erie, Pa., assignor to Reed Manufacturing Company, Erie, Pa., a corporation of Pennsylvania

Filed Nov. 30, 1966, Ser. No. 598,025

U.S. Cl. 125-2

Int. Cl. B28d 1/16; B23b 3/22

10 Claims



1. An expansible mandrel for gripping the inner surface of pipe and the like comprising, first and second members coaxial with and longitudinally spaced from each other along the axis of the mandrel, pipe gripping means having a plurality of pairs of links lying in generally radial planes distributed about said axis, the links of each pair extending toward each other respectively from the first and second members and having a pivoted thrust exerting connection to each other and respectively having a pivoted thrust exerting connection to said first and second members, the outside diameter of the pipe gripping means being a minimum when the pivots between the links are closest to said axis and the first and second members are most widely separated along said axis, axially movable force exerting means having thrust exerting connections to said members for effecting relative movement of said members along said axis to expand and contract the pipe gripping means, cam means cooperating with the links in the minimum diameter position for camming the links outward from said axis in the minimum diameter position of the pipe gripping means, said cam means being

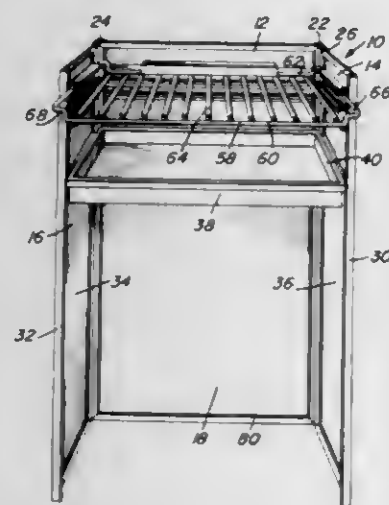
effective until the pipe gripping means is expanded to an intermediate diameter position, a thrust connection from the force exerting means to the cam means, and at least one of the thrust connections to the links and to the first and second members having lost motion taken up when the mandrel is expanded to said intermediate diameter position whereby thereafter further relative movement of the first and second members toward each other causes additional expansion of the pipe gripping means.

3,421,493 PORTABLE COLLAPSIBLE BARBECUE

Larence G. Miller, 1499 Ringe Lane,
Las Vegas, Nev. 89110

Filed Feb. 16, 1967, Ser. No. 616,519

U.S. Cl. 126—25 3 Claims
Int. Cl. F24b 13/00; F24c 1/16; F24b 3/00



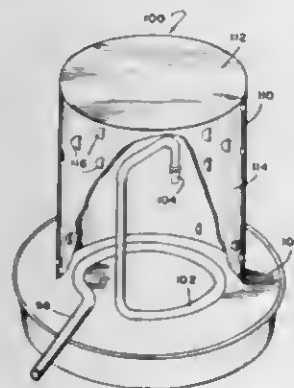
Three hingedly interconnected single panel walls constituting a back wall and opposed side walls. The opposed side walls are of a width equal to approximately half that of the back wall and are foldable into overlying position with the outer face of the back wall for collapsing the barbecue into a compact unit. When erected, the opposed walls have series of hook-like mounting ledges which removably receive both a firepan and a cooking grill which in turn stabilize the erected structure.

3,421,494 ATMOSPHERIC HEATING SYSTEM

Bernard C. Perkins, Winter Haven, Fla., assignor of one-sixth to F. D. Bowen, Winter Haven, Fla., one-sixth to Gilbert Bowen, Winter Haven, Fla., one-sixth to Winston F. Lawless, Lake Alfred, Fla., and one-sixth to Winger Enterprises, Inc., Sarasota, Fla., a corporation of Florida

Filed Sept. 7, 1966, Ser. No. 577,765

U.S. Cl. 126—59.5 6 Claims
Int. Cl. A01g 13/06; F23d 11/00



This concept relates to heating the atmosphere in orchards and ground crops against frost or freezing damage. One uses herein a combustible liquid transformed or con-

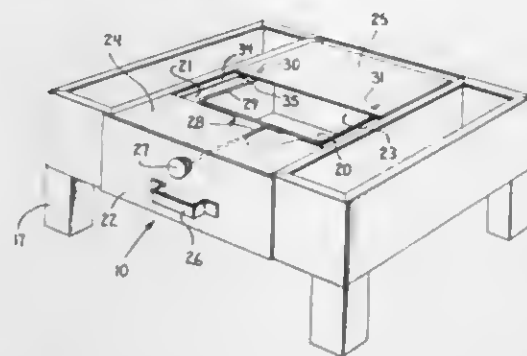
verted to gas in a heating stack, the conduit for the fuel being heated to assist in a liquid-gas conversion. Novel nozzle means in the fuel conduit of the liquid-gas are incorporated in the system, said nozzle means being accurately controlled in output by the heat generated within the system.

3,421,495 ASH PAN DRAWER

Donald E. Winegardner, Huntington, Ind., assignor to The Majestic Company, Inc., Huntington, Ind., a corporation of Indiana

Filed Jan. 16, 1967, Ser. No. 609,548

U.S. Cl. 126—143 3 Claims
Int. Cl. F24b 11/18; F24b 13/02; F23j 1/02



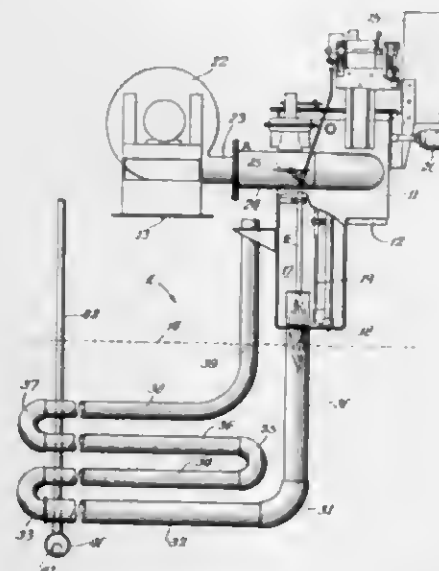
An ash pan drawer having a top wall which is open to receive ashes when the drawer is positioned under a fireplace grate and which can be closed by pulling a knob before the drawer is removed for emptying.

3,421,496 IMMERSION HEATER

Frank Gething, Milwaukee, Wis., assignor to Aqua-Chem, Inc., a corporation of Wisconsin

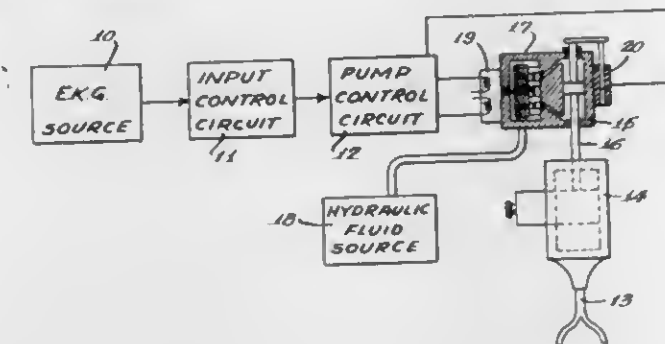
Filed May 22, 1967, Ser. No. 640,267

U.S. Cl. 126—360 1 Claim
Int. Cl. F24h 1/20



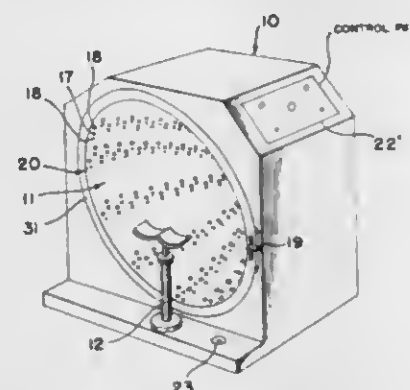
An immersion heater having a housing is adapted to be seated on the edge of a tank containing liquid to be heated. The housing carries a chamber adapted to furnish fuel and air to a plurality of nozzles disposed in said chamber. An equal plurality of heat exchange tubes extend downwardly from the chamber and said plurality of nozzles to be immersed in the liquid in the container with the tubes being of diminishing size and there being provided a drain for collecting condensing products of combustion with the drain being in communication with that portion of the immersed tubes wherein the products of combustion are still primarily in gaseous form.

3,421,497
HEART PUMP SYSTEM
Merrill G. Chesnut, Arvada, and Richard H. Ball, Boulder, Colo., assignors, by mesne assignments, to United Aircraft Corporation, a corporation of Delaware
Filed Feb. 26, 1964, Ser. No. 347,500
U.S. Cl. 128—1 24 Claims
Int. Cl. A61m 1/00



A reciprocating pump exchanges fluid with the aorta of a patient in timed relationship with natural heart action through a catheter, the reciprocating pump being driven by an actuator pump which in turn is controlled by servo valve means for delivering hydraulic fluid to the actuator pump; electronic control means timed to the EKG waveform provides control over the length and speed of pumping and withdrawal strokes, as well as the ratio between the pump and withdrawal stroke speed; the electronic control means also provides control over the relationship for the pumping time to the EKG waveform; the pump is driven in a feedback servoloop fashion for accurate control. Also included are pump cycle reducing means including means banking selected portions of the EKG waveform.

3,421,498
VISUAL FIELD TESTER
Jerome A. Gans, Shaker Heights, Ohio
(420 Osborn Bldg., 1020 Huron Road, Cleveland, Ohio)
Continuation-in-part of application Ser. No. 34,512, June 7, 1960. This application June 25, 1963, Ser. No. 290,484
U.S. Cl. 128—2.1 10 Claims
Int. Cl. A61b 3/00; A61b 5/04; A61b 3/02



7. A visual field tester comprising:
screen means, including a plurality of light sources thereon and a fixation point, said plurality of light sources being placed on said screen means,
means for positioning an eye of a patient at an observation point relative to said fixation point,
switching means for individually and sequentially energizing each light source in said plurality of light sources according to a predetermined pattern, said switching means including a first plurality of banks

of stepping switches, including means for sequentially activating each of said plurality of banks of stepping switches according to said predetermined pattern,
pulse means connected to said switching means for providing energy of predetermined duration for illumination of each of said plurality of light sources, said energy being provided for said lights at predetermined intervals,
patient response means for indicating response of the patient to each of said plurality of lights when visible,
means for recording said patient response, said recording means including a second plurality of banks of stepping switches correlatively operative with said first plurality of stepping switches, connected to said patient response means so that said recording means will indicate response of the patient to energization of each of said light sources in its relative position on said screen means.

3,421,499
IMPREGNATION DEVICE FOR LOCATING THE SITE OF INTERNAL BLEEDING
Russell S. Bray, 237 Wayland Ave., Providence, R.I. 02906, and Frederick L. Hauser, 235 Don Ave., Rumford, R.I. 02916
Filed Dec. 20, 1965, Ser. No. 514,832
U.S. Cl. 128—2 1 Claim
Int. Cl. A61b 6/00

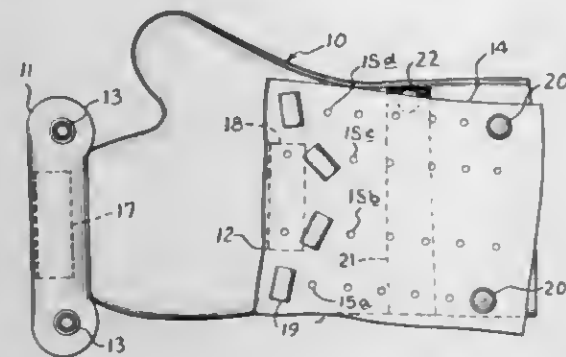


An impregnation device for locating the site of internal bleeding having a radiopaque core with more pronounced radiopaque means secured to the core at spaced intervals and with a weight secured to the distal end of the core and a mouthpiece portion located at the proximal end of the core, there further being a soft, absorbent sheath surrounding that portion of the core located between the weight and the mouthpiece portion.

3,421,500
MAGNETIC ORTHOPEDIC DEVICE
Ludwig A. Jacobson, 4433 Prescott, Lyons, Ill. 60534
Filed Oct. 8, 1965, Ser. No. 494,142
U.S. Cl. 128—75 10 Claims
Int. Cl. A61n 1/02

A portable orthopedic device employing magnetic forces to flex and rehabilitate body members which have been stiffened or weakened due to injury, arthritis, or the like. The device includes a magnetic element attached to a body member on one side of a body joint and a sec-

ond magnetic element attached to the other side of the body joint. The attaching means for one of the magnetic elements is adjustable for selectively positioning that magnetic element with respect to the body member and



the other magnetic element so that a magnetic force is produced between said elements which tends to flex the body joint. The illustrated embodiments include apparatus for flexing the hand, arm and spine.

3,421,501

METHOD AND APPLICATION OF ORTHOPEDIC APPLIANCES WITH AN ULTRAVIOLET CURABLE PLASTIC IMPREGNATED BANDAGE

Leroy E. Belgutol, 7290 W. 90th,
Los Angeles, Calif. 90045

No Drawing. Continuation-in-part of application Ser. No. 472,325, July 15, 1965. This application Sept. 22, 1965, Ser. No. 489,393

U.S. Cl. 128—90

25 Claims

Int. Cl. A61f 13/04; B01j 1/10

A method for the application of an orthopedic device to a body member which comprises enclosing of the member in a dry ultraviolet curable polymer impregnated flexible bandage, and curing said polymer by exposure to ultraviolet irradiation to form a hard, lightweight physiologically inert integral device.

3,421,502

BANDAGE COMPRESS AND METHOD OF MANUFACTURE

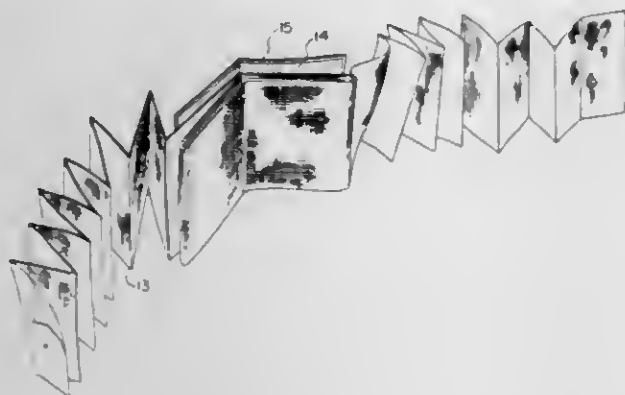
Gordon P. St. Clair, Rockford, Ill., assignor to Medical Supply Company, Rockford, Ill., a corporation of Missouri

Filed Dec. 7, 1966, Ser. No. 599,842

U.S. Cl. 128—156

8 Claims

Int. Cl. A61m 15/01



1. In a bandage compress comprising an elongated strip of gauze-like material and a compress pad carried on the inner side of the strip at a point intermediate the ends thereof, the improvement which consists of a backing piece of impervious flexible material covering an area on the outer side of the strip behind the pad, said backing piece carrying an adhesive on its inner side whereby it is

cemented to the strip and through the strip to the back of the pad, so as to secure the pad with the backing piece to the strip and obviate the necessity of otherwise securing the pad in place on the strip, while the backing piece serves as a sheath protecting the pad against contamination in the handling of the bandage compress at the time of its being used.

3,421,503

BINDER

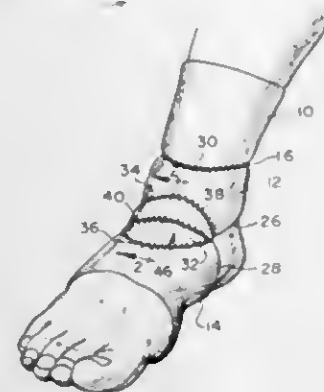
David Kaplan, 124 S. Main St., Sharon, Mass. 02067

Filed Oct. 12, 1966, Ser. No. 586,078

U.S. Cl. 128—165

10 Claims

Int. Cl. A61f 13/00



1. A binder comprising first and second strips adapted to encircle a portion of the body and made of an elasticized webbing stretchable in a body encircling direction, said strips being disposed one beside the other with one side edge of one strip lying adjacent one side edge of the other strip, a fold provided along a portion of the one side edge of each of said strips, and a row of stitching joining the two strips along the one edge and substantially confined to the portions of those edges which are folded and with the remaining portions of those edges detached, said stitching forming a hinge between the two strips.

3,421,504

VACUUM RECEPTOR

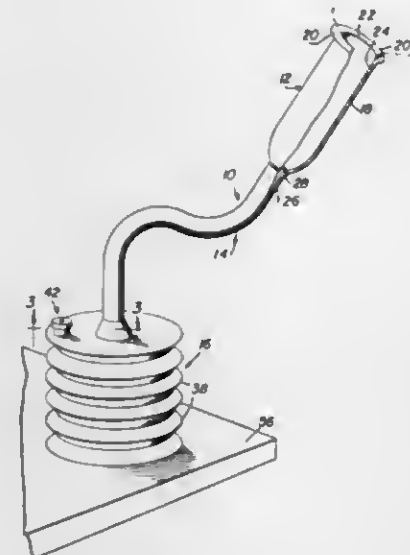
De Lamar J. Gibbons, Box 404, Blanding, Utah 84511

Filed Jan. 25, 1966, Ser. No. 522,958

U.S. Cl. 128—278

6 Claims

Int. Cl. A61m 1/00



An elongated sheath-like container closed at one end and constructed of fluid impervious elastic material such

as a suitable latex-type rubber. The container is adapted to endwise receive a male organ therein with the free end of the organ seated in the closed end of the container and to inherently contract about the organ. One end of a flexible but stiff conduit having an inside diameter of approximately $\frac{3}{16}$ " opens centrally through and is sealingly attached to the closed end of the container and the other end of the conduit is adapted to be communicated with a source of vacuum.

3,421,505

COLOSTOMY GARMENT

Gertrude T. Freeman and Claude L. Freeman, both of

P.O. Box 33, Tuckerman, Ark. 72473

Filed July 6, 1966, Ser. No. 563,290

U.S. Cl. 128—283

7 Claims

Int. Cl. A61f 5/44



1. A colostomy garment, comprising in combination an abdomen encircling support having a panel provided with a circular opening, an inverted substantially U-shaped cushion mounted at the inside of said panel around the top and sides of said opening, a pocket removably attached to the outside of said panel and overlying said opening, said pocket having an inner wall adjacent said panel and an outer wall, the inner wall of the pocket being formed with a circular aperture in register with said opening, and a shield secured to the inner wall of the pocket around the sides and bottom of said aperture, said shield extending through said opening to the inside of said panel and overlapping side portions of said cushion.

3,421,506

RELIEF CONTAINER

James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of George W. Priebe and Francis R. Scroop, Benton Harbor, Mich.

Filed Aug. 26, 1966, Ser. No. 575,475

U.S. Cl. 128—283

6 Claims

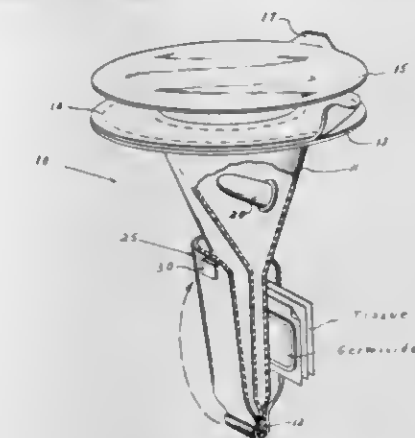
Int. Cl. A61f 5/44

1. A container suitable for attachment to a person's body for use as a fecal collection unit or a colostomy appliance, said container comprising:

an open top bag of flexible waterproof material, said bag being provided with a radial flange of like flexible material which extends continuously around the top edge of said bag;

an adhesive means provided on the upper surface of said flange and completely encompassing the open top of the bag, whereby the bag may be applied to

the user's body in encircling relation to a stoma opening or other body opening and in sealing relationship with the user's body for the collection of waste matter therefrom; and



3,421,507

MALE URINARY DRAIN

Virginia D. Gresham, 84—12 35th Ave.,

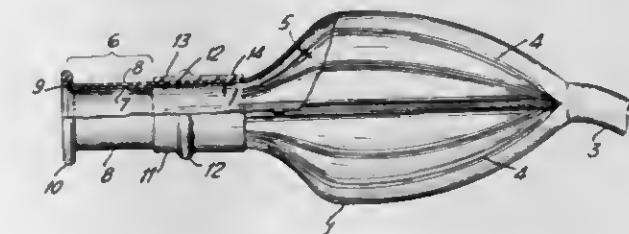
Jackson Heights, N.Y. 11372

Filed Dec. 3, 1965, Ser. No. 511,434

U.S. Cl. 128—295

9 Claims

Int. Cl. A61f 5/44



A male urinary drain comprised of an elongated expandable receptacle having, on one end, a drain hose and, on the other, an elongated attachment sheath foldable axially inwardly on itself to provide a double-walled attachment portion for snugly encasing a male urinary organ in water-tight engagement therewith.

3,421,508

CRYOSURGICAL PROBE

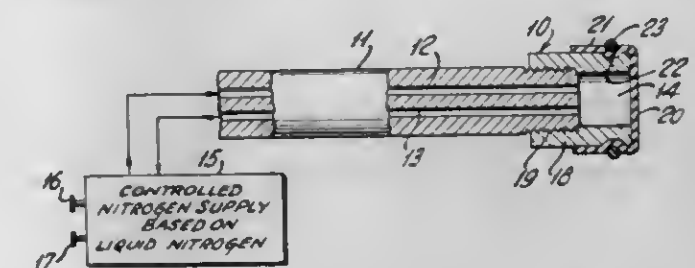
Fred Leonard Nestrock, Avon, Conn., assignor to Union Manufacturing Company, New Britain, Conn., a corporation of Connecticut

Filed Aug. 31, 1966, Ser. No. 576,268

U.S. Cl. 128—303.1

19 Claims

Int. Cl. A61b 17/36; F25d 3/10

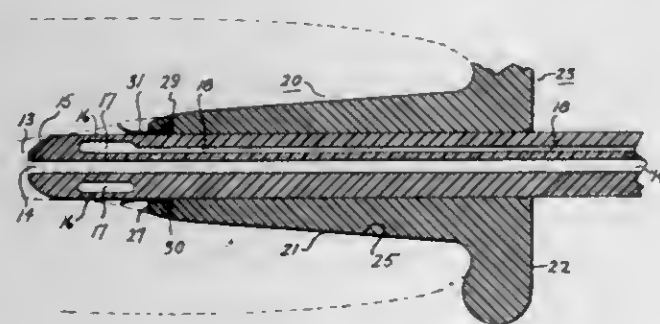


1. A cryosurgical probe of cupped formation and comprising a generally cylindrical wall and an end wall effecting

tively closing one axial end of said cylindrical wall, the other end of said cylindrical wall being open, and adapter means at said other end for attachment to a supply of supercooled fluid flow, one of said walls including an outwardly exposed membrane of relatively softly compliant material, said membrane being internally directly exposed to supercooled fluid introduced via said other end into the interior of said probe.

3,421,509 URETHRAL CATHETER

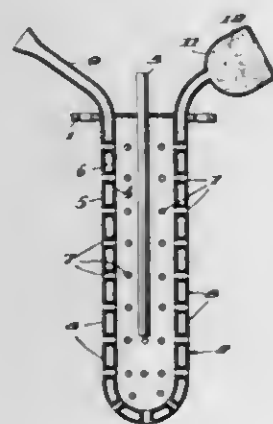
John M. Flore, 556 Pinewoods Ave., Troy, N.Y. 12180
Filed Dec. 17, 1965, Ser. No. 514,499
U.S. Cl. 128—349 11 Claims
Int. Cl. A61m 25/00



A separate short sleeve element having an overlie means therein which is actuated by the passage of a catheter tubulation therethrough to provide an impervious peripherally continuous contamination preventing section between the catheter and the urethra next adjacent the sleeve element.

3,421,510 DRAIN HAVING SHIELDED SUCTION TUBE

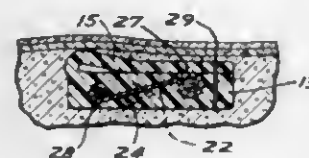
Edward L. Kettenbach, 1011 N. Craycroft Road, Tucson, Ariz. 85711
Filed Jan. 10, 1966, Ser. No. 519,486
U.S. Cl. 128—350 4 Claims
Int. Cl. A61m 27/00



A suction type drain for removing fluid from a surgical incision through a suction tube. The device includes a shield that surrounds the inlet opening of the suction tube to prevent tissue from clogging the tube opening. A collar is attached to one end of the shield and the suction tube extends through the collar. The shield has a double wall construction for conducting fluid to the exterior of the shield and has conduits through the shield wall for conducting fluid to the interior of the shield where it is drawn into the suction tube opening.

3,421,511 IMPLANTABLE ELECTRODE FOR NERVE STIMULATION

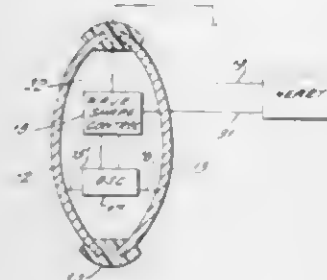
Seymour I. Schwartz, Rochester, N.Y., Robert C. Wingrove, Minneapolis, Minn., and James A. Anderson, Burbank, Calif., assignors to Medtronic, Inc., Minneapolis, Minn., a corporation of Minnesota
Filed Dec. 10, 1965, Ser. No. 512,981
U.S. Cl. 128—418 2 Claims
Int. Cl. A61n 1/36



Electrode apparatus for connection to a nerve, having a pair of electrodes partially embedded within a substance inert to body fluids and tissue, the exposed portions of the electrodes lying in a groove generally conformed to the shape of the nerve for providing atraumatic egress of the nerve to the electrode, and including a further connected portion of the material inert to body food and tissue for covering the groove after the electrodes have been connected to space points on the nerve. Coiled leads are connected to the nerve, and are also encased in material inert to body foods and tissue.

3,421,512 IMPLANTED ELECTRICAL DEVICE WITH BIOLOGICAL POWER SUPPLY

Jordan D. Frasier, Orange, Calif., assignor to International Rectifier Corporation, El Segundo, Calif., a corporation of California
Continuation-in-part of application Ser. No. 316,998, Oct. 17, 1963. This application Dec. 15, 1965, Ser. No. 513,932
U.S. Cl. 128—419 5 Claims
Int. Cl. A61m 1/36



An implanted Pacemaker in which the electrical components are contained in a sealed housing formed by electrode plates which are hermetically sealed to one another. The electrode plates are of a nature to react with body fluids to form the power supply for electrical circuitry contained within the sealing volume. Output leads extend through the insulation ring which joins the two electrodes.

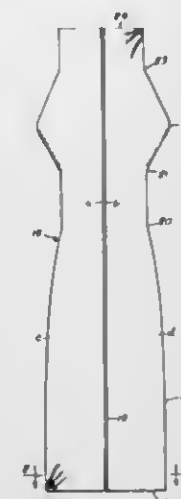
3,421,513 KNITTED GARMENT

James H. Landau, 15 Mayflower Parkway, Westport, Conn. 06880
Filed Nov. 28, 1966, Ser. No. 597,339
U.S. Cl. 128—443 8 Claims
Int. Cl. A41c 1/06

1. A knitted garment conforming to the contours of the human female form comprising two pieces of knitted material having horizontal courses and joined to each other along vertical seams disposed one at each side of the

body only, the total number of wales in each course corresponding generally to the horizontal linear measurement of that portion of the female form to provide fullness at six horizontally and vertically spaced areas of the garment, the wales in each piece of material being in ver-

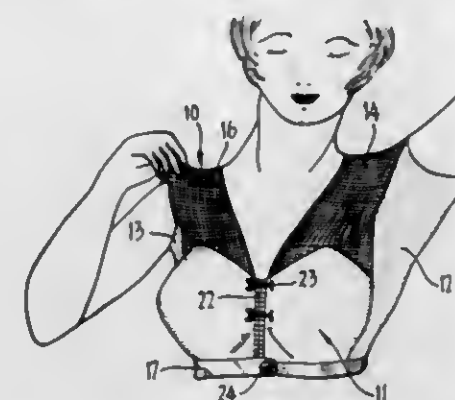
tending from one diametrical end of the body and bent to form an arc above the body and having a free end dis-



tical alignment throughout all of the courses, each said area being arranged half way between the vertical center line of the respective piece of material and a vertical side seam, and each said area of fullness being symmetrical with respect to a vertical line through the center of the respective area.

3,421,514 GARMENT HAVING ANTI-PERSPIRANT MEANS

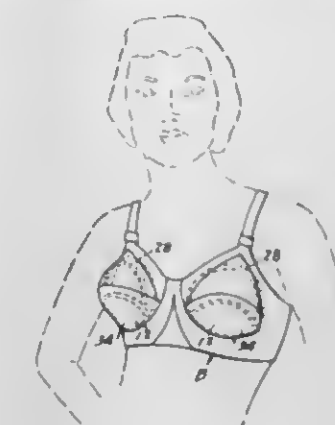
Ruth Friedlander, 1919 Curtis St., Berkeley, Calif. 94702
Continuation-in-part of application Ser. No. 497,875, Oct. 19, 1965. This application Feb. 1, 1967, Ser. No. 613,339
U.S. Cl. 128—454 10 Claims
Int. Cl. A41c 3/08



A woman's undergarment is described which includes underarm perspiration shields as a part thereof. The portions of the undergarment designed to pass over the shoulders of the wearer are made of a stretchable material and are secured to the perspiration shields to resiliently urge them into the wearer's axillary region. Fastening means for securing the undergarment about the wearer are designed to permit adjustment of the force by which the shoulder portions urge the underarm shields into the axillary region.

3,421,515
BRASSIERE CUP INSERTS
Betty Lucille Schaefer, R.D. 6, Kittanning, Pa. 16201
Filed July 8, 1966, Ser. No. 563,778
U.S. Cl. 128—477 6 Claims
Int. Cl. A41c 1/14

An insert for use in a brassiere cup and formed as a flat, resilient, flexible and compressible body of semi-circular shape adapted to seat under a breast in the lower part of the cup. A resilient arm is connected to and ex-



posed close to the other diametrical end of the body, said arm being adapted to supportably engage the underside of the top portion of the brassiere cup.

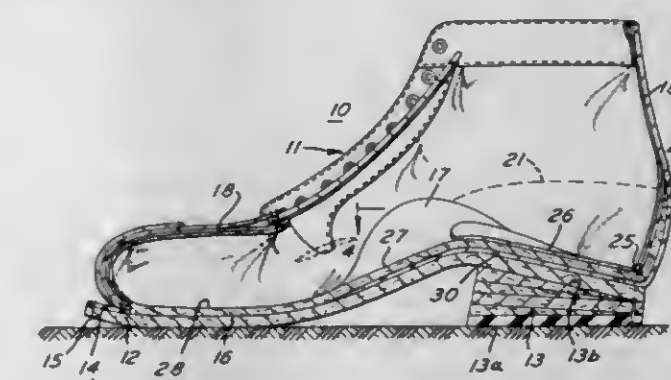
3,421,516 EDGE TENSION RELIEF IN ELASTICIZED GARMENTS

Jan J. Erteszek, Los Angeles, Calif., assignor to Olga Company, Van Nuys, Calif., a corporation of California
Filed Feb. 18, 1966, Ser. No. 528,493
U.S. Cl. 128—524 10 Claims
Int. Cl. A41c 1/00



A device for the relief of tension and pressure against the body of the wearer, of hemmed elasticized garments having in-turned hem portions which are continuations of the same fabric. Relief of tension and body pressure is accomplished by de-elasticizing the in-turned hem portion.

3,421,517
THERAPEUTIC SHOE
Eugene J. Sabel, Wynnewood, Pa. (% Eugene J. Sabel and Co., 1207 Chestnut St., Philadelphia, Pa. 19107)
Filed Jan. 26, 1966, Ser. No. 523,108
U.S. Cl. 128—583 6 Claims
Int. Cl. A43b 7/24

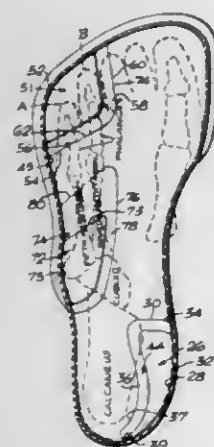


A therapeutic shoe for feet having talo-navicular pronation providing normal weight bearing relation at the mid-tarsal joint and counteracting forefoot adduction. This is

accomplished by shaping the heel base to provide forward and upward inclination to the interior of the rear portion of the shoe and shaping the insole forwardly of the heel base with a forwardly and downwardly inclined portion to the midtarsal location and then substantially flat forwardly thereof.

3,421,518
SHOE CONSTRUCTION HAVING A SOLE PROVIDED WITH A SHANK STIFFENER AND SELECTIVE ELEVATED BONE SUPPORTING AREAS

Simon J. Wikler, 605 Lincoln Road,
Miami Beach, Fla. 33139
Filed Aug. 10, 1965, Ser. No. 478,648
U.S. Cl. 128—614 9 Claims
Int. Cl. A43b 7/16



Improved shoe construction in which the outer arch, tuberosity of the fifth metatarsal, and plantar surfaces of the fourth and fifth toes of the foot are encouraged to assume greater weight-bearing functions by sole elevations at these regions of the shoe in conjunction with an inner heel elevation, a shank stiffener at the outer arch region, and a more flexible sole at the inner arch region.

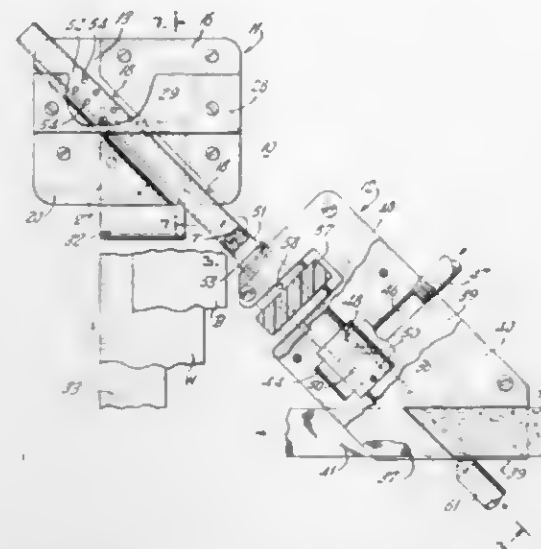
3,421,519
RECONSTITUTED TOBACCO SHEET
Raymond J. Moshy, Westport, Conn., and Felix J. Germino, Palos Park, Ill., assignors to American Machine & Foundry Company, a corporation of New Jersey
No Drawing. Filed July 25, 1966, Ser. No. 567,358
U.S. Cl. 131—17 3 Claims
Int. Cl. A24f 47/00; A24b 15/00

A reconstituted tobacco sheet having high tensile strength and water insolubility which is made by slurring and then sheeting finely divided tobacco particles and deacylated chitin. The chitin may be mixed with plant gums and wet strength may be increased in the final product by cross-linking with an aldehyde.

3,421,520
APPARATUS FOR FORMING ROD OF PARTICULATE MATERIAL
Herbert W. Marano, Summit, N.J., assignor to Consolidated Cigar Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 5, 1966, Ser. No. 570,589
U.S. Cl. 131—59 13 Claims
Int. Cl. A24c 1/26

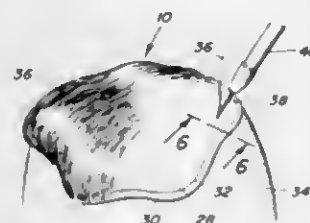
An apparatus for producing a helically wound rod of tobacco includes a rotating tube having opposite feed and discharge openings and intermediate air outlet ports. A plurality of peripherally spaced air jets are tangentially and axially directed forwardly proximate the feed opening to form a forwardly directed vortex and tobacco is

fed into the vortex. The vortex draws the tobacco fed thereto and advances it along the feed tube and the air



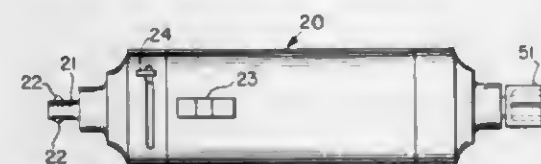
functions as a bearing for the compacted tobacco and emerges from the ports to function as a bearing for the wrapper band.

3,421,521
METHOD OF FORMING A HAIRPIECE
Warren L. Rich, Jr., 3711 Liberty Heights Ave., Apt. 2,
Baltimore, Md. 21215
Filed May 24, 1966, Ser. No. 552,601
U.S. Cl. 132—5 2 Claims
Int. Cl. A41g 5/00



An expandable transparent wrapping plastic is pulled into conformity with the head of the person and the extent of the desired hairpiece is traced thereon. This area is stiffened with tape crossings thus fixing the contour. This serves as a pattern for casting a plaster mold. A plastic material web made by coating the mold interior becomes the foundation in which the hair is set. This is performed on a foam plastic head block, individual hairs being inserted, doubled back, with a needle tool so that a small loop is left extending into the foam on the far side. The foundation is then hemmed and removed from the head block and the loops flattened and secured with cement.

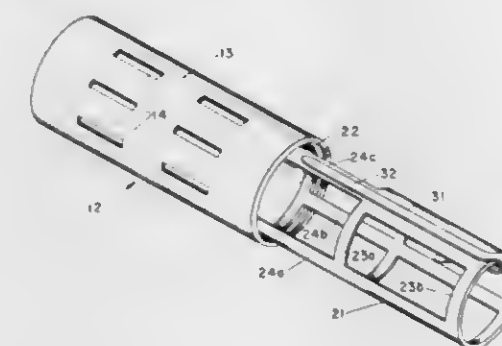
3,421,522
HAIR TEASING DEVICE
Vincent Anthony Magguilli, 56 Saratoga Ave.,
Rochester, N.Y. 14608
Filed Feb. 4, 1965, Ser. No. 430,414
U.S. Cl. 132—11 3 Claims
Int. Cl. A45d 24/00



A hair teasing device is formed with a hand-held drive motor with couplings at opposite ends for holding the respective shafts of a comb and a brush for hair teasing. The comb has a straight shaft and is driven in a linear

reciprocal motion transverse to the plane of its teeth, and the brush has a crank in its shaft and is driven in a reciprocal arcuate motion. The comb is preferably driven at a higher rate of reciprocation than the brush. Both the comb and the brush can be used for teasing hair downward toward the scalp, and the brush can be used for moving teased hair to a proper location.

3,421,523
HAIR ROLLER
Willman L. Owens and Robert Stephen Owens, both of
P.O. Box 144, Citrus Heights, Calif. 95610
Filed Oct. 18, 1965, Ser. No. 497,205 3 Claims
U.S. Cl. 132—40
Int. Cl. A45d 6/00



An inner cylinder is slidably disposed within an outer cylinder for movement between a retracted and a projected position. A spring-biased clip pivotally mounted adjacent one end of the inner cylinder includes an elongated strip extending along the outer side of the inner cylinder, the strip being located during storage of the device in the annular space between the inner wall of the outer cylinder and the outer wall of the inner cylinder. In use, hair is rolled around the outer cylinder, followed by withdrawal of the inner cylinder, opening of the clip, returning the inner cylinder to inner location with the strip overlying the rolled hair and releasing the clip to allow the strip to bias into hair confining position.

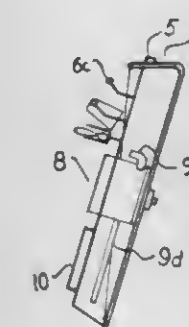
3,421,524
POWER DRIVEN DENTAL CLEANER
William A. Waters, 3648 E. 49th St., Tulsa, Okla. 74135
Filed Sept. 22, 1966, Ser. No. 581,235 10 Claims
U.S. Cl. 132—92
Int. Cl. A61c 15/00



10. A power driven dental cleaner comprising:
a power unit and a tooth cleaner member said power unit being adapted to move said cleaner member radially oscillatorily;

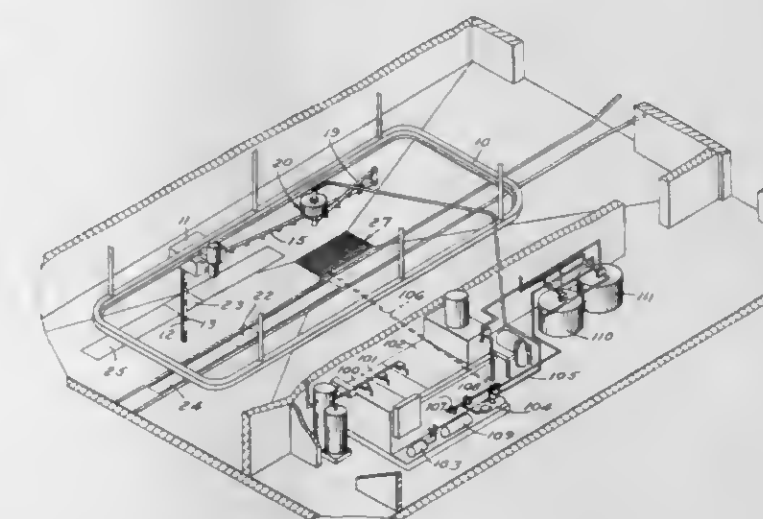
said tooth cleaner member including an elongated shaft portion, said shaft portion having a first end thereof received in said power unit and a second end thereof having two prongs therein, each of said prongs having an opening therein receiving therebetween a strand of dental tape.

3,421,525
DOOR FOR DISHWASHER
Sven Gustav Nord, Hanna Paulis gata 13,
Hagersten, Sweden
Filed Jan. 11, 1967, Ser. No. 608,640 7 Claims
U.S. Cl. 134—100
Int. Cl. A61h 13/00



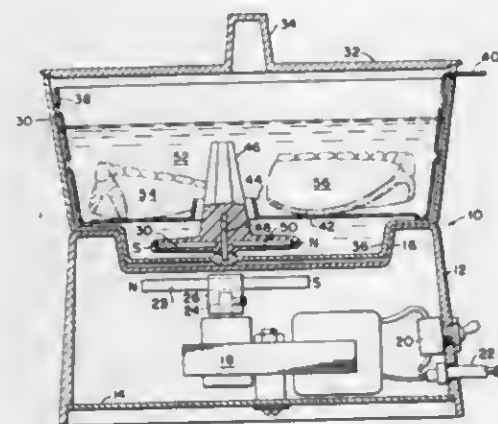
A door for dishwasher, where said door carries in its central part a spraying device with its spraying arms moving close to or adjacent the perimeter of the door and in its upper end bars to support dishware such as glasses, cups, tableware or the like.

3,421,526
CARWASH SYSTEM
William B. Alkire, Detroit, and Robert B. Wiley, Grosse Ile, Mich., assignors to Michael S. Polizzi, Grosse Pointe Shores, Mich.
Filed Dec. 27, 1966, Ser. No. 604,676 22 Claims
U.S. Cl. 134—109
Int. Cl. B08b 3/10; B60s 3/00



1. In a stationary carwash system, the combination comprising
an endless track below which a car to be washed is positioned,
a trolley mounted for movement along said endless track,
an electric motor on said trolley for driving said trolley along said track,

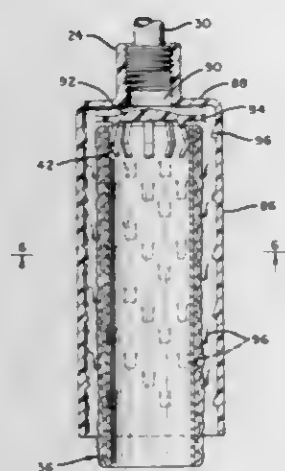
a nozzle assembly moved by said trolley including horizontally and vertically disposed nozzles for spraying liquid against the top and sides of the car as the trolley is moved along the track,
 a source of liquid,
 a source of electricity,
 means generally centrally disposed with respect to the track and providing a swivel connected between said liquid and electric sources and the nozzle assembly and electric motor, respectively,
 and means for selectively actuating the liquid and electric source, said track including an annular vertical web and an annular horizontal web, said trolley including drive rolls driven by said electrical motor and engaging the underside of said horizontal web, and idler rolls engaging opposite sides of the vertical web and the top side of said horizontal web.



3,421,527
PAINT ROLLER CLEANING AID
 Robert J. Dettman, 22088 Baywood Ave.,
 Castro Valley, Calif. 94546

Filed Apr. 12, 1966, Ser. No. 542,134
 U.S. Cl. 134-138
 Int. Cl. B08b 3/00

6 Claims



A paint roller cleaning aid comprising a coupling for removably attaching the cleaning aid to a faucet or the like from which cleaning liquid such as water is adapted to flow. Means such as a series of resilient fingers are provided below the coupling for suspending a paint roller in a generally vertical position. Means are provided for directing the cleaning liquid from the faucet through said coupling and onto the paint roller for cleaning the same. The roller may be rotatably supported for rotation thereof during cleaning. For this purpose, the paint roller supporting means may include a rotatable wheel which is adapted to be rotatably driven by a jet of cleaning liquid.

3,421,528
DENTURE CLEANING DEVICE
 Ludgero S. A. Gomez, 6 Bay View Ave., Newport, R.I. 02840, and James Neil Forster, 209 South St., Foxboro, Mass. 02035

Filed Oct. 21, 1964, Ser. No. 405,403
 U.S. Cl. 134-188
 Int. Cl. B08b 3/00

8 Claims

A denture cleaning device including a cleaning unit and a driving unit, the cleaning unit having a container for a cleaning solution and a basket therein for holding dentures with the floor of the basket being perforated. The solution is agitated by a rotor disposed of at least in part between the floor of the basket and the floor of the container, the rotor including a magnet driven by magnetic coupling by the driving unit. The rotor may extend up-

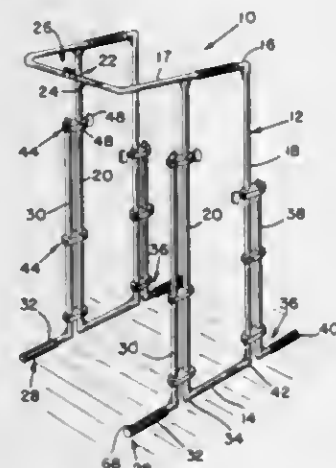
wardly through an opening in the floor of the basket. The rotor is placed off center to inhibit the formation of a

vortex in the cleaning solution, and to permit the circulation of the solution about the dentures in a gentle brushing action.

3,421,529
PARAPLEGIC AID
 Richard A. Vestal, P.O. Box 57,
 North Wilkesboro, N.C. 28659
 Filed Mar. 8, 1967, Ser. No. 621,685

U.S. Cl. 135-45
 Int. Cl. A61h 3/04; A61h 3/06

10 Claims



An apparatus for assisting disabled persons in moving from one place to another over even and irregular surfaces and primarily for assisting paraplegics who suffer from the permanent loss of use of their legs to ascend and descend stairs and move along all surfaces by means of a three-sided device having adjustable frontwardly and rearwardly extending feet to stabilize the apparatus during use.

3,421,530
PRESSURE RELEASE VALVE
 Thomas R. Parks, 11452 Homeway Drive, Garden Grove, Calif. 92641, and Eugene R. Allard, 824 Fulton Ave., San Leandro, Calif. 94577

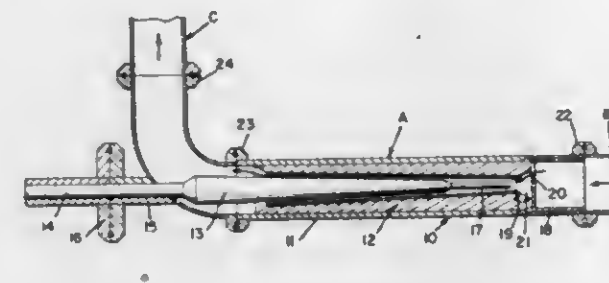
Continuation-in-part of application Ser. No. 165,552, Jan. 11, 1962. This application Oct. 1, 1965, Ser. No. 527,621

U.S. Cl. 137-14
 Int. Cl. F17d 1/16; A23I 1/00

2 Claims

A method for use in the art of processing food, wherein a mass of a flowable food product having particulate material is allowed to be removed from a source of such food product in a manner to prevent substantial reduction of the particle size of the particulate material in the flowable food product. The path of flow of the food

product is selected to maintain the pressure change on the food product below the change necessary to cause sub-



stantial reduction in such particle size. An annular, tapered passage is utilized to provide the fluid flow path.

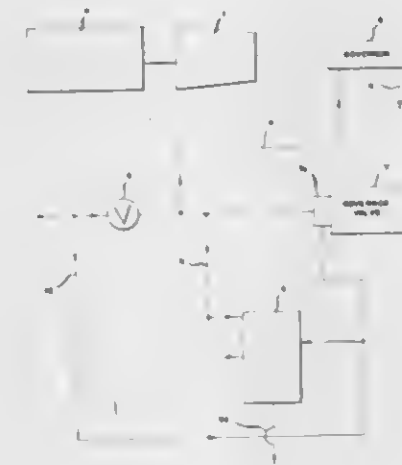
3,421,531
SPEED GOVERNING SYSTEMS AND CONTROL DEVICES THEREFOR
 William George Watson, Whitley Bay, England, assignor to C. A. Parson & Company Limited, Newcastle Upon Tyne, England, a corporation of Great Britain

Filed Oct. 15, 1965, Ser. No. 496,414
 Claims priority, application Great Britain, Nov. 13, 1964, 46,433/64

13 Claims

U.S. Cl. 137-36

Int. Cl. F01b 25/06; F16k 31/12



A steam turbine governing system includes a governor for varying the pressure in a hydraulic system, the pressure in the system controlling the steam valve to the turbine. An anticipatory device in the form of a derivative or differential control device sensitive to rate of change of pressure in the system and, therefore, to rate of change in turbine speed, is operable when the rate of change of pressure in a valve closing sense exceeds a predetermined value to vary rapidly the pressure in the system in a sense to close the steam valve.

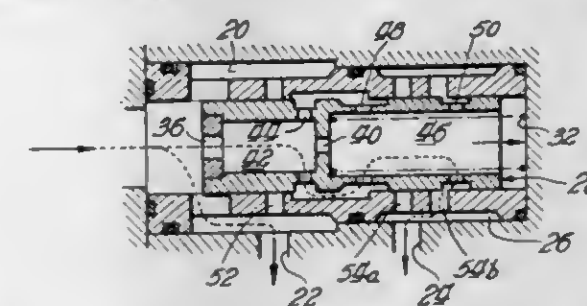
3,421,532
FLOW DIVIDER
 Robert R. Davidson, Auburn, Ind., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

Filed Oct. 14, 1964, Ser. No. 403,865
 U.S. Cl. 137-101
 Int. Cl. G05d 11/03; F17d 3/00; F01b 25/02

6 Claims

A flow divider mechanism having a housing including a bore with a shuttle piston reciprocally mounted with respect to the housing wherein the piston includes two chambers serially in communication with the inlet to the housing and each of which includes a port direct to

primary and secondary fluid circuits, respectively, the combination being further characterized as having a flow re-

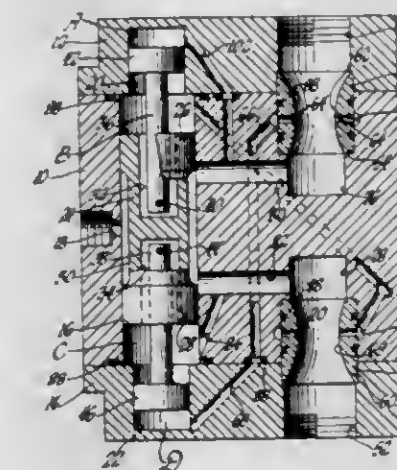


sponsive bypass means interposed between the piston and the housing.

3,421,533
FLOW DIVIDER VALVE ASSEMBLY INSENSITIVE TO DISCHARGE PRESSURE
 Francis Edward Conn, Plainfield, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Dec. 30, 1965, Ser. No. 517,724
 U.S. Cl. 137-101
 Int. Cl. G05d 11/03; F17d 3/00

3 Claims

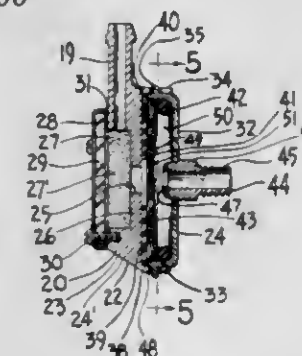


A valve assembly hydraulically balanced to divide a single inlet fluid flow between two outlets at preselected proportions with a minimum pressure loss and independent of discharge pressures.

3,421,534
VALVE CONSTRUCTION
 Stanford A. Henderson, Snyder, N.Y., assignor to Gomco Surgical Manufacturing Corporation, Buffalo, N.Y., a corporation of New York

Filed Oct. 20, 1965, Ser. No. 498,248
 U.S. Cl. 137-199
 Int. Cl. F16t 1/00

10 Claims

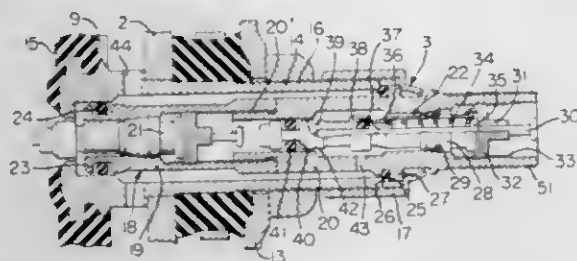


A fluid valve for permitting a gas to pass therethrough when in a normally open position but assuming a permanently closed position upon entry of liquid including a housing formed of two mating sections clamped together in sealed relationship, an inlet nipple on one section and an outlet nipple on the other section, a dished snap disc with apertures therein mounted within said first and second sections, a chamomise secured to one side

of said disc and covering said apertures and a surface on said disc for forming a seal with an O-ring on said outlet nipple in the event said dished disc snaps due to the resistance offered by a wet chamois to the passage of gas.

3,421,535 VALVE MECHANISM

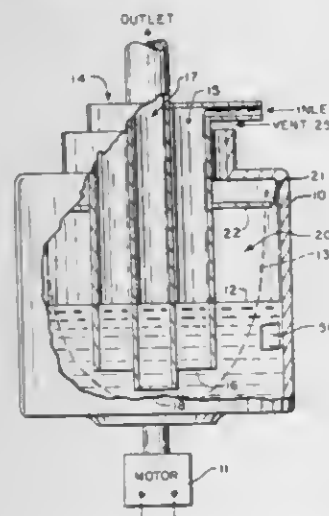
Joseph S. Hawkes, Cuyahoga Falls, and Faust S. D'Avello, Akron, Ohio, assignors to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed May 9, 1966, Ser. No. 548,763
U.S. Cl. 137—234.5
Int. Cl. F16k 15/20; B60c 17/04



1. Valve mechanism for inflating both chambers of a tire having inner and outer chambers, comprising a valve stem within which is an inflation passage for delivering air to said chambers, a first port in said stem communicating with said inflation passage and the inner chamber of such a tire, a second port in said stem in communication with said passage and with the outer chamber thereof, a first valve mounted in said passage at the inner end thereof which when closed cuts off communication between said port and passage, a normally closed second valve at the outer end of said passage controlling the flow of air into and out of said passage, said second valve having an extension mounted thereon at its inner end provided with sealing means engaging said passage wall in all operable positions of said second valve to cut off communication between said valves and between said chambers even if said valves should open, said second valve being removable with its extension to permit simultaneous inflation of both chambers through said passage.

3,421,536 LIQUID OPERATOR VALVE

James C. Blackett, Rosemount, and Raymond P. Flagg, Golden Valley, Minn., William L. Livingston, Sharon, Mass., and Stuart T. Ritchart, Bloomington, Minn., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Sept. 6, 1966, Ser. No. 577,292
U.S. Cl. 137—253
Int. Cl. F16k 9/00; G05d 16/04

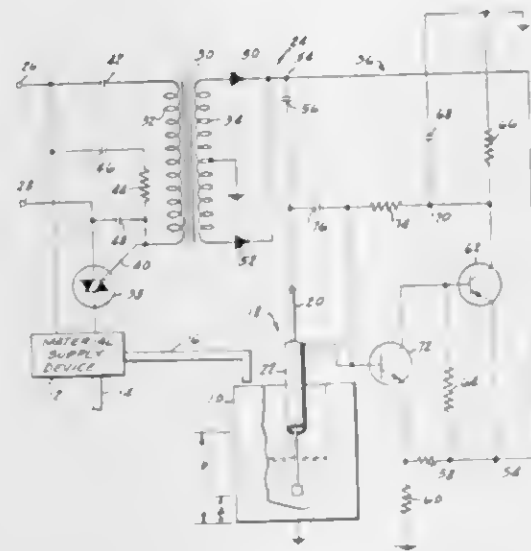


A liquid operator valve having a cup-shaped housing including a vent opening in the upper portion of the hous-

ing, an inlet and an outlet conduit having terminating ends located adjacent the bottom inside surface of the housing, a liquid within the housing to partially fill the housing and to cover the terminating ends of the inlet and outlet conduit, and means to spin the liquid, causing the liquid to take a generally annular shape where the vent opening is covered by liquid and the terminating ends of the inlet and outlet conduits are uncovered.

3,421,537 LEVEL CONTROL

George H. Fathauer, Decatur, Ill., assignor to The Dole Valve Company, Morton Grove, Ill., a corporation of Illinois
Filed Dec. 29, 1966, Ser. No. 605,671
U.S. Cl. 137—392
Int. Cl. E03b 11/00; F16k 21/18; F17d 3/00



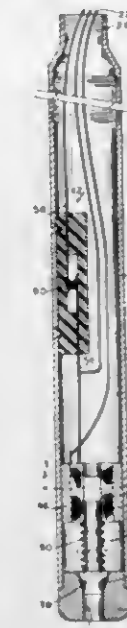
A circuit for controlling the supply of a material to a tank by connection of a material supply device in series with a controlled rectifier in the primary side of a transformer and connection of a material level responsive circuit in the secondary side of the transformer, such that the reflected impedance produced by the level responsive circuit from the secondary to the primary is indicative of the level of the material in the tank. The reflected impedance controls the current in the primary side, thus controlling the conduction of the controlled rectifier, which, in turn, controls the connection of a source of voltage to the material supply device.

3,421,538 LIQUID LEVEL CONTROL

Oscar O. Hembree, Owensboro, Ky., assignor to Talmage Hocker, Owensboro, Ky.
Filed Feb. 10, 1966, Ser. No. 526,460
U.S. Cl. 137—394
Int. Cl. F16k 21/18; H01h 35/40; G01f 23/00

This invention relates to an improved liquid level control. More particularly, the invention relates to an improved liquid level control for location in a liquid container providing switching action when the liquid level reaches a predetermined height and an opposite switching action when the liquid level reaches a predetermined low point, the control including a tubular casing having an inlet at the top and an outlet at the bottom, a solenoid actuated valve controlling flow through the lower outlet, a pressure actuated switch in the lower portion of the casing above the solenoid having electrical contacts which close when the casing becomes filled with fluid as fluid flows in the upper inlet to actuate a pump or other apparatus and at the same time opens the sole-

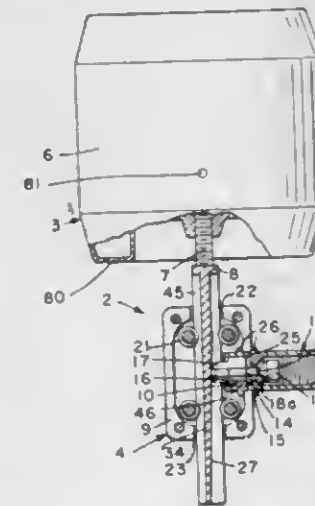
noid valve so that as fluid level is lowered in the container the same level is lowered within the casing, the



switch serving to open when the fluid level reaches a predetermined low point to close the solenoid valve.

3,421,539 COMMUNE VALVE ASSEMBLY

Shirley McLarty, Dallas, Tex.
(303 Denton, P.O. Box 474, Hutchins, Tex. 75141)
Filed Sept. 14, 1965, Ser. No. 487,155
U.S. Cl. 137—427
Int. Cl. F16k 31/18; F16k 9/00; F16k 29/00



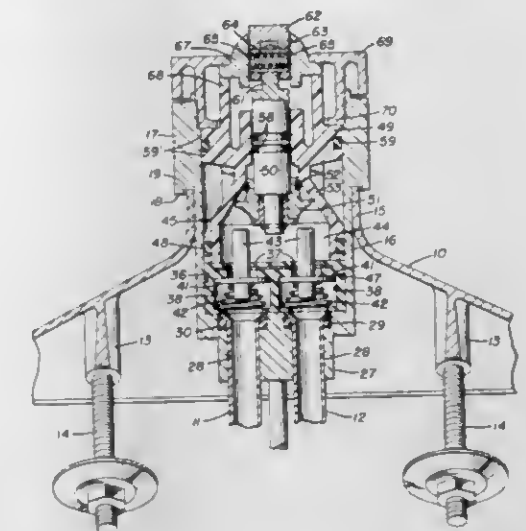
This invention relates to a water closet control valve assembly in which the control valve is located in the water inlet fitting and is controlled directly by an inclined plane that depends from and is integrally attached to the float itself, so that no pivotal leverages, linkages, arms or similar moving parts are required; the float being capable of both taking on and ejecting ballast water as needed during each operating cycle.

3,421,540 SINGLE LEVER FAUCET CONSTRUCTION

Howard A. Fulton, Perrysville, and Vaughn D. Flinger and Richard W. Sprang, Big Prairie, Ohio, assignors to Mansfield Sanitary Inc., Perrysville, Ohio, a corporation of Ohio
Filed Oct. 4, 1966, Ser. No. 584,172
U.S. Cl. 137—454.6
Int. Cl. F16k 25/00; F16k 51/00

1. A single lever faucet comprising a housing having a bottom wall with water inlets therein, a valve assembly cartridge comprising a resilient valve block seated on said

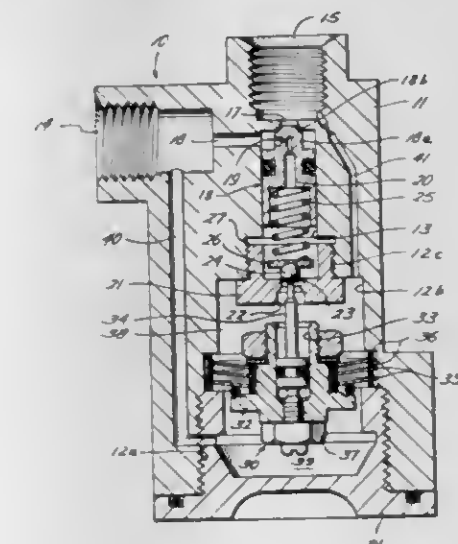
bottom wall and having through passageways communicating with said water inlets, a stem guide member having a bottom rim abutting said valve block and forming a mixing chamber above said block, tiltable valve elements in said passageways for normally closing off flow therethrough and having portions projecting into said mix-



ing chamber, a stem rotatably and slidably mounted in said stem guide member and extending into said mixing chamber, a cam on said stem for selectively actuating said tiltable valve elements, said valve block, tiltable valve elements and stem guide member being detachably secured together for removal as a cartridge unit from the housing.

3,421,541 RELIEF VALVE

James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Johannes Steeneken, Manhattan Beach, Calif.
Filed Nov. 27, 1967, Ser. No. 685,766
U.S. Cl. 137—491
Int. Cl. F16k 31/12; F16k 31/145



A pressure relief valve which permits a slow bleed rate at one pressure level and a higher bleed rate at a higher pressure level. The valve mechanism comprises a housing having an internal bore in which is slidably mounted a hollow sleeve valve element. The sleeve valve normally closes off flow between the inlet port and a flow passage leading to the outlet port. An orifice in the sleeve valve element communicates the inlet pressure with a ball valve also mounted in the housing bore and which also shuts off flow to the outlet through a second flow passage. A single spring biases the sleeve valve and ball valve ele-

ments to closed positions. A Belleville spring diaphragm assembly, also mounted in the housing bore, senses pressure differential between inlet and outlet ports and deflects at a predetermined inlet pressure to unseat the ball valve and permit a slow pressure bleed to maintain system pressure within acceptable limits. Should a far greater inlet pressure occur, the restriction in flow through the orifice in the sleeve valve element creates a pressure differential across the sleeve valve element which acts against the spring bias to unseat the sleeve valve and permit a much higher bleed rate.

3,421,542

FLOW REGULATOR

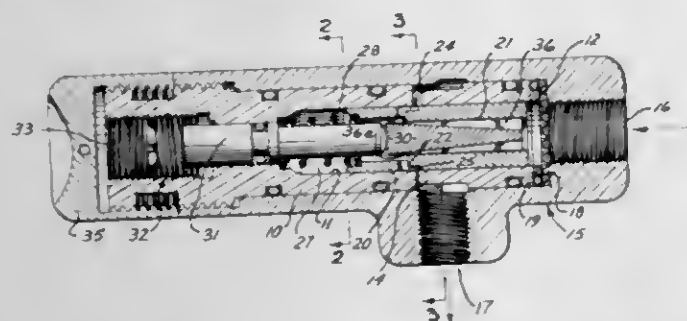
Ralph D. Adams, Glendora, Ernst Borchert III, Montclair, and Robert P. Herzog, Azusa, Calif., assignors, by mesne assignments, to Omark-Winslow Aerospace Tool Co., Portland, Oreg., a corporation of Oregon

Filed Aug. 24, 1965, Ser. No. 482,117

U.S. Cl. 137—504

Int. Cl. F16k 31/12; F16h 31/36

2 Claims



A fluid flow regulator has features that produce proper compensation for changing pressures to assure a constant flow rate over the full range. It is especially designed for very low flow rates and to be self-cleaning, thereby maintaining its accuracy.

3,421,543

GAS, LOW PRESSURE, DIFFERENTIAL REGULATOR

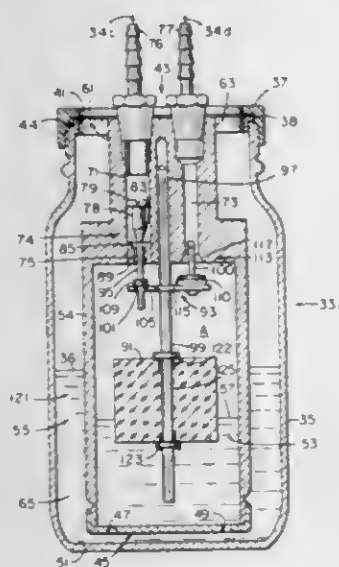
Mordechai Montag, Plainview, N.Y., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Feb. 13, 1967, Ser. No. 616,431

U.S. Cl. 137—505.19

Int. Cl. F16k 31/12; F16k 31/36

5 Claims



A gas tight, low pressure, differential regulator having a submerged chamber through which a gas flows from an inlet at a first pressure to an outlet adapted to receive the gas at a second lower pressure in a closed system. A float on a liquid level in the chamber is raised and lowered by

a change in gas pressure in the chamber to actuate valves selectively to reduce or to increase the gas in the chamber to a predetermined pressure between limits set by the actuation of the float by the liquid level.

3,421,544

FLUID CONTROL DEVICE

Edward Bozoyan, 1812 West St., Union City, N.J. 07087

Continuation-in-part of application Ser. No. 319,328,

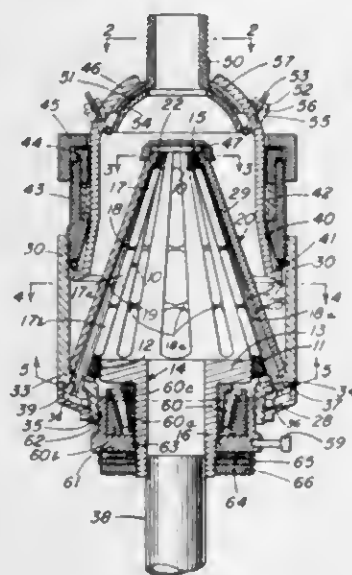
Oct. 28, 1963. This application Jan. 4, 1966, Ser.

No. 528,677

U.S. Cl. 137—505.47

Int. Cl. F16k 31/12; F17d 3/00

12 Claims



1. In a fluid control device, an inner sleeve member having a frusto-conical outer surface with symmetrically arranged inner openings therein and a first fluid passageway means communicating continuously with the interior of said inner sleeve and with said inner openings, an outer sleeve member disposed about said inner member and having a frusto-conical inner surface mating with said outer surface of the inner member with symmetrically arranged, coactively corresponding outer openings therein and a second fluid passageway means communicating continuously with said outer openings; one of said member being rotatably oscillatable relative to the other member in order to uncover and recover its coactive openings and thereby to put in or out of communication with each other said two fluid passageway means in controlled proportions; and sealing means positioned in grooves in one of said sleeve valve members; said sealing means comprising a plurality of seal units, each individual sealing unit having a straight line configuration and extending beyond said mating surfaces, said grooves being slightly larger in width than the sealing units, thereby permitting a free and continuous rolling to said units.

7. As a subcombination, a removable seal member adaptable for use with mating sliding interfaces consisting of stem-like linear seal unit; said seal member having a stiff core, a resilient sealing surface, being capable of operative rolling, tapered in configuration to render same adjustable, and means for operatively adjusting said seal member.

3,421,545

FREE DELIVERY AND VARIABLY RESTRICTED RETURN VALVE

Robert F. De Marco, Mentor, Ohio, assignor to Fluid Controls, Inc., Mentor, Ohio, a corporation of Ohio

Filed Feb. 28, 1967, Ser. No. 619,372

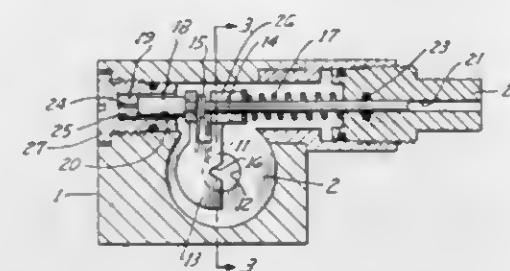
U.S. Cl. 137—513.3

Int. Cl. F16k 17/04; F15d 1/02

10 Claims

A valve having a generally axially pivotable valve plug to permit free flow of fluid in one direction through an orifice in the valve when the plug is pivoted away from

its seated position. The valve plug is also mounted to be selectively moved transversely of the axis of the orifice to be disposed within a passageway of a body member with the retainer having surfaces for controlling both the axial and radial movement of the valve member within the passageway.



a number of set positions for variably restricting the flow of fluid in the return direction as desired, depending upon the selected position of the valve plug.

3,421,546

PRESSURE RELEASE VALVE

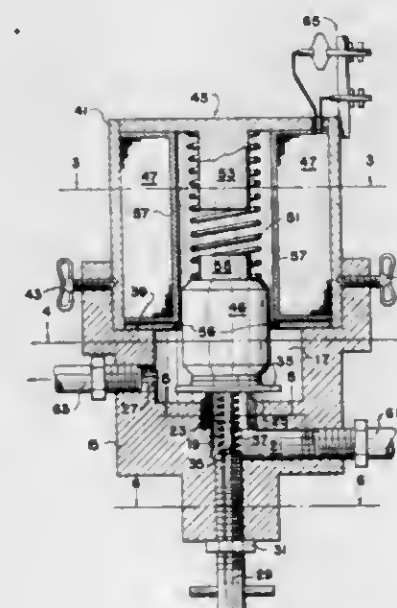
Jack W. Jennings, 5403 E. Kellogg, Wichita, Kans. 67218, and George A. Moore, 843 N. Dellrose, Wichita, Kans. 67208

Filed July 16, 1965, Ser. No. 472,440

U.S. Cl. 137—523

Int. Cl. F16k 21/04; F16k 15/04; F16k 31/02

4 Claims



This invention relates to a solenoid actuator pressure release valve having a main housing with inlet and outlet conduits, a valve seat in the housing about the inlet conduit, a valve member biased into engagement with the valve seat by opposing spring members, a solenoid member connected to the valve member to open same, and an elongated adjusting screw member adapted to regulate the pressure of one spring member against the valve member so that the valve member acts as a safety means on opening at certain pre-set pressures or may be opened by the solenoid member.

3,421,547

CHECK VALVE MECHANISM

Wilfred Aslan, Mahwah, N.J., assignor to Alkon Products Corporation, Hawthorne, N.J., a corporation of New York

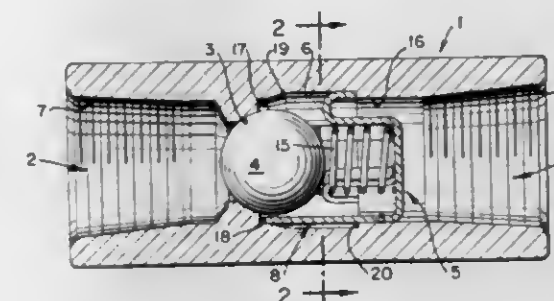
Filed Nov. 30, 1965, Ser. No. 510,645

U.S. Cl. 137—539

Int. Cl. F16k 15/04; F16k 15/02

9 Claims

A check valve mechanism including an axially movable valve member and a valve retainer of open construction



3,421,548

SYSTEM FOR DISCHARGING LIQUID UNDER PRESSURE

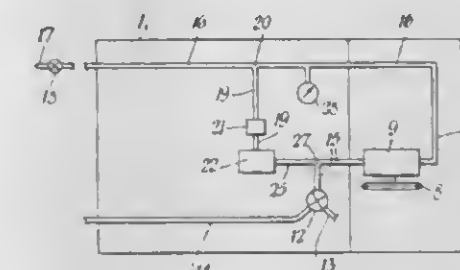
George Frank Hare, 174 Lynn Road, Wisbach, England

Filed Apr. 29, 1966, Ser. No. 546,437

U.S. Cl. 137—563

Int. Cl. E03b 7/07

1 Claim



Apparatus for discharging cleansing liquid under pressure alternatively from a storage tank and from water supply mains through a lance, comprising a pump and pipework, there being a recirculatory system in the pipework which includes a relief valve opened by inlet pressure acting on a piston and also opened by back pressure at the outlet of the relief valve.

3,421,549

PNEUMATIC SYSTEM FOR CONTROLLING AND ACTUATING PNEUMATIC CYCLIC DEVICES

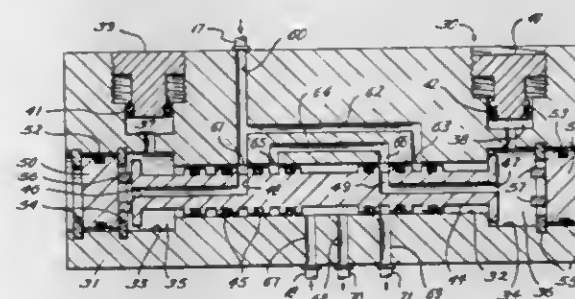
James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Donald E. Van Arnem, Surfside, and Kyle W. Charlton, La Mirada, Calif.

Filed Apr. 20, 1966, Ser. No. 545,229

U.S. Cl. 137—624.14

Int. Cl. F17d 3/00; F16k 31/08

13 Claims



A fully pneumatic system for accurately cyclically controlling a pneumatic device for extended periods including a supply of pneumatic fluid, pressure reducing means, first and second conduit means from the pressure reducing means with flow restricting means to regulate the pressure

in the first conduit. Both conduits are attached to a pneumatic oscillator which is in the form of a spool valve having adjustable volume chambers. The oscillator has first cooperative passage means for directing fluid from the first conduit to the right hand volume chamber and venting the left volume chamber in one position and directing fluid to the left hand volume chamber and venting the right hand chamber in a second position and second cooperative passage means for directing fluid from the second conduit to the controlled device in the first position and venting the device in the second position. The adjustable chamber allows the relative time fluid as delivered or vented to be regulated. Magnets are provided at each end to provide snap action.

3,421,550

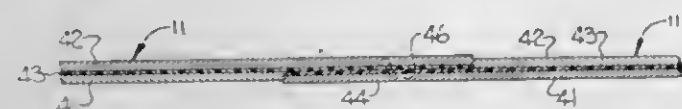
SPIRALLY WOUND PAPER TUBE

Baynard R. Whaley, Hartsville, S.C., and William D. Bradley, Brantford, Ontario, Canada, assignors to Sonoco Products Company, Hartsville, S.C., a corporation of South Carolina

Filed Nov. 30, 1966, Ser. No. 607,105

U.S. Cl. 138—144
Int. Cl. F16d 9/16

4 Claims



1. A spirally wound paper tube including a ply formed by a tri-ply laminated strip, said strip comprising the combination of a top and bottom paper ply of substantially the same width, said top ply being arranged in transversely staggered overlying relationship with said bottom ply, an inner ply of vapor barrier material sandwiched between said top and bottom paper plies and secured thereto, said inner ply of vapor barrier material extending transversely from the outer side edge of said top ply to the outer side edge of said bottom ply to form oppositely facing ledges of barrier material of substantially the same width along opposite sides of said tri-ply strip, said tri-ply strip being spirally wound with the ledges of barrier material of adjacent convolutions in overlapping relationship and with the edges of adjacent convolutions of said top and bottom paper plies in abutting relationship.

3,421,551

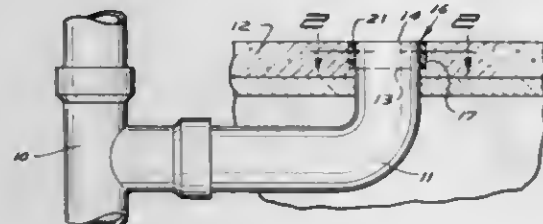
DESTRUCTIBLE ARTICLE FOR RESERVING A RECESS IN CONCRETE

Gerald F. Currier, Minneapolis, Minn., assignor of fifty percent to Richard H. Lindquist, Minneapolis, Minn.

Filed May 21, 1965, Ser. No. 457,769

U.S. Cl. 138—178
Int. Cl. F16l

11 Claims



A destructible non-water absorbing spacing sleeve positioned with a close fit about the upper end of an upright water closet drain pipe to provide an annular recess about the pipe in a concrete floor to allow subsequent installation of a water closet ring without the necessity of cutting away of concrete. The sleeve is a one piece right cylin-

dric member formed from a polystyrene expanded plastic foam having the characteristics of light weight, high compressive strength, and non-water absorbency as well as being readily frangible or breakable. The sleeve may be provided with a diagonal slit to permit limited circumferential expansion of the sleeve to accommodate pipes which are irregularly shaped or over-sized.

3,421,552

ADJUSTABLE WARP STOP MOTION FOR LOOMS

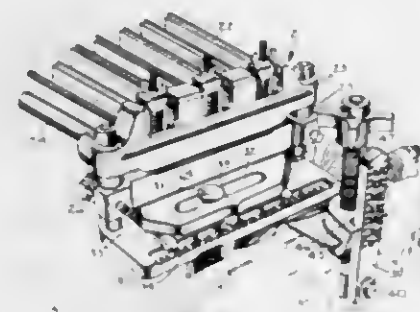
Stanley J. Sotek, Whitinsville, Mass., assignor, by mesne assignments, to John Donald Marshall and Horace L. Bomar as trustees of The California Patent Development Trust

Filed Jan. 16, 1967, Ser. No. 609,559

U. S. Cl. 139—369

Int. Cl. D03d 51/20; D03d 51/28

10 Claims



A mounting support having calibrations for determining settings in vertical, horizontal and angular planes and an inverted U-shaped front warp support for simplified application and removal.

3,421,553

WIRE-BENDING PLIERS

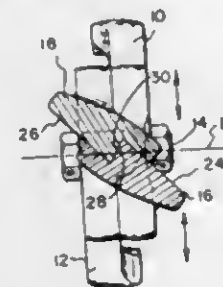
James M. Redmon, 290 N. Iowa St., Chandler, Ariz. 85224

Filed June 27, 1966, Ser. No. 560,425

U.S. Cl. 140—106

Int. Cl. B21f 1/00; B21d 9/08; B21d 37/2

5 Claims



Wire bending pliers having stepped faces adapted to bend wire therebetween, said stepped faces of a pair of relatively movably spaced jaws being arranged in a generally Z-shaped disposition so as to bend a piece of wire therebetween into a Z-shape with one operation.

3,421,554

METHOD AND APPARATUS FOR FILLING CONTAINERS

Clarence F. Carter, Danville, Ill., assignor to Carter Engineering Company, Danville, Ill., a corporation of Illinois

Filed Apr. 1, 1966, Ser. No. 539,517

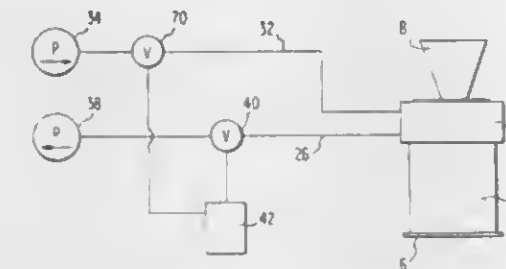
U.S. Cl. 141—7

Int. Cl. B65b 31/02; B67c 3/16

8 Claims

Method and apparatus for filling containers with powdered material by reducing the pressure in the container and utilizing the pressure differential to displace the pow-

der from a hopper into the container. The container is evacuated through a port near the top of the container. The hopper valve is opened briefly and then closed to allow the vacuum to build up in the container while the valve is closed. After one or more filling shots, the rate at which air is drawn out of the container through the



port is reduced, thereby causing material on the screens over the port to be dislodged before beginning another series of filling shots. Also, the vacuum may be maintained in the container at a high level for a brief interval in order to shrink the powder that was previously deposited in the container.

3,421,555

ROTARY FILLING MACHINE

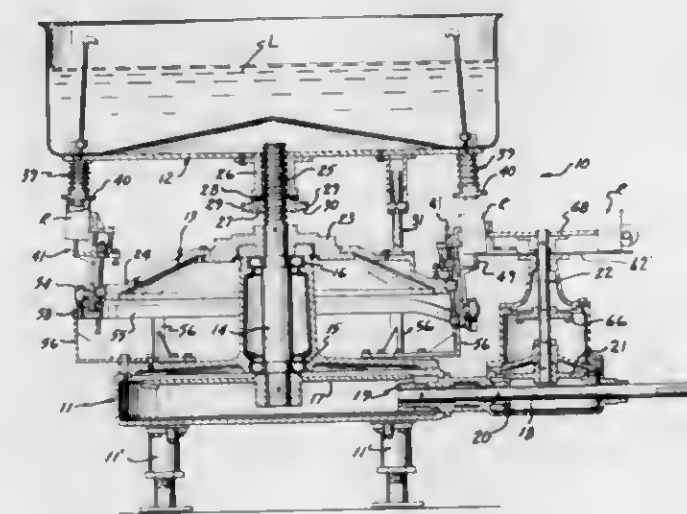
Everett S. Minard, Laguna Hills, Calif., and Robert L. Smith, Louisville, Ky., assignors to Chemetron Corporation, Chicago, Ill., a corporation of Delaware

Filed Apr. 15, 1966, Ser. No. 542,776

U.S. Cl. 141—150

Int. Cl. B65b 43/50

9 Claims



Apparatus having rotatably mounted lifter assemblies for supporting inclined receptacles being moved on a filling machine and for depositing filled receptacles on a table having an inclined surface which gradually returns the filled receptacles to an upright position.

3,421,556

DOOR DIVIDING MACHINE

Robert S. Clifford, Phoenix, Ariz., assignor to Glen-Mar Door Manufacturing Company, Phoenix, Ariz., a corporation of Arizona

Filed Oct. 24, 1966, Ser. No. 589,054

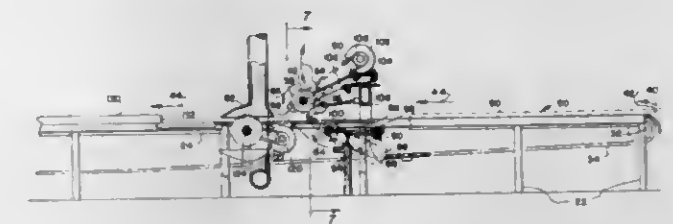
U.S. Cl. 144—3

Int. Cl. B27c 9/00

8 Claims

1. In a door dividing machine the combination of: a frame; a conveyor on said frame comprising a single door receiving end and a double door delivery end; said conveyor having means engageable with doors for forcing said doors from said receiving end to said delivery end;

a pair of power driven grooving cutters rotatably mounted on said frame and disposed in a substantially common vertical plane to cut grooves in upper and lower sides of doors when moved from said receiving end toward said delivery end; a saw aligned with said cutters and spaced from said cutters toward said delivery end whereby said saw, saws through a door within the confines of the upper and lower grooves in a door formed by said cutters, and whereby a wide door is thus divided into a pair of relatively narrow doors; wedge means on said frame and disposed in space relation from said saw and in a direction



toward said delivery end, said wedge means disposed to separate said pair of relatively narrow doors as they are moved by said conveyor relative to said frame; said wedge means having opposite sides diverging toward said delivery end; a second frame means having opposite sides extending from said opposite sides of said wedge means; door edge finishing means exposed at opposite sides of said second frame means; and spring loaded rollers disposed to engage first edges of said relatively narrow doors and tending to force opposite edges thereof against said door finishing means; and third means for driving said door edge finishing means.

3,421,557

APPARATUS FOR AIR DRIVING OF STRIP SCREWS

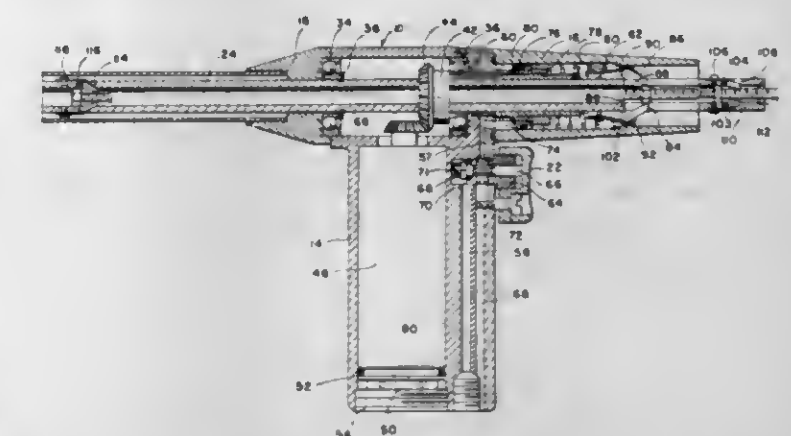
Herbert C. Brauchla, Fremont, Ohio, assignor of one-half to J. D. Guernsey, Fostoria, Ohio

Filed Oct. 3, 1966, Ser. No. 583,775

U.S. Cl. 144—32

Int. Cl. B25b 23/00

5 Claims



1. A strip screw driving gun of the type utilizing air power and having a housing and handle attached thereto, comprising:

- (A) a rotatable barrel extending through said housing and having an inner bore complementally configured with the heads of individual screws in the strip screw being driven, said bore having a screw driving end and a strip screw receiving muzzle;
- (B) air driving means supported in said handle and engaging said rotatable barrel;
- (C) a locking sleeve supported about the forward end of said barrel and communicable with said air driving means for axial advancement, said locking sleeve having at its forward ends a pair of spring urged screw head engaging jaws radially inwardly extending into the bore of said barrel so as to engage the rear

of a screw head upon advancement of said sleeve, said locking sleeve being reversely spring-urged to strip over said screw strip heads upon release of said air driving means;

(D) trigger means pivoted in said housing so as to regulate flow of air to both said air motor and said locking sleeve; and

(E) at least one pair of opposed, thread-engaging jaws radially inwardly urged through said barrel to engage said screw threads to prevent reverse longitudinal movement of said strip upon release of said driving means.

3,421,558

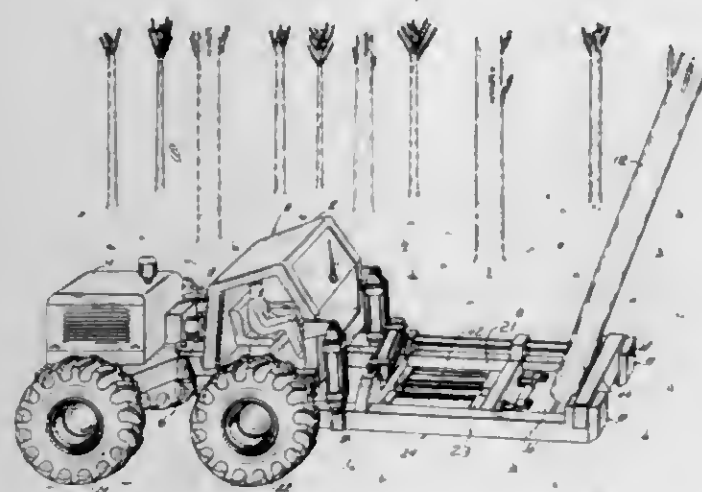
TREE FELLING SHEAR

Max Wood Thompson, Brandon, Miss., assignor to Future Products, Inc., Jackson, Miss., a corporation of Arkansas
Filed Jan. 3, 1968, Ser. No. 695,379

U.S. Cl. 144—34

9 Claims

Int. Cl. A01g 23/08



Method for tree felling, particularly a shear and gating apparatus pivoted to the front end of a mobile vehicle for cutting a tree trunk, then laterally displacing the severed trunk with respect to longitudinal axis of the vehicle.

3,421,559

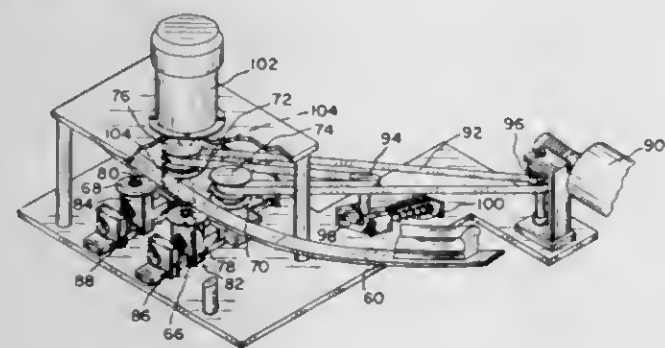
APPARATUS FOR MANUFACTURING HAND RAILS FOR CIRCULAR STAIRWAYS AND METHOD THEREFOR

John Frano, 129 N. Water St., Byram, Conn. 10573
Filed Oct. 8, 1965, Ser. No. 402,552

U.S. Cl. 144—145

5 Claims

Int. Cl. B27c 5/00



1. An apparatus forming a predetermined sinuous-shaped elongated element from bar stock comprising a single, sinuous-shaped master strip having said bar stock removably secured thereto and having tracks on opposite sides of said strip, said master strip being shaped to correspond to the desired configuration of said sinuous-shaped elongated element, a pair of drive members in one track on one side of said strip, a pair of spaced guide

members in another track on the opposite side of said strip and facing corresponding drive members, a cutter-shaped member positioned adjacent to said drive members for cutting said entire sinuous-shaped elongated member in two passes alternately on opposite sides of said bar stock.

3,421,560

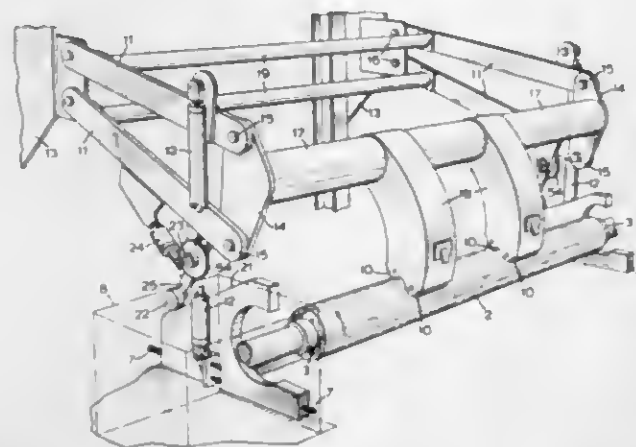
BACK-UP ROLLS FOR VENEER LATHES

Norman C. Springate, New Westminster, British Columbia, Canada, assignor to Lamb-Cargate Industries Limited, New Westminster, British Columbia, Canada
Filed June 27, 1966, Ser. No. 560,523

U.S. Cl. 144—209

5 Claims

Int. Cl. B27c 7/00



Back-up rolls for a veneer lathe are rotatably supported in a frame and are movable into and out of a position adjacent a log in the lathe. The frame includes a cam follower. A movable member carries a veneer cutting knife and has a cam track thereon. The cam track is shaped such that contact of the cam follower therewith during movement of the knife carrying member permit the back-up rolls to follow closely the diminishing diameter of the log as it is cut.

3,421,561

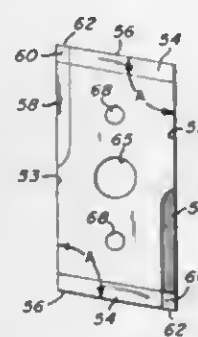
WOOD CHIPPING KNIFE

Adrian Artiano and Verne L. Lindberg, Everett, Wash., assignors to The Black Clawson Company, Hamilton, Ohio, a corporation of Ohio
Filed Aug. 10, 1966, Ser. No. 571,522

U.S. Cl. 144—241

7 Claims

Int. Cl. B27g 13/00



1. An improved knife for use on chipping apparatus to convert logs and other wood pieces into small chips having long fibers, comprising a base portion having a flat side surface, an edge portion having a side surface extending angularly from said side surface of said base portion, a beveled end surface on said base portion co-operating with the corresponding said side surface to form a primary cutting edge, a beveled end surface on said edge portion co-operating with the corresponding said side surface to form a lead cutting edge extending angu-

larly from said primary cutting edge, said side surface of said edge portion and said side surface of said base portion joining to describe generally a line forming an acute angle with said primary cutting edge, and means for mounting said knife on the chipping apparatus so that said primary cutting edge cuts through the wood generally parallel to the grain while said lead cutting edge cuts across grain and said side surface on said edge portion urges the wood into engagement with said primary cutting edge to provide a self-feeding action.

3,421,562

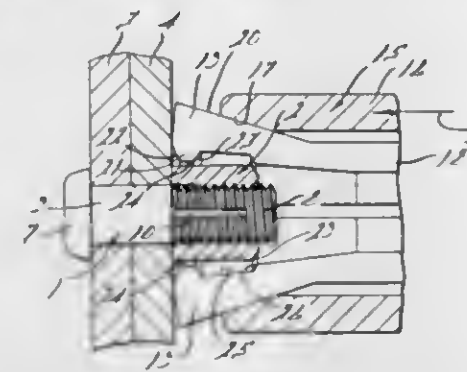
TENSION STRESSED STRUCTURE

John F. Orloff, Mount Clemens, and Charles W. Baugh, St. Clair Shores, Mich., assignors to Hnck Manufacturing Company, Detroit, Mich., a corporation of Michigan
Filed Mar. 24, 1966, Ser. No. 537,117

U.S. Cl. 151—2

8 Claims

Int. Cl. F16b 39/30; B23p 11/00



A stressed structure and method of obtaining a stressed structure in which fasteners comprising a pin and collar are of such construction and are applied in such a way that uniform, high residual tension or clamping force results in the fastening pins and structure by first fixing the collar relative to the pin and thereafter crimping the collar to effect an elongation thereof and wherein such elongation of the collar stretches the pins to give said resulting uniform clamping force.

3,421,563

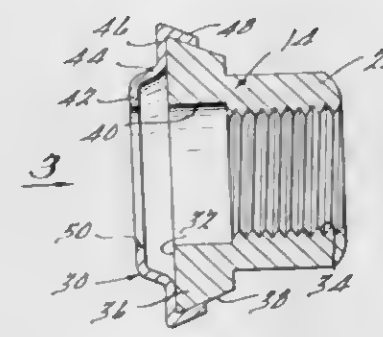
FASTENER ASSEMBLY

Richard P. Koss, Taylor Mich., assignor to Federal Screw Works, Detroit, Mich., a corporation of Michigan
Filed July 31, 1967, Ser. No. 657,134

U.S. Cl. 151—7

6 Claims

Int. Cl. F16b 39/24; F16b 31/02



A fastener assembly consisting of a male member having a threaded section and a textured locking section along its shank and a nut assembly comprising a body having a threaded bore and a dish-shaped deformable washer mounted thereon. The washer is provided with an aperture therethrough which, upon deformation thereof in response to the tightening of the nut assembly, effects a firm interlocking engagement with the locking section and prevents inadvertent axial movement of the nut assembly along the male member.

3,421,564

SELF-ALIGNING THREADED FASTENER STUD

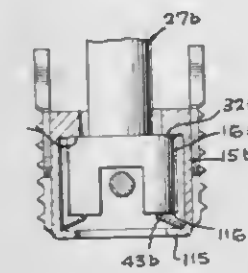
Robert Neuschotz, 1162 Angelo Drive, Beverly Hills, Calif. 90210

Filed Mar. 7, 1966, Ser. No. 532,434

U.S. Cl. 151—23

11 Claims

Int. Cl. F16b 39/06



A self-aligning fastener including an outer hollow body to be screwed into a carrier part, a threaded element having a portion which is contained within the body and retained thereby against axially outward movement but is free for relative self-aligning movement, and a pin extending transversely across the interior of the hollow body and connected at its opposite ends to the side wall of the body and engageable with the threaded element in a relation retaining it against rotary movement.

3,421,565

TREAD END CEMENT FOR SYNTHETIC TIRE TREADS

Emmett B. Reinbold, Cuyahoga Falls, Ohio, assignor to The General Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Continuation-in-part of application Ser. No. 277,712, May 3, 1963. This application Nov. 18, 1964, Ser. No. 412,225

U.S. Cl. 152—330

15 Claims

Int. Cl. C08d 9/10; C08d 13/20; B32b 25/16

This invention comprises a cement useful with tire treads. The cement comprises 100 parts by weight of an SBR-type rubbery polymer having a computed Mooney viscosity of 120 to 180, 0 to 15 parts of a hydrocarbon plasticizer oil, about 30 to 120 parts of an abrasion furnace carbon black having a basic pH and an average surface area of between 100 and 170 square meters per gram and about 65 to 125 parts of a certain condensation product melting in the range of 230° F. to 265° F. The invention also comprises a method for preparing the cement wherein, first, from 30 to 70 percent of the resinous condensation product is added in heat-softened form to the polymer (with or without plasticizer oil), second, at least a major portion of the carbon black is added and, third, the rest of the resinous condensation product is added with the aid of a suitable mutual solvent for the product and the polymer. The invention also comprises composite elastic structures, including tires specifically, which make use of the subject cement and a method for making tires using said cement.

3,421,566

FOLDABLE SIDEWALL PNEUMATIC TIRE WITH CANTED SIDEWALL SUPPORT RIBS

James Sidles, West Richfield, and John F. Helmovics, Stow, Ohio, assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

Filed Aug. 8, 1966, Ser. No. 570,856

U.S. Cl. 152—330

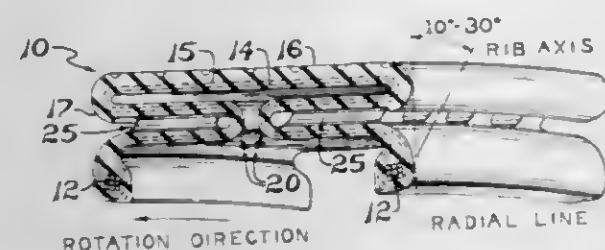
6 Claims

Int. Cl. B60c 13/00; B60c 19/00

A foldable sidewall type pneumatic tire has a series of ribs molded on areas of the folded sidewall portions to more firmly and stably support the tread margins against the underlying beads and thereby augment the run-flat

capability of the tire. The ribs extend radially along the sidewall, and in elevation above the sidewall, they are

by a header member or lintle, to which roller a flexible membrane dimensioned to cover the opening is secured, and means for supporting the roller intermediate its

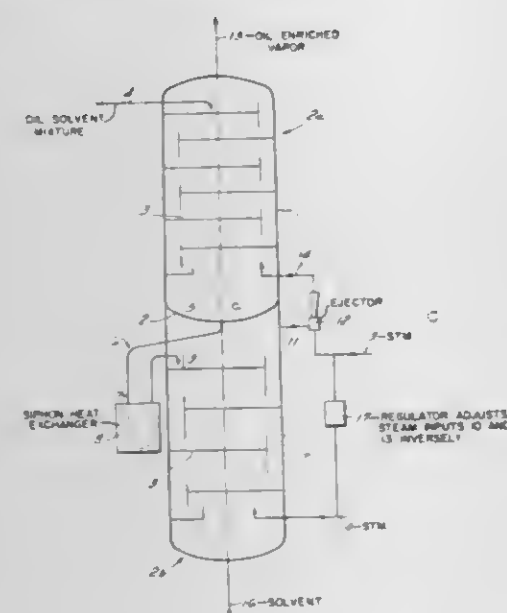


canted in a direction counter to the rotational direction of the tire.

3,421,567
METHOD AND APPARATUS FOR EXTRACTING A VAPORIZABLE COMPONENT FROM A LIQUID
 Alfred Hoppe, Frankfurt, Germany, assignor to Edeleanu Gesellschaft m.b.H., Frankfurt, Germany
 Filed July 19, 1966, Ser. No. 566,369
 Claims priority, application Germany, July 28, 1965, E 29,790

U.S. Cl. 159-16
 Int. Cl. B01d 1/14; B01d 3/00

12 Claims

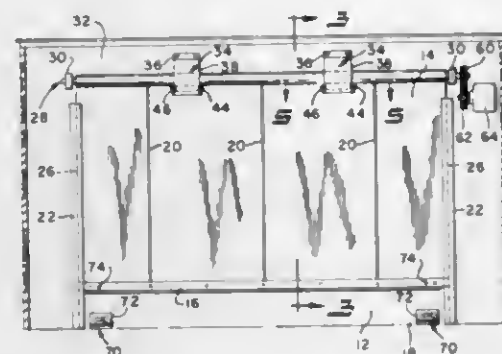


A method and an apparatus for extracting a vaporizable component from a liquid, wherein at least a preceding and a subsequent countercurrent extraction vessel are connected in series. Means is provided for passing fluid containing a vaporizable component serially through the preceding and subsequent extraction vessels. Feed means passes a gaseous extraction medium in countercurrent to the liquid first through subsequent and then through the preceding vessel. The feed means includes admitting means for admitting additional gaseous extraction medium into the preceding vessel and transfer means for transferring gaseous extraction medium from a subsequent vessel into the preceding vessel to thereby create in the latter a pressure which is lower than that of the former.

3,421,568
FLEXIBLE DOOR CLOSURE
 Wilbur R. Youngs, 1905 Queenswood Drive, Findlay, Ohio 45840
 Filed June 29, 1966, Ser. No. 561,627
 U.S. Cl. 160-310
 Int. Cl. E06b 3/00

10 Claims

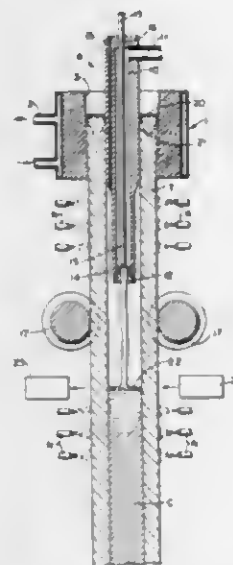
There is provided a flexible closure means for structural openings characterized by a main curtain roller supported



extremities, and characterized by the interposition between the main curtain roller and the roller support means of diameter-increasing means.

3,421,569
CONTINUOUS CASTING
 Norbert F. Neumann, Rye, N.Y., assignor to Kennecott Sales Corporation, New York, N.Y., a corporation of New York
 Filed Mar. 11, 1966, Ser. No. 533,574
 U.S. Cl. 164-86
 Int. Cl. B22d 11/02; B22d 11/12; B22d 19/00

1 Claim

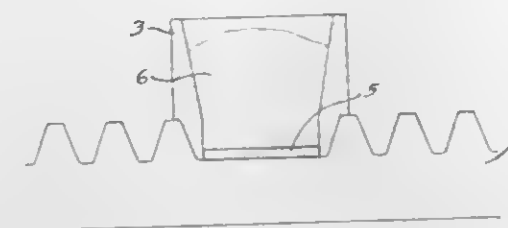


This disclosure relates to a continuous process for casting an exterior tube and casting an interior core in said exterior tube in a concentric mold utilizing controlled cooling of both the exterior tube and the interior core and also simultaneously sensing and controlling the level of the molten interior core to produce a composite material with minimum alloying of the exterior tube material with the interior core material.

3,421,570
ALUMINOTHERMIC WELDING PROCESS
 Hans Guntermann, Essen-Steele, Germany, assignor to Elektro-Thermit G.m.b.H., Essen, Germany, a corporation of Germany
 Continuation of application Ser. No. 395,854, Sept. 11, 1964. This application Feb. 20, 1967, Ser. No. 617,420
 U.S. Cl. 164-53
 Int. Cl. B22d 23/00

The present invention relates to an aluminothermic

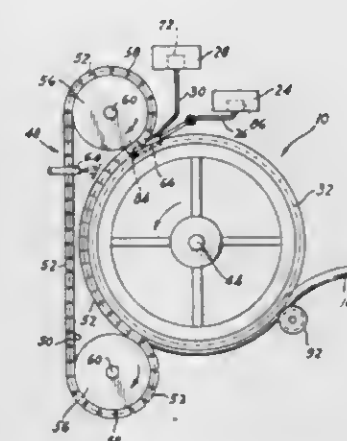
welding process, preferably for welding ferrous materials such as iron and steel, in which an aluminothermic mass is applied to the surface of a workpiece to be welded and is ignited while in place.



is applied to the surface of a workpiece to be welded and is ignited while in place.

3,421,571
PROCESS FOR CASTING CLAD METAL BARS
 Clarence Eugene Webber and George William Drescher, York, Pa., assignors to New York Wire Company, York, Pa., a corporation of Delaware
 Application Mar. 9, 1965, Ser. No. 438,261, now Patent No. 3,295,174, dated Jan. 3, 1967, which is a continuation-in-part of application Ser. No. 353,694, Mar. 23, 1964. Divided and this application July 13, 1966, Ser. No. 564,924
 U.S. Cl. 164-86
 Int. Cl. B22d 11/04

9 Claims

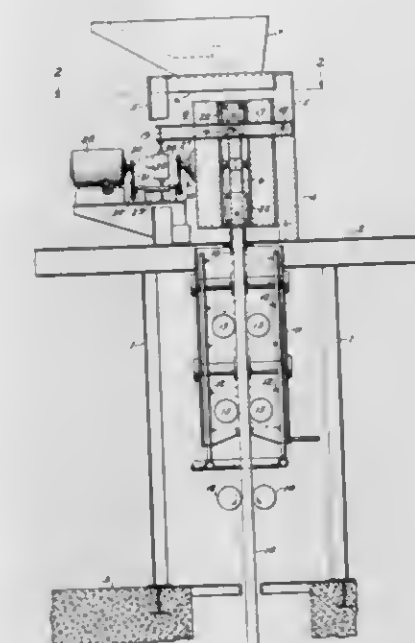


A method of forming continuous lengths of non-ferrous metallic composite bars comprising a core member and a cladding sheath member of a different non-ferrous composition integrally united therewith and comprising the steps of continuously forming one of said members into the desired shape from molten metal and, while the latent heat of fusion is present substantially therein, flowing the molten metal to form the other member coaxially relative to said one member simultaneously to form said other member and integrally unite said members at the interfaces thereof, the exterior shape of the sheath member being formed by flowing the molten cladding metal directly into contact with mold means and moving said mold means therewith to stabilize the shape thereof resulting from initial contact with said mold means.

3,421,572
CONTINUOUS CASTING APPARATUS HAVING INDEPENDENT TRANSVERSE AND LONGITUDINAL MOLD SURFACE MOVEMENT
 Richard F. Reihman, Quakertown, Pa., assignor to Bethlehem Steel Corporation, a corporation of Delaware
 Filed Oct. 6, 1965, Ser. No. 493,373
 U.S. Cl. 164-273
 Int. Cl. B22d 11/04; B22d 11/12

6 Claims

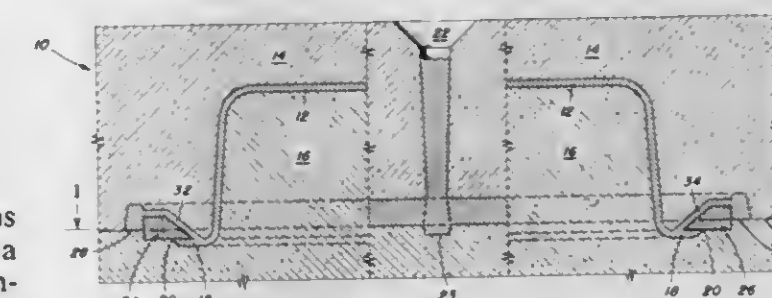
An apparatus and method for applying compressive and shear forces to the surfaces of a continuous casting



cyclic rate while the entire mold is reciprocated independently and at a different cyclic rate in a longitudinal direction.

3,421,573
APPARATUS FOR CASTING SELF-RIMMING SINKS
 Daniel E. Groteke and Harry G. Hopper, Jr., Louisville, Ky., assignors to American Standard Inc., a corporation of Delaware
 Filed Feb. 28, 1966, Ser. No. 530,646
 U.S. Cl. 164-362
 Int. Cl. B22c 9/08; B22d 35/00

5 Claims

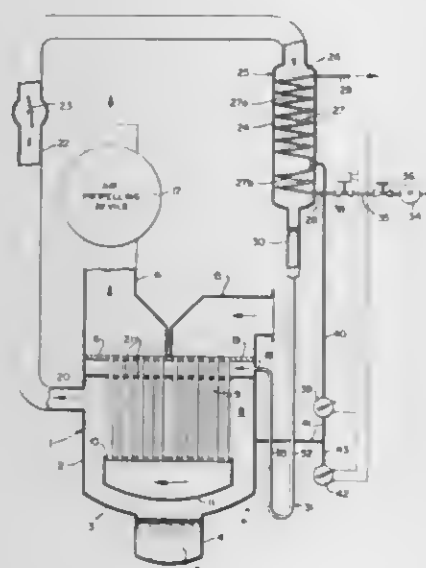


Apparatus for casting self-rimming cast iron fixtures in which molten material is fed to a mold cavity through an ingate forming member positioned near the lower portion of the mold cavity, and above a portion of the mold cavity adapted to form a flange on the cast iron fixture, and in which the ingate discharges inwardly of the outer edge of the flange portion of the mold cavity so that the rim of the fixture requires little or no finishing after removal of the fixture from the mold.

3,421,574
METHOD AND APPARATUS FOR VAPORIZING AND SUPERHEATING COLD LIQUEFIED GAS
 Walter Kals, Hastings on Hudson, N.Y., assignor to Niagara Blower Company, New York, N.Y., a corporation of New York
 Continuation of application Ser. No. 357,513, Apr. 6, 1964. This application Mar. 11, 1966, Ser. No. 533,730
 U.S. Cl. 165-2
 Int. Cl. F25b 13/00; F28d 15/00; F17c 7/02

Cryogenic liquids, such as liquid nitrogen at -320° F., are vaporized by using them to condense a refrigerant, such as Refrigerant-21, which serves as a heat transfer

medium, and then the refrigerant is vaporized, in a closed cycle, by ambient air as the heat source. The rate of supply of the cryogenic liquid is adjusted in response to the differential in the vaporizing and condensing pressures of



the refrigerant, and the flow of liquefied gas is interrupted by signal from a pressure actuated switch if the temperature of the refrigerant, as the heat transfer medium, drops close to the freezing point of any component in the heat source.

3,421,575 HEAT EXCHANGER

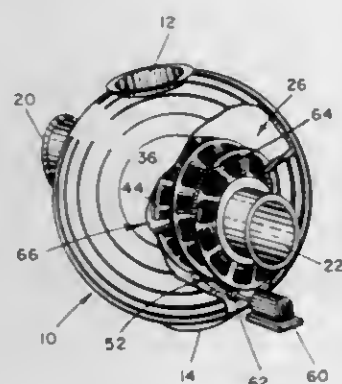
Walter Egli San Diego, Calif., assignor to General Dynamics Corporation, San Diego, Calif., a corporation of Delaware

Filed July 6, 1962, Ser. No. 209,274

U.S. Cl. 165—7

Int. Cl. F28d 19/00; F231 15/00

10 Claims



1. A cyclic radial flow heat exchanger for effecting heat exchange between fluids comprising, in combination, a hollow housing having means for passing one of said fluids through a first hot side of the interior of said housing and another of said fluids through a second cold side of the interior of said housing, an imperforate baffle having notched side margins and traversing said housing interior to separate said hot and said cold sides one from the other, a porous heat-exchanging matrix of bellows shape co-operable with said notched side margins and interposed in the paths of travel of said fluids through said hot and said cold sides and driveable in rotation about its longitudinal axis, and means supporting said matrix in said rotation within said housing interior to expose portions of the matrix

alternately to passage through said hot and said cold housing sides to thereby effect its periodic heating and cooling responsive to heat differentials existing between said fluids and heat exchange between said fluids.

3,421,576 AIR CONDITIONING SYSTEM FOR HEATING, COOLING AND DEHUMIDIFYING AUTOMOTIVE VEHICLES

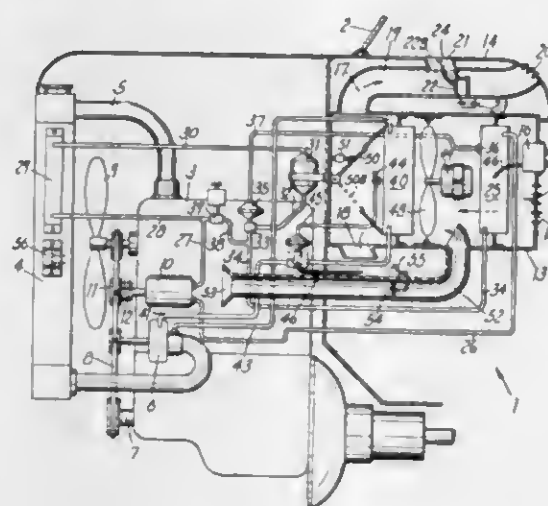
Asa E. Roane, Cadillac, Mich., assignor to Kysor Industrial Corporation, Cadillac, Mich.

Filed Apr. 6, 1967, Ser. No. 628,896

U.S. Cl. 165—23

Int. Cl. B60h 3/00; B60h 3/04

12 Claims



The air circulating system includes a radiator for adding engine heat and an evaporator for cooling. A thermostatically controlled inlet introduces outside air. The compressor feeding the evaporator operates at full capacity, and cooling is regulated by a bypass that feeds hot refrigerant to the evaporator. A control responsive to outside temperature automatically shuts off the compressor when it is not needed, and at the same time automatically opens the inlet for the outside air. Manual controls selectively override the thermostatic control of outside air to admit air when desired. Other selective controls actuate the air circulating means and the direction of discharge to accomplish heating, cooling, windshield defrosting, and dehumidifying.

3,421,577 COMPOSITE POROUS STRUCTURE

Emery I. Valyi, Riverdale, N.Y., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

Continuation of application Ser. No. 499,130, Aug. 30, 1965, now abandoned, which is a division of application Ser. No. 398,128, Sept. 21, 1964, now U.S. Patent No. 3,289,750, which is a division of application Ser. No. 202,612, June 12, 1962, now Patent No. 3,201,858. Said application Ser. No. 202,612 is a continuation-in-part of application Ser. No. 732,663, May 2, 1958, now Patent No. 3,049,795, which is a continuation-in-part of application Ser. No. 586,259, May 21, 1956, now abandoned. This application July 27, 1967, Ser. No. 656,601

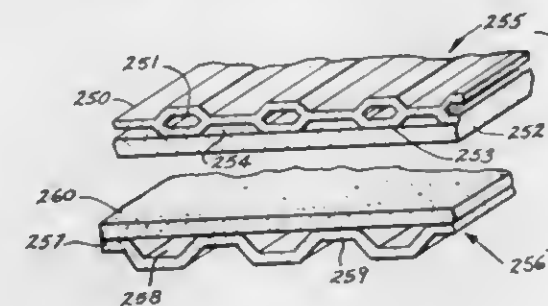
U.S. Cl. 165—170

Int. Cl. F28f 3/14; B21d 53/04

7 Claims

A composite porous structure for use in chemical processes or as a heat exchanger comprising a pair of composite members each composed of an impervious metal member and a porous body disposed on and bonded thereto and having fluid passages formed between the contacting surfaces of the pervious and impervious layers, through which a fluid is passed and is diffused through the pervious body. The pervious bodies are contiguous and spaced apart to form a fluid passage therebetween in which

the fluids which are passed through the porous bodies are mixed. Additional fluid passages through which tempera-



ture control fluids are passed are formed in heat exchange relationship with the impervious members.

3,421,578 HEAT DISSIPATOR

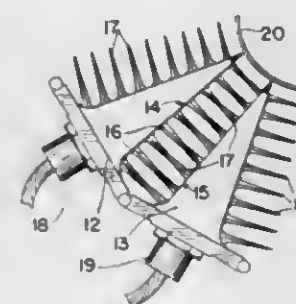
Louis L. Marton, 7424 1/4 Arizona Ave., Los Angeles, Calif. 90045

Filed Dec. 22, 1966, Ser. No. 603,920

U.S. Cl. 165—186

Int. Cl. F28f 1/02; F28f 1/38; F28f 1/30

8 Claims



A heat dissipator useful with electric apparatus of the type having at least one heat transfer surface. The dissipator is comprised of a first plate having first and second oppositely facing surfaces substantially uniformly spaced from one another. The plate first surface is adapted to engage said heat transfer surface. A plurality of fins arranged in substantially parallel rows are fixed to the plate second surface in heat conducting relationship therewith. Each of the fins defines a pair of oppositely facing edge surfaces and a pair of oppositely facing main surfaces. All of the fin main surfaces extend substantially parallel to one another to thereby establish a flow for a cooling medium.

3,421,579 UNDERWATER COMPLETION

William F. Manning, Springdale, Conn., assignor to Mobil Oil Corporation, a corporation of New York

Filed June 17, 1965, Ser. No. 464,703

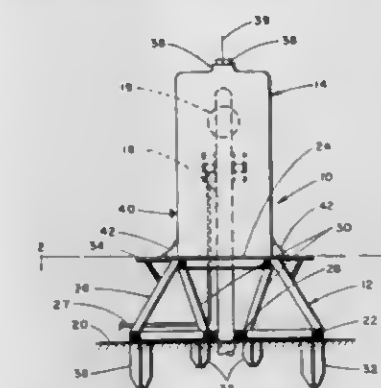
U.S. Cl. 166—5

Int. Cl. E21b 33/035; E21b 43/01; E21b 7/12

4 Claims

This specification discloses apparatus for providing a life-sustaining environment in an area adjacent to and surrounding a submerged production wellhead. The apparatus comprises a base structure including an upper and lower base connected by an open framework, and a chamber mounted on the base capable of retaining air. The base structure is either mounted directly on the marine bottom, if the respective wellhead is located just above the marine bottom, or the base structure may be fixed to a caisson structure above the marine bottom, if the wellhead is affixed atop such a caisson structure for spacing the wellhead above the marine bottom at a con-

venient diving depth. The chamber is mounted on top of the base and has a sealable entry port above the lower end thereof. The chamber may also be open at the lower end so that a diver-workman can enter through the framework of the base structure which spaces the chamber at least far enough above the marine bottom for such a diver-workman to enter. Means is provided for providing a breathable atmosphere inside the chamber when maintenance operations are necessary. This last stated means can be an air hose connected to a port extending



3,421,580 UNDERWATER WELL COMPLETION METHOD AND APPARATUS

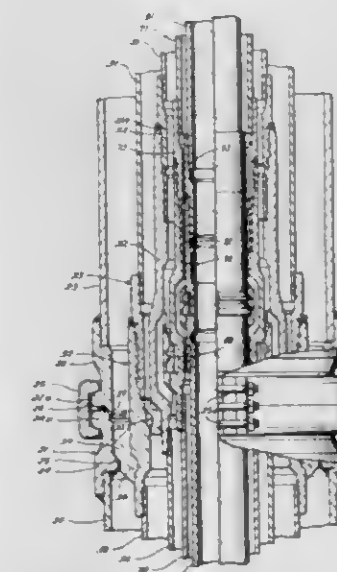
John H. Fowler and David P. Herd, Houston, Tex., assignors to Rockwell Manufacturing Company, Houston, Tex., a corporation of Pennsylvania

Filed Aug. 15, 1966, Ser. No. 572,599

U.S. Cl. 166—5

Int. Cl. E21b 33/035; E21b 43/01; E21b 7/12

40 Claims



Method and apparatus for underwater well extended casing completion. The method comprises the steps of installing a conductor pipe with a well head attached above the mudline attaching a conductor riser to the well head extending to above the water surface, drilling holes for other casings and suspending them with risers attached thereto in the well head by hanger-heads, cementing the

other casings in place. At this point the well may be immediately completed by installing an above water production tree or an underwater production tree or temporarily abandoned by packing-off the annular spaces between each hanger-head and capping the well at the wall head and later completing above water or underwater, or the well may even be permanently abandoned. Each of the inner casings is supported by a hanger-head which is in turn supported by another hanger-head, the last being supported by the well head. Some of these hanger-heads have ducts through their walls with openings above and below their support surfaces to allow cement fluid returns. The hanger-heads are connected to their respective risers by back-off joints for easy disengagement. One back-off joint disclosed requires only a fraction of a turn for disengagement. Its connection means comprises a plurality of alternating tooth segments and smooth wall segments cooperatively engaging similar segments on its respective hanger-head. When the risers and back-off joints are removed the pack-off may be remotely installed in the annular spaces between adjacent hanger-heads. The pack-off may also utilize the quick connection design of the back-off joint; i.e., the alternating tooth and smooth wall segments. One pack-off embodiment comprises a tubular attachment means and a tubular seal means rotatably attached. The pack-off is inserted in the annular space between hanger-heads. The attachment means is connected through the quick connection tooth segments to one of the hanger-heads. The seal means is compressed sealing the annular space. The pack-offs are removable for replacement of risers, or for other reasons if required.

3,421,581

METHOD AND APPARATUS FOR CARRYING OUT OPERATIONS ON A WELL UNDER WATER
Jacob Van Geljn, The Hague, Netherlands, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

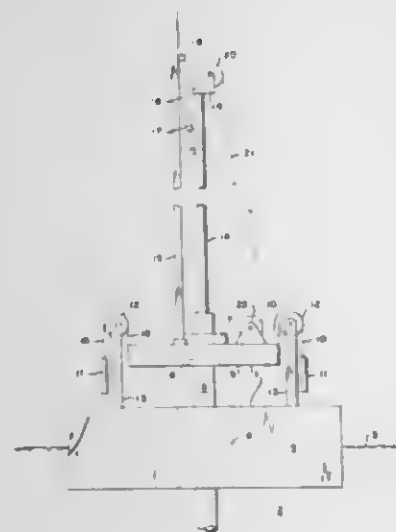
Filed Sept. 12, 1966, Ser. No. 578,831

Claims priority, application Great Britain, Oct. 19, 1965, 44,242/65

U.S. Cl. 166—5

9 Claims

Int. Cl. E21b 33/035; E21b 7/12; E21b 43/01

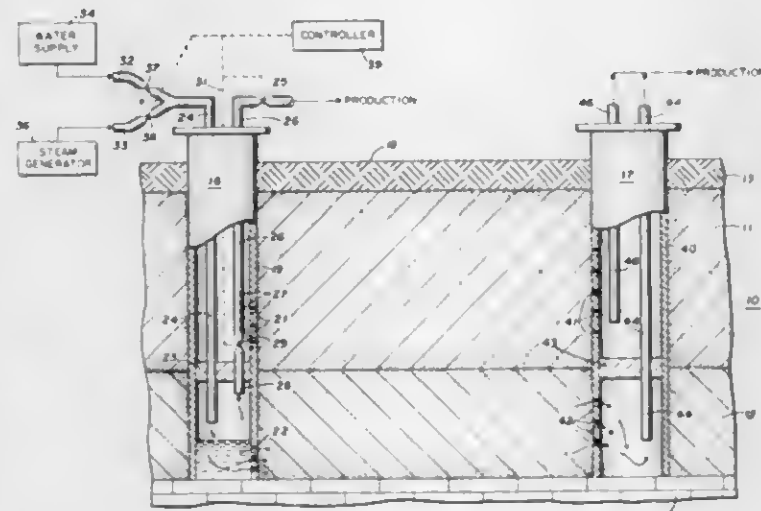


Method and apparatus for carrying out operations with respect to an underwater well wherein a pipe string is secured between the well and a platform mounted on a floating vessel over the well site. The platform is mounted for vertical movement relative to the vessel and is continuously biased in an upwardly direction during said relative movement to maintain the drill pipe under tension and compensate for up and down movement of said vessel.

3,421,582
SECONDARY OIL RECOVERY PROCESS
Wayne S. Fallgatter, Tulsa, Okla., assignor to Cities Service Oil Company, Bartlesville, Okla., a corporation of Delaware
No Drawing. Filed Mar. 18, 1966, Ser. No. 535,355
U.S. Cl. 166—9 5 Claims
Int. Cl. E21b 43/20

In the secondary recovery of petroleum, separate surfactant-containing slugs are injected into the formation. One slug contains a surfactant in either oil or water. The other slug contains surfactant in a thickened water. Either of the slugs can be injected prior to the other. Improved oil recoveries are obtained.

3,421,583
RECOVERING OIL BY CYCLIC STEAM INJECTION COMBINED WITH HOT WATER DRIVE
David S. Koons, Dallas, Tex., assignor to Mobil Oil Corporation, a corporation of New York
Filed Aug. 30, 1967, Ser. No. 664,478
U.S. Cl. 166—10 7 Claims
Int. Cl. E21b 43/20; E21b 21/00



A method for producing oil from upper and lower oil-bearing permeable strata of a subterranean reservoir. Low-grade steam is separated into hot water and steam phases. The water and steam phases are introduced into the lower and upper strata, respectively, from a first well for a first period. For a second period, hot fluids which include oil are produced from the upper strata through the first well. Cold water is indirectly heat exchanged with these hot fluids in the first well, and then, the heated water is injected during the second period into the lower strata. As a result, a continuous hot water drive moves from the first well toward a second well in the lower strata during the first and second periods. Oil is produced from the lower strata through the second well. The water indirectly heated by the hot fluids in the first well may be about equal in volume to them, or any volume such that all of the injected water is heated to above the initial temperature of the subterranean reservoir.

3,421,584
GROUTING, PLUGGING, AND CONSOLIDATING METHOD
Louis H. Eilers and Christ F. Parks, Tulsa, Okla., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Mar. 23, 1967, Ser. No. 625,324
U.S. Cl. 166—33 7 Claims
Int. Cl. E21b 33/13; C08f 45/24

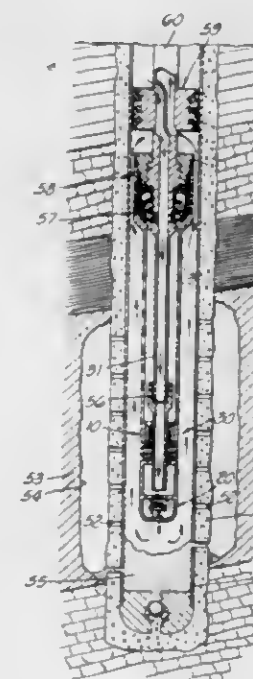
A fluid gelable composition comprising water, a water-soluble polymer, a cross-linking agent for the polymer, a

hydrogen ion source when in an aqueous solution, and a sodium silicate, in specified amounts, to make a flowable liquid composition, and method of plugging voids, sealing off passageways, or consolidating incompetent earthen or terranean formations by employing the composition in such void, passageway or interstices of the formation.

3,421,585
LIQUID PREFLUSH COMPOSITION AND USE THEREOF IN ACIDIZING EARTH FORMATIONS
Calixto F. Garcia, Hurst, Tex., assignor to Byron Jackson Inc., Long Beach, Calif., a corporation of Delaware
No Drawing. Filed Sept. 5, 1967, Ser. No. 665,259
U.S. Cl. 166—42 11 Claims
Int. Cl. E21b 43/26; E21b 33/13; C09k 3/00

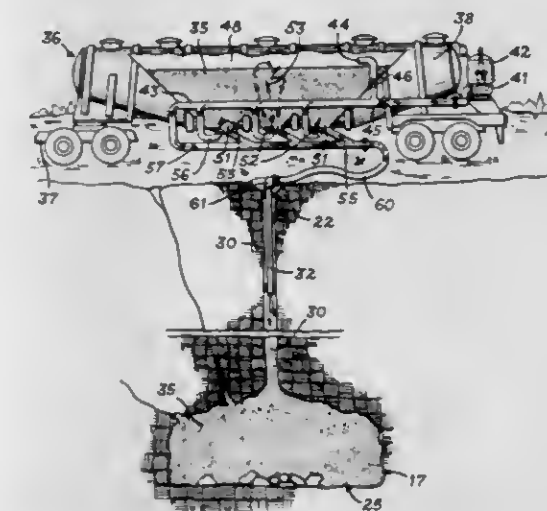
A method of treating earth formations containing petroleum and water to stimulate production of petroleum without increasing substantially the production of water. A liquid preflush composition, including a liquid hydrocarbon, a fatty acid soap, and an agent for solubilizing the soap in the oil, which preflush composition is injected into the formation to plug the water-bearing passages while leaving the oil-bearing passages open. Thereafter an acidizing solution is pumped into the formation to selectively acidize and stimulate the oil-bearing passages. Preflush compositions for use in the method are disclosed.

3,421,586
FLOW-REVERSING LINER SHOE FOR WELL GRAVEL PACKING APPARATUS
James R. Solum, Huntington Beach, Calif., assignor to B & W Incorporated, Torrance, Calif., a corporation of California
Filed Aug. 29, 1967, Ser. No. 664,050
U.S. Cl. 166—51 10 Claims
Int. Cl. E21b 43/04; E21b 43/08



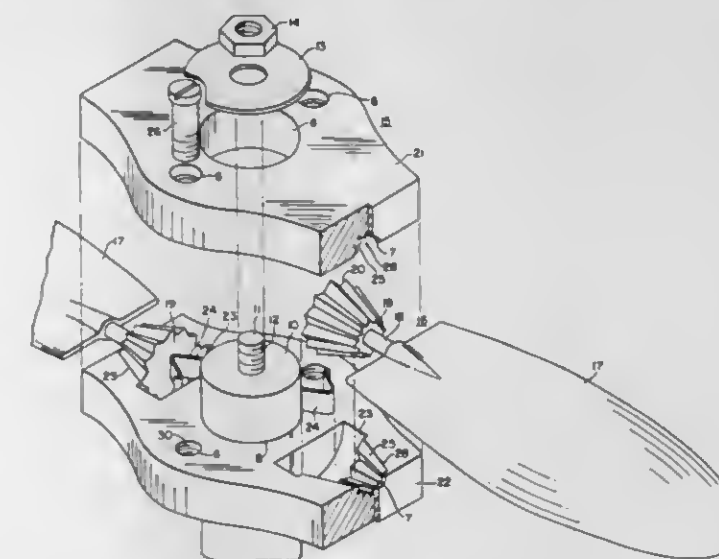
An apparatus for gravel packing a perforate liner in a well including a liner shoe engaged by an interior wash pipe for circulating fluid out through a check valve on the bottom of the liner shoe for washing the liner to the bottom of the well and a fluid by-pass in the liner shoe for fluid to flow inwardly through the liner perforations, down through the by-pass and up in the wash pipe with another check valve arrangement for preventing reverse flow through the by-pass. After gravel packing the wash pipe is lifted from the liner shoe to wash out the liner.

3,421,587
METHOD FOR MINE FIRE CONTROL
Jerry L. Heavilon, Dayton, Dennis A. Jones, Vandalia, and Barton A. Thomas, Dayton, Ohio, assignors to Dayton Fly Ash Co., Inc., Dayton, Ohio, a corporation of Ohio
Filed Sept. 20, 1967, Ser. No. 669,205
U.S. Cl. 169—2 5 Claims
Int. Cl. A62c 1/08; A62c 1/24; A62c 3/02



Method and apparatus for filling abandoned coal mines to create a barrier through which the fire will not burn and to support the earth above the mine. A series of holes are drilled from the surface into the mine cavity, and fly ash is blown into the holes under pressure to create the barrier. In another embodiment of the invention, the fire is smothered directly by covering the burning surfaces with fly ash.

3,421,588
VARIABLE PITCH PROPELLERS FOR MOTOR DRIVEN DEVICES
Norman N. Saula, 323 Kline Ave., Turtle Creek, Pa. 15145
Filed Oct. 5, 1967, Ser. No. 673,044
U.S. Cl. 170—160.59 3 Claims
Int. Cl. B63h 1/06; B63h 3/00; B64c 11/36



The propeller comprises a hub and a plurality of adjustable propeller blades. Each propeller blade comprises a boss the shape of a conic frustum having axially extending teeth and a shank between the boss and blade section. Housings provided in the hub are the reverse in shape to the bosses and have inwardly extending teeth which mesh with the teeth on the bosses. An opening leading from one end of each housing serves as a bearing for a shank and chambers at the opposite ends of the

housings carry springs which hold the teeth in mesh. Since the bosses and housing are conical the teeth may be disengaged for pitch adjustment by moving the bosses radially a distance substantially equal to the depth of the teeth.

3,421,589

BLADE MOUNTINGS AND CONTROLS FOR ROAD GRADERS

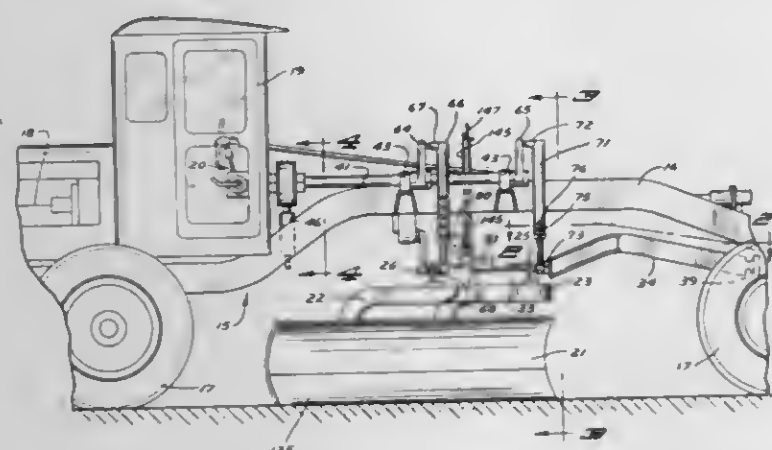
Theodore Rivinius, 1011 Ave. B West,
Bismarck, N. Dak. 58501

Continuation-in-part of application Ser. No. 362,740,
Apr. 27, 1964. This application Sept. 16, 1965, Ser.
No. 487,785

U.S. Cl. 172-4.5

11 Claims

Int. Cl. E02f 3/76; E02f 3/12



A grading machine having a main frame and an earthworking blade mounted onto a circle frame which in turn is attached to the main frame. Linkages are positioned on opposite sides of the circle frame for controlling the depth of the earthworking blade and the transverse angle of the blade. The linkages hold the circle frame stable in fore and aft directions so that the circle frame moves up and down in a parallel relationship with respect to an axis extending in the direction of movement of the grading machine.

3,421,590

APPARATUS FOR DEFLECTING A BOREHOLE

Reginald J. S. Clappison, Melbourne, Victoria, Australia,
assignor to Western Mining Corporation Limited, Mel-
bourne, Australia, a company of Victoria

Filed Nov. 26, 1965, Ser. No. 509,930

U.S. Cl. 175-73

3 Claims

Int. Cl. E21b 7/06; E21b 9/34



An apparatus for deflecting a bore hole wherein a deflecting wedge assembly is attached to the lower end of a drill rod and locked in position relative to the bottom

of the bore hole so that when the bore hole is drilled past the deflecting wedge, the bore hole is deflected relative to the main bore hole by the deflecting wedge.

3,421,591

ROCK DRILL FOR RECOVERING SAMPLES

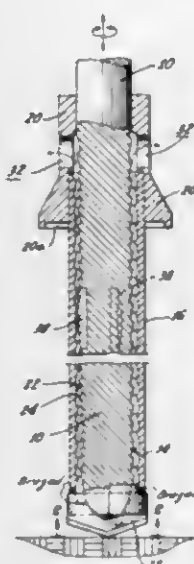
James E. Webb, administrator of the National Aeronautics
and Space Administration with respect to an inven-
tion of Allen G. Ford, Pasadena, Calif.

Filed Dec. 27, 1966, Ser. No. 605,097

U.S. Cl. 175-323

9 Claims

Int. Cl. E21b 17/00; E21c 13/04; E21c 13/06



A rock drill is provided comprising a drill rod and surrounding sleeve. The drill rod exterior and surrounding sleeve interior are threaded so that the tips on the rod threads and the tips of the sleeve threads are staggered. The vibratory motion of the rod and sleeve serve to propel rock particles through the annular space between the rod and sleeve and upwardly by reason of the threaded surfaces of the respective rod and sleeve.

3,421,592

MILK WEIGHING MACHINE

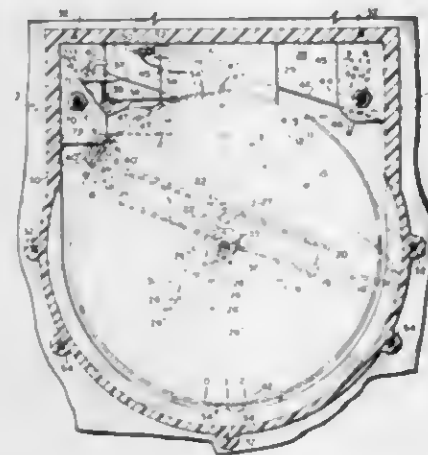
Jack David Kokernoot, 3141 SW. 18th St.,
Fort Lauderdale, Fla. 33312

Filed July 14, 1966, Ser. No. 565,198

U.S. Cl. 177-24

7 Claims

Int. Cl. G04g 19/40



A milk weighing machine including a rockable dump pan having two chambers and supported on a fulcrum in a bowl, the pan having a cylindrical passage in which a ball is rollable to opposite sides of the fulcrum so that the pan will not be rocked by milk flowing into one chamber

until the ball is overbalanced, after which the pan rocks and the ball rolls to the other side of the fulcrum. A registering means operated by the pan is completely separately housed so that the bowl and pan can be immersed for cleaning without affecting the registering means. The registering means counts the increments of weight measured by the dump pan and indicates the accumulated weight. Different types of registering means are disclosed including a mechanical type, a pneumatic type and an electrical type.

3,421,593

RAILROAD TRACK SCALE

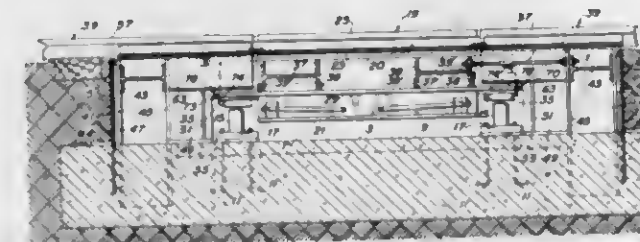
Maurice J. Buchman, Chicago, Ill., assignor to Interna-
tional Railroads' Weighing Corporation, Northfield, Ill.,
a corporation of Illinois

Filed Sept. 2, 1965, Ser. No. 484,590

U.S. Cl. 177-134

12 Claims

Int. Cl. G01g 19/06



A railroad track scale has a scale pit formed by a concrete slab and a corrugated earth-retaining side wall. Within the pit is a weighbridge and approach sections at each end thereof. The approach sections have columns that are embedded in the slabs and cantilevers that project from the columns and vertically overlap the ends of the weighbridge.

3,421,594

WEIGHING APPARATUS

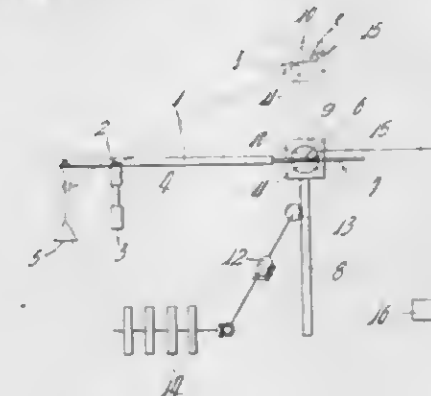
Masamichi Hino, Hirakata, Japan, assignor to Kubota
Iron and Machinery Works, Ltd., Osaka, Japan

Filed Nov. 3, 1966, Ser. No. 591,811

U.S. Cl. 177-223

4 Claims

Int. Cl. G01g 1/12



A weighing apparatus of the so-called pendulum type which has a load carrying means on a weighted beam. A support carrying member extends in a straight line transversely to the beam, and a support is movable along the support carrying member and carries a photoelectric means along the carrying member and a light producing means which directs light toward the photoelectric means. The beam carries a shadow producing member which in the balanced position of the beam casts a shadow on the photoelectric means which causes the photoelectric means to produce no differential signal. Movement of the beam out of the balanced position causes the photoelectric means to produce a differential signal which drives a driving means for moving the support member toward the balanced position.

3,421,595

BALANCE-BEAM SUSPENSION

Ernest Kuhle and Josef Schwarz, Balingen, Wurttem-
berg, Germany, assignors to Bizerba-Werke Wilhelm
Kraut KG., Balingen, Wurttemberg, Germany

Original application Feb. 19, 1965, Ser. No. 433,858.

Divided and this application Apr. 10, 1967, Ser.

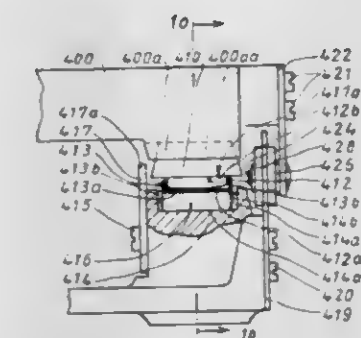
No. 659,242

Claims priority, application Germany, Feb. 20, 1964,
B 75,506; Aug. 20, 1964, B 78,190

U.S. Cl. 177-261

7 Claims

Int. Cl. G01g 21/04



Scale bearing comprising a knife-edge supported on a pan which permits rotational movement of the knife-edge about an axis perpendicular to the knife-edge, said pan being supported in a manner to allow lateral movement of the pan in a direction perpendicular to the knife edge, and elements extending from the beam supporting the knife-edge and from the frame supporting the pan, said elements engaged in an interlocking relationship and permitting relative rotation of beam with respect to the frame about an axis colinear with the knife edge.

3,421,596

FOUR WHEEL DRIVE VEHICLE WITH HYDRO-DYNAMIC TORQUE CONVERTER AND A.C. GENERATOR DRIVE TRANSMISSION

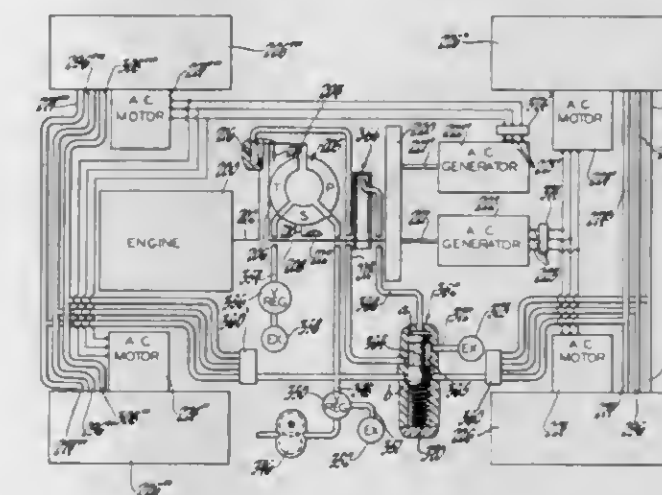
Howard W. Christenson and William G. Livezey, Indian-
apolis, Ind., assignors to General Motors Corporation,
Detroit, Mich., a corporation of Delaware

Filed Jan. 18, 1965, Ser. No. 426,330

U.S. Cl. 180-44

19 Claims

Int. Cl. B60k 17/34



A transmission drive train system connects a prime mover to a vehicle's front and rear wheels and includes a hydrodynamic unit providing drive to an AC generator-plural AC motor set. Each motor output of the electric drive set is connected by a power wheel gear unit to a rear wheel. The front wheels are either driven by a similar electric drive set and power wheel gearing or through a multi-speed gear box driven by the hydrodynamic unit. The power wheel gear units are located in their respective wheels and are removable from the out-

board side together with a wheel brake assembly. The brake assemblies are connected to their respective wheel gear units to handle a fraction of wheel torque and have dynamic brake members which rotate faster than wheel speed to provide pumping action for brake cooling.

3,421,597 SOUND ABSORBER

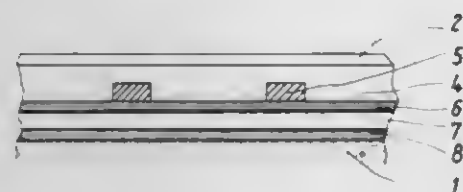
Hans Blau, Baden-Baden, and Gerhard Stooß, Hilden, Germany, assignors to Hermann Wiederhold, Hilden, Rhineland, Germany

Filed Sept. 20, 1965, Ser. No. 493,303

Claims priority, application Germany, Sept. 21, 1964, M 62,506

U.S. Cl. 181—33
Int. Cl. E04b 1/99

13 Claims



A broad band low reflection sound absorber for absorbing sound through a solid or liquid medium and adapted to transform the sound particle velocity of sound incident upon the same, which sound absorber comprises as the essential sound absorbing element a body of dissipative synthetic material which is constituted by an incompletely cross-linked or incompletely cross-linked and plasticized polyurethane elastomer having compressible occlusions incorporated therein.

ERRATUM

For Class 181—5 see:
Patent No. 3,422,447

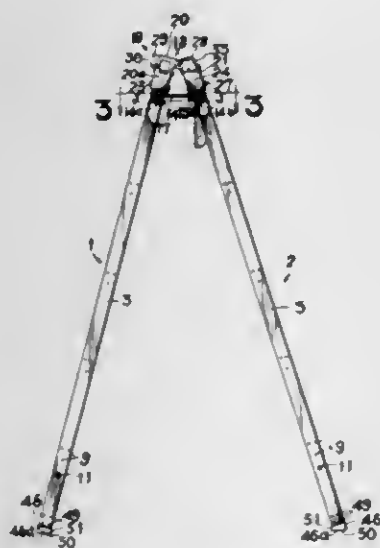
3,421,598 COMBINATION LADDER

Koichi Yoshihisa, Osaka, Japan, assignor to Showa Aluminum Kabushiki Kaisha, Osaka, Japan, a corporation of Japan

Filed Oct. 11, 1966, Ser. No. 585,946

U.S. Cl. 182—24
Int. Cl. E06c 1/14

6 Claims



A combination ladder is provided which comprises first and second step members each having first and second side legs with rungs extending therebetween and supported thereby. A hinge is arranged astride the step members at corresponding extremities thereof, and lock means are

provided which include an operational lever for maintaining the step members in a straight line for use as an ordinary ladder. A connecting rod, including a work bench supported therefrom, is provided and functions to maintain the step members in a reversed V-shape for use as a step ladder.

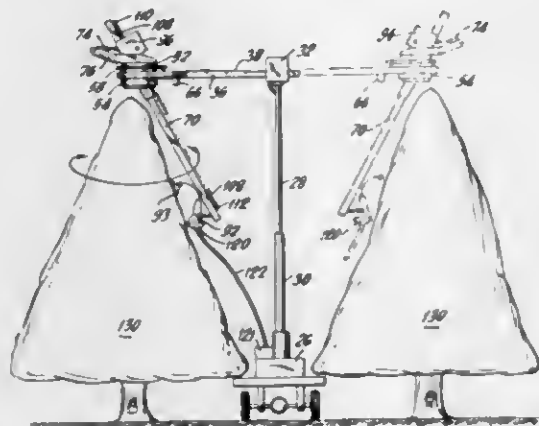
3,421,599 MOBILE SCAFFOLDING DEVICE PARTICULARLY FOR FRUIT PICKING

William C. Schmidt, Lake Hiawatha, N.J.
(76 W. Muriel St., Orlando, Fla. 32806)

Filed Nov. 15, 1966, Ser. No. 594,517

U.S. Cl. 182—141
Int. Cl. E04g 1/18

14 Claims



1. A movable platform device comprising a supporting beam, means for supporting said supporting beam at a selected elevation, a positioning beam carrying a supporting platform, and means supporting said positioning beam on said supporting beam for pivotal angular movement and for rotation, said means supporting said positioning beam on said supporting beam including a drum mounted on said positioning beam for rotation, said positioning beam being pivotally mounted on said drum.

3,421,600 INDUSTRIAL LUBRICATING SYSTEM

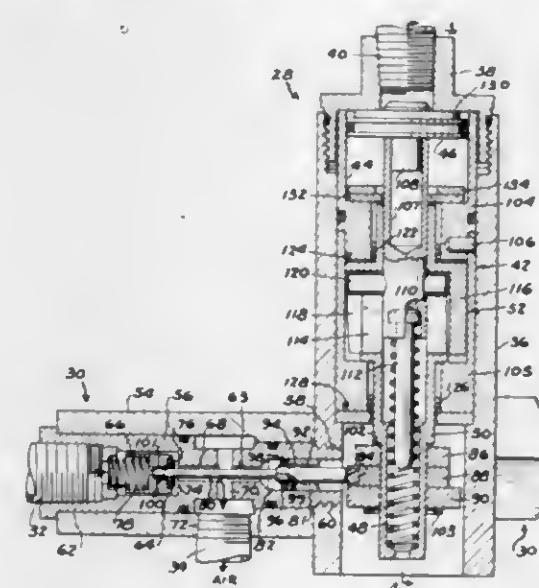
Quin R. Gleason, Warren, and George E. Thrasher, Jr., Pontiac, Mich., assignors to Master Pneumatic-Detroit, Inc., Utica, Mich., a corporation of Michigan

Filed Mar. 14, 1966, Ser. No. 533,986

U.S. Cl. 184—7

Int. Cl. F01m 1/02; F16n 7/14; F16n 25/00

20 Claims



A number of individual air-actuated lubricant pumps are mounted beneath a lubricant reservoir. Individual pumps or individual groups of pumps are selectively actuated at different frequencies by a mechanism which

counts the cycles of operation of the lubricated equipment. The counting mechanism converts air pressure fluctuations to intermittent unidirectional rotary movement of cams to actuate pneumatic valving associated with the pumps.

3,421,601 ACTUATOR MOUNTING MEANS FOR SPREADING DISC BRAKE

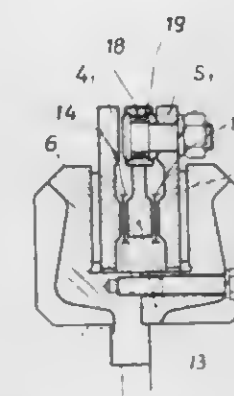
Hermann Klaue, Ave. des Planches 3, Montreux, Switzerland

Filed Dec. 1, 1967, Ser. No. 687,304

U.S. Cl. 188—72

Int. Cl. F16d 55/00

4 Claims



A disc brake of the type having an annular outwardly opening U-shaped housing and having an annular drive ring and the frictional disc elements located between the legs of the U. The drive ring is supported by rolling elements in contact with the outer periphery of the drive ring and rotatable about axis pins connected to outwardly extending projections of said disc elements.

3,421,602 SPOT TYPE DISC BRAKE INCLUDING SPRING BIASED CALIPER

Haydn L. Craske, Birmingham, England, assignor to Girling Limited, Birmingham, England

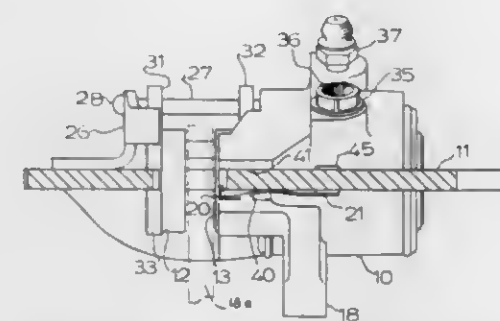
Filed Nov. 8, 1966, Ser. No. 592,903

Claims priority, application Great Britain, Nov. 15, 1965, 48,283/65

U.S. Cl. 188—73

Int. Cl. F16d 55/00

15 Claims



The invention provides a spot type disc brake in which a yoke is slidably received in longitudinal grooves at opposite sides of a body member containing at least one piston of a hydraulic actuator. One piston bears against the yoke which actuates an indirectly operated pad whilst a second piston (in the case wherein the body member is fixed) or the body member itself (in the case wherein the body member is movable) bears against a directly operated pad. Elongated spring means, such as a leaf spring or a wire spring, are fitted in the grooves between the yoke and the radially inner walls of the grooves to bias the yoke against the radially outer walls of the grooves. The elongated spring means extends longitudinally of the grooves.

3,421,603 CLOSED LOOP DISC BRAKE

Gerhard Ernst Ludwig Otto Schuchmann, Stromberg, Heinrich Bernhard Rath, Koblenz-Luetzel, and Hermann Hans Hoenick, Immendorf, Germany, assignors to Girling Limited, Birmingham, Warwickshire, England

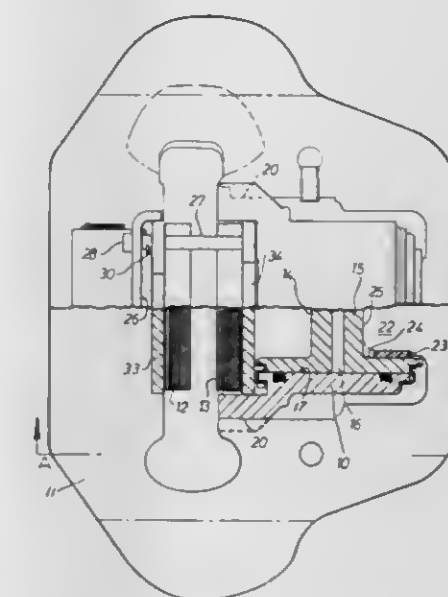
Filed Nov. 15, 1966, Ser. No. 594,459

Claims priority, application Great Britain, Nov. 15, 1965, 48,284/65

U.S. Cl. 188—73

Int. Cl. F16d 55/00

11 Claims



The invention provides a spot type disc brake in which a yoke of plate-like material is slidably received in longitudinal grooves at opposite sides of a body member containing a hydraulic actuator operative between a directly operated pad and the yoke which actuates an indirectly operated pad. A movable component of the actuator, such as a piston, contains a blind bore in which a flat tongue on the yoke is located by an insert of low friction plastics material, such as P.T.F.E.

3,421,604 DISC BRAKE ACTUATING PISTON ADJUSTING MEANS

Leonard James Hobbs, London, England, assignor to Morganite Carbon Limited, London, England, a corporation of the United Kingdom

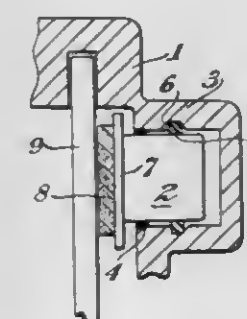
Filed May 15, 1967, Ser. No. 638,481

Claims priority, application Great Britain, May 24, 1966, 23,154/66

U.S. Cl. 188—73

Int. Cl. F16d 55/00

6 Claims



The invention relates to a piston assembly for use in a disc brake system wherein the piston carries a brake pad on one end and is arranged for hydraulic pressure to be exerted on the other end. The piston is slidably within a piston housing. At least one resilient retaining member of rubber held by the housing bears against and grips the

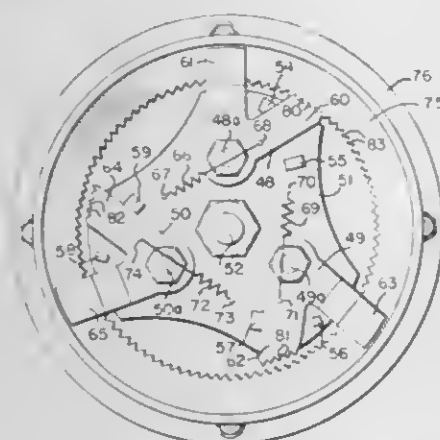
side of the piston, and at least part of the surface of the piston on which the retaining member bears is made of carbon, the high coefficient of friction between rubber and carbon substantially preventing relative sliding movement of the retaining member and the piston in use so that the piston returns to a constant rest position relative to the braking disc after application of the brakes and after any "knock-back."

3,421,605

LOCKING MECHANISM FOR SEAT BELTS

Melvin O. Hansen, 20237 6th Ave. S.,
Seattle, Wash. 98148

Original application Feb. 1, 1966, Ser. No. 524,025, now
Patent No. 3,332,720, dated July 25, 1967. Divided and
this application June 7, 1967, Ser. No. 645,102
U.S. Cl. 188—82.77 4 Claims
Int. Cl. F16d 41/10



This invention relates to a locking mechanism adapted to be used with seat belts for air and land vehicles. The locking mechanism includes pawl means pivotally supported from a rotatable pawl carrier. The pawl means is comprised of a weight arm and a jaw arm, said jaw arm being engagable with an associated fixed, toothed, locking ring upon rapid acceleration of said pawl carrier.

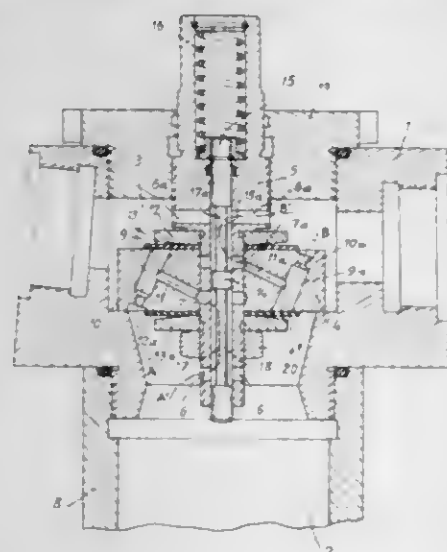
3,421,606

LOAD-RESPONSIVE HYDRAULIC SHOCK ABSORBERS

Jean Georges Cadiou, Paris, France, assignor to Societe
Anonyme Andre Citroen, Paris, France, a corporation
of France

Filed Dec. 9, 1966, Ser. No. 600,511
Claims priority, application France, Dec. 14, 1965
42,161

U.S. Cl. 188—100 4 Claims
Int. Cl. F16d 57/00; F16k 17/26; F16k 45/00



1. Hydraulic shock absorber for automotive or other vehicles equipped with a hydraulic suspension system,

this shock absorber being of the type comprising a hollow body filled with liquid, a partition separating said hollow body into two compartments of which one is of the variable volume type, and valve means controlling the flow, through suitable ducts of the aforesaid liquid from one compartment to another, this shock absorber being further characterized in that said partition comprises in a bore an auxiliary jet consisting of a slide valve responsive to elastic return means and having one end responsive to the suspension liquid pressure and the other end responsive to a constant pressure, said slide valve being adapted, in predetermined positions, to open or close at least one auxiliary communication passage between said two compartments, said passage being controlled by said valve means.

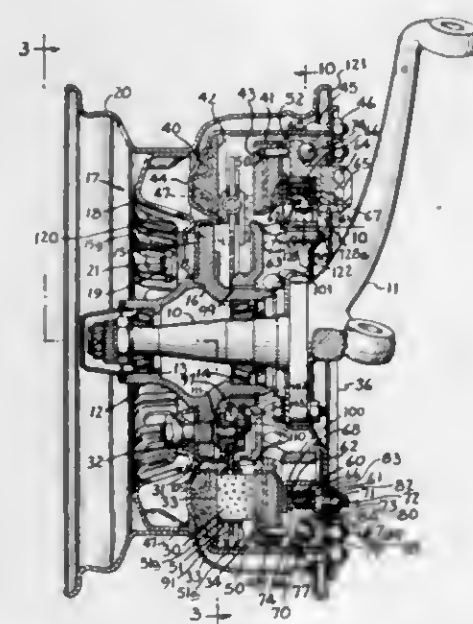
3,421,607

DISC BRAKE WITH COMPENSATION, ANTI-SKID CONTROL, AND FAIL-SAFE SYSTEM

Edward A. Rockwell, 167 Ashdale Place,
Los Angeles, Calif. 90049

Original application Mar. 8, 1965, Ser. No. 437,693, now
Patent No. 3,326,333, dated June 20, 1967. Divided and
this application Mar. 7, 1967, Ser. No. 654,937

U.S. Cl. 188—196 11 Claims
Int. Cl. F16d 65/38; B60t 11/10



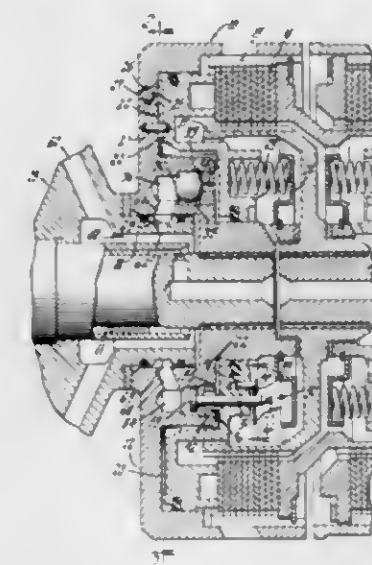
A vehicle braking system including a pair of parallel master cylinders having independent fluid reservoirs connected to a pair of slave cylinders at each wheel through dual hydraulic lines. A single foot pedal is used for both service brake and parking brake applications, with a latching mechanism cooperating with the foot pedal to hold it in a latched position for the parking brake application. The latch can be released only by advancing the pedal slightly beyond the latched position, so that the brakes must be applied at the time that the parking brake is released. The dual slave cylinders at each wheel include a compensating mechanism which automatically reduces the fluid requirements of the wheel cylinders and pistons in response to increase fluid pressure in the hydraulic system. The brake mechanism also includes an anti-skid device which varies the brake effectiveness in response to an inertial control mass. A disc brake arrangement is also provided in which at least one of the braking surfaces is provided by a series of circumferentially spaced brake pads which permit cooling air to circulate therebetween, and are also radially movable for cooperation with the inertial control mass of the anti-skid mechanism.

3,421,608

CLUTCH WITH AUTOMATIC MODULATING VALVES

Jack H. Van Gorder, Detroit, Mich., assignor to General
Motors Corporation, Detroit, Mich., a corporation of
Delaware

Filed Dec. 8, 1966, Ser. No. 600,110 8 Claims
U.S. Cl. 192—85
Int. Cl. F16d 25/02



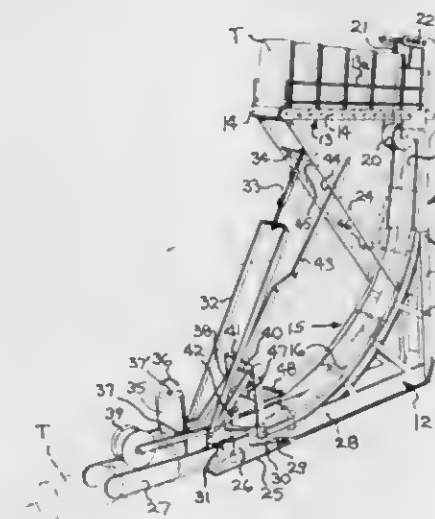
A fluid pressure engaged clutch including a valve in the clutch motor for automatically providing rapid initial engagement and slow final engagement. Centrifugal valves are provided to open successively at increasing clutch speeds so as to engage the clutch more rapidly as clutch speed increases.

3,421,609

DRAIN TILE LAYING APPARATUS

John D. Schmunk, Findlay, Ohio, assignor to The
Hancock Brick & Tile Company, Findlay, Ohio,
a corporation of Ohio

Filed Sept. 19, 1966, Ser. No. 580,465 7 Claims
U.S. Cl. 193—2
Int. Cl. B65g 11/00



1. Tile laying apparatus comprising an upright frame adapted to be hauled along a tile-receiving trench, a downwardly and rearwardly inclined chute on said frame and along which a column of tile are adapted to gravitate, a platform at the upper end of said chute, and arranged horizontally over which tile are advanced to said chute, a tray adjacent the lower end of and separate from said chute and over which tile travel after leaving the chute, means to adjust said tray for varying the spacing between adjacent tile delivered to the trench, and means to

engage the tile in the trench and militate against adjacent tile crowding together due to the thrust of tile in the chute.

ERRATUM

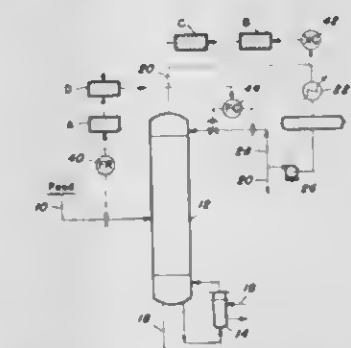
For Class 192—84 see:
Patent No. 3,421,784

3,421,610

AUTOMATIC CONTROL OF REFLUX RATE IN A GAS SEPARATION FRACTIONAL DISTILLATION UNIT

Louis Marshall, Great Neck, N.Y., assignor to The
Lummus Company, New York, N.Y., a corporation
of Delaware

Filed Feb. 28, 1966, Ser. No. 530,521 8 Claims
U.S. Cl. 196—99
Int. Cl. C10g 7/00



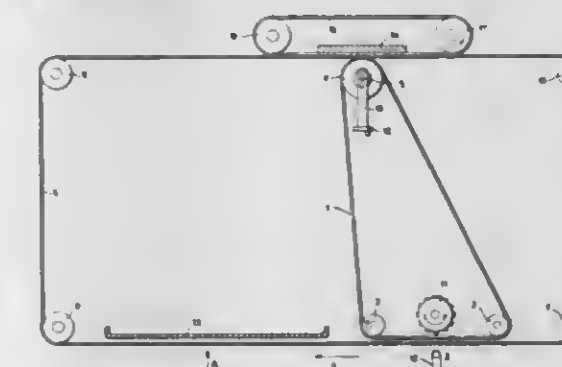
A control system for a fractionation tower wherein a first analog computing module establishes a first signal proportional to the allowable reflux rate for the feed rate to the tower, a second analog computing module establishes a second signal proportional to the actual concentration of a particular component in the tower overhead less the allowable maximum concentration of the component, a third analog computing module establishes a third signal which is the higher of the second signal and zero, a fourth analog computing module establishes a fourth signal proportional to the sum of the first signal and the integral of the third signal over a period of time and the fourth signal is employed to control the reflux rate to the tower.

3,421,611

IMPRINTING AND OBLITERATING APPARATUS

Victor Spreter, 29 Rue Sautter, Geneva, Switzerland, and
Max Schonfelder, 17 Chemin-des-Paquerettes, Petit-
Lancy, Geneva, Switzerland

Filed July 6, 1966, Ser. No. 563,130 9 Claims
U.S. Cl. 197—49
Int. Cl. B41z 1/32

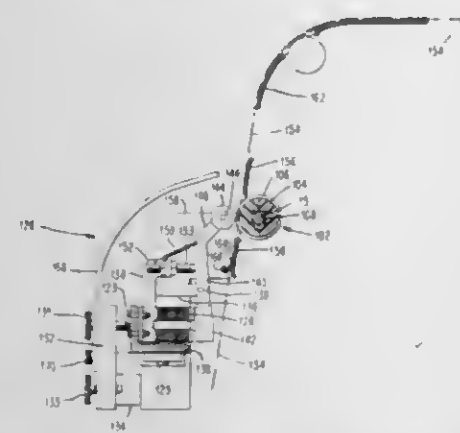


A printing device is provided which ink prints with a non-diffusible endless inking ribbon onto an endless plastic band of polyester resin, such as polyethylene terephthalate, and then at a later station, after passing reading position, rubs the same inking ribbon over the plastic band to effect obliteration and reabsorption of the ink imprint back onto the inking ribbon.

3,421,612 LISTER ATTACHMENT FOR HIGH SPEED WEB PRINTERS

Solomon H. Plitt, Norristown, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

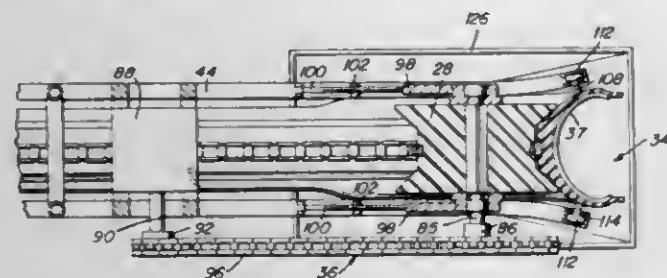
Filed Aug. 30, 1965, Ser. No. 483,585
U.S. Cl. 197—133 1 Claim
Int. Cl. B41j 15/04; B41j 13/02



This invention relates to high speed printers, and more particularly to attachments for such printers whereby, in addition to their normal function of printing on a single continuous wide web, they may also be utilized to print upon multiple continuous webs or lists, either individually or simultaneously. In practicing the invention the normal traction elements for driving a single wide web are inactivated by moving them to certain positions on their drive shaft. Then a plurality of traction spools are attached to the drive shaft, one spool for each list to be printed. Each spool is provided with a pinch roller which is selectively movable against the spools either singly or in combination, in accordance with programmed instructions from a computer with which the printer is associated, thus to advance the lists line by line, or otherwise.

3,421,613 RESILIENT TUBULAR CONVEYOR Curtis J. Sadek, 7300 8th St., Rio Linda, Calif. 95673

Filed Dec. 20, 1966, Ser. No. 603,227
U.S. Cl. 198—184 8 Claims
Int. Cl. B65g 15/08



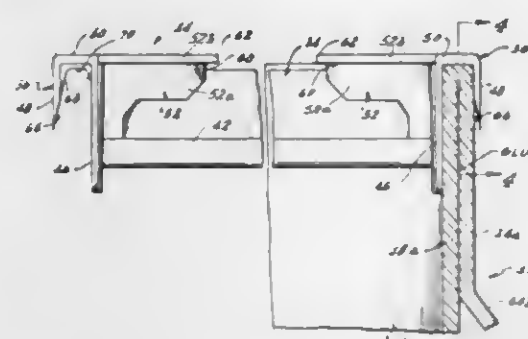
A conveyor for viscous fluent material comprising a rotatably mounted boom including coextending boom side frame portions having roller means rotatably mounted therebetween adjacent the ends of the boom and wherein the boom side frame members include opposed continuous anti-friction roller guide tracks. A resilient tubular conveying member is entrained about the roller means and includes a plurality of anti-friction roller members carried thereby in diametrically opposed outwardly projecting relation thereto and wherein the anti-friction rollers thereof track within the aforementioned anti-friction roller track means to normally maintain the tubular conveyor member closed. At points spaced along the boom, coinciding with the loading and discharging points for the conveyor, means are provided for opening the tubular conveying member which is provided with an axially extending radial slit through the

wall thereof. At the aforementioned selected points the tubular member is opened by the simultaneous utilization of a wedge-shaped wheel interposed in the path of tubular member so as to cause an abutment for physically separating the side walls of the tubular member at the site of the radial slit and a positive outwardly camming effect imposed upon the side walls of the tubular member by virtue of the anti-friction roller track means curving outwardly contiguous with the preselected charging and discharging points.

3,421,614 CONTAINER FOR HANGER-SUPPORTED CLOTHING

Walton B. Crane, 4346 Matilija Ave., Sherman Oaks, Calif. 91403

Filed Jan. 12, 1967, Ser. No. 608,897
U.S. Cl. 206—7 7 Claims
Int. Cl. B65d 85/18

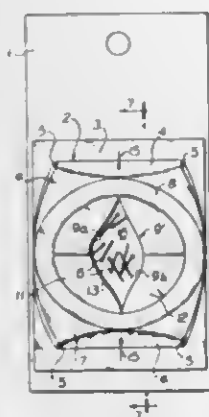


A container assembly for hanger-supported garments embodying a reinforced container and a specially constructed hanger bar removably mounted in the container at its upper end. The container bar is adapted to be used independently of the container in the storage and handling of the garments, both prior to installation of the bar supporting the hangers with the garments in the container and after its removal therefrom.

3,421,615 DISPENSING BLISTER PACKAGE WITH CLOSABLE OPENING IN THE BLISTER MEMBER

George W. Salzer, Woodstock, Chester B. Derr, South Woodstock, and Joseph F. Cristina, Dayville, Conn., assignors to William Prym, Inc., Dayville, Conn., a corporation of New York

Filed Oct. 3, 1967, Ser. No. 672,533
U.S. Cl. 206—44.12 10 Claims
Int. Cl. B65d 75/58

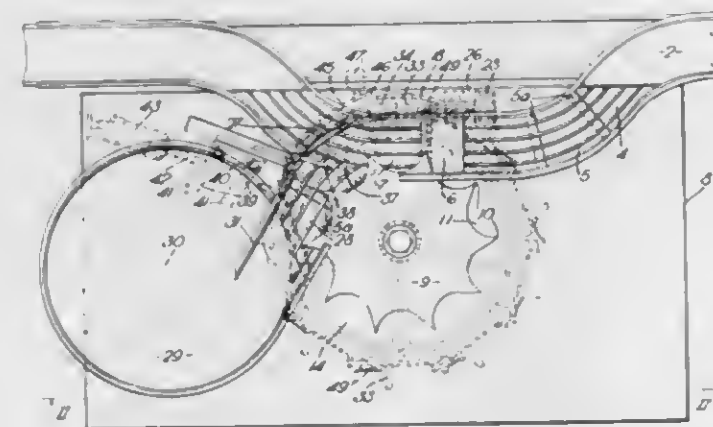


An openable and closable blister package for display, storage and dispensing of articles, which comprises a backing board having a flat continuous surface, and a blister-shaped container open on one side and including resilient walls. Means are provided for affixing the container to the backing board covering the open one side of the container. The walls of the container define an interior

chamber in cooperation with the backing board for holding articles therein. The resilient walls define a slit opening therein having two edges abutting each other in a closed unflexed position. The resilient walls form opposed bendable portions oriented laterally relative to and at opposite longitudinal ends of the slit opening and are adapted to be pressed toward one another, thereby spreading the edges of the slit opening apart in an open flexed position, thereby defining an access opening into the interior chamber, and the resilient walls return to their closed unflexed position and cause the edges to resiliently return to abutment with each other when the pressure is released from the opposed bendable portions.

3,421,616 EJECTOR APPARATUS FOR ARTICLE FEEDLINES Harold Jenner and Jack R. Madley, London, England, assignors to Udec Limited, London, England, a corporation of Great Britain

Filed May 9, 1967, Ser. No. 637,197
Claims priority, application Great Britain, May 11, 1966,
20,963/66 12 Claims
U.S. Cl. 209—74
Int. Cl. B07c 5/00

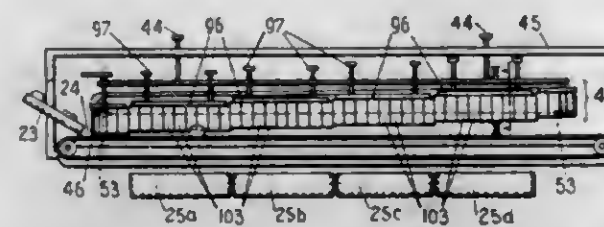


An ejector apparatus, for use in a feedline of articles moving in succession, for rejecting articles moving in succession, for rejecting articles in response to a signal from a detecting device, said apparatus comprising a feed path for said articles, a rotor having a plurality of spaced projections movable in said path to be engaged by said articles, a plurality of deflectors movably mounted on a carrier normally clear of said articles, a device responsive to said signal to move at least one deflector into the path of said articles, a guide responsive to said signal to move into said article path whereby said articles if detected are ejected from said path, a gate device responsive to said signal to permit said detected and diverted articles to leave said path, and table to receive said diverted articles from said gate device.

3,421,617 DEVICE FOR SORTING IN SIZE AGRICULTURAL OR HORTICULTURAL PRODUCTS

Jan A. de Greef, De Hoekenburg 2, Tricht, Netherlands

Filed Nov. 8, 1966, Ser. No. 592,889
U.S. Cl. 209—97 1 Claim
Int. Cl. B07c 5/04; B07c 1/10



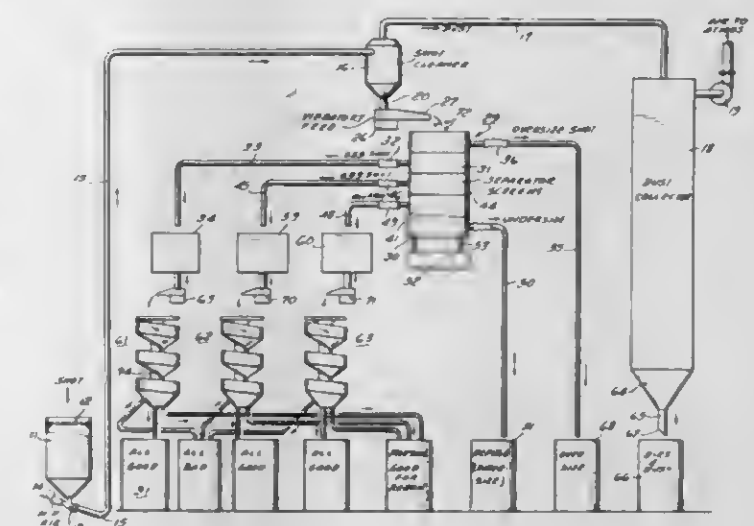
A fruit sorting device having cooperating members of gradually increased spacing. One of the members is com-

posed of a plurality of measuring means guided at an adjusted height above the other member along a stepped path.

3,421,618 SHOT CLASSIFYING APPARATUS

Harold W. Burney, Hackensack, N.J., Paul E. Bickel, Santa Monica, Calif., and William J. Koenecke, Glen Rock, N.J., assignors to Metal Improvement Company, Hackensack, N.J., a corporation of New Jersey

Filed Aug. 1, 1966, Ser. No. 569,131
U.S. Cl. 209—112 8 Claims
Int. Cl. B07c 9/00

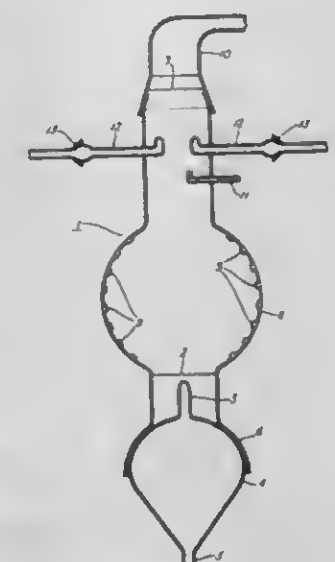


This invention relates to classifying apparatus particularly adapted for segregating shot adapted for peening operations. It also provides by means of a plurality of generally helically shaped flight members for removing contaminants as well as dirt and foreign matter from the shot. Through the use of associated screening apparatus, shot of different size can be selected prior to sorting.

3,421,619 METHOD AND MEANS FOR SEPARATING INDIVIDUAL FIBERS FROM A FIBROUS MASS

Rimvydas P. Jakas, Norristown, and Juan Chorné, King of Prussia, Pa., assignors to General Electric Company, a corporation of New York

Filed Mar. 8, 1967, Ser. No. 621,679
U.S. Cl. 209—141 11 Claims
Int. Cl. B07b 4/00; B07b 11/04



A pulsating, upwardly flowing gas stream separates individual fibers from a fibrous mass and carries these fibers to the top of the separatory chamber enclosing the fibrous mass, where the separated fibers are harvested.

The fibers, oriented in a horizontal plane, collect in a mat on a screen at the top of the separatory chamber. Separation is enhanced by rotating the source of the pulsed gas flow, by providing an enlarged space where gaseous eddy currents occur in the separatory chamber, by projections on the walls of the separatory chamber and by auxiliary, non-pulsating gas injection. The process is particularly applicable to separating α -alumina whiskers and to classifying separated fibers, according to size, by gradually increasing the pressure of the pulsed gas source.

3,421,620

PROCESS AND DEVICE FOR SEPARATION OF COMPONENTS OF DIFFERENT SPECIFIC GRAVITIES FROM MIXTURES THEREOF

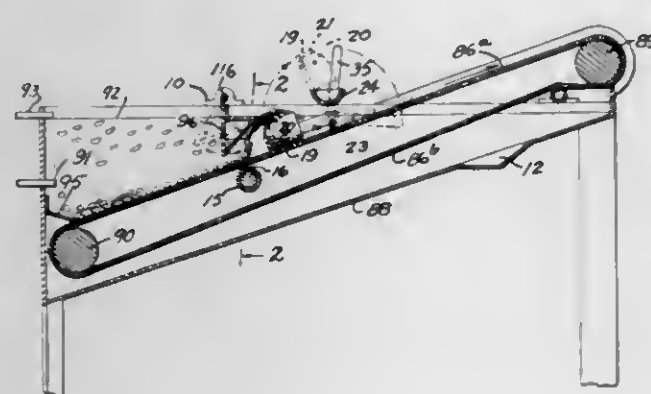
Fernand S. Lapeyre, New Orleans, La., assignor to The Laitram Corporation, New Orleans, La., a corporation of Louisiana

Filed May 24, 1965, Ser. No. 458,130

U.S. Cl. 209-157

Int. Cl. B03d 1/24

18 Claims



A process and device for the separation of components which are heavier than water but of different specific gravities in which the components to be separated are placed in a liquid bath and the two components are first lifted and then moved over a trap whereby the heavier of the two components by gravitation will settle out in the trap and the lighter component will pass over the trap and be separated.

3,421,621

ORE FLOTATION METHOD

Clinton Allen Hollingsworth, Lakeland, and Bobby L. Sapp, Plant City, Fla., assignors to The Borden Company, New York, N.Y., a corporation of New Jersey
No Drawing. Continuation-in-part of application Ser. No. 466,546, June 24, 1965. This application Mar. 4, 1968, Ser. No. 709,934

U.S. Cl. 209-166

Int. Cl. B03d 1/02

4 Claims

A method for the concentration of minerals in flotation cells where preconditioning of the mineral feed with a flotation reagent is not required. More particularly, the method of forming an intimate mixture of flotation reagent, water and air at a point in the cell below that of the addition of the mineral feed to be floated and then contacting the feed with this intimate mixture.

3,421,622

CLEANING AND DEAERATING PAPER PULP SUSPENSIONS

George G. Wurtmann, Wantagh, N.Y., assignor to Nichols Engineering & Research Corporation, New York, N.Y., a corporation of Delaware

Filed Aug. 19, 1965, Ser. No. 480,987

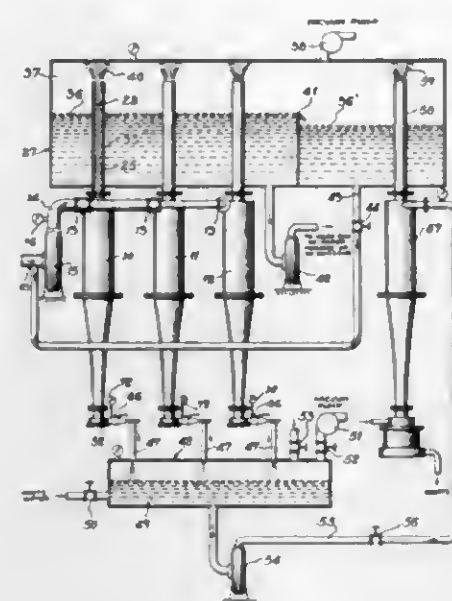
U.S. Cl. 209-211

Int. Cl. B01d 19/00

3 Claims

Hydrocyclone system and method for cleaning and deaerating paper pulp. Hydrocyclone overflow tube dis-

charges to an accepts vacuum receiver. The apex outlet discharges rejects through a restricted tangential outlet to a rejects vacuum receiver. The restricted outlet isolates



the lower end of the air core with respect to the rejects vacuum receiver. Pressure is varied within the rejects vacuum receiver to control percentage of rejects.

3,421,623

VIBRATORY SEPARATOR

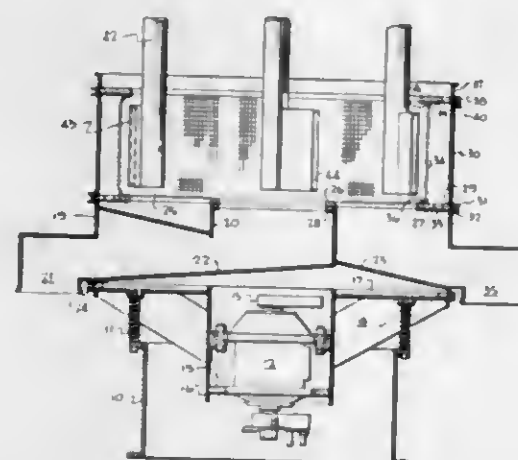
Richard K. McKibben, La Canada, Calif., assignor to Southwestern Engineering Company, Los Angeles, Calif., a corporation of California

Filed Nov. 28, 1966, Ser. No. 597,397

U.S. Cl. 209-243

Int. Cl. B07b 1/28

10 Claims



A vibratory separator including a screening structure mounted in a housing, the screening structure including a first portion having a central discharge opening therein and a second portion upstanding at near the periphery of the first portion such that material which does not flow through the second portion is delivered to the first portion near the periphery thereof. A feed material arrangement is provided adjacent the second portion of the screening structure for delivering material to be separated adjacent the inside surface of the second portion, preferably substantially tangentially thereto, the feed arrangement including at least one feed pipe having an elongated opening therein to allow material to be fed to the second portion along substantially the entire height thereof.

3,421,624

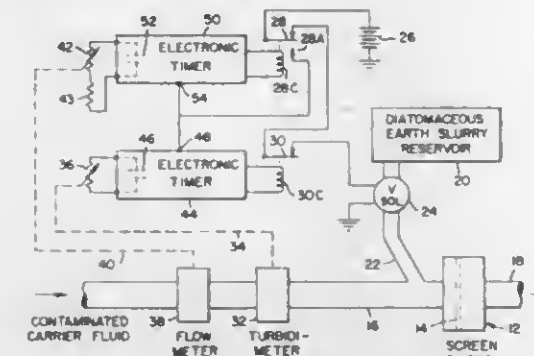
TIMING APPARATUS FOR FILTRATION SYSTEM

James R. Boyd, Oakland, Calif., assignor to De Laval Turbine, Inc., Millbrae, Calif.
Filed June 6, 1966, Ser. No. 555,317

U.S. Cl. 210-96

Int. Cl. B01d 37/02

1 Claim



Apparatus for timing the inflow duration of filtration medium into a filtration system. A simple solenoid valve either permits or arrests flow of the medium into the system and the rate of addition of the filtration medium is varied by varying the time sequence of opening and closing the solenoid valve. A first electric circuit generates an electric signal that has a time duration for a period inversely proportional to the rate of inflow of contaminated material. A second circuit is provided for generating within the above-mentioned time period an electric signal having an interval within the time period that is proportional to the degree of contamination. During the latter interval only is the solenoid valve open.

3,421,625

APPARATUS FOR REMOVING IRON FROM WATER

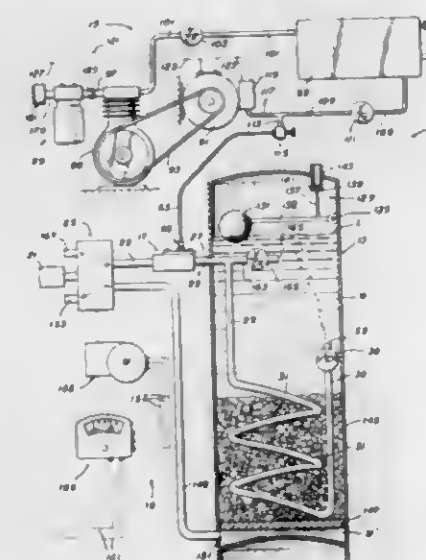
Ernest M. Fritz, 7357 Memphis-Arlington Road, Ellendale, Tenn. 38029

Filed June 6, 1966, Ser. No. 555,573

U.S. Cl. 210-101

Int. Cl. C02b 1/26

3 Claims



Apparatus for removing iron from water. Mixing valve means is provided in a water inlet conduit for mixing compressed air from a compressed air supply means with the water, from where the water mixed with air is led into a tank through a tortuous path, in which tank filtering means is provided for filtering iron and the like from the water. The mixing valve has means for mixing the compressed air with the water in proportion to and in response to the amount of water flowing through the mixing valve. An ozone producing means is optionally included in conjunction with the compressed air means for supplying ozone to the air.

3,421,626

SEWAGE TREATMENT SYSTEMS INCLUDING AN AERATING RESERVOIR AND A POST-SEDIMENTATION RESERVOIR SUPPLIED FROM SAID AERATING RESERVOIR

Paul Schramm, 80 Hauptstrasse, 6209 Michelbach, Nassau, Germany, and Josef Blanche, 6 Burgschwalberstrasse, 6251 Zollhaus, Germany

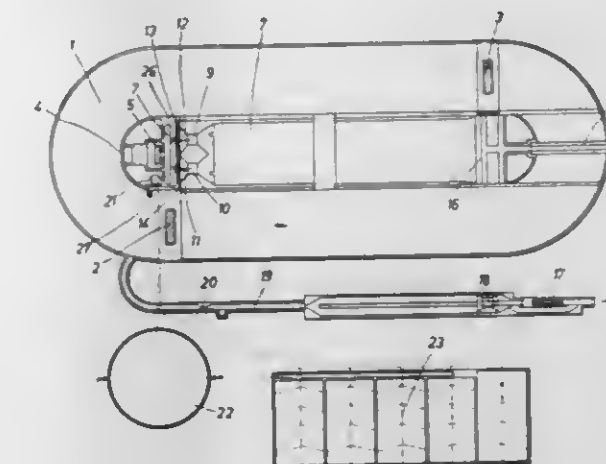
Filed Aug. 17, 1966, Ser. No. 573,041

Claims priority, application Germany, Aug. 23, 1965, P 37,519

U.S. Cl. 210-124

Int. Cl. B01d 21/00

11 Claims



Described below is a sewage treatment system adapted to work satisfactorily in instances of excessive overload. The system includes an aerating reservoir, and a post-sedimentation reservoir which is supplied from the former with liquid, i.e. sewage to be processed. In case of overload, such as excessive rainfall, the aerating reservoir is converted into a sedimentation reservoir, i.e. its primary function of aerating the sewage is discontinued. Yet because of the organization of the system, particularly the capacity of the aerating reservoir, it is still possible in instances of excessive overload, or rainfall, to mechanically clean the sewage admitted to the aerating reservoir by sedimentation therein, and to avoid the need of discharging water-diluted sewage without cleaning the latter in any fashion, or to provide large and costly storage facilities for such sewage.

3,421,627

BYPASS FILTER WITH MAGNETIC MEMBER

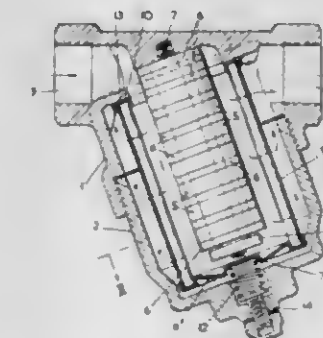
Lambertus J. A. Lammers, Arnhem, Netherlands, assignor to Arlon N.V., Arnhem, Netherlands, a company of the Netherlands
Filed Aug. 30, 1965, Ser. No. 483,541

Claims priority, application Netherlands, Oct. 9, 1964, 6411743

U.S. Cl. 210-131

Int. Cl. B01d 35/06

1 Claim



A fluid filter in which the filter element is constructed and arranged to move and permit fluid to bypass the element when clogging of the element occurs. The filter has a magnetic member located centrally within the filter

element in such a position to contact and remove magnetic particles from the fluid even under bypass conditions.

3,421,628 APPARATUS FOR PROCESSING A SOLUTION BY REVERSE OSMOSIS

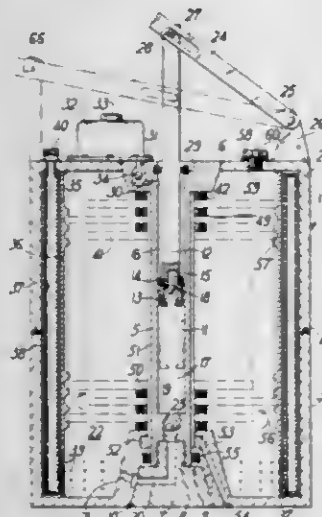
Jean-Louis Barnabe, Noisy-le-Sec, Dominique Callies, Neuilly-sur-Seine, and Jean-Claude Cornier, Paris, France, assignors to Societe de Recherches Techniques et Industrielles (S.R.T.I.), Boulogne, Hauts-de-Seine, France

Filed Dec. 15, 1966, Ser. No. 601,990

Claims priority, application France, Feb. 15, 1966, 49,586

U.S. Cl. 210-134
Int. Cl. B01d 13/00

12 Claims



A reverse osmosis desalination device having a manually operated pump and a gas filled flexible bag co-operating to produce reverse osmosis across plural membranes. Another embodiment features a breakable capsule containing a gas producing agent.

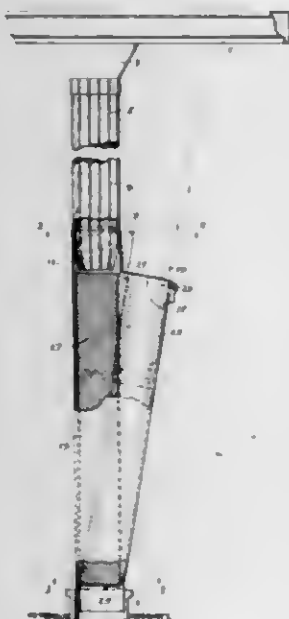
3,421,629 DOWNPOUT DEBRIS TRAP

Frederick N. Hehr, 61 Kilhoffer St., Buffalo, N.Y. 14211

Filed Nov. 13, 1967, Ser. No. 682,419

U.S. Cl. 210-232
Int. Cl. B01d 35/02

2 Claims



A downspout provided with a removable screen tubular trash collecting container, wherein the downspout is provided near its bottom with an outwardly flaring wall

portion and a rest member; with the container normally supported on said rest in the main downspout, but adapted to be tilted outwardly at its top and removed by lifting through an opening in the top of the flaring wall portion.

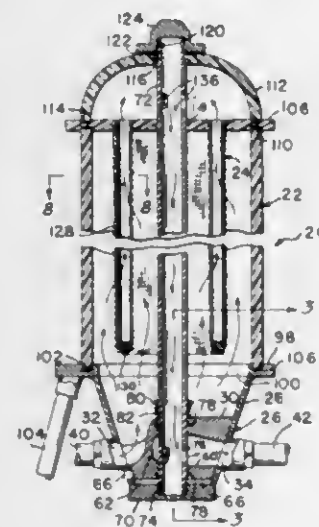
3,421,630 FILTER ELEMENT AND FILTER SYSTEM

William A. Acosta, 5160 Butler Park, Plymouth Meeting, Pa. 19462

Filed Apr. 15, 1966, Ser. No. 542,835

U.S. Cl. 210-411
Int. Cl. B01d 35/22

11 Claims



A filter system comprising a valve, a filter vessel associated with the valve and a filter element positioned within the vessel. The valve is exposed to the interior of the vessel and includes a rotatable ported plug element in a housing for controlling fluid flow through the filter vessel. A tube is connected with the plug which is in communication with filtered fluid for delivering filtered fluid through the plug.

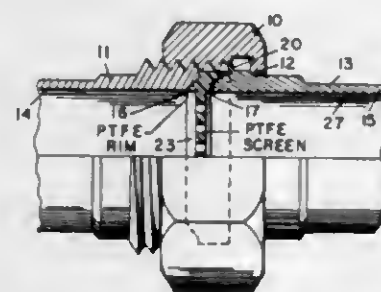
3,421,631 STRAINER GASKET FOR SANITARY PIPING SYSTEMS

Charles K. Hirsch, 195 Claremont Ave., New York, N.Y. 10027

Filed Oct. 22, 1965, Ser. No. 501,003

U.S. Cl. 210-445
Int. Cl. B01d 35/02

2 Claims



An assembly for sanitary pipe systems in which a pair of coupling members of an identical internal diameter are interengageable and have complementarily interfitting sealing surfaces and a rigid nylon, a polytetrafluorethylene or synthetic rubber gasket received between these members and composed in one piece with an imperforate rim having faces engaged by the sealing surfaces of complementary configuration while a perforate web of substantially the internal diameter of the members spans the rim.

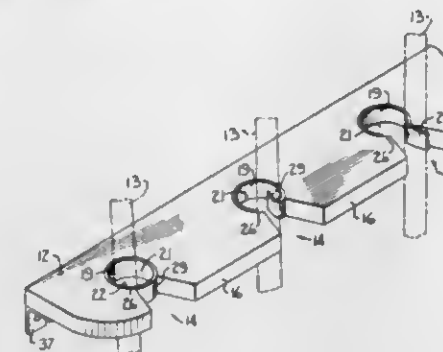
3,421,632 ROD-HOLDING RACK

Francis E. Wood, 2960 Montana St., Oakland, Calif. 94602

Filed Aug. 18, 1966, Ser. No. 573,386

U.S. Cl. 211-60
Int. Cl. A47f 7/00

8 Claims



A rack for holding rods in an upright position is described which is capable of reliably holding rods of different diameters in position. The rack includes a lower U-shaped horizontal member having an apertured slat member through which one end of the rods is to be inserted for support on a solid member beneath the aperture member. Spaced above the U-shaped member is a slat member having notches extending into one edge for holding the upper portion of the rod members. Each notch has a restricted opening across which a tab of flexible material normally extends. The tab is secured within the notch on one side of the opening and has an unsecured free end normally in overlapping relationship to the inner surface of a shoulder at the outer side of the opening. The shoulder acts to prevent the free end of the tab from moving outwardly relative to the notch and thereby maintains the opening closed for confinement of a rod within the notch. However, upon a rod being forceably inserted through the opening, the tab resiliently yields from the opening to permit insertion or withdrawal of a rod.

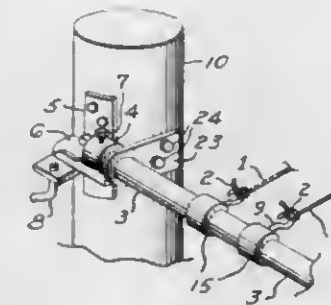
3,421,633 ADJUSTABLE CLOTHES DRYERS

Angelo Leo, Ludlow, Mass., assignor to Charlotte J. Smigelski and Felix P. Smigelski, both of Longmeadow, Mass.

Filed Mar. 21, 1967, Ser. No. 624,742

U.S. Cl. 211-119.1
Int. Cl. D06f 53/02

1 Claim



The clothes line herein is of the portable type that may be assembled and disassembled quickly and is particularly designed for uses on the rear porches of apartment houses and house trailers.

The clothes dry is comprised of a bracket that is mountable on the wall. The bracket has a female flat socket extending outwardly of its outer surface adaptable to receive a flat stock portion of a vertical bracket, upon which is mounted a horizontal flat stock member at right angles thereto, appearing in the shape of a T on its side. Moveably mounted on the horizontal member, there is a pipe receiving sleeve which may be rotated thereon so that

the pipe may be parallel to, perpendicular to, or even diagonally directed to the back of the bracket. The pipe receiving member is not only moveably mounted upon the horizontal member of the bracket, but is also removably mounted thereupon. An oversized sleeve is mounted upon the pipe upon which a hook is moveably engaged for receiving the ropes of the clothes dryer. There is also available a strut-type mounting flat bracket for maintaining the T bracket in a secured position.

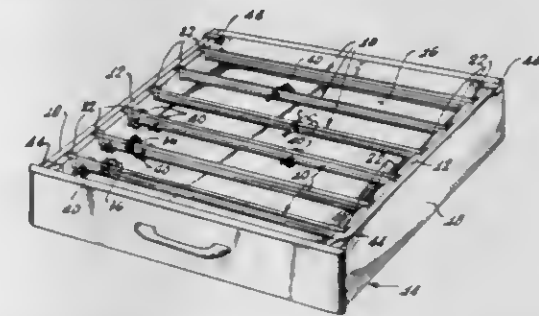
3,421,634 JEWELRY STORAGE RACK

Margaret Mary Huth, 301 N. Cedar St., Glendale, Calif. 91206

Filed Dec. 5, 1966, Ser. No. 599,016

U.S. Cl. 211-123
Int. Cl. A47b 81/00

2 Claims



A jewelry storage rack for carrying a plurality of items of jewelry, particularly those utilizing clasp fasteners. A plurality of storage bars are removably supported at their ends in notches in a pair of side supports adapted to be placed in a drawer of conventional design. Each of the storage bars has a pair of rods held in spaced parallel relationship within a sheath of soft pliable material. The rods within the sheath form bulbous edges on the storage bars. The clasp fasteners of the items of jewelry fit over the bulbous edges which aid in preventing the items of jewelry from slipping off the storage bars.

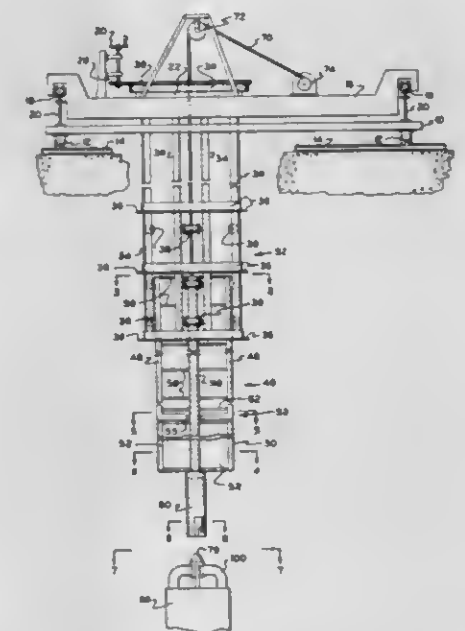
3,421,635 NUCLEAR FUEL HOIST

Robert C. Bunker, Newington, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware

Filed Dec. 29, 1966, Ser. No. 605,665

U.S. Cl. 212-129
Int. Cl. B66c 19/00; B66c 17/08; G21c 19/20

5 Claims



A nuclear fuel hoist having an extendable and rotatable fuel grabbing means and guiding or keying means for

preventing relative rotation between the grabbing means and the fuel during the hoisting operation to prevent accidental release of the fuel.

3,421,636

AUTOMATIC TRAINLINE CONNECTOR

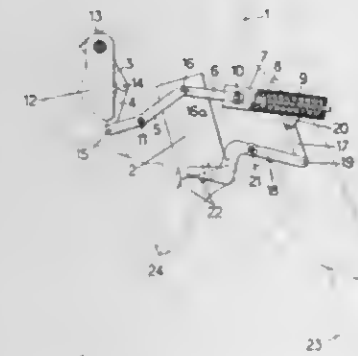
Marius Georges Dufourmantel, Paris, France, assignor to Societe Financiere et Industrielle de Chemin de Fer, Paris, France, a corporation of France

Filed Oct. 31, 1966, Ser. No. 590,836

Claims priority, application France, Nov. 5, 1965, 37,480

U.S. Cl. 213-76
Int. Cl. B61g 5/06

7 Claims



A rigid or semi-rigid jaw coupler for railway cars having a service line connector movably associated therewith. The connector is advanced to an operative position from a retracted inoperative position by operation of mechanism carried by the coupler as a member of the mechanism engages another coupler during a coupling operation.

3,421,637

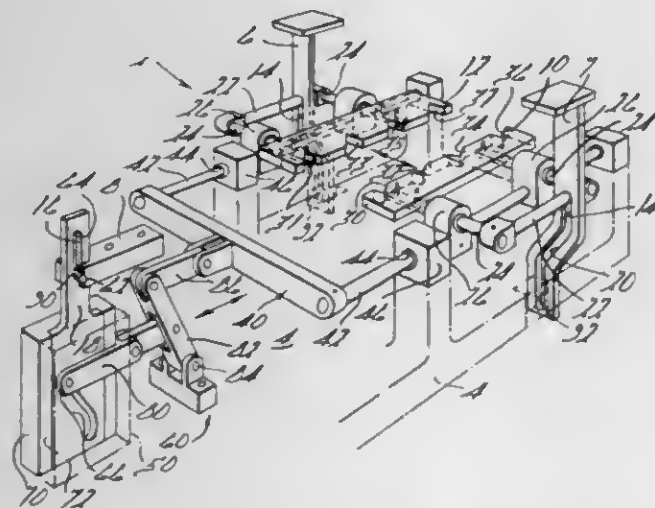
TRANSFER DEVICE

Hugh M. Sofy, 201 Warrington, Bloomfield Hills, Mich. 48013

Filed Nov. 30, 1966, Ser. No. 598,081

U.S. Cl. 214-1
Int. Cl. B25j

3 Claims



This disclosure is concerned with a transfer device for use with punch presses and the device is used basically for the purpose of moving workpieces in a continuous manner through the punch press. The transfer device carries out this function by a series of arms and levers primarily associated with the upper movable part of the punch press such that when the punch press is raised and lowered the transfer device operates in a repetitive and reciprocal manner to move the workpieces through the punch press for the various operations performed within the press.

3,421,638
PROCESSING SYSTEM FOR HANDLING ARTICLES SUPPORTED ON HOLDERS

Charles H. Locke and George R. Santillo, Jr., Wappingers Falls, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Nov. 14, 1966, Ser. No. 593,764

U.S. Cl. 214-6

Int. Cl. B65g 57/30; B65g 1/00; F26b 13/10

9 Claims



The apparatus has a workpiece holder stacking mechanism, a conditioning environment, and a conveyor to move stacks of holders into and out of the conditioning environment enclosure. The stacking mechanism is provided with a sensor which is adjustable to control the number of holders in the stacks that are subsequently moved into the enclosure. Adjustment of the sensor to increase the size of the stacks serves to increase the workpiece exposure time in the enclosure, and conversely, decreasing the size of the stacks serves to decrease the workpiece exposure time.

3,421,639

BULK CARRIER

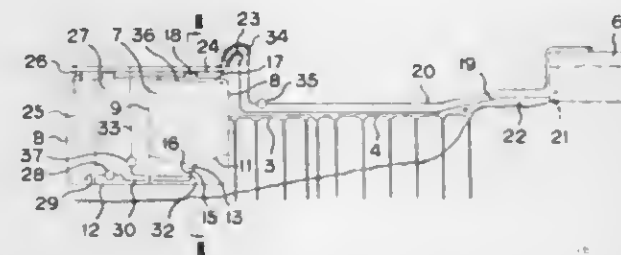
Tanehiko Oka, Ikuo Miki, and Takao Kawahara, Nagasaki-shi, Japan, assignors to Mitsubishi Jukogyo Kabushiki Kaisha, Tokyo, Japan

Filed Nov. 17, 1966, Ser. No. 595,088

U.S. Cl. 214-15

Int. Cl. B63b 27/24; B65g 53/30

7 Claims



The disclosure relates to waterborne carriers of bulk cargo of the pulverulent or granular type and including a piping system through which a fluid medium is circulated to discharge the cargo from the holds of the vessel. The disclosure is particularly directed to improved means for moving the cargo from the holds into the piping system for discharge to a shore-based storage area and to improved means, operatively associated with the cargo discharge means, for ballasting the empty holds and for discharging ballast from the holds.

3,421,640

SCRAP CHARGING MACHINE

Martin C. Falk, Pittsburgh, Pa., assignor to Pennsylvania Engineering Corporation, New Castle, Pa., a corporation of Pennsylvania

Filed May 17, 1966, Ser. No. 550,682

U.S. Cl. 214-18

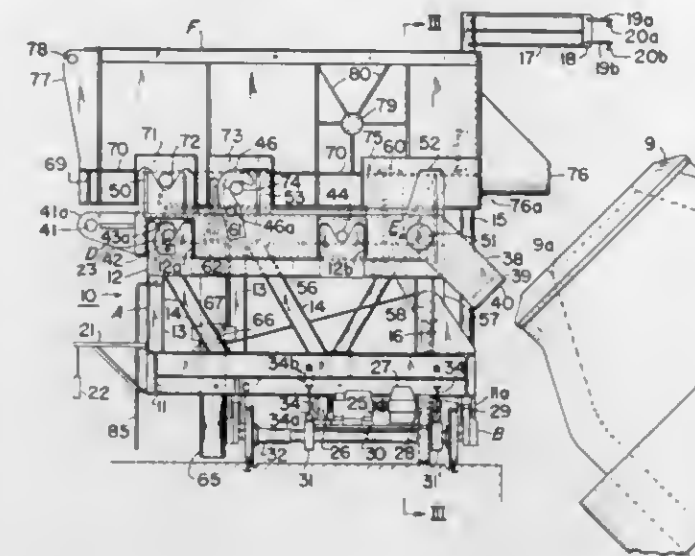
Int. Cl. F23k 3/06; C21b 3/00

13 Claims

A mobile charging machine is shown for overhead charging of solid material pieces, such as metal scrap,

into an open mouth furnace. The machine has a stationary support frame and lift and tilt frames for carrying and tilting scrap charging boxes. Each lift frame has a sloped

The attachment has a horizontal support which fits in and is supported by hooks, and L-shaped fork lift elements



end portion for limiting the forward tilt positioning of an associated tilt frame, and safety latches are provided between the tilt frames and their associated scrap boxes and between an upper stationary frame and the tilt frames.

3,421,641

APPARATUS FOR AUTOMATICALLY HANDLING PALLETIZED LOADS

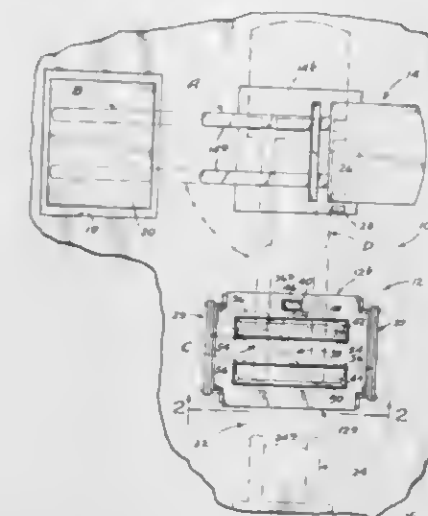
Max Frey, Portland, Ore., assignor to Cascade Corporation, Portland, Ore., a corporation of Oregon

Filed Sept. 12, 1966, Ser. No. 578,705

U.S. Cl. 214-38

Int. Cl. B65g 67/00

11 Claims



Apparatus for handling palletized loads including a support platform and a transfer device for transferring a load to and from the platform. Sensing elements are provided on the platform which indicate the load condition existing thereon. Mechanism included for controlling operation of the transfer device controls such operation in response to the load condition on the platform as indicated by the sensing elements.

3,421,642

FORK LIFT ATTACHMENT FOR A MOVABLE BUCKET

Jack D. Carter, 609 Curdes Ave., Fort Wayne, Ind. 46805

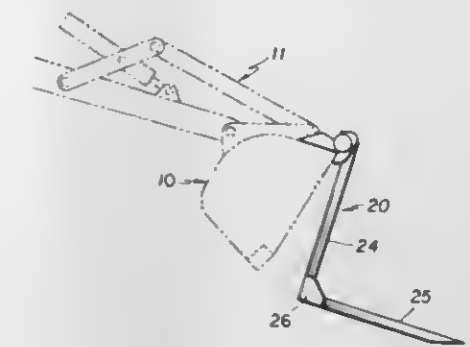
Filed Feb. 8, 1967, Ser. No. 614,637

U.S. Cl. 214-145

Int. Cl. E02f 3/00

4 Claims

A conventional earth moving bucket is provided with hooks at its upper edge to receive a fork lift attachment.



are pivotally mounted at their top on the horizontal support, with the lower part of the fork lift elements resting against the lower part of the bucket.

3,421,643

INGOT HANDLING ASSEMBLY

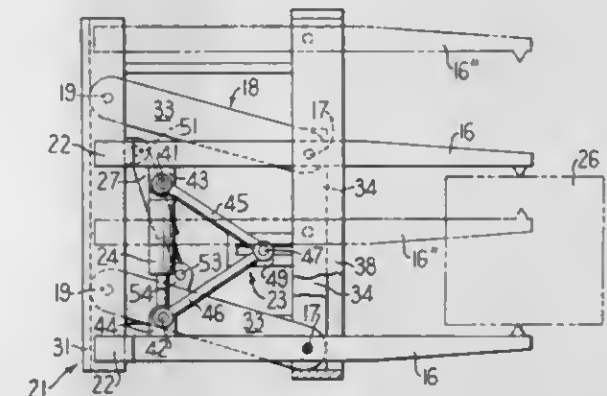
Gail G. Barbee, Aurora, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

Filed Sept. 21, 1967, Ser. No. 669,487

U.S. Cl. 214-147

Int. Cl. B66c 3/00

6 Claims



An ingot handling attachment disposed on the lift arms of an end loader and having both clamping and side shifting action. A pair of tongs is pivotally connected to a parallelogram linkage with a clamping jack interacting between the tongs. A separate side shifting jack is disposed for interaction between the support structure and the parallelogram linkage to provide for side shifting of the tongs while stabilizing means control the relative position of the tongs.

3,421,644

METHOD AND APPARATUS FOR TRANSPORTING GRAIN BINS

Lennie D. Butcher, E. Jackson St. Road, Macomb, Ill. 61455

Filed Aug. 17, 1967, Ser. No. 661,257

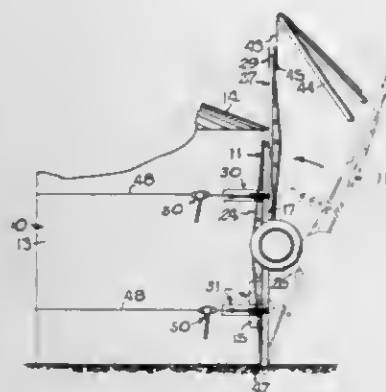
U.S. Cl. 214-500

Int. Cl. B60p 1/04

4 Claims

For transporting an initially upright grain bin of circular cross-section from one location to another, a trailer is formed with two arcuately curved bands which receive and cradle the bin when the trailer is turned into an upright position alongside the bin. After the bin has been strapped to the bands, the trailer and the attached bin are lowered into a horizontal transport position and are towed to the new location of the bin, the bands extending around and supporting substantial arcs of the bin during

such towing to preserve the original cross-section of the bin and to prevent the bin from collapsing under its own weight. Upon reaching the new location of the bin, the

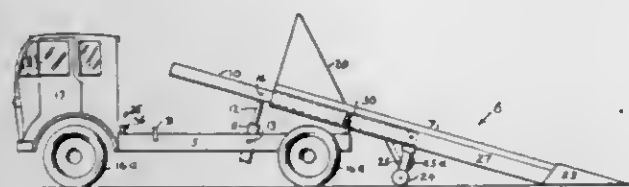


trailer once again is turned into an upright position, the bin is unfastened from the bands, and the trailer is lowered away from the bin to leave the bin standing and to free the trailer for subsequent use.

3,421,645

POWER LOADING AND UNLOADING TRUCK BODY

Edwin V. Bishop, Sparks, Md.
(4537 28th Ave. N., St. Petersburg, Fla. 33713)
Filed June 30, 1966, Ser. No. 561,772
U.S. Cl. 214-505 3 Claims
Int. Cl. B60p 1/04

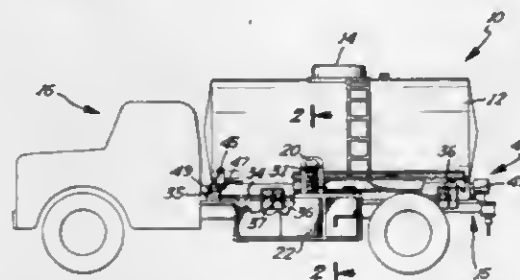


This invention relates to truck bodies of the general character of that shown in U.S. patent to Klosek, et al. It is distinguished over Klosek and any other prior art known to me in that it comprises a structure composed of a wheeled chassis, a power operated tilt frame pivoted to tilt upon the chassis, a stout, downwardly extending, wheeled support carried by the tilt frame at a point rearward of the rear wheels of the chassis, a bed mounted for sliding movement upon the tilt frame, and a power element for moving the sliding bed fore and aft upon the tilt frame.

All of the described parts make up a unitary structure, bodily movable with the chassis and the parts being so dimensioned and of such strength that the whole may be moved with the sliding bed projected to a position in which its sharp, metal shod rear end may be thrust under a heavy load by rearward movement of the chassis. A winch upon the sliding bed includes a cable which acts to draw a heavy load upon the sliding bed, when necessary. The capability of the structure to thus function in the extended position of FIG. 4 is effected by making the stout, downwardly extending support a wheeled one.

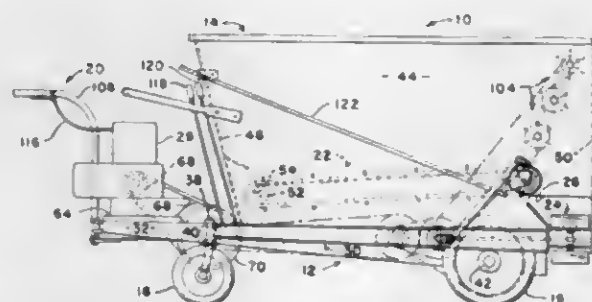
This wheeled support may be vertically adjusted to maintain maximum support for the load when variations of ground level between the rear wheels of the chassis and the ground engaging rear end of the sliding bed would leave the wheeled support out of contact with the ground if such adjustment were not provided.

3,421,646
BULK MILK PICKUP AND TRANSPORT CONTAINERIZATION SYSTEM
Stewart A. Rouse, P.O. Box #907, Sykes Ave., White River Junction, Vt. 05001, and Thomas C. Olson, Minneapolis, Minn.; said Olson assignor to Stainless & Steel Products Co., St. Paul, Minn., a corporation of Minnesota
Filed Oct. 18, 1966, Ser. No. 587,585
U.S. Cl. 214-515 1 Claim
Int. Cl. B60p 1/64



A vehicle for transporting bulk quantities of material such as milk including a chassis having ground engaging wheels, and a bulk tank mounted on the chassis. Cooperating locking means on the tank and chassis for releasably locking the tank on the chassis. Camming elements on the chassis and tank for facilitating positioning of the tank on the chassis, the tank being provided with fore and aft spaced apart pairs of supporting arms, each arm being extensible and retractable and serving to facilitate transfer of the tank to a transfer device.

3,421,647
MOBILEFEEDER-WHEEL ARRANGEMENT
Shaun A. Seymour, Ephrata, Pa., assignor to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed June 20, 1966, Ser. No. 558,933
U.S. Cl. 214-519 2 Claims
Int. Cl. B60p 1/00; B62d 51/04

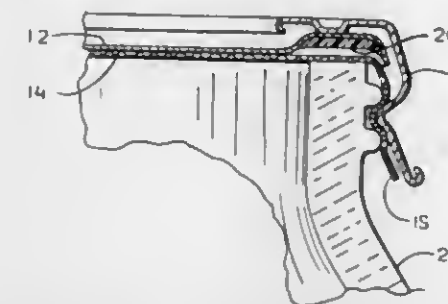


A steerable, self-propelled, self-unloading material-handling vehicle comprising cooperable longitudinally and laterally directed material conveying means, longitudinally extended medial and marginal spaced-apart vehicle frame members, steerable vehicle wheels supported within said marginal frame members toward the rearward end thereof, and vehicle-supporting self-propelling, driven wheels supported closely adjacent to and by said medial frame members toward the forward end of said vehicle.

3,421,648
STORAGE ASSEMBLY FOR HOME FOOD PROCESSING CLOSURE
Donald A. Glessler and Floyd A. Ratliff, Muncie, Ind., assignors to Ball Brothers Company Incorporated, Muncie, Ind., a corporation of Indiana
Filed Dec. 6, 1966, Ser. No. 599,598
U.S. Cl. 215-40 7 Claims
Int. Cl. B65d 23/00; B65d 41/08; B65d 45/30

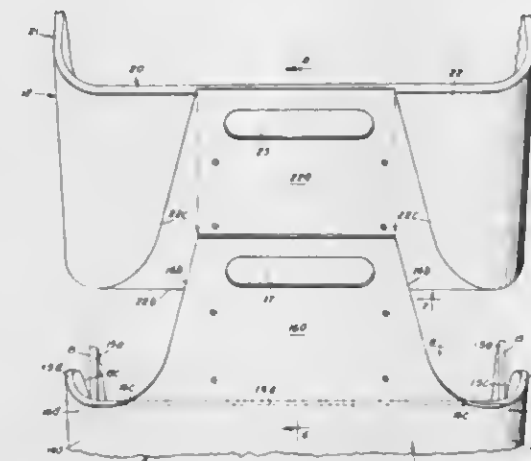
A storage assembly for two-component closures wherein the lid portion is secured within a cylindrical securing

band by retaining means, such as a disk insert, which engages the walls of the band and holds the lid between



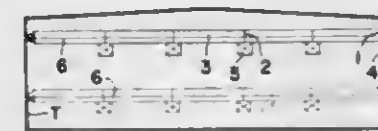
the retaining means and a lip at one end of the securing band, thereby forming a unitary assembly for convenient and sanitary storage.

3,421,649
BOTTLE CARRYING CASE
Joseph B. Waller, 2920 The Alameda, Baltimore, Md. 21218
Continuation-in-part of application Ser. No. 530,666, Feb. 28, 1966. This application Dec. 28, 1967, Ser. No. 694,203
U.S. Cl. 220-4 13 Claims
Int. Cl. B65d 7/00



This bottle carrying case has a bottom member and a top member received thereon. The bottom member has a floor with an integral peripheral wall. The ends of the bottom member have a central upstanding portion of reduced thickness that is the height of the case. The top member of the case is complementary to the bottom member. The ends of the top member have recesses to receive the central upstanding portions of the bottom member.

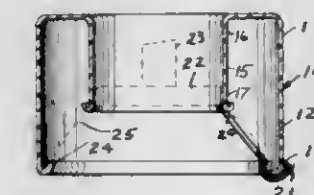
3,421,650
DEVICE FOR DAMPING SURFACE ROLL OF LIQUID IN STORAGE TANK
Gonroku Yumoto, Kawaguchi-shi, Japan, assignor to Chiyoda Kako Kensei Kabushiki Kaisha, Minato-ku, Tokyo, Japan
Filed Sept. 29, 1966, Ser. No. 582,873
Claims priority, application Japan, Oct. 5, 1965, 40/60,572, 40/60,573; Apr. 11, 1966, 41/22,428
U.S. Cl. 220-26 4 Claims
Int. Cl. B65d 87/18



A device for reducing the rolling motion of the surface of a liquid contained in a storage tank comprising a grating member formed by a plurality of longitudinal and

transverse strips intersecting with each other to form a large number of small cellular sections, a shock absorbing member enveloping the grating member and contacting the inner peripheral wall of the tank and flotation members secured to the intersections of the strips and serving to support the device with the grating projecting a predetermined distance above the liquid surface.

3,421,651
CLOSURE FOR A CONTAINER
Richard F. Hendrickson, Erie, and Roderick V. King, Girard, Pa., assignors to Sterling Seal Company, Erie, Pa., a corporation of Pennsylvania
Filed Feb. 12, 1968, Ser. No. 704,719
U.S. Cl. 220-42 7 Claims
Int. Cl. B65j 41/00

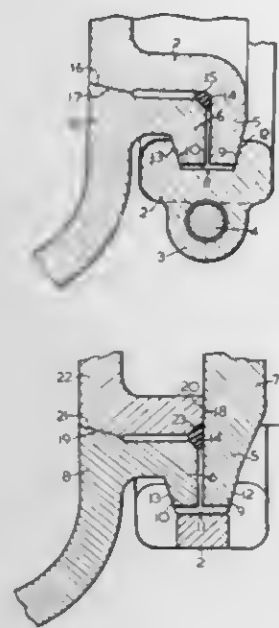


The invention disclosed herein provides an efficient structure of cap suitable for use on aerosol cans or the like, which is especially suited for a vacuum forming operation of manufacture. The cap has provision for supporting it on the central part of an aerosol can adjacent the valve thereof that rigidly supports the cap. The cap is provided with means to make it tamperproof. The cap is formed of an inner generally cylindrical wall and an outer generally cylindrical wall concentric with the inner wall. The outer wall and inner wall are rigidly connected together at the ends thereof remote from the open end of the cap.

3,421,652
FLUID TIGHT JOINT
Charles H. Warman, Castlecrag, New South Wales, Australia, assignor to Research and Development Pty. Ltd., Perth, Western Australia, Australia, a corporation of Western Australia, Australia
Filed Aug. 3, 1964, Ser. No. 387,034
Claims priority, application Australia, Aug. 9, 1963, 34,054/63
U.S. Cl. 220-46 6 Claims
Int. Cl. B65d 43/00

A fluid tight connection between two casing members of centrifugal pumps and the like which casing members have an axis, said connection comprising; an outwardly directed flange around each of said members so as to lie in side-by-side relationship, each said flanges having an annular clamping face on the side thereof remote from the flange on the other flanged member with said clamping faces being coaxial and convergent outwardly from the axis of the connected members, an annular tapered loading face on one said member engaging a corresponding opposing loading face on the other member to thereby positively align and locate said members, said annular tapered loading faces being provided on sections of said members which extend in the axial direction from said flanges, and which are spaced from said clamping faces, said side-by-side flanges defining an annular space between them and positioned between said loading faces and said clamping faces, a resilient joint ring compressed within said annular space, a clamping ring subdivided into two or more separated segments and having an inwardly facing annular groove with the sides thereof having annular faces matching the clamping faces on said flanges, said clamping ring being arranged with its sides straddling the two

flanges and encircling said members, and tangential bolts connecting said separated segments and contracting said clamping ring to thereby maintain said members in fluid

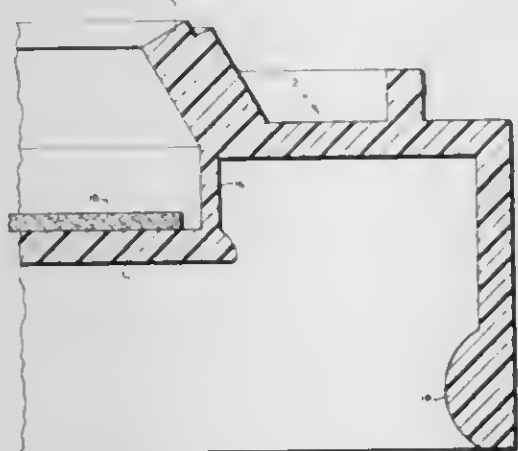


tight relationship by means of the axial force exerted on the clamping faces of said flanges by the matching faces in said annular groove.

3,421,653 CONTAINER CLOSURE

Robert E. Whaley, 779 Massachusetts Ave.,
Lunenburg, Mass. 01462

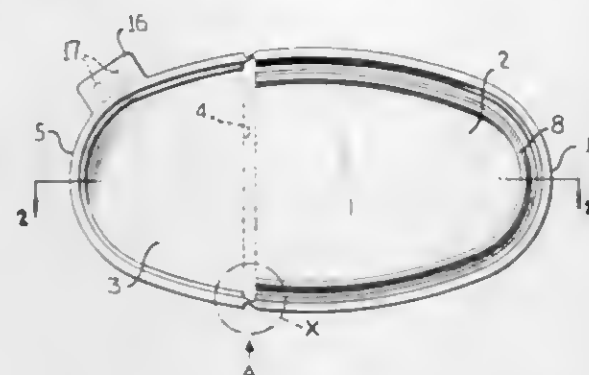
Filed Apr. 11, 1967, Ser. No. 630,010
U.S. Cl. 220-60
Int. Cl. B65d 43/10 2 Claims



A one-piece, snap-on container closure of the type adapted for use with an open top container. The closure which is preferably formed of a flexible thermoplastic material is provided with a peripheral shoulder adapted to overlie the bead of the cooperating container, a downwardly depending skirt on the outer edge of the shoulder adapted to engage the outside of the cooperating container, and a depressed center panel. At the inner edge of the shoulder adjacent the depressed center panel there is provided a continuous integral upwardly and inwardly extending flange providing a restricted opening to the depressed center panel and adapted to mechanically retain in the region adjacent the depressed center panel a separate planar insert having substantially the dimensions of the depressed center panel and preferably formed of paper board.

3,421,654
CLOSING COVER MADE OF PLASTIC
Gunter Karl Friedrich Hexel, Braunschweig, Germany, assignor to Schmalbach-Lubeca-Werke Aktiengesellschaft, Braunschweig, Germany
Filed Jan. 22, 1968, Ser. No. 699,671
Claims priority, application Germany, Jan. 25, 1967, Sch 40,136

U.S. Cl. 220-60
Int. Cl. B65d 43/10; B65d 17/02; B65d 43/16 15 Claims



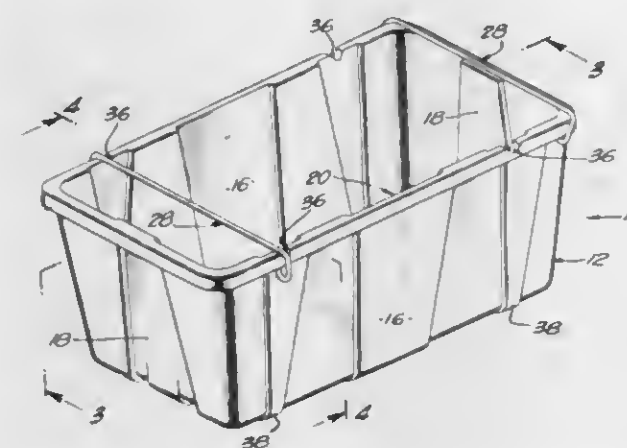
There is disclosed a plastic snap over closure for fill packaging containers and including a closure body dimensioned to close over the open top mouth of a container body and having depending spaced flanges for receiving therebetween the edge defining the open mouth of said body, one flange embracing the container mouth portion exteriorly and the other telescoping the same interiorly, there being included a hinge film joint traversing the closure body to divide it into a fixed section and a hinged section subject to being readily swung up to provide access into the interior of the container, and there also being included weakness lines in the container top embracing flange designed to be ruptured upon initial swinging open of the hinge section, thus to provide a tamper-proof closure structure.

3,421,655
BOX FOR RECEIVING AND STORING LAYERS OF CARTONS
Henry W. Rehr, Concord, Calif., assignor to Crown Zellerbach Corporation, San Francisco, Calif., a corporation of Nevada
Filed Apr. 24, 1967, Ser. No. 633,088
U.S. Cl. 220-93
Int. Cl. B65d 25/10; B65g 57/14; B65g 57/22 9 Claims



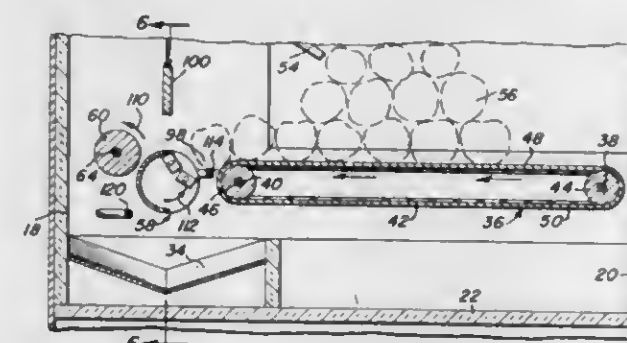
A large box-like container for the reception therein and subsequent removal therefrom of a plurality of layers of facial-tissue cartons, each layer containing a plurality of horizontal rows of cartons oriented in side-by-side juxtaposition. The bottom of the container is vertically movable and has a shingled-appearing surface defined by parallel rows of offset steps, the upper surface of each step starting from a location below the uppermost edge of the preceding step and having a slight upward slope in the direction in which cartons are displaced in loading the container so as to preclude interference between cartons of one layer with those of another as one layer of cartons slides over another layer thereof which is already being supported by the bottom.

3,421,656
STACKING AND NESTING CONTAINERS WITH RETRACTING STACKING BAIL
Donald J. Asebauer, Whittier, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Continuation-in-part of application Ser. No. 547,000, May 2, 1966. This application Feb. 6, 1968, Ser. No. 703,856
U.S. Cl. 220-97
Int. Cl. B65d 21/00 14 Claims



A thin-walled plastic container having side and end walls which are turned over to form a generally horizontal rim, and then turned downwardly to form a rim flange such that downwardly opening channels are formed beneath the rim and rim flange; and stacking bails associated with the container; each stacking bail consisting of a rigid metal rod having ends turned back almost upon itself but defining a gap such that when the bail rests across the rim surfaces of the side walls of the container the intumed ends of the bail then encircle the rim flange and extend upwardly into the associated channel; the stacking bails being adapted for longitudinal sliding movement on the container to permit both stacking and nesting positions of the container.

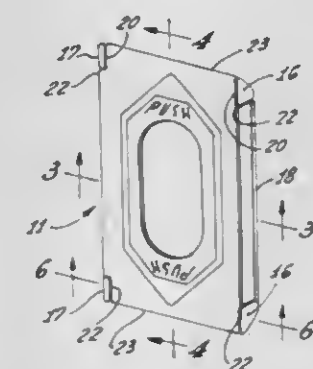
3,421,657
PRODUCE VENDOR WITH MULTIPLE CONVEYOR AND HOLDBACK MEANS
Lloyd E. Larson, 5714 88th St. NE.,
Marysville, Wash. 98270
Filed Nov. 10, 1966, Ser. No. 593,361
U.S. Cl. 221-13
Int. Cl. G07f 11/00 10 Claims



A vendor including a storage bin adapted to receive and store, in random manner, quantities of articles to be dispensed from the vendor, generally horizontally disposed and movable elongated conveyor belt means defining the bottom for the bin and upon which the lowermost articles within the bin are adapted to rest, drive means connected with the belt means for selectively driving the belt means in one direction extending therealong toward a discharge end of the conveyor belt means, partition means extending transversely across the path of movement of the belt means and beneath which articles on

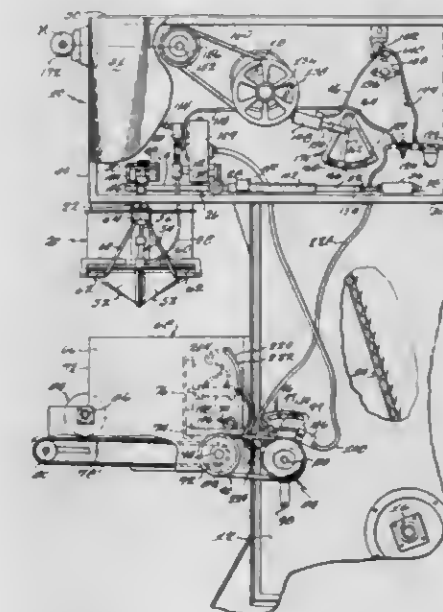
the belt means must pass when moving from the bin toward the discharge end of the conveyor belt means and a horizontally disposed elongated and rotary discharge member extending transversely of the discharge end of the conveyor belt means and coacting with the latter to form an upwardly opening trough for receiving metered quantities of articles from the discharge end of the belt means, the rotary discharge member being adapted to singly receive articles from the trough and to singly dispense articles therefrom upon rotation of the discharge member.

3,421,658
DISPENSER
James D. Cooksey, 5722 Bankfield Ave.,
Culver City, Calif. 90230
Filed June 16, 1967, Ser. No. 646,725
U.S. Cl. 221-307
Int. Cl. A47f 1/04 2 Claims



An improved dispenser for cards, razor blades, and other similar flat objects is described herein. The dispenser may be made of a one-piece plastic material, and it can be used for dispensing flat objects of a variety of thicknesses.

3,421,659
FIBER FEEDING APPARATUS
Kenneth G. Lytton, 106 S. Patrick St., Gastonia, N.C. 28052, and Cecil S. Wise, Rte. 1, Robinson Road, Dallas, N.C. 28034
Continuation-in-part of application Ser. No. 465,140, June 18, 1965. This application Aug. 14, 1967, Ser. No. 662,840
U.S. Cl. 222-55
Int. Cl. B67d 5/08 20 Claims



Disclosed herein is fiber feeding and weighing equipment which dumps predetermined amounts of fibers onto

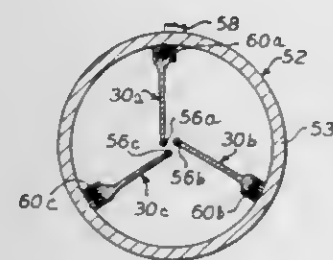
a conveyor which may feed a card. The cyclic rate of feeding fibers into the weigh pan and dumping the fibers is adjustable with regard to the conveyor speed, by use of an adjustable driving mechanism. In addition, the duration of the dump in each cycle and the time that the dump starts is adjustable. When the fibers are dumped onto the conveyor, they may be packed thereonto by a pusher-packer device which is adjustably timed in its operation.

3,421,660
DISPENSING MEANS FOR WASHING APPLIANCE
Norman T. Swetnam, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed July 18, 1966, Ser. No. 565,976
U.S. Cl. 222-76
Int. Cl. B67d 5/06
6 Claims



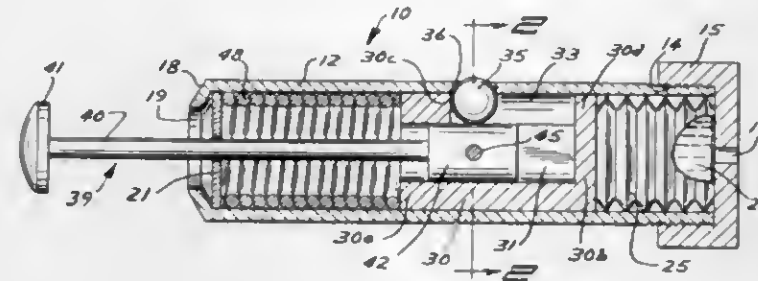
Lost-motion means for interconnecting the cocking or trip mechanism of a washing additive dispenser with the operating handle of the latch means for the wash chamber access door of a washing machine, whereby the dispenser cocking mechanism can be cocked through operation of the door latch handle but is free to move to its uncocked position without movement of the door latch means.

3,421,661
CYLINDRICAL FLUID STORAGE AND EXPULSION APPARATUS
Joseph Price, Fairlawn, N.J., assignor to Arde, Inc., Paramus, N.J., a corporation of Delaware
Continuation-in-part of application Ser. No. 606,980, Jan. 3, 1967. This application Jan. 26, 1968, Ser. No. 710,419
U.S. Cl. 222-94
Int. Cl. B65d 35/22
30 Claims



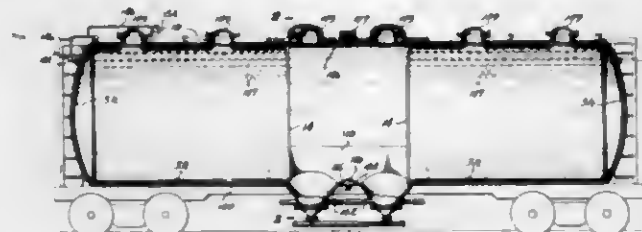
Fluid storage and expulsion apparatus comprising a generally cylindrical bladder tank containing one or more metallic bladders of generally cylindrical or cylindrical sector form, each bladder having a peripheral wall which is circumferentially collapsible and expandable along predetermined longitudinally extending fold lines. In one form, fluid stored within the interior of the bladders is discharged by causing the bladders to collapse, as by pressure within the tank. In another form, fluid stored within the generally cylindrical tank but exteriorly of the bladders is discharged by causing the bladders to expand, as by inflating the bladders.

3,421,662
DISPERSAL DEVICE
Ralph W. Hanson, 3800 Zenith Ave. S., Minneapolis, Minn. 55410
Filed Mar. 7, 1967, Ser. No. 622,020
U.S. Cl. 222-95
Int. Cl. B65d 35/30
6 Claims



A relatively small spring loaded plunger actuated device for ejection of a dispersal fluid. The device consists of a casing which houses the plunger, the spring, the release mechanism for the plunger, and a collapsible capsule for the dispersal fluid. The front wall of the capsule is weakened at its center and this weakened area is aligned with a discharge opening in the front wall of the casing. Actuation of the release mechanism allows the spring to drive the plunger forward against the rear wall of the capsule. The capsule ruptures at the weakened central area in its front wall and the fluid in the capsule is forced through the discharge opening in the front wall of the casing.

3,421,663
MATERIAL DISCHARGING DEVICE FOR CONTAINERS
Hamilton Neil King Paton, Seattle, Wash., assignor to Dynabulk Corporation, Bellevue, Wash., a corporation of Washington
Continuation-in-part of application Ser. No. 408,467, Oct. 30, 1964, which is a continuation-in-part of application Ser. No. 307,447, Sept. 9, 1963. This application Jan. 24, 1967, Ser. No. 611,366
U.S. Cl. 222-193
Int. Cl. B67d 5/54
20 Claims



In a horizontally elongated container, a cup-shaped membrane has its margin secured in an upright plane enabling the membrane to move from a position lining one end of the container to an inside-out position for discharging discrete material from its interior. Such material can be moved to an outlet port by being fluidized with air emanating from floor panels. A ledge extending longitudinally of the container above the floor panels can support the membrane during its inversion to keep it from clogging the discharge outlet. By attaching its margin centrally of the container, the membrane forms a barrier enabling the full container to be used alternatively for holding products of different types without adulteration. An insulated loading hatch plug having a recess prevents

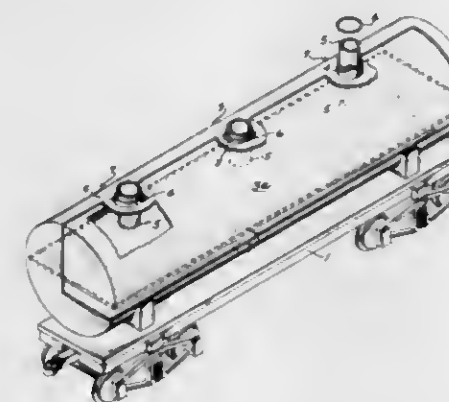
condensation from dropping on the material in the container. Instead of being loaded through such a hatch, the container can be loaded through a flexible ceiling tube having a slotted bottom.

3,421,664
PRESSURIZED DISPENSING CONTAINER AND METHOD OF FILLING SAME
Herbert Z. Sokol, Atlanta, Ga.; Joseph Eichberg, executor of the estate of said Herbert Z. Sokol, deceased, assignor to GK Industries, Inc., Atlanta, Ga., a corporation of Georgia
Continuation-in-part of applications Ser. No. 502,656, Oct. 22, 1965, and Ser. No. 540,795, Apr. 6, 1966.
This application May 9, 1967, Ser. No. 637,115
U.S. Cl. 222-340
Int. Cl. G01f 11/04
1 Claim



A dispensing container comprising a tubular side wall slidably receiving a piston having a deep skirt for stabilizing the piston and for nesting therewithin the compressed spring which seats between the bottom of the container and the piston. The piston also includes an extension which projects through the bottom when the piston skirt is seated thereon, to aid in holding the piston during filling.

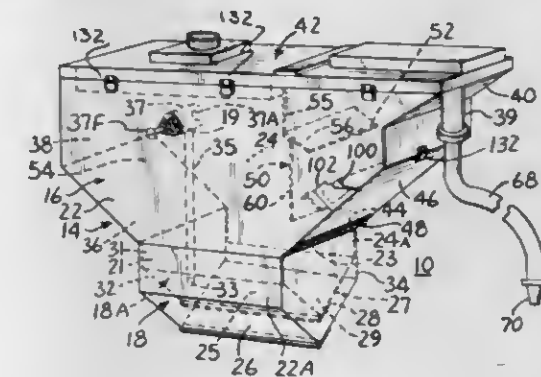
3,421,665
CLOSURE FOR CONTAINER-LINING MEMBRANE PORT
Hamilton Neil King Paton, Bellevue, Wash., assignor to Dynabulk Corporation, Bellevue, Wash., a corporation of Washington
Continuation-in-part of applications Ser. No. 307,447, Sept. 9, 1963, and Ser. No. 408,467, Oct. 30, 1964.
This application Oct. 30, 1967, Ser. No. 679,146
U.S. Cl. 222-386.5
Int. Cl. B67d 5/42; B67d 5/64
18 Claims



A port through a membrane which lines the interior of a container is closed by a rigid cap which may be circular, or such port may have an elongated flexible neck that can be gathered and tied, or such neck can have a slit in its end closable by a separable fastener. Such neck is long enough to extend upward through the coaming of a filler

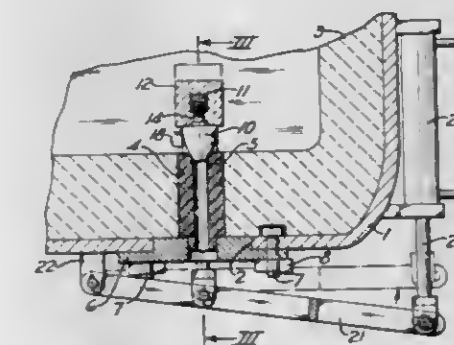
port and be folded over it. The end of the neck can be square so that opposite sides can be pressed into adjacent relationship to be closed by a linear separable fastener or the end of neck can be hemispherical with the separable fastener extending along a great semicircle when closed. Locking mechanism for the separable fastener can be attached to an anchor chain so that the neck can be disconnected from the anchor chain only when the separable fastener is closed. Such latching mechanism includes a plug attached to the separable fastener slider and a plug attached to the anchor chain end insertable, respectively, in crossing bores of a latch block so that one plug is released for withdrawal from its bore only when the other plug is inserted in its bore.

3,421,666
FLUX RECOVERY DEVICE
William P. Lawson, Hammond, Ind., assignor to Ogden Engineering Corporation, a corporation of Indiana
Filed Sept. 19, 1966, Ser. No. 580,486
U.S. Cl. 222-442
Int. Cl. G01f 11/28
8 Claims



The disclosure is directed to a welding flux recovery device in the form of a hopper structure in the form of two chambers having outlets provided with pressure and gravity responsive valve means and wherein the lower chamber is alternately put into communication with the first chamber or with the atmosphere by a control valve arrangement.

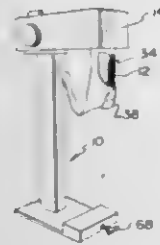
3,421,667
LADLE WITH STOPPER MECHANISM
Ellwood C. Stiteler, Wilkinsburg, Pa.
(244 Cascade Road, Pittsburgh, Pa. 15221)
Filed July 6, 1967, Ser. No. 651,480
U.S. Cl. 222-504
Int. Cl. B67d 3/00
7 Claims



A ladle for molten metal has an outlet opening in its bottom between a pair of vertical passages. A stopper for the upper end of the outlet is supported by a cross member which in turn is supported by vertical members ex-

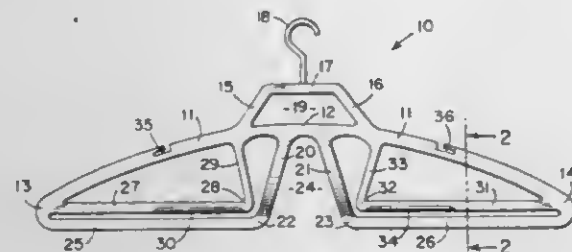
tending down through the two passages to operating means, by which the vertical members are raised and lowered to operate the stopper.

3,421,668
STEAM-AIR PANTS TOPPER
Harold V. Hoisve and Nicholas L. Strike, Salt Lake City, Utah, assignors to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Filed Sept. 25, 1967, Ser. No. 670,286
U.S. Cl. 223-73 5 Claims
Int. Cl. D06c 15/00



A steam-air pants topper having an air inflatable garment biasing positively collapsed after use by vacuum to remove the bag from interference with either a pressed garment already on the topper or an upper unpressed garment about to be placed on the topper.

3,421,669
GARMENT HANGER
James H. Ogg, North Hollywood, Calif., assignor to Pakline Corp., a corporation of California
Filed Feb. 7, 1966, Ser. No. 525,424
U.S. Cl. 223-91 5 Claims
Int. Cl. A47j 51/08



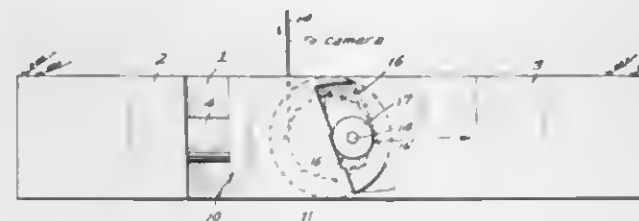
1. An improved garment hanger adapted for holding a garment in a suspended position, comprising: a bowed frame member terminating in opposite end portions spaced apart to define a longitudinal extent of said bowed frame member; hook means secured to said frame member; lower frame means coupled to said opposite end portions of said bowed frame member, said lower frame means having a length less than said longitudinal extent of said bowed frame member; an elongated gripping means coupled to said opposite end portions of said bowed frame member in vertically spaced relation to said lower frame means, said gripping means being resiliently movable with respect to said lower frame means for receiving a garment between said lower frame means and said gripping means, wherein said garment is gripped therebetween when said gripping means is moved towards said lower frame means; and a pair of support members extending downwardly from said bowed frame member into connected relation with said lower frame means, said support members being angularly spaced to define a generally triangular space for receiving said garment in a folded position, wherein said garment may be unfolded to extend between said gripping means and said lower frame means.

3,421,670
DEVICE FOR CARRYING A CHILD ON THE BACK
Margaret S. Hansson, P.O. Box 998, Boulder, Colo. 80301
Filed Dec. 15, 1966, Ser. No. 602,070
U.S. Cl. 224-6 6 Claims
Int. Cl. A47d 13/02



An equipment for carrying a child on a person's back comprising a metal frame having two portions connected by crosspieces and arranged to extend rearwardly from the shoulders of the person and then downwardly and forwardly for engagement with the hips. A fabric seat is slung from the frame. The shoulder supports are of elongated triangular configuration and each has the base of the triangle connected to the fabric seat and to the upper crosspiece. The bases of the triangular supports are wide and each extends about one-half the width of the front upper crosspiece; the shoulder supports are attached to the fabric seat and are attached to the frame by a loose tubular fabric envelope which facilitates the distribution of weight, and the assembly provides greater stability and safety for the child being carried.

3,421,671
PULSE DRIVE SHAFT
Dolty R. Self, Hatch, N. Mex., assignor to the United States of America as represented by the Secretary of the Army
Filed Oct. 13, 1966, Ser. No. 587,380
U.S. Cl. 226-76 3 Claims
Int. Cl. G03b 1/24; B65h 17/22

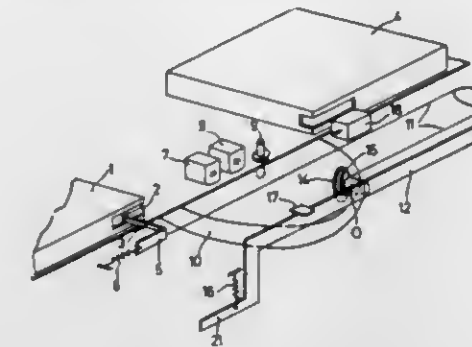


A drive for a film transport sprocket wherein a solenoid reciprocated means is used to transfer constant direction rotary motion to the sprocket.

3,421,672
CONTROL APPARATUS FOR A RECORD CARRIER TRANSMITTING DEVICE
Arne Appel, Salzburg, Austria, assignor to North American Philips Company Inc., New York, N.Y., a corporation of Delaware
Filed Oct. 19, 1966, Ser. No. 587,781
Claims priority, application Austria, Oct. 25, 1965, A 9,633/65 9 Claims
U.S. Cl. 226-92
Int. Cl. G03b 1/56

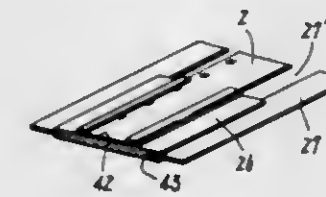
Apparatus for a recorder/reproducer which insures that a transmitting device for conveying a record carrier from a supply magazine to a take-up magazine is not actuated

during one of the operating conditions of the recorder/reproducer. Mechanical and electromechanical devices are



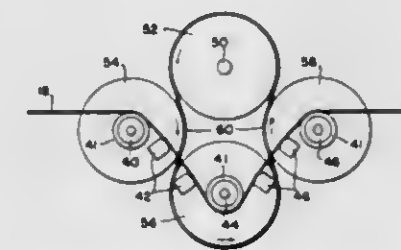
provided which automatically terminates the operating conditions of the recorder/reproducer prior to initiating operation of the transmitting device.

3,421,673
AUTOMATIC FILM THREADING DEVICE
Yoshio Nakamatsu, Tokyo, Japan, assignor to Hokuslin Electric Works, Limited, Tokyo, Japan
Filed Nov. 21, 1966, Ser. No. 595,665
Claims priority, application Japan, Nov. 26, 1965, 40/72,248 6 Claims
U.S. Cl. 226-92
Int. Cl. G03b 1/58



1. An automatic film loading device comprising a pair of endless flexible parallel leading belts including a part or all of a film loading path and a leading plate which is provided between a part of said leading belts and is adapted to hold a fixed length of the forward end of the film, whereby, in loading, when said leading belts are moved, the forward end of the film will automatically be led along the path.

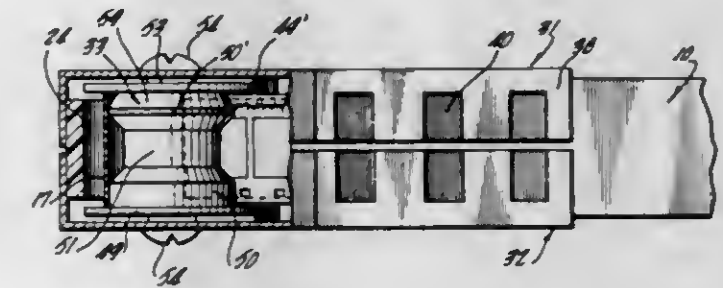
3,421,674
TRI-CAPSTAN DRIVE AND WEB TENSIONER
Robert F. McCammon, Denver, Colo., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed May 26, 1967, Ser. No. 641,663
U.S. Cl. 226-195 9 Claims
Int. Cl. B65h 23/00; B65h 77/00



A tri-capstan drive arrangement is shown having three capstans with associated capstan pulleys driven by a fourth motor pulley. An elastic belt links the four pulleys into a driving arrangement, which allows the tri-capstan drive to rotate in either direction with the leading capstan always rotating at a faster revolution per unit time than the following capstan. The difference in the rate of

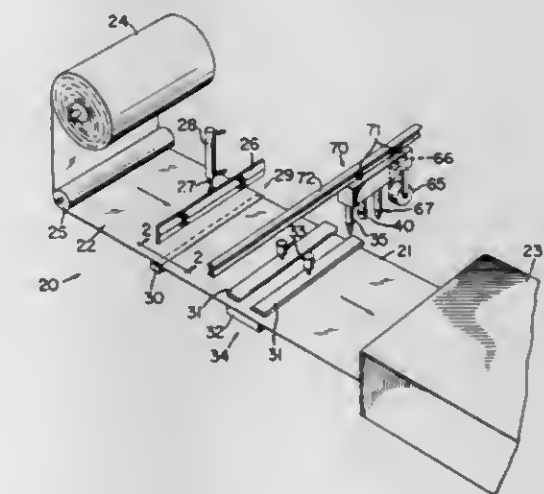
rotation provides for tensioning a magnetic tape between the tri-capstans. This arrangement isolates the tape from outside vibrational disturbances as the tape is passed over magnetic heads which are located between the capstans.

3,421,675
FILM GUIDE
Richard P. Brown, Monrovia, and Joseph H. Lancor, Jr., Arcadia, Calif., assignors to Consolidated Electrodynamics Corporation, Pasadena, Calif., a corporation of California
Continuation-in-part of application Ser. No. 511,486, Dec. 3, 1965. This application Feb. 8, 1967, Ser. No. 628,191 3 Claims
U.S. Cl. 226-196
Int. Cl. B65h 23/28; G03b 1/44; G03d 3/12



A guide system, including a guide duct and bend fixtures, for handling motion picture film is disclosed. The guide duct is arranged to encircle the film and to edge-guide and edge-support the film for movement essentially only along the length of the film without contact between the film and the duct intermediate the film edges. The bend fixtures are arranged to provide sharp turns in the film path and also provide guiding and supporting engagement with the film. The guide system is described in the context of a multi-station film projection system in which a length of film is transported serially through several spaced projection stations.

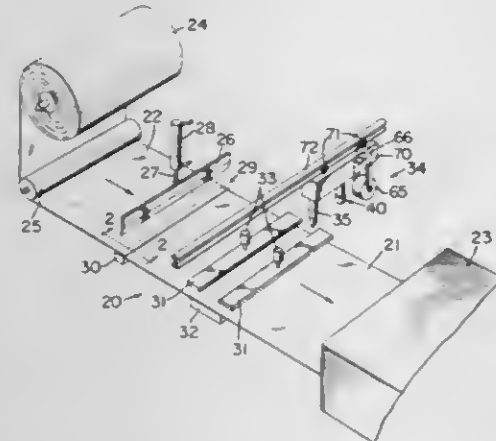
3,421,676
APPARATUS FOR JOINING METAL PRODUCTS
William B. Jenkins, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Aug. 2, 1966, Ser. No. 569,743
U.S. Cl. 228-13 12 Claims
Int. Cl. B23k 1/20; B23k 5/00; B23k 5/24



An apparatus for joining metal products such as a plurality of metal sheets wherein the end portions of such sheets are held in adjoining relation and sprayed with a spray of finely divided hot molten metal particles which are allowed to cool and solidify. The solidified

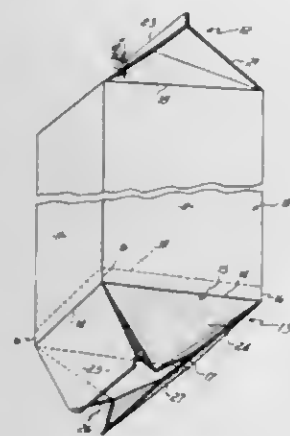
metal particles and the adjoining end portions of such sheets are then suitably heated to melt such solidified particles and join such end portions by providing a high-strength fused joint.

3,421,677
APPARATUS FOR JOINING METAL PRODUCTS
 William B. Jenkins, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
 Filed Aug. 2, 1966, Ser. No. 569,698
 U.S. Cl. 228-19 9 Claims
 Int. Cl. B23k 5/00; B23k 5/24



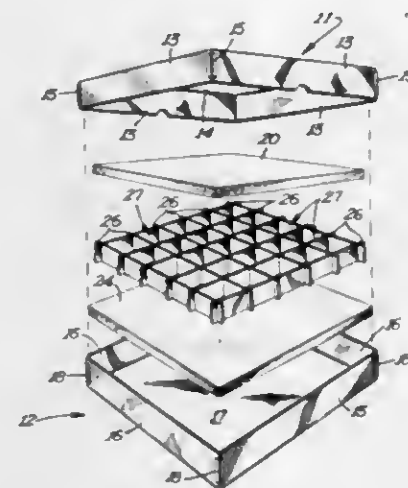
An apparatus for joining metal products, such as metal sheets, wherein a spray or layer of finely divided hot molten metal particles is deposited on a joint defined by a pair of such metal sheets, for example, which are held together in adjoining relation. The metal particles are then suitably compressed by a planishing roll to provide a high-strength joint.

3,421,678
PROFILE COATED CARTON
 Kenneth Thompson, Waynesville, N.C., and Richard C. Ihde, Parma Heights, Ohio, assignors to U.S. Plywood-Champion Papers, Inc., Hamilton, Ohio, a corporation of Ohio
 Continuation-in-part of application Ser. No. 559,929, June 23, 1966. This application Oct. 9, 1967, Ser. No. 673,681
 U.S. Cl. 229-3.1 7 Claims
 Int. Cl. B65d 5/40; B65d 5/56; B05c 3/18



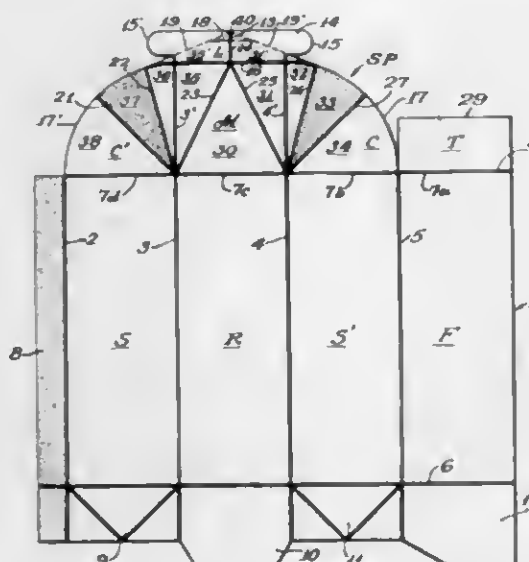
A paperboard carton for liquids in which the inside surface of the carton is coated with a film of thermoplastic material, the thickness of the film being greater in the areas of greater stress.

3,421,679
COMPARTMENTALIZED CONTAINER
 Joseph Goldman, Minneapolis, Minn., assignor, by mesne assignments, to Logistics Industries Corporation, Philadelphia, Pa., a corporation of New York
 Filed June 28, 1967, Ser. No. 649,659
 U.S. Cl. 229-15 6 Claims
 Int. Cl. B65d 5/48; B65d 25/12



This invention relates to a waterproof, dustproof, non-abrasive compartmentalized container for fragile articles. A layer of closed-cell resilient material, such as foamed polyurethane, is disposed in compressive engagement with the upper and lower edges of a plurality of dividers to thereby define a plurality of waterproof, dustproof, and nonabrasive compartments for various fragile articles.

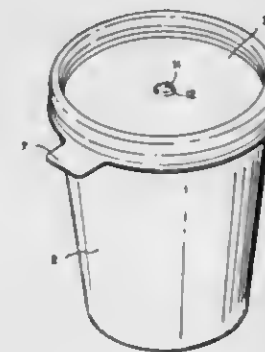
3,421,680
DISPENSING CONTAINERS AND BLANKS THEREFOR
 Donald R. Cohee, Skokie, Ill., assignor to Colin Design Engineering, a partnership of Illinois
 Filed Sept. 5, 1967, Ser. No. 665,485
 U.S. Cl. 229-17 18 Claims
 Int. Cl. B65d 5/74; B67d 3/00



The application discloses a spout and carton formed from a single blank, a spout-forming end panel of which has arcuate edges. The centers of the arcs are located at the corner intersections of adjacent side panels. The arcs are substantially quarter circles, not joined along a radial line but are separated by a webbing portion or mid-panel portion of the end panel substantially the

width of a side panel. The mid-panel portion is integral with the arcuate end panels along a radial line and each arcuate edge blends into a lip-forming edge portion. The two lip-forming edge portions define a generally triangular portion of the spout-forming end panel that extends beyond the tangent line that would join the two arcs. The spout may be used separately or as an integral part of a carton, and a fold line that creates a sanitary pouring lip that is not exposed prior to usage is provided. The spout does not project into the carton interior and is reclosable, sanitary, one-piece, and substantially leak-proof. A typical embodiment is a carton and blank for a flat-topped, end-opening milk carton which provides a volumetric economy of from about 19-45%. Cartons square, rectangular and trapezoidal in cross section incorporating the spout as a unitary part are disclosed.

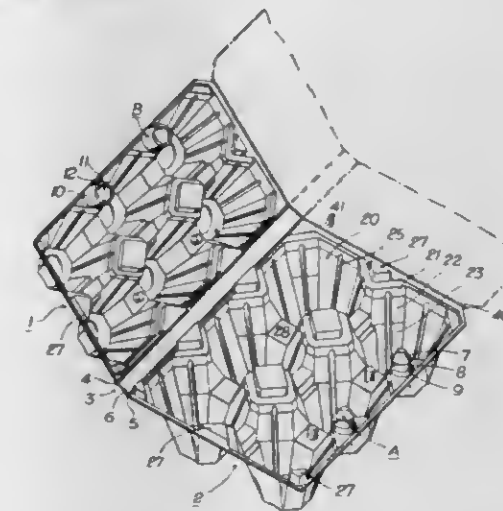
3,421,681
CUP AND LID
 Alan I. W. Frank, Pittsburgh, Pa., assignor to The Alan I.W. Frank Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
 Filed Apr. 26, 1967, Ser. No. 633,819
 U.S. Cl. 229-43 10 Claims
 Int. Cl. B65d 5/64



A cup and lid combination comprising a generally circular open-topped cup of resilient plastic material which cup adjacent its open top is generally conical with maximum transverse dimension at the open top and a lid of frangible material having a plug portion adapted to be forced down into the open top of the cup to tightly sealingly engage the inside surface of the cup and in so doing depress the resilient plastic material of the cup so that at least a part of the plug portion of the lid substantially interlocks with the cup, the lid having a hood portion embracing the cup rim and terminating outwardly of and below the cup rim with a tab projecting from the outer terminal edge of the hood portion which tab when pulled upwardly tears the material of the lid at opposite sides of the tab at least to the top of the hood portion, loosening the engagement between the cup and the lid, whereafter continued pulling upwardly of the tab removes the lid from the cup. The outer extremity of the hood portion of the lid constitutes a skirt extending generally downwardly but somewhat outwardly away from the cup with the tab projecting from the terminal edge of the skirt. The tab initially lies generally in a plane normal to the axis of the cup and lid. The lid has a generally centrally located upward projection or dome containing a vent hole, such upward projection being of irregular outline promoting damping of waves at the surface of liquid in the cup when the liquid-filled cup is being carried with consequent minimization of sloshing of liquid out through the vent hole. Such minimization of sloshing is further enhanced by proportioning the upward projection so that its depth is less than 2 1/2 % of the diameter of the lid and its maximum transverse dimension is less than 15% of the diameter of the lid.

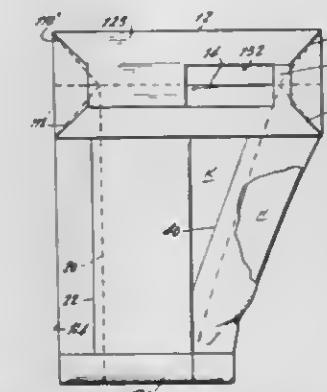
3,421,682
PACKAGING CONSISTING OF THERMOPLASTIC FOIL
 Joachim Eisenbach, Nikolaifogasse 4, Klosterneuburg, Austria
 Filed Mar. 17, 1967, Ser. No. 624,088
 Claims priority, application Austria, Mar. 25, 1966, A 2,859/66 2 Claims

U.S. Cl. 229-51
 Int. Cl. B65d 17/00



This invention relates to packaging formed of thermo-plastic foil, and particularly but not exclusively to packaging of the type which can be used to accommodate eggs, fruit or piecetype articles.

3,421,683
VACUUM CLEANER FILTER BAG
 John J. Fesco, Baldwin, N.Y., assignor to Studley Paper Company, Far Rockaway, N.Y., a corporation of New York
 Filed Jan. 31, 1967, Ser. No. 612,879
 U.S. Cl. 229-53 8 Claims
 Int. Cl. B65d 31/00; B65d 33/00; B01d 29/10

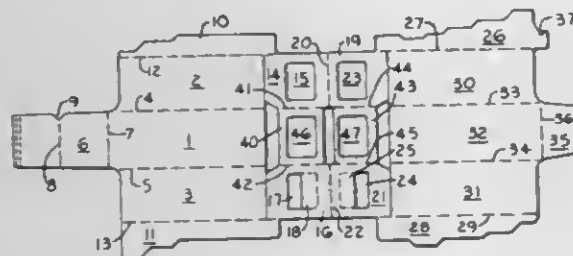


This invention is concerned with providing a highly novel vacuum cleaner filter bag which can be manufactured on machinery designed for relatively small volume vacuum cleaner filter bags, and yet which bag during use can be adjusted to accommodate a vacuum cleaner requiring both a larger volume bag and more specially adapted bag than can be manufactured on the said machinery.

3,421,684
CARRIER HANDLE STRUCTURE
 James T. Stout, Sr., and James B. Funkhouser, Doraville, Ga., assignors to The Mead Corporation, a corporation of Ohio
 Filed Aug. 24, 1967, Ser. No. 663,068
 U.S. Cl. 229-52 7 Claims
 Int. Cl. B65d 5/46

The handle structure as disclosed herein is primarily applicable to carriers having two cells, one on each side

of the handle and in which transverse partitioning structure is not required. Thus the blank from which the carrier is formed is arranged so that material ordinarily utilized for partition structure is reoriented in such a way as to reinforce the handle and also due to the fact that the reinforcing panels of this invention are foldably



joined to handle panels which are manipulated relative to each other during the formation of the carrier, such reinforcing panels serve to guide the movement of the various handle panels relative to each other during the formation of the carrier and thus insure precise controlled orientation of the various handle panels.

3,421,685

COMPRESSOR CONTROL

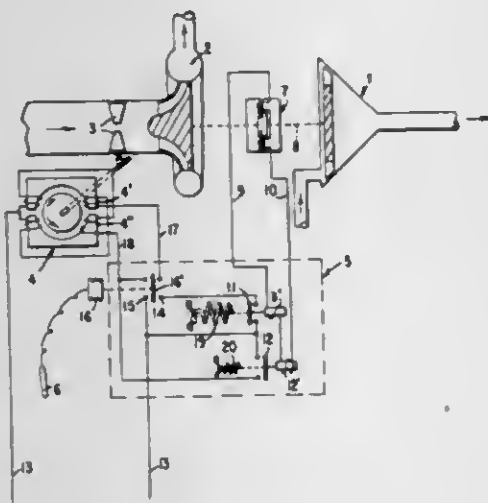
Carl M. Anderson and James W. Endress, Syracuse, N.Y., assignors to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware

Filed Feb. 21, 1966, Ser. No. 528,734

U.S. Cl. 230-114

2 Claims

Int. Cl. F04d 27/00



An overload control for a constant speed compressor which is responsive to a decrease in compressor speed indicative of compressor overload to decrease the load thereon and therefore maintain the desired compressor operating speed.

3,421,686

BEARING ASSEMBLY

John Frederick Coplin and Peter Longley, Derby, and Robert Vaughan Blackhurst, Ripley, England, assignors to Rolls-Royce Limited, Derby, England, a British company

Filed May 31, 1966, Ser. No. 553,860

Claims priority, application Great Britain, June 21, 1965, 26,206/65

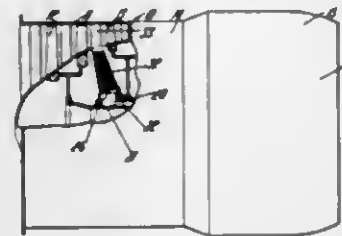
U.S. Cl. 230-116

11 Claims

Int. Cl. F04d 25/02

A bearing assembly for a gas turbine engine or the like including a casing, at least one bearing within said casing,

and at least one support member for supporting the bearing from the casing. The support member has at least a portion thereof which is hollow, the hollow portion hav-



ing at least a part thereof internally divided by internal walls into a multiplicity of closely packed cells forming a cellular bracing structure.

3,421,687

VERTICAL AIR CIRCULATION FAN

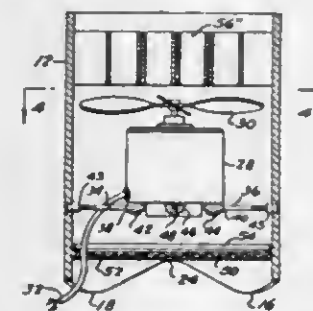
Buddy Z. Dally, 950 Goodman, Memphis, Tenn. 38111

Filed Jan. 20, 1967, Ser. No. 610,531

U.S. Cl. 230-117

3 Claims

Int. Cl. F04d 25/08; F04d 19/00



A fan and motor mounted in a cylindrical housing having unitarily formed extensions on one end to form feet and a plurality of elongate channel forming air directors at the other end for drawing air from spaces adjacent the feet from a floor area and directing the air in a vertically extending column to the ceiling area of a room is disclosed.

3,421,688

LIQUID SEALED MECHANICAL VACUUM PUMPS
Eric Spooner, Crawley, England, assignor to Edwards High Vacuum International Limited, Crawley, England, a British company

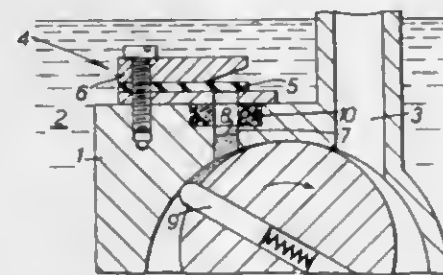
Filed Mar. 13, 1967, Ser. No. 622,816

Claims priority, application Great Britain, Mar. 16, 1966, 11,533/66

U.S. Cl. 230-153

7 Claims

Int. Cl. F04c 17/00; F04b 39/00



A sound suppressor arrangement for the exhaust valve of a liquid sealed mechanical pump comprising means for absorbing at least part of the pressure surge, known as "oil knock," at the end of the pumping cycle. The absorbing means is operable on the pumping fluid within the clearance volume of the exhaust valve and comprises one or more gas pockets separated therefrom by a low inertia partition which may, for example, be part of the valve flap or a closed cell foam material placed as a liner for the clearance volume.

3,421,689

RECEPTACLE FOR BAG-LIKE CONTAINER MEANS

Harry P. Reinzan, 7605 Dixie Highway,

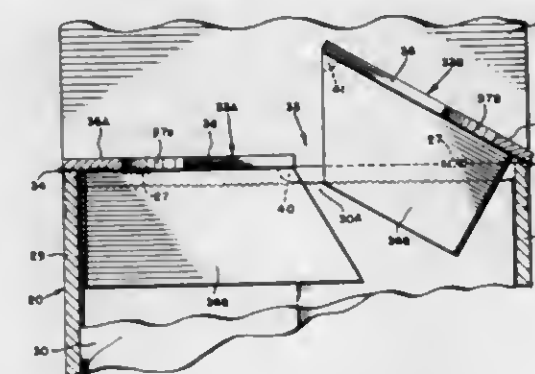
Florence, Ky. 41042

Filed Aug. 8, 1966, Ser. No. 570,964

U.S. Cl. 232-43.2

11 Claims

Int. Cl. B65d 91/00; A47b 81/00; B65b 67/00



This invention discloses an improved receptacle adapted to receive disposable bag-like containers normally used by retail merchants for packaging groceries or the like and into which refuse may be deposited. The receptacle is provided with guide and holding means operatively associated therewith to properly position the bag-like containers which vary in size and hold them open and thereby assure that refuse is only introduced into the container and not into the receptacle.

3,421,690

COUNTER WITH NOVEL DRIVE MECHANISM

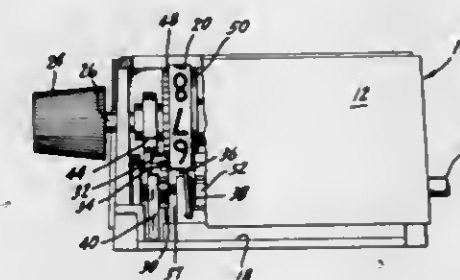
Francis P. Knox, Bloomfield, Conn., assignor to Redington Counters, Inc., Windsor, Conn., a corporation of Connecticut

Filed July 21, 1967, Ser. No. 655,083

U.S. Cl. 235-117

11 Claims

Int. Cl. G06c 27/00; G06m 1/00



There is provided a counter with a novel drive assembly comprising a combination including a pinion member cooperating both with a number wheel and with an oscillatable ratchet. The pinion member has two axial portions each with teeth spaced equidistantly about its circumference, the first portion having twice the number of teeth as the second. The first number wheel is in meshing engagement with the first portion of the pinion member and the ratchet is mounted for oscillation adjacent to the second portion of the pinion member. Biasing means urges the pinion member into driving engagement with the ratchet during oscillation thereof in a forward direction and urges the pinion member from driving engagement with the ratchet during oscillation thereof in the opposite direction. Means are also provided for controlling the motion input to the ratchet to minimize likelihood of injury to parts.

ERRATUM

For Class 235-201 see:
Patent No. 3,422,259

3,421,691

BOILER TEMPERATURE MODULATING CONTROL

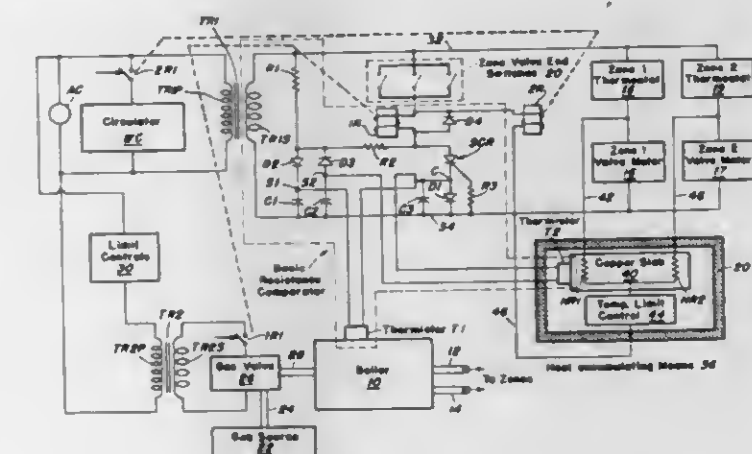
Norman A. Forbes, Louisville, Ky., assignor to American Standard Inc., a corporation of Delaware

Filed Aug. 2, 1966, Ser. No. 569,623

U.S. Cl. 236-9

13 Claims

Int. Cl. F23n 5/00; G05d 23/00



This invention provides an arrangement for operating the fuel-feeding means of a boiler for a hydronic heating system which is intended to supply heat to a plurality of zones (such as apartments or offices of a single building or group of associated buildings), each zone, or at least one zone, being provided with a separate thermostat. The apparatus includes a heat accumulating means enclosed in an insulated housing to provide thermal inertia. The heating system, which is under the control of the thermostat or thermostats, is combined with one or more heaters to heat the heat accumulating means. Two effective signals are generated in the system, one related to the temperature of the heat accumulating means and the other related to the boiler water temperature. These two signals are coordinated to control the operation of the fuel-feeding means.

3,421,692

METHOD OF ATOMIZING LIQUIDS IN A MONO-DISPersed SPRAY

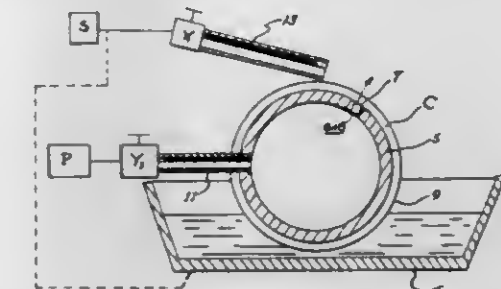
Robert S. Babington, 1113 Ingleside Ave., McLean, Va. 22101; Albert A. Yetman, 12316 Kembridge Drive, Bowie, Md. 20715, and William R. Slivka, 17 Shellflower Road, Levittown, Pa. 19056

Filed Dec. 29, 1966, Ser. No. 605,777

U.S. Cl. 239-8

15 Claims

Int. Cl. B05b 17/00; B05b 7/32



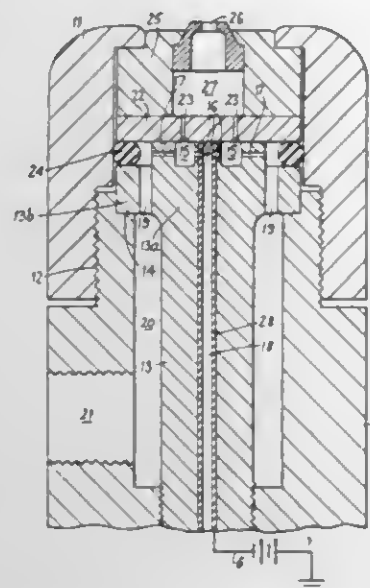
This invention deals with a method of converting liquids into the form of a spray defined by mono-dispersed small, 50 micron or less, particles by introducing the liquid onto a smooth unconfined surface having an aperture there-through, causing the liquid to film out on the surface either by surface tension or by the shape of the surface so that the liquid is under a stress before it reaches the aperture; the film flowing completely over the aperture and being stressed during and after such flow and additionally further stressing the film by discharging a gaseous dispersing medium through the aperture whereby as it passes across the stressed film, minuscule particles of the liquid break away from the film to form the spray.

3,421,693 PNEUMATIC ATOMIZER FOR SPRAYING LIQUIDS

Reginald Percy Fraser, Surrey, England, assignor to Societe Anonyme de Machines Electrostatiques, Paris, France, a corporation of France
Filed Sept. 25, 1964, Ser. No. 399,322
Claims priority, application Great Britain, Sept. 27, 1963, 38,172/63

U.S. Cl. 239—15
Int. Cl. B05b 5/02; B05b 7/04; B05b 1/26

5 Claims



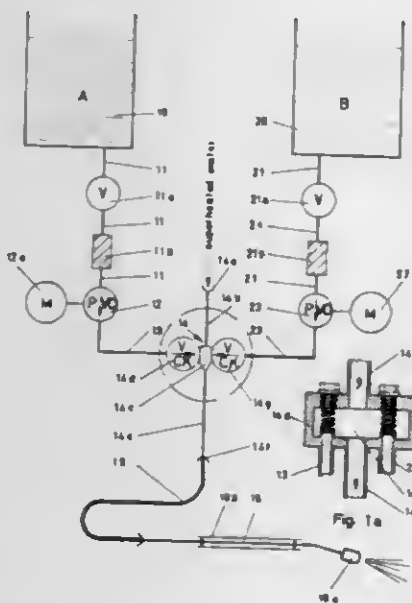
A pneumatic atomizer for spraying liquids in which the liquid and an atomizing gas are fed through oppositely or angularly disposed inlet orifices to a substantially enclosed atomizing chamber. The chamber is of annular configuration and is provided with an axial outlet nozzle for discharging the atomized particles. The liquid is electrostatically charged prior to its discharge from the nozzle.

3,421,694 APPARATUS FOR SPRAYING AND APPLYING AT LEAST ONE CHEMICAL LIQUID

Jörg Müller, Korb, Württemberg, Germany, assignor to Alfred Karcher, Winnenden, Württemberg, Germany
Filed Oct. 21, 1966, Ser. No. 588,432
Claims priority, application Germany, Oct. 30, 1965, K 57,662

U.S. Cl. 239—142
Int. Cl. B05b 9/00; B05b 7/04

4 Claims



An apparatus for spraying and applying chemical liquid means which comprises a plurality of containers with

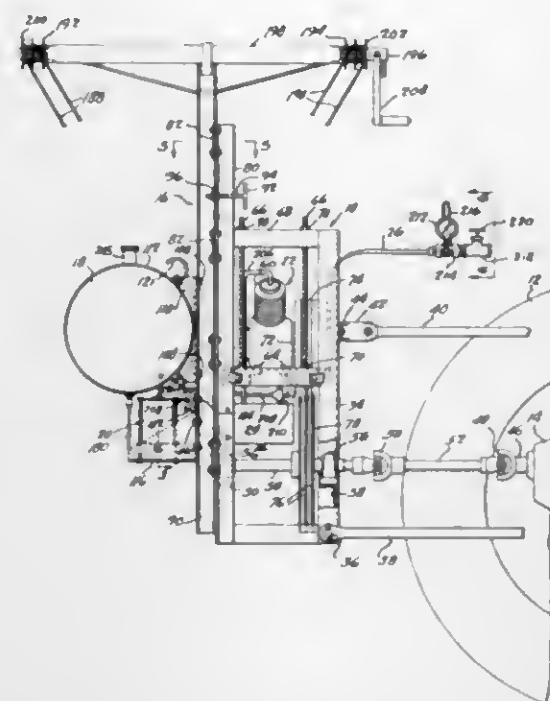
different chemical liquids, nozzle means for spraying and applying said liquids, mixing chambers interposed between said containers and said nozzle means for mixing said chemical liquids with superheated water, and control means for controlling the mixing chambers to dispense through one nozzle means the chemical liquid of one container only.

3,421,695 APPARATUS FOR SPRAYING MINUTE QUANTITIES OF A LIQUID DISPERSED IN AIR

Morton E. Phelps, Little Rock, Ark., and Tommy O. Bell, Hallsville, Tex., assignors to The Sifon Corporation, Hallsville, Tex., a corporation of Texas
Filed Dec. 2, 1966, Ser. No. 598,719

U.S. Cl. 239—164
Int. Cl. B05b 1/20

13 Claims



A spray apparatus having siphon-type nozzles with central bores for passage of compressed air and relatively large lateral inlet apertures for liquid, the liquid being supplied at a constant pressure which is negative relative to the air pressure, so that very small amounts of liquid are sprayed from the nozzles. Preferably, a plurality of nozzles are mounted on an adjustable boom and the liquid supply means is fixed to the boom to move therewith. The liquid supply means may include a tank having a float to maintain a constant head of liquid, the boom being disposed at, or above, the level of the liquid to create a negative pressure of the liquid with respect to the air in the nozzles, so that upon cut-off of the air, the flow of liquid to the nozzles is also immediately cut off. Variable pressure compressed air to the nozzles is valve controlled in a relief line to the atmosphere to change the rate of spray. An additional control is obtained by varying the height of the liquid supply tank.

3,421,696
STEAM DIFFUSOR
Mario Carloni, Via di Montenero 98, Leghorn, Italy
Filed May 19, 1967, Ser. No. 639,822
Claims priority, application Italy, May 21, 1966, 18,149/66

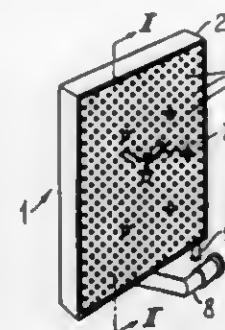
U.S. Cl. 239—133
Int. Cl. B05b 1/24; B05b 1/26; B05b 1/14

4 Claims

A steam diffuser for processing edible products with superheated steam comprising a flat box-like casing with a diaphragm member within the casing. Dividing the interior of the casing in two mutually communicating spaces,

one of such spaces communicating with the superheated steam supply and the other of such spaces communicating

mounted in the second container for conveying the material to be sprayed from the material zone of the container. A removable closure member is secured in gas-



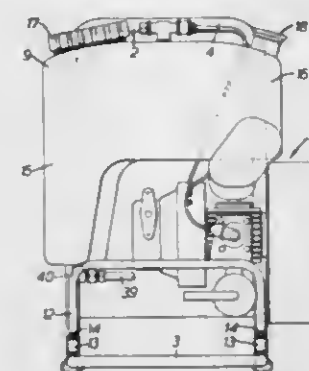
with apertures allowing passage of steam towards the products to be treated.

3,421,697
SPRAYING EQUIPMENT
Peter Edmund Marks, Hope View, Bodenham, England, assignor to Birfield Engineering Limited, London, England
Filed Dec. 5, 1966, Ser. No. 599,166

Claims priority, application Great Britain, Dec. 4, 1965, 51,554/65

U.S. Cl. 239—152
Int. Cl. B05b 9/08; A01n 17/08; B05b 3/04

9 Claims



Spraying equipment comprising a body harness attached to a back support frame on which are mounted an engine and fan unit, a fuel reservoir, a tank providing a spraying liquid reservoir and a flexible duct which is connected to the fan outlet and adjacent the other or outlet and contains a rotary atomiser which in use is driven by the air stream along the duct. The tank is of inverted generally L-shaped form with a vertical limb offset to the left-hand side of the frame and disposed alongside the engine which is offset to the right-hand side, the arrangement being such that in use the duct is disposed at the right side of the operator so that a handle attached to the duct can conveniently be held in his right hand.

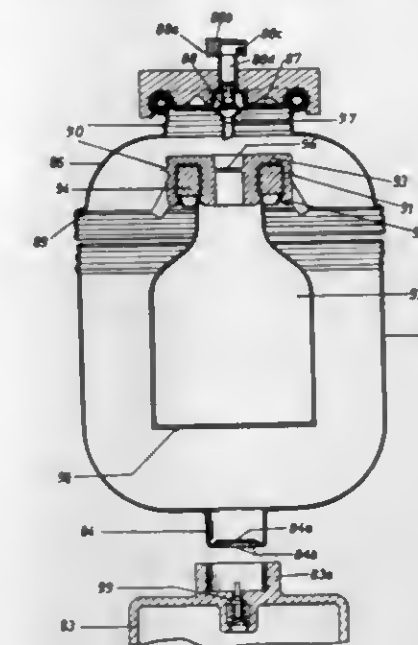
3,421,698 DEVICE FOR SPRAYING LIQUIDS BY MEANS OF PROPELLANT

Walter Baltzer, Bad Ems, Graverhelde, Germany
Filed Oct. 8, 1965, Ser. No. 494,124
Claims priority, application Germany, Oct. 9, 1964, B 78,851; Oct. 12, 1964, B 78,882; Dec. 12, 1964, B 60,048; Sept. 8, 1965, B 83,628

U.S. Cl. 239—304
Int. Cl. B05b 9/04; B05b 7/26; A62c 13/60

15 Claims

A spray can device for pressure propelled products employing a gas as the propellant means and comprised of a first container for the propellant gas and a second container detachably secured to the first container holding the material to be propelled or sprayed. A bag formed of a flexible foil is secured within the second container and divides it into a material zone and a propellant gas zone. A valve housing including a non-return valve is



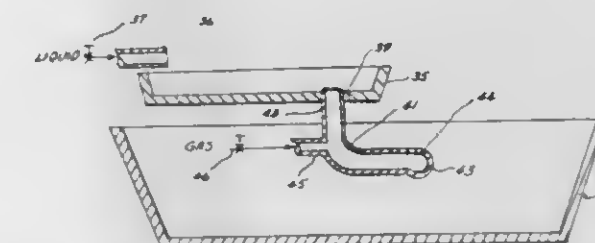
tight relationship to the second container and includes a holding device detachably secured to the closure member for fastening the flexible foil bag in position.

3,421,699 APPARATUS FOR SPRAYING LIQUIDS IN MONO- DISPERSED FORM

Robert S. Babington, 1113 Ingleside Ave., McLean, Va. 22101, Albert A. Yetman, 12316 Kembridge Drive, Bowie, Md. 20715, and William R. Slivka, 17 Shellflower Road, Levittown, Pa. 19056
Filed Dec. 29, 1966, Ser. No. 605,779

U.S. Cl. 239—337
Int. Cl. B05b 7/32

16 Claims



The invention relates to a form of spraying device capable of producing extremely fine, 50 microns or less, spray particles in a uniform pattern by flow of a liquid over a smooth surface having an aperture therein, the surface being of such characteristics, either shape or because of the material from which formed, that the liquid is stressed into thin film form before it reaches the aperture. A gas introduced across the thin film, which also has an unconfined film surface, will cause minuscule particles of the liquid to break away from the free film surface, as the film is further stressed, to thus produce the very fine uniform spray.

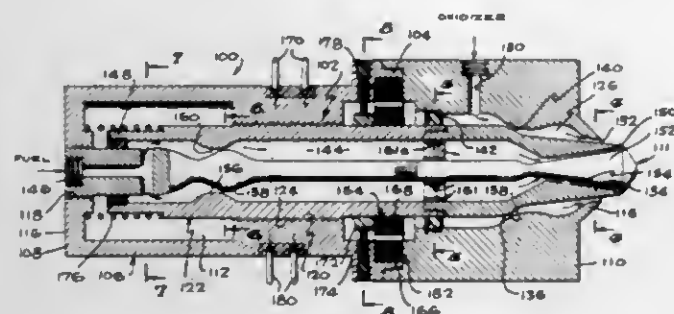
3,421,700
ELECTROMECHANICAL ACTUATOR
Robert C. Seamans, Jr., Deputy Administrator of the National Aeronautics and Space Administration with respect to an invention of Donald D. Laine, Torrance, Calif.
Filed Aug. 3, 1966, Ser. No. 570,097

U.S. Cl. 239—416
Int. Cl. B05b 7/12; B05b 15/08; F02g 3/00

3 Claims

This invention relates to an electromechanical linear actuator wherein the structure of a motor driven valve,

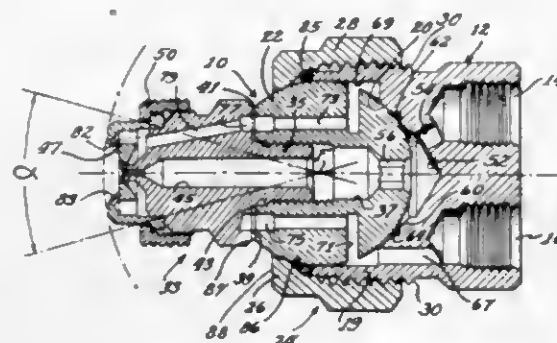
having a body, including an outer generally tubular portion and an inner coaxial stem, and a tubular valve sleeve which surrounds the stem and is mounted within the tubular body portion for both rotation and axial translation relative to the valve body, constitutes a linear actuator,



wherein the valve body and valve sleeve form the body and driven member respectively, of the actuator and the stator of the motor is fixed to the valve body and the rotor is fixed to the valve sleeve.

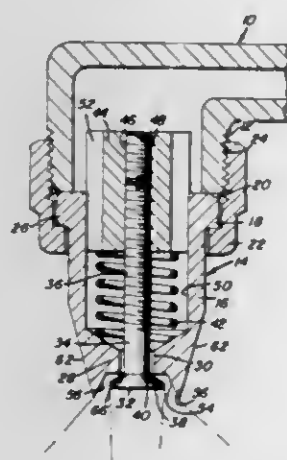
3,421,701
CONTROLLED PATTERN SPRAYING NOZZLE
Clayton T. Walters, Corpus Christi, Tex., assignor to Clayton Specialties, Inc., a corporation of Texas
Filed Apr. 25, 1967, Ser. No. 633,586
U.S. Cl. 239—453
Int. Cl. B05b 1/32; B05b 1/02

loosen the nozzle from the body portion and readjust its position, which is typical of many prior art devices.



Thus, in an application such as gear lubrication, wherein a lubricant is atomized by air under pressure at the nozzle tip, adjustment of the nozzle to focus the spray pattern on a particular area is possible in accordance with the invention, at any time during operation, and without disturbing the fixed position of the body.

3,421,703
KILN FEED CONTROL
Richard E. Galer, Alpena, Mich., assignor, by mesne assignments, to National Gypsum Company, Buffalo, N.Y., a corporation of Delaware
Continuation of application Ser. No. 483,178, Aug. 27, 1965. This application Apr. 4, 1968, Ser. No. 718,952
U.S. Cl. 241—25
Int. Cl. B02c 21/00; B02c 23/00; B02c 25/00



A spraying nozzle to be used primarily for greasing or oiling bread loaf pans and including specifically formed outlet nozzle tip portions which, because of their configuration, enable nozzles constructed in accordance with the present invention to evenly spray oil over all inner surface portions of a rectangular bread pan.

3,421,702
ADJUSTABLE MULTIPLE FLUID ATOMIZING NOZZLE
Edward J. O'Brien, Glen Ellyn, Ill., assignor to Spraying Systems Co., a corporation of Illinois
Filed Aug. 2, 1967, Ser. No. 657,981
U.S. Cl. 239—418
Int. Cl. B05b 7/10; B05b 17/00

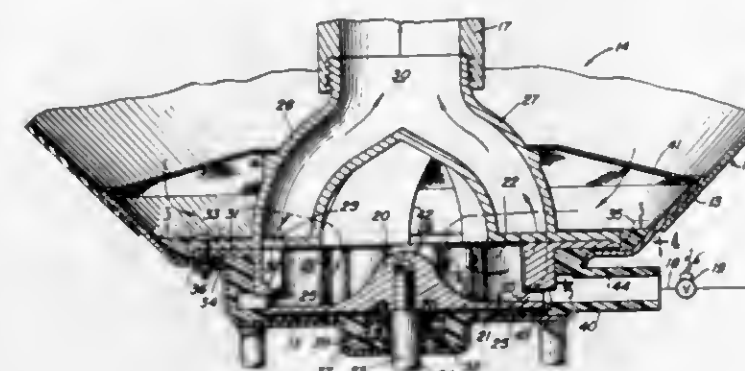
The following sets forth a description of a novel multiple fluid adjustable nozzle arrangement wherein the nozzle position is adjustable over an area defined by a spherical plane. The arrangement of the invention permits adjustment of the nozzle relative to a fixed body portion under actual working pressures and without disturbing fluid flow, thereby eliminating the need to shut down,

This invention is directed to a control of the chemical proportions of kiln feed composition in the manufacture of portland cement. This is achieved by supplying a plurality of streams of proportioned ingredients which are fed sequentially to pulverizing mills. During the entire feed period, samples are taken and analyzed so that the final control of supplied material can be established through a control exercised by an appropriate computer and control unit.

3,421,704
DISHWASHER APPARATUS
Wilbur G. Peyer, St. Paul, and James G. Rusplino, White Bear Lake, Minn., assignors to Whirlpool Corporation, a corporation of Delaware
Filed Apr. 4, 1966, Ser. No. 540,005
U.S. Cl. 241—46.11
Int. Cl. B02c 13/14

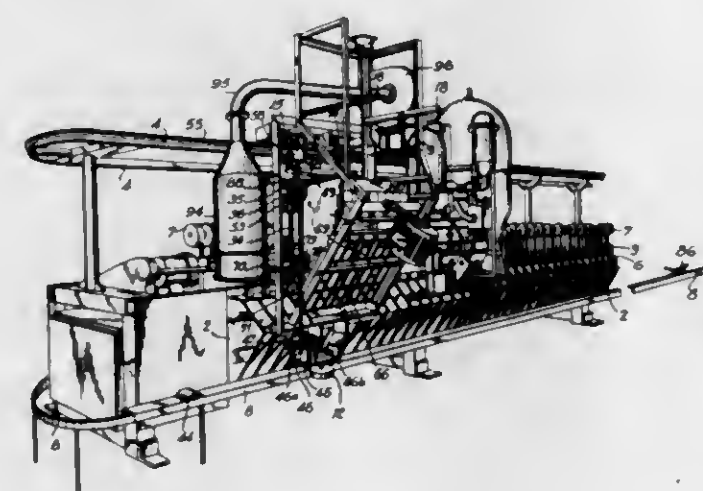
A dishwasher pump means including an impeller having a first portion for pumping water to the washing chamber

and a unitarily integral second portion for pumping water to the drain, the second portion of the impeller being arranged to provide a higher fluid pressure than that produced by the first portion whereby improved discharging of the washing liquid is obtained with a minimum of recirculation of the washing liquid during the drain cycle.



describes a path of travel which extends substantially along a straight line parallel to the axis of the winding roll.

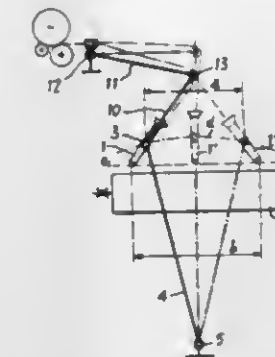
3,421,705
MACHINE FOR THE CONTINUOUS MANUFACTURE OR HANDLING OF YARN COPS
Janos Benedict, Almelo, Netherlands, assignor to Koninklijke Textiefabrieken, Nijverdal-Ten Cate N.V., Almelo, Netherlands
Filed June 11, 1965, Ser. No. 463,303
Claims priority, application Netherlands, June 19, 1964, 6407033
U.S. Cl. 242—35.5
Int. Cl. B65h 54/00



An automatic yarn cop handling mechanism in which stacked cops are released in succession onto an array of rotatable shafts such that the cops rotate with the shafts and unwind a free end of yarn which is drawn into a suction tube of a transferring device.

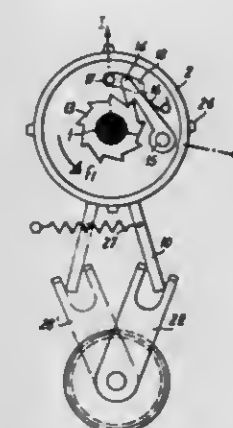
3,421,706
ROTARY FUNNELS EMPLOYED FOR WINDING FIBRE SLIVERS IN CROSSED REELS
Jean Frederic Herubel, 1 Rue du 4 Fevrier, Guebwiller, Haut-Rhin, France
Filed Jan. 12, 1967, Ser. No. 608,816
Claims priority, application France, Jan. 21, 1966, 46,726
U.S. Cl. 242—54.4
Int. Cl. B65h 75/16

A false-twist funnel device for winding fibre slivers in a crossed-reel on a winding roll in which a funnel having a delivery end is imparted with angular oscillatory movement about its axis and a reciprocal movement along an



describes a path of travel which extends substantially along a straight line parallel to the axis of the winding roll.

3,421,707
APPARATUS FOR REWINDING A SPOOL
Bob Moussle and Jörg Fischer, Yverdon, Vaud, Switzerland, assignors to Pallard S.A., Vaud, Switzerland, a company of Switzerland
Filed Nov. 29, 1966, Ser. No. 597,651
Claims priority, application Switzerland, Dec. 16, 1965, 17,416/65
U.S. Cl. 242—55.12
Int. Cl. G11b 15/32; G11b 15/24

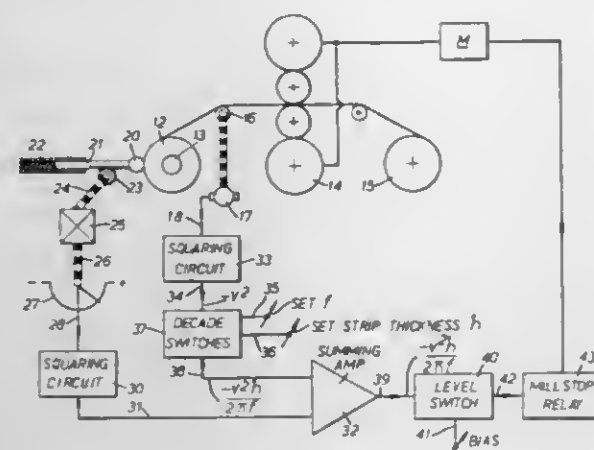


A strip rewinding apparatus including a wheel and intermediate element journaled upon a drive shaft and provided with coupling means locking the intermediate element to the shaft and clutch means regulating the rotary movement of the wheel. Clutch means also actuates rewinding means dependent upon the braking torque as applied to the wheel by the strip.

3,421,708
CONTROL OF STRIP
George Galioway Nicholson, Ronald Jackman, and Derek Stubbs, Sheffield, England, assignors to Davy and United Engineering Company Limited, Sheffield, England
Filed Sept. 26, 1966, Ser. No. 582,094
U.S. Cl. 242—57
Int. Cl. B65h 25/04

When drawing strip material from a coil on a pay-off device by drive means it is desirable that the end of the coil be drawn off of the pay-off device at a very low speed and as it is also desirable for the remainder of the coil to be drawn off of the pay-off device at as high a speed as possible, it is necessary to initiate deceleration of the drive means at a particular instant of time which

will cause the drive means to be decelerated to zero just as the end of the coil is leaving the pay-off device. It is



difficult for an operator to know at what moment to initiate deceleration of the drive means since the time at which initiation of the deceleration is started depends upon a number of features including the linear speed of withdrawal of the strip. The invention provides control means which automatically initiate deceleration of the drive means so that at the end of the deceleration period the end of the strip material is at a predetermined position relative to the pay-off device.

3,421,709

REWINDING MACHINES

Edward Albert Breacker and Edouard Armelin, London, England, assignors to Societe d'Etudes de Machines Speciales, Paris, France, a French company

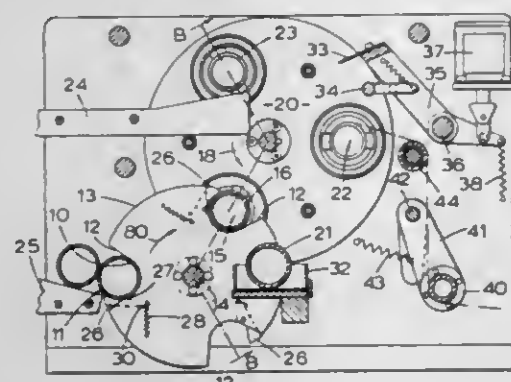
Filed Oct. 13, 1966, Ser. No. 586,427

Claims priority, application Great Britain, Oct. 13, 1965, 43,437/65

U.S. Cl. 242—64

Int. Cl. B65h 65/00; B65h 67/06; B65h 75/18

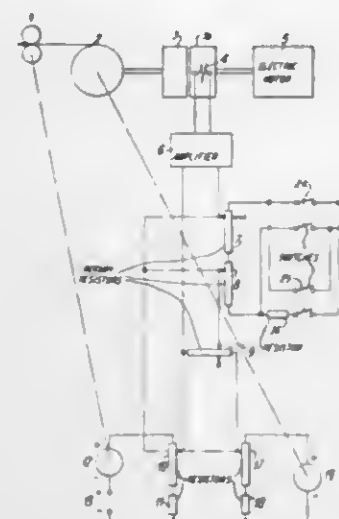
9 Claims



An apparatus for winding a web of material onto cores in which a plurality of mandrels adapted to receive the cores, are supported on a rotating turret and are continuously driven while the turret is indexed successively to different stations at which the respective mandrels receive cores, each said core then receiving the end of the web which is wound around it, after which the core is released. Means are included for applying adhesive to the core with which to attach the web end to it. The means for loading the cores onto the mandrels of the rotating turret comprises two disks mounted for rotation together in synchronism with the turret, the disks having a plurality of recesses in their peripheries for positioning of the cores so that upon rotation of the disks, the cores are presented to the respective mandrels at a core receiving a station.

3,421,710
UNWINDING APPARATUS
Gerhard Mier, Slingen, Hohentwiel, Germany, assignor to Swiss Aluminium Ltd., Chippis, Switzerland, a joint-stock company of Switzerland
Filed Sept. 27, 1966, Ser. No. 582,291
Claims priority, application Switzerland, Sept. 29, 1965, 13,447/65; Oct. 1, 1965, 13,614/65
U.S. Cl. 242—75.47
Int. Cl. B65h 23/20; H02p 7/00

9 Claims



In controlling the tension of unwinding material, the pole wheel magnet brake is drawn in a direction opposite to that of a reel shaft at a speed which, with the reel shaft stationary, is sufficient to reach the point of maximum torque, on the torque-speed characteristic, at the initial value of the brake coil current; thereafter, in the period between the commencement of unwinding and the attainment of full speed of the unwound material the brake coil current is regulated in accordance with the speed of the unwound material so that the current/speed characteristic for the brake has a positive slope; and is made zero or negative.

3,421,711

SEAT BELT RETRACTOR

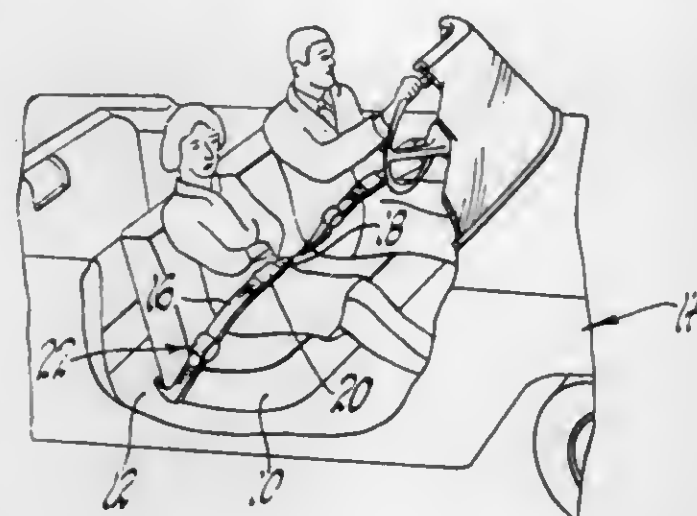
Orville J. Brow, Taylor, and Gene T. Jones, Detroit, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Nov. 15, 1963, Ser. No. 324,001

U.S. Cl. 242—107.11

Int. Cl. B65h 75/48

5 Claims



1. In combination with a safety seat belt mounted in a motor vehicle, a seat belt retractor adapted to be adjustably coupled to said seat belt intermediate the ends

thereof, said retractor comprising a first and second housing member each having a pair of end walls and an intermediate side wall, fastening means formed on said members for removably connecting said members together to form an enclosure, a guide slot formed in each of said side walls providing a passageway for said belt during extension and retraction thereof, a pair of tongues projecting from each of said end walls of one of said members, reel means adapted to be removably positioned for rotation in said tongues, said reel means having a generally T-shaped slot formed therein for receiving a portion of said seat belt intermediate the ends thereof, spring means connected between said housing and said reel means for normally, yieldingly urging said reel means in a direction to retract the opposite ends of said seat belt.

3,421,712

STATIONARY SWIFT

James A. Scroggle and Floyd Charles Hall, Guelph, Ontario, Canada, assignors to The Dobbie Industries Limited, Galt, Ontario, Canada

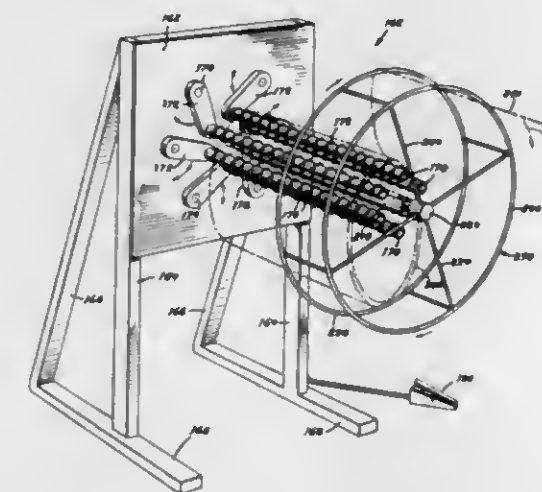
Filed Apr. 25, 1966, Ser. No. 545,147

Claims priority, application Canada, May 18, 1965, 930,932; Jan. 6, 1966, 949,260

U.S. Cl. 242—110.1

Int. Cl. B65h 75/24

6 Claims



A stationary swift comprising a plurality of circumferentially spaced support arms forming a radially expandable mandrel adapted to support a wound skein for unwinding, a wire coil extending spirally around each of the support arms to prevent lateral movement of the skein on the arms, a rotatable guide ring mounted coaxially with respect to the mandrel and located substantially centrally of the length of the mandrel, and means to adjust the size of the circumferential spacing of the support arms to vary the size of the mandrel.

3,421,713

THREAD TENSION DEVICES FOR SEWING MACHINES

Norman E. Zacher, Livingston, N.J., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey

Filed June 8, 1965, Ser. No. 462,253

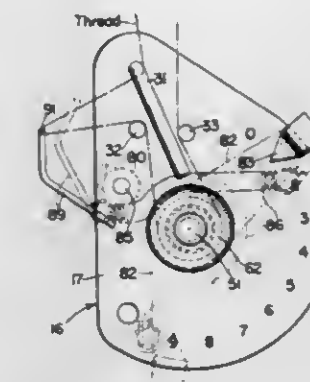
U.S. Cl. 242—155

Int. Cl. B65h 59/18

9 Claims

A thread tension device comprising primary means including a thread pulley carried at one end of a rotatably mounted shaft and carrying at its other end a drag drum having a braking spring operatively associated therewith for controlling the tension in the thread, and secondary means including a check spring also for controlling the

tension in the same thread operatively connected to the brake spring so that the effect of the check spring on the



tension of the thread automatically will be regulated as the tension placed on the thread by the primary means is regulated by movement of an adjusting lever.

3,421,714

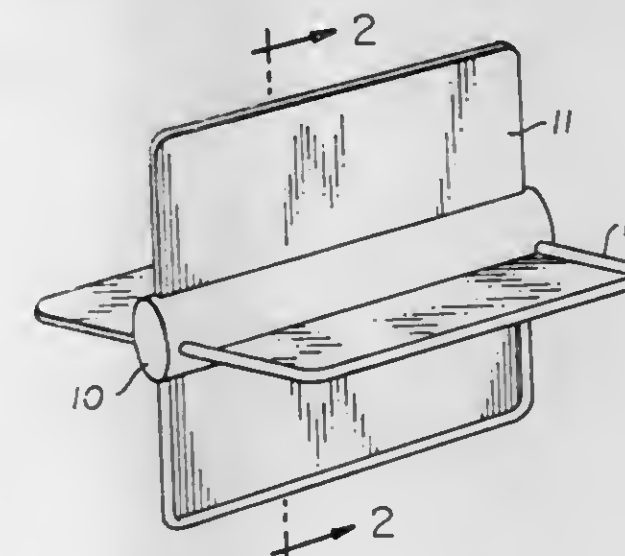
RE-ENTRY VEHICLE FOR SMALL PACKAGES
Warren C. Koerner, Manhattan Beach, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Apr. 4, 1967, Ser. No. 628,791

U.S. Cl. 244—1

Int. Cl. B64c 31/00

2 Claims



A passive vehicle for conveying small payload packages or capsules from earth satellites and other space vehicles back through the atmosphere, landing them intact on the earth. The payload package is carried in a central housing with fins attached thereto. The fins serve as aerodynamic drag surfaces, reducing the velocity of the vehicle as it falls through the atmosphere; radiate heat from the vehicle; and cushion the package during impact with the ground.

3,421,715

SPACE NAVIGATION SYSTEM
Bernard F. Cohan, 2850 Moraga Drive, Los Angeles, Calif. 90024

Filed July 8, 1966, Ser. No. 563,800

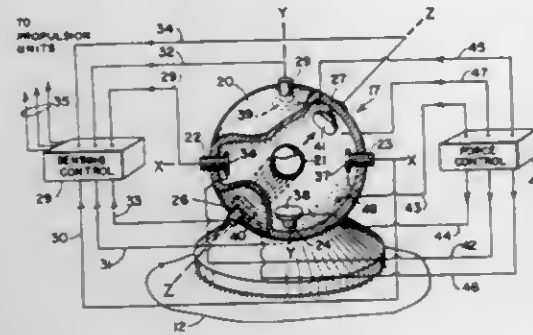
U.S. Cl. 244—1

Int. Cl. B64c 39/02; H01s 3/00

5 Claims

A space navigation system wherein there is provided an evacuated enclosure in a space craft containing a central mass. This central mass is free floating and will

thus follow a gravitational orbit. The enclosure includes sensing means for sensing any deviation of the position of



the central mass from a given position and utilizing the signals developed as a consequence of such deviation for operating suitable propulsion units on the spacecraft so that the central mass will again be properly centered in the enclosure. Also included are force units for applying a force purposefully to the central mass to cause an intentional deviation thereof. This intentional deviation places the central mass in a new desired orbit in accordance with a desired navigational plan. The sensed changes in turn will then operate the propulsion units of the spacecraft to cause the craft to follow the new course.

3,421,716

VEHICLE GUIDANCE SYSTEM

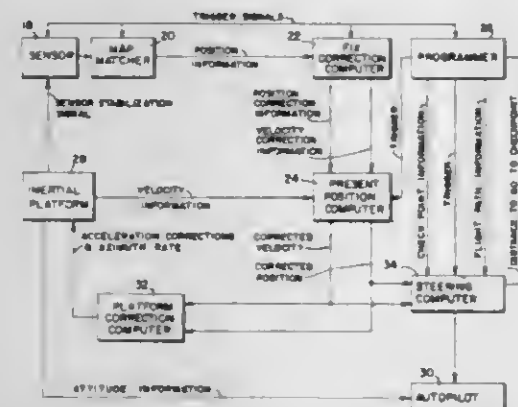
John L. Altekruze, Cuyahoga Falls, Albert C. Buxton and Robert O. Hancock, Akron, and James H. Miller, North Canton, Ohio, assignors to Goodyear Aerospace Corporation, a corporation of Delaware

Filed Nov. 13, 1962, Ser. No. 238,824

U.S. Cl. 244-3.17

Int. Cl. F41g 7/00; F42b 15/02; G06f 15/50

7 Claims



I. An automatic guidance system for controlling a vehicle in flight along a flexible course determined by spaced reference map check points comprising

- sensor means actuated only in the vicinity of the spaced reference map check points for recognizing terrain characteristics and converting said characteristics into map information,
- a map matcher actuated only in the vicinity of the spaced reference map check points connected to the sensor means to receive the map information, compare the map information with the reference map information, and to produce vehicle position information which is a function of the compared information,
- a programmer operable to store flight path information and trigger actuation of the map matcher and sensor means in the vicinity of each respective reference map check point,
- an inertial guidance system operable to continuously produce acceleration, and position information in response to vehicle motion for primary vehicle guidance information,

computer means connected to the map matcher and the inertial guidance system operable at intermittent intervals upon receipt of information from the map matcher to correct the inertial guidance system output in accordance with the intermittent position information from the map matcher, and

vehicle control means responsive to the output of the inertial guidance system to correct the course of the vehicle to conform with the course determined by the spaced reference map check points.

3,421,717

IN-FLIGHT PRESSURE REFUELING PROBE AND ACTUATION SYSTEM

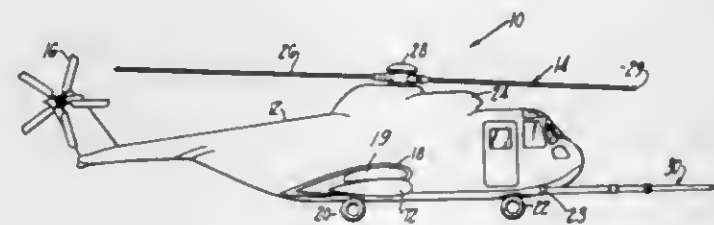
Joseph Di Piro, Ansonia, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Apr. 3, 1967, Ser. No. 628,109

U.S. Cl. 244-17.11

Int. Cl. B64d 27/00; B64d 39/00

25 Claims



An in-flight pressure refueling probe including a cylinder-piston actuating mechanism to cause the probe to move between its extended and retracted positions, with provisions for locking the probe in both end positions and for automatically sequencing the operation of the control system in response to a pilot command system.

3,421,718

INTEGRAL SEAL FOR AIRCRAFT LAUNCHING CYLINDER

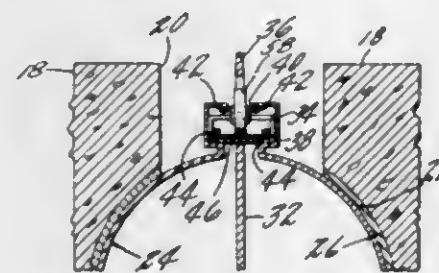
Joseph H. Gehring, Ferguson, Mo., and Peter T. Vercellone, New Haven, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Jan. 18, 1967, Ser. No. 610,093

U.S. Cl. 244-63

Int. Cl. B64f 1/04; F01b 29/08

4 Claims



A pneumatic cylinder for launching aircraft (similar to a catapult) having an elongated longitudinal slot extending the length thereof is provided with lips which are gripped by a longitudinal closure for sealing the slot. An incremental section of cylinder is flexed as the launching device approaches so as to permit the slot to be closed enough to release the grips of the seal, permitting the seal to drop so as to pass the launching device, and behind the launching device, the closure is returned to the seated position and the cylinder is released so as to permit the slot to open slightly thereby causing the seal to again be gripped by the lips.

3,421,719

LIGHTWEIGHT AUTOMATIC FLIGHT CONTROL MECHANISM

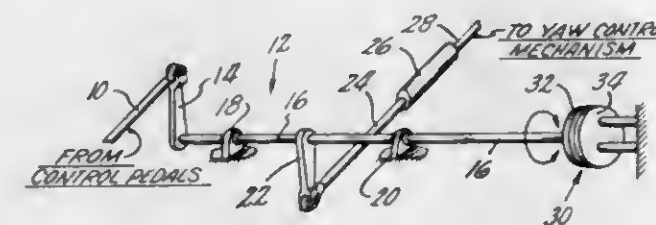
Henry R. Ask, Wapping, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Sept. 11, 1967, Ser. No. 666,619

U.S. Cl. 244-78

Int. Cl. B64c 13/36; B64c 13/40; B64c 17/00

12 Claims



This invention relates to a lightweight aircraft control system in which autopilot command signals are introduced into a pilot-operated control linkage. The apparatus includes an actuator connected mechanically to the control linkage and an adjustable slip clutch, or brake, mechanically grounding the actuator to the aircraft and permitting the pilot to override the actuator. The grounding force generated by the slip clutch is modulated in response to the autopilot command signal to match the control load generated by the actuator.

3,421,720

AIRCRAFT SEAT EJECTION SYSTEM

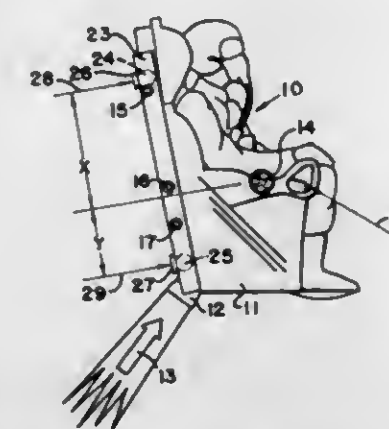
Hugh D. MacDonald, Jr., Cinnaminson, and Leonard A. De Stefano, Pennsauken, N.J., and James M. De Leo, Washington, D.C., assignors to the United States of America as represented by the Secretary of the Army

Filed May 27, 1966, Ser. No. 554,646

U.S. Cl. 244-122

Int. Cl. B64d 25/10

3 Claims



An aircraft seat ejection system having a seat with a predetermined man-seat center of gravity, and a main rocket for elevating the seat for parachute deployment. The system includes auxiliary, low impulse vernier rocket means on the seat and responsive to angular displacement of the seat to provide a promptly effective flight attitude correction to the ejected seat.

3,421,721

AIRCRAFT CAMERA MOUNTING

Raymond H. Miller, Santa Barbara, Calif., assignor to Mark Hurd Aerial Surveys, Inc., Minneapolis, Minn., a corporation of Minnesota

Filed Feb. 6, 1968, Ser. No. 703,321

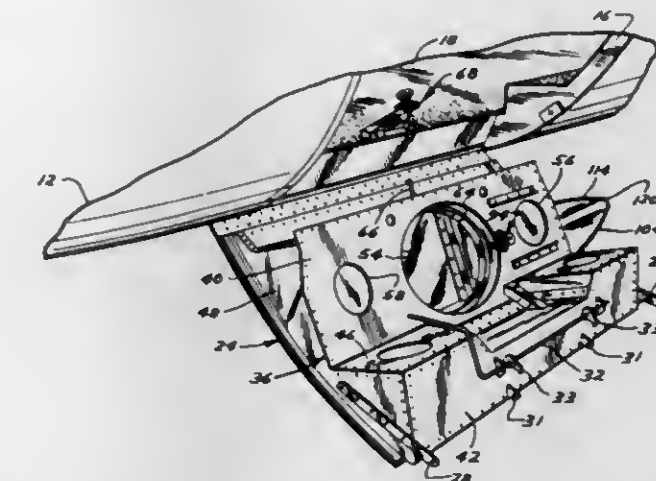
U.S. Cl. 244-129

Int. Cl. B64c 1/00; G03b 29/00

12 Claims

An aircraft fuselage door, interchangeable with the aircraft's standard door or half-door, is provided with a protuberance located on the lower portion thereof. The

protuberance is in the form of an aerodynamically efficient fairing having a generally flat under surface in which



is disposed a downwardly facing window. On the interior of the door above said window is attached a support frame for mounting a conventional aerial mapping camera and also a drift meter. When the aircraft is to be used for purposes other than vertical aerial photography, the interchangeable door of this invention is removed and the standard door of the aircraft is replaced. The aircraft may then be used again for its certified purposes.

3,421,722

KITE PIVOT CONTROLLER

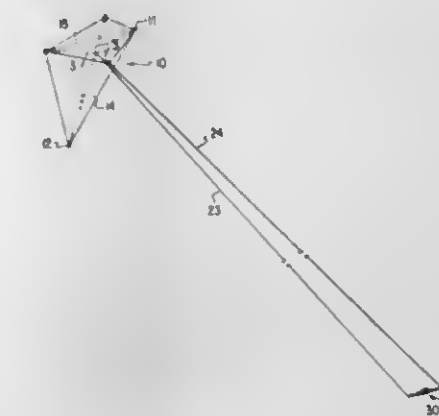
Bob D. May, 2810 Ben Fulton Ave., North Lawrence, Ohio 44666, and James L. Williams, 11782 Bonnie Brae Drive SW., Massillon, Ohio 44646

Filed Apr. 13, 1967, Ser. No. 630,597

U.S. Cl. 244-155

Int. Cl. B64c 31/06

4 Claims



A control device secured to the frame of a kite and used in conjunction with a two-line control from the ground which permits the kite to maneuver. An elongated control rod having a guide loop at its free end is pivotally mounted on the kite frame and the control lines pass through the loop and are secured to spaced extremities of the kite.

3,421,723

ELEVATOR BRACKET FOR OUTBOARD MOTOR

David T. Holt, Rte. 3, Goodlettsville, Tenn. 37072

Filed Feb. 1, 1968, Ser. No. 702,232

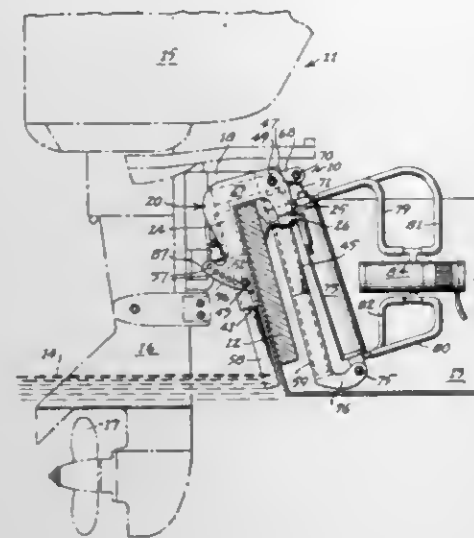
U.S. Cl. 248-4

Int. Cl. F16m 1/02; B63h 21/26; B63h 5/12

6 Claims

An elevator bracket having a pair of outboard guide members secured to and between the outboard portions of a pair of conventional transom clamps, a pair of inboard guide members secured to and between the inboard portions of the transom clamps, a pair of elevator frames, each having a pair of depending outboard and inboard

columns telescopically received in corresponding outboard and inboard guide members, a detachable hinge pin for or other gear from the same bracket, in non-fouling relation with the pair of retained skis, and without requiring



securing the outboard motor to and between the elevator frames, and fluid power means for raising and lowering the frames so that the outboard motor may be raised and lowered when the transom clamps are secured upon the transom of a boat.

3,421,724

SLIDING MOTOR BASE

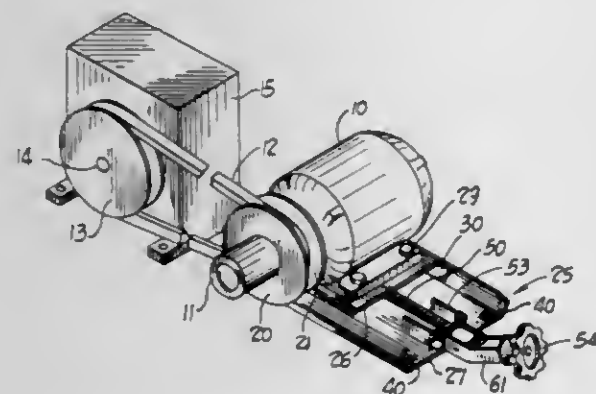
Peter V. B. Cornell, Cleveland, Ohio, assignor to Speed Selector Inc.

Filed Jan. 12, 1967, Ser. No. 608,844

U.S. Cl. 248—23

Int. Cl. E02d 27/44; F16h 7/10; F16c 29/00

6 Claims



A motor base having a base plate and a slide plate spaced from the base plate, the two plates being provided with V-shaped flanges at their side edges which cooperate to guide the slide plate for sliding movement.

3,421,725

SKI BRACKET OR THE LIKE

David E. Glass, Williston, Vt., assignor to Shelbourne Industries, Incorporated, Shelbourne, Vt., a corporation of Vermont

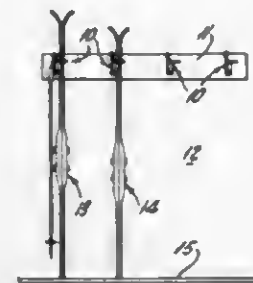
Filed Oct. 5, 1967, Ser. No. 673,073

U.S. Cl. 248—304

Int. Cl. F16b 45/00; A47f 5/08; A63c 11/02

11 Claims

This invention contemplates a hooked bracket designed to hold a pair of skis in position, face-to-face, close to a wall or other vertical support. The device takes advantage of the natural inclination of skis standing close against a wall to fall away from the wall, by gravitational pull, if angled slightly away from the wall at the top. An auxiliary hook is provided for hanging ski poles, parka, gloves



additional wall space beyond that desirably provided for the basic ski-hook feature alone.

3,421,726

TIE-DOWN ANCHOR DEVICE

Herbert Getter, 14640 3rd SW., Seattle, Wash.

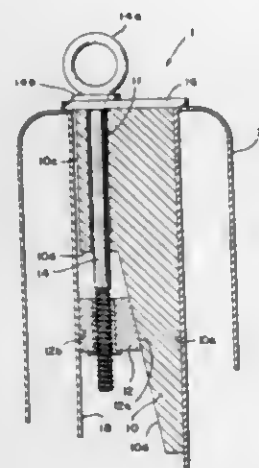
98166

Filed Sept. 18, 1967, Ser. No. 668,524

U.S. Cl. 248—361

Int. Cl. A62b 35/00; B61d 45/00

9 Claims



An anchor device employs cooperating wedges to secure itself into a straight-sided opening such as a pickup-body stake hole for use as a tie-down anchor point.

3,421,727

POST LOCK FOR CHAIR CONTROL

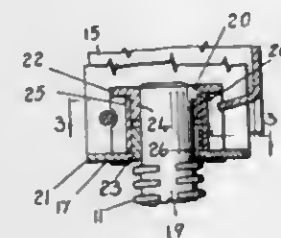
Frank Doerner, Waterloo, Ontario, Canada, assignor to Doerner Products Co. Limited, Waterloo, Canada, a corporation of Ontario, Canada

Filed May 3, 1966, Ser. No. 547,715

U.S. Cl. 248—405

Int. Cl. A47c 3/026; A47c 3/03

3 Claims



A chair control spindle which has a self-locking taper on the upper end, said tapered end fitting in a socket carried by the frame member of the chair control, the socket having its walls tapered to correspond to the taper

of the spindle end. The upper end of the spindle is formed with a detent produced by crimping, said detent sliding into a groove formed in the socket wall. The self-locking tapers and the detent and groove provide the sole means for retaining the chair control and the spindle in assembled position.

3,421,728

ADJUSTABLE MIRROR

Norman Gordon, 164 Harvard Drive,

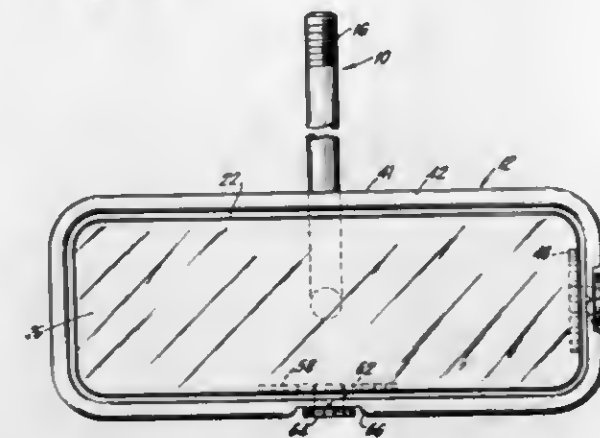
Ormond Beach, Fla. 32074

Filed Mar. 1, 1966, Ser. No. 530,861

U.S. Cl. 248—477

Int. Cl. A47g 1/24

2 Claims



1. An adjustable mirror for a vehicle, comprising a support arm connected to the vehicle, a rear view mirror movably connected to said support arm, a frame positioned about said mirror and secured to said support arm, an arcuately shaped rack gear secured to the bottom of the rear face of said rear view mirror within said frame, a pinion gear within said frame engaging said rack gear for rotation of said rear view mirror about its horizontal axis, a shaft connected to said pinion gear and extending through said frame, a knob connected to said shaft outside said frame for rotating said pinion, said knob having a plurality of settings thereon which are visually observable for precise adjustment of said rear view mirror, a second arcuately shaped rack gear secured to the side of the rear face of said rear view mirror within said frame, a second pinion gear within said frame engaging said second rack gear for rotation of said rear view mirror about its vertical axis, a second shaft connected to said second pinion gear and extending through the side of said frame, a second knob connected to said second shaft outside of the frame for rotating said second pinion, said second knob also having a plurality of settings thereon which are visually observable for precise adjustment of said rear view mirror, and means operatively connected between each pinion and corresponding rack gear for making an audible noise when the setting of the mirror is rotated either about the vertical or horizontal axis of said mirror.

3,421,729

TARGET MOULD

Thomas Tweed Higginson, P.O. Box 250,

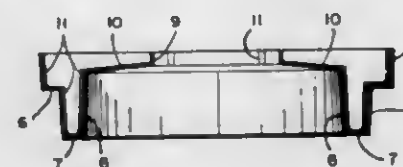
Hawkesbury, Ontario, Canada

Filed Feb. 18, 1966, Ser. No. 528,585

U.S. Cl. 249—52

Int. Cl. B28b 7/16

1 Claim



A mould for producing flying targets used in trap and skeet shooting comprising a ring shaped body having

inner and outer walls provided with stepped upper portions to provide internal and external flanges formed integral with the target to increase its stability in flight.

3,421,730

PRESSURE INJECTION MOLD

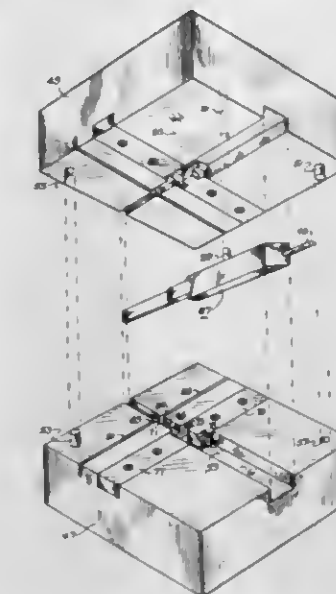
John P. Woods, Anchorage, Alaska, and Clifford D. Dransfield and Henry R. Barta, Dallas, Tex., assignors to Atlantic Richfield Company, Philadelphia, Pa., a corporation of Pennsylvania

Original application Aug. 29, 1962, Ser. No. 220,242, now Patent No. 3,375,574, dated Apr. 2, 1968. Divided and this application Mar. 5, 1968, Ser. No. 710,519

U.S. Cl. 249—142

Int. Cl. B28b 7/16

13 Claims



A pressure injection mold adapted to form a unitary bobbin for a magnetic transducer has two cooperatively engageable sections. Each section has a similar, rectangularly shaped depression extending the length of one dimension. Cavities, notches and shoulders in each depression combine with a removable metallic core placed in the depressions to provide voids which when filled with a pressure injected plastic produce the bobbin. The core has a sleeve forming subassembly.

3,421,731

HOT TOP MAINTAINING SYSTEM

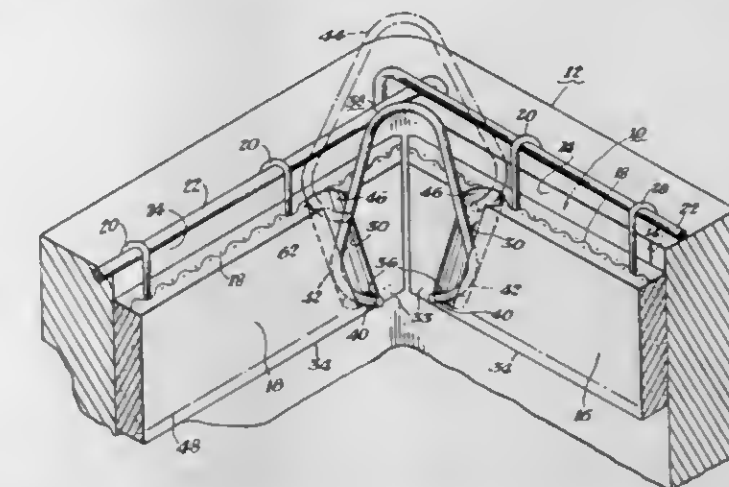
William Henry Koch, Trenton, Mich., and George Rocher, Pittsburgh, Pa., assignors to Metallurgical Exoproducts Corporation, McKees Rocks, Pa.

Filed Sept. 1, 1967, Ser. No. 665,081

U.S. Cl. 249—197

Int. Cl. B22d 7/10

7 Claims



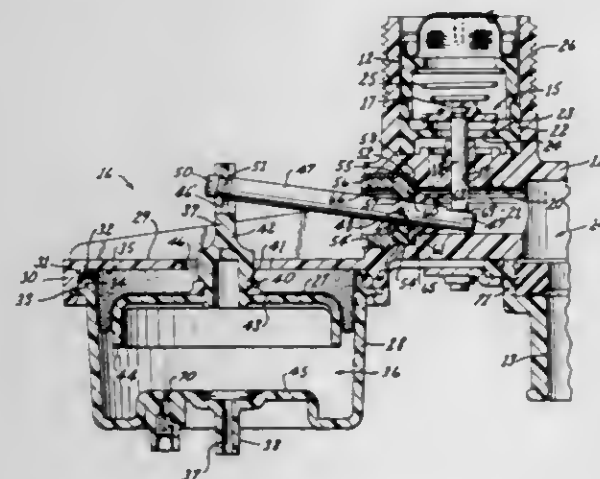
A hot top maintaining system is disclosed for suspending preformed hot top elements or sideboards within an

ingot mold and for restraining the sideboards against the inner surfaces of the mold to prevent molten liquid steel or other molten ingot material from rising between the sideboards and the mold. With this arrangement "floaters" are avoided. The restraining means include a number of spring hooks, or alternatively wedge plates, which are inserted into respective pairs of inclined grooves formed on the inward faces of the sideboards, adjacent their ends, respectively.

3,421,732 FLUIDIC CONTROLLED WATER VALVE OR THE LIKE

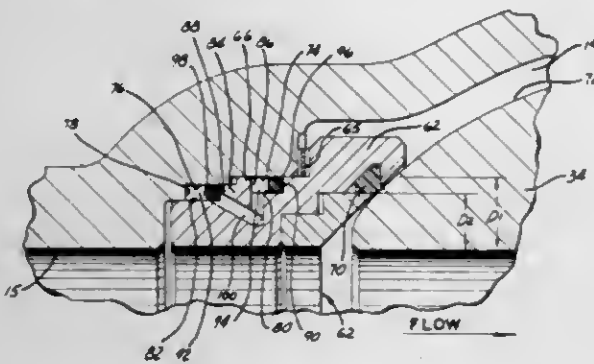
Robert L. Golden, Greensburg, Pa., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

Filed May 26, 1966, Ser. No. 553,107
U.S. Cl. 251-58 8 Claims
Int. Cl. F16k 31/145; F01b 19/02; F16k 31/44



This disclosure relates to a water mixing valve wherein the valve members in the inlets thereof are moved between their opened and closed positions by rocker arms pivotally mounted to the housing means and being interconnected to pneumatically operated actuators mounted in cantilevered fashion to outwardly extending platform means and having rolling diaphragms to compensate for warpage of the platform means, the rocker arms each carrying a pivot pin pivotally mounted in a sealing disc construction.

3,421,733
VALVE HAVING PRESSURE ACTUATED SEATS
Joseph T. Stewart, Jr., Houston, Tex., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Oct. 16, 1967, Ser. No. 675,415
U.S. Cl. 251-172 10 Claims
Int. Cl. F16k 25/00



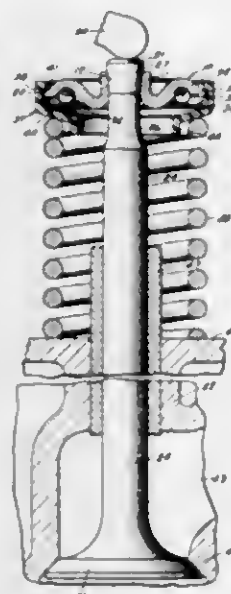
A double-acting seat system for valves having valve members which are trunnioned or otherwise retained against the downstream movement by line pressure. Each of the seat assemblies for the valve includes structure which causes a greater area at the rear portion of the

seat to be exposed to fluid pressure than at the face or front portion thereof, which results in pressure actuation of each of the seat assemblies in a direction toward the valve member.

3,421,734 VALVE ROTATING DEVICE

Stanley H. Updike, Mentor, James M. Cherrle, Euclid, and William A. Michaels, Warrensville Heights, Ohio, assignors to TRW Inc., Cleveland, Ohio, a corporation of Ohio

Filed Dec. 22, 1965, Ser. No. 515,696
U.S. Cl. 251-337 12 Claims
Int. Cl. F16k 31/00; F16k 29/00; F01l 3/10

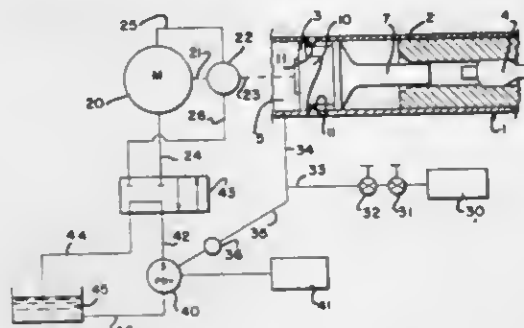


A valve rotating device has a nylon collar which is snap-fit over the outside diameter of the body by means of an internal bead. The body member has an integral taper valve lock and an initially flat spring washer, thereby providing a valve rotating device applicable to valve constructions having thin diameter stems, for example, single cylinder utility engines.

3,421,735 ACCELERATION LIMITING MEANS FOR FLUID MOTORS

Donald K. Skoog, Mountainside, N.J., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey

Filed Nov. 23, 1966, Ser. No. 596,605
U.S. Cl. 253-1 13 Claims
Int. Cl. F01d 17/04; F03b 15/02; E21c 3/20

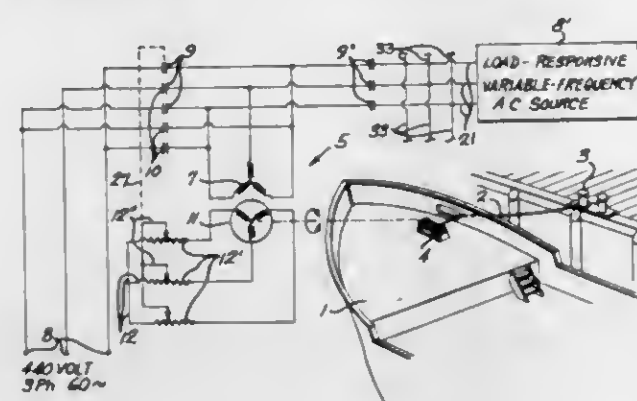


The apparatus provides for a valve to be placed in either the exhaust line of the motor or a by-pass around the motor so that when the motor is subjected to sudden no-load conditions after a load condition, the supply of motive fluid to the motor is almost cut off. When load conditions are present again, the valve allows full flow of fluid to the motor.

3,421,736 CONTINUAL TENSION LINE-TENSIONING MECHANISM

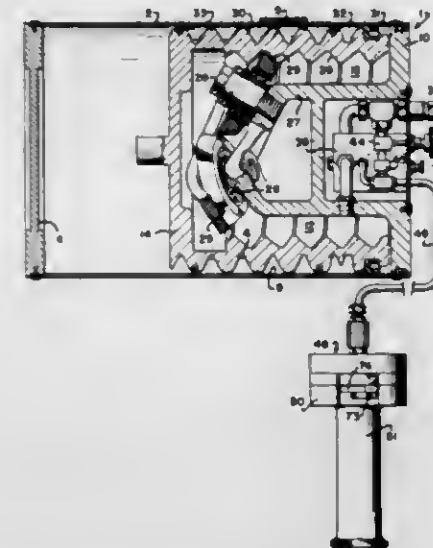
Cyrus W. Ostrom, Seattle, Wash., assignor to Consolidated Electric Corporation, Seattle, Wash., a corporation of Washington

Filed July 11, 1967, Ser. No. 652,578
U.S. Cl. 254-172 16 Claims
Int. Cl. B66d 1/48



A ship's mooring winch is driven by a polyphase phase-wound induction motor powered by constant frequency alternating current for reversible operation. Constant line tension can be maintained by supplying alternating current to the winch motor from an alternating-current source, the frequency of which is variable in response to the load on the winch. Such variable-frequency source may be an alternator driven by a phase-wound induction motor or by a squirrel-cage induction motor through a load-responsive slipping clutch or by a direct-current motor. The variable-frequency AC source is connected to the motor to drive the winch only in the reeling-in direction, but the tension on the line can retard the motor speed or stall the motor or rotate the winch and motor in the opposite direction against the driving torque of the motor. The winch-motor torque can be adjusted by varying the value of the resistance shunted across the rotor winding of the winch motor.

3,421,737
BALANCING HOIST
Otmar M. Ulbing, Berkshire, N.Y., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed June 13, 1967, Ser. No. 645,644
U.S. Cl. 254-186 8 Claims
Int. Cl. B66d 1/08



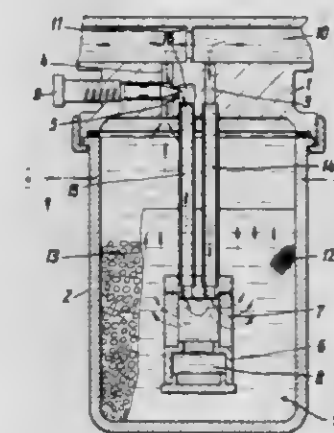
A balancing hoist containing a fluid pressure-operated drum for balancing a suspended load and fed from a

pilot-operated pressure regulator connected to an air supply and a control system containing means for automatically maintaining the pilot air pressure at a predetermined selected magnitude by throttling the pressure from the air supply and venting it to reduce the pressure to the desired pilot air pressure. The control system includes a pendant control member having a movable cup-shaped flexible valve for shifting the pilot air to a plurality of selected pressures.

3,421,738 INJECTOR

Viktor Dulger, Heidelberg-Kirchheim, Germany, assignor to Chemie- und Filter G.m.b.H., Heidelberg-Kirchheim, Germany

Filed July 3, 1967, Ser. No. 651,053
U.S. Cl. 259-4 15 Claims
Int. Cl. B01f 1/00; B01f 3/08; B05b 7/32



A mixing arrangement comprises a receptacle having an upper open end and a cover for closing this open end. The cover is formed with a main conduit through which a stream of a liquid phase can pass. The cover further carries a bypass conduit including a first portion which connects the main conduit with a chamber defined by a wall which consists at least in part of open-pore material and which is suspended from the free end of the first portion of the bypass conduit. The receptacle is adapted to contain another liquid phase to a predetermined level and, when the cover is connected to the receptacle, the chamber is suspended within the additional liquid phase below this predetermined level. A second portion of the bypass conduit communicates with the receptacle outside of the chamber and with the main conduit downstream of the point at which the first portion communicates with the main conduit. Diverting means is provided for continuously diverting a quantity of the phase passing through the main conduit into the first portion of the by-pass conduit. The diverted quantity is thus compelled to pass through the pores of the wall defining the chamber and thereupon through the other phase contained in the receptacle before it reenters the main conduit through the second portion of the by-pass conduit.

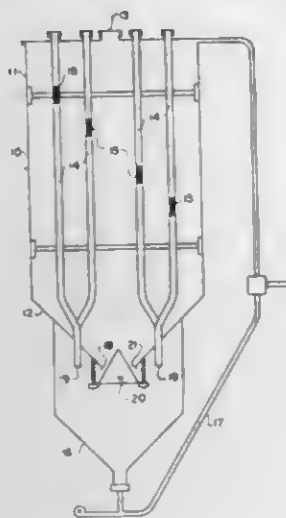
3,421,739 APPARATUS FOR GRAVITY BLENDING OF SOLIDS

James R. Alberts, San Marino, Calif., and Kim L. O'Hara, Baker, La., assignors to Rexall Drug and Chemical Company, Los Angeles, Calif., a corporation of Delaware

Filed June 27, 1967, Ser. No. 649,213
U.S. Cl. 259-4 5 Claims
Int. Cl. B01f 5/26; B01f 15/00

A gravity flow solids blender for solid plastic pellets incorporating flow control devices in the form of a baffle

member at the apex of an inverted cone section or a butterfly valve in association with "dead space" eliminating devices in the inverted cone section consisting of an

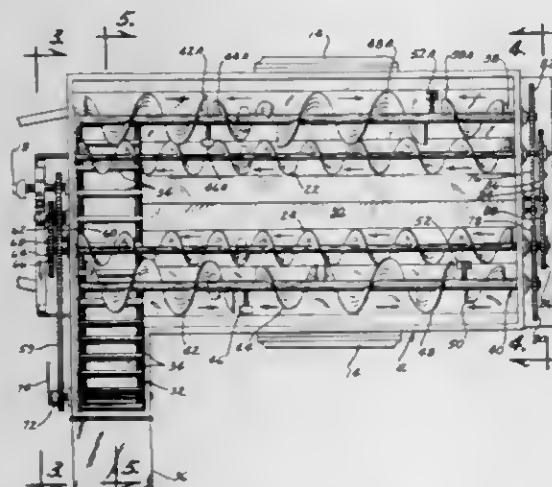


internal baffle or external tubes containing at least one aperture for removal of solids.

3,421,740

MATERIAL MIXER

Norman A. Behrens, R.R. 1, Columbus, Nebr. 68601
Filed Oct. 31, 1966, Ser. No. 590,570
U.S. Cl. 259-41 12 Claims
Int. Cl. B01f 15/02; B01f 7/08; B01f 5/12



A device including an elongated container having a mixing chamber with an unloading means on one end in communication with the mixing chamber, a first conveyor adjacent the bottom of the chamber for moving material towards the unloading means, a second conveyor positioned in the chamber above the first conveyor, the second conveyor having the first conveyor portion adjacent the one end of the chamber for moving material rearwardly within the chamber and the second conveyor portion opposing the first conveyor portion for moving material forwardly within the chamber and thereby causing a boiling and tumbling action between the first and second conveyor portions.

3,421,741

DOUGH PREPARING AND MIXING MACHINES

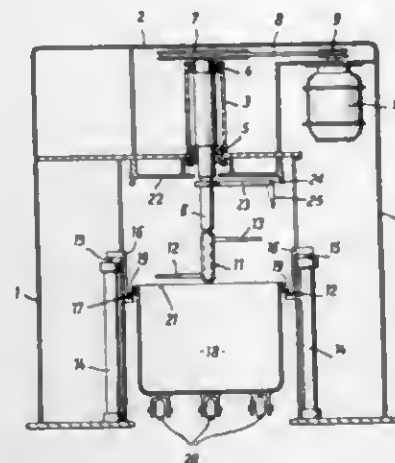
Oswald Baechler, Burgstrasse 1, Rothenburg, Switzerland
Filed May 4, 1967, Ser. No. 636,180
Claims priority, application Switzerland, May 6, 1966, 6,655/66

U.S. Cl. 259-108
Int. Cl. B01f 7/20

7 Claims

A dough preparing and mixing machine comprises a gantry frame with a working shaft extending downwardly from the bridge thereof into a non-rotatable mixture con-

tainer. The shaft has radially extending mixing vanes at its lower end. The container may be raised and lowered

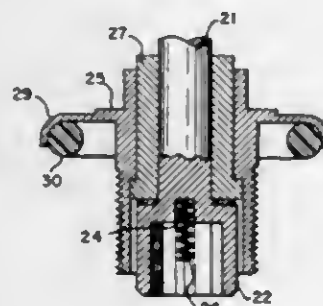


by synchronized pneumatic jacks fitted in the gantry columns.

3,421,742

REMOVABLE BLADE CONSTRUCTION

Roy L. Swanke, Newington, and Gordon H. Raymond, Southington, Conn., assignors to Dynamics Corporation of America, New York, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 637,703, May 11, 1967. This application Dec. 18, 1967, Ser. No. 696,680
U.S. Cl. 259-108 7 Claims
Int. Cl. B01f 7/16

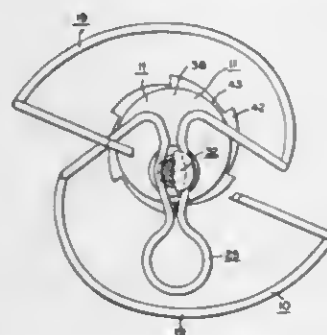


A removable blade assembly for high speed mixing devices wherein a spring is recessed within the female coupling member of the blade assembly. The spring has sufficient compressive force to prevent the detached assembly from resting on the drive stud, but is compressed by the additional weight of the jar. The spring may be recessed so as to bear against a headed shaft which abuts the drive stud.

3,421,743

AUTOMATIC STIRRER

Edmund G. Pankow, Mansfield, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 23, 1967, Ser. No. 648,286
U.S. Cl. 259-114 6 Claims
Int. Cl. B01f 7/16



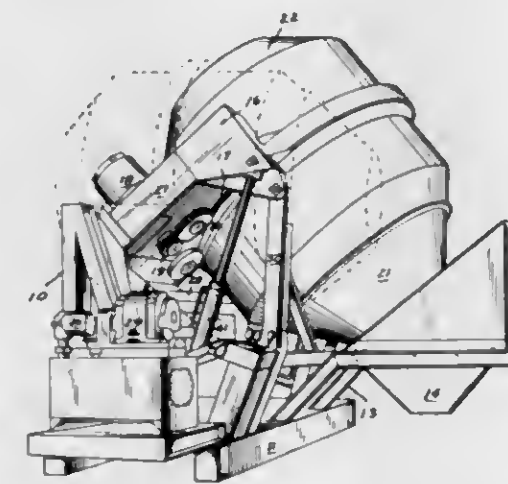
A wire form stirrer structure adapted for automatic rotation within a cooked vessel. The wire form is supported on a hub member by a post which is carried by the

hub member at a point remote from its axis of rotation for producing oscillatory as well as rotational movement of the wire form in response to rotation of the hub member.

3,421,744

TILTING CONCRETE MIXER

Daniel J. O'Connell, Erie, Pa., assignor to Erie Strayer Company, Erie, Pa., a corporation of Pennsylvania
Filed Aug. 21, 1967, Ser. No. 661,980
U.S. Cl. 259-171 8 Claims
Int. Cl. B28c 7/16; B28c 5/20

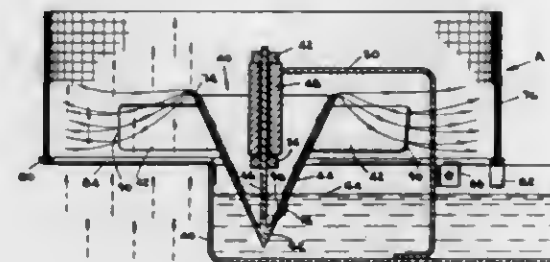


The invention involves a mixer having a drum mounted from a supporting structure at a low elevation above ground when in the mixing position, yet high enough when tilted to discharge into a truck resting on the same ground level. The drum is tilted horizontally and out to reduce overhang of mixer support columns yet giving sufficient clearance between truck and support columns. All of this is accomplished without the use of overhead suspensions.

3,421,745

SELF-CORRECTING DISPENSING MIXER

Robert L. Prupis, 18 Devonshire Terrace, West Orange, N.J. 07052
Filed June 24, 1966, Ser. No. 560,241
U.S. Cl. 261-35 28 Claims
Int. Cl. B05b 3/02

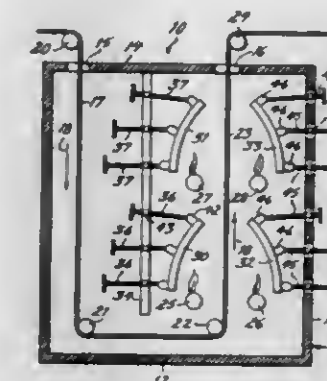


A device for mixing or adding a liquid or moisture to a gas, more particularly a humidifier, which employs a hollow member open at the top and having its interior formed to cause a liquid therein to be lifted for discharge at the top upon the rotation of the hollow member. A plurality of blades are mounted on the hollow member near the top thereof. With the hollow member having its lower end positioned in a liquid or water and the blades positioned in a gas or air stream, the action of the stream upon the blades causes rotation of the hollow body, thereby causing the liquid to rise in the hollow body and to be discharged into the stream as a mist. Preferably, the liquid or water mist is discharged in the path of the blades to atomize the liquid.

3,421,746

HEATING APPARATUS FOR ELONGATE MATERIAL

Lyle E. McCoy, 1754 Sterigere St., Norristown, Pa. 19401
Filed Apr. 24, 1967, Ser. No. 633,017
U.S. Cl. 263-3 8 Claims
Int. Cl. F27b 9/28; F26b 13/00

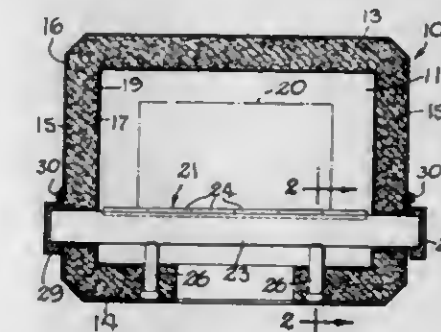


This invention is concerned essentially with apparatus for heating elongate materials and includes a conveyor means for moving elongate material along a path, a heat source adjacent to the path, a flexible heat-radiating panel adjacent to the source for receiving heat from the latter and radiating the received heat to the path, and mounting means affording flexural adjustment to the panel to obtain a desired pattern of radiation.

3,421,747

HEARTH FOR A HEAT TREATING FURNACE

Karl H. Seelandt and Charles J. Twine, Rockford, Ill., assignors to Alco Standard Corporation, Philadelphia, Pa., a corporation of Ohio
Filed Jan. 18, 1967, Ser. No. 610,063
U.S. Cl. 263-40 16 Claims
Int. Cl. F23m 5/00; F27d 1/00; F27b 3/00



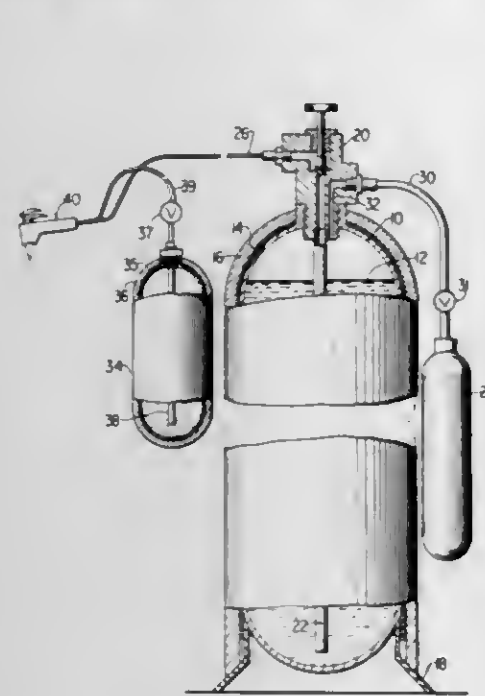
A hearth for a vacuum heat treating furnace comprising a series of elongated bars formed of a material, such as graphite or high-temperature metal, having low creep characteristics and high resistance to breakage by thermal shock. A series of individually replaceable ceramic caps in the form of blocks or rollers are placed on the upper surfaces of the bars to prevent diffusional bonding between the material of the bars and the material of the workpieces.

3,421,748

CUTTING APPARATUS

Constantin Chilowsky, deceased, late of New York, N.Y., by W. Saxton Seward, executor, Morris Township, N.J., assignor to Canrad Precision Industries, Inc., New York, N.Y., a corporation of Delaware
Filed July 22, 1965, Ser. No. 474,186
U.S. Cl. 266-23 1 Claim
Int. Cl. B23k 5/00; B23k 7/00; F23d 13/40
Apparatus for cutting metals comprising a discharge outlet adapted to direct a stream of oxygen-liberating ma-

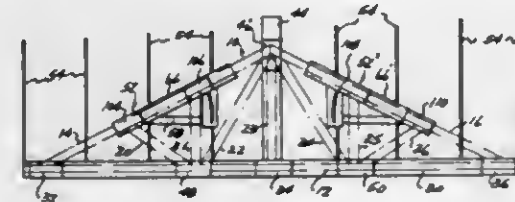
terial (particularly in the form of liquified niter) toward movable sets of interleaved friction plates which are a point on the metal to be cut together with a second clamped together, preferably by a hydraulic piston op-



erating at right angles to the plates, to hold the plunger in a desired work supporting position of adjustment.

3,421,751 APPARATUS FOR FABRICATING WOOD STRUCTURES

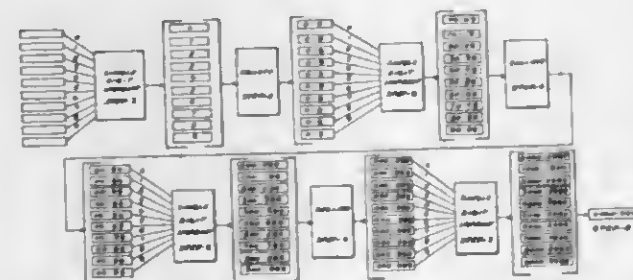
Donald Menge, Warren, Mich., assignor to Troy Steel Corporation, Troy, Mich., a corporation of Michigan
Filed Dec. 23, 1966, Ser. No. 604,359
U.S. Cl. 269—305 5 Claims
Int. Cl. B23q 3/06; B25c 7/00



Apparatus for fabricating wood trusses to align and hold pre-cut lower chord members, upper chord members and web members of various types of trusses so that nailing plates may be driven into the members to fasten the truss together. The apparatus includes a length of track supported by a dolly clampable generally upon two contiguous rail members, the dolly supporting in turn a track which may be angularly adjusted and clamped to any appropriate position in a horizontal plane so that the track may be aligned with an upper chord member. Joint station pedestals carried by the track support the truss where the web and upper chord intersect so that nailing plates can be fastened at these intersections.

3,421,752 PROCESS OF PRINTING NUMBERS ON FORMS

Arthur S. Folino, 444 Stonemill Road, Dayton, Ohio 45409
Filed Sept. 20, 1965, Ser. No. 488,331
U.S. Cl. 270—1 11 Claims
Int. Cl. B41f 13/54; B65h 45/16; B41e 45/00



A method of applying consecutive numbers of multiple

Refractory sleeve mineralogically characterized by about 85 to 90% total of chromite and magnesium aluminate spinel and the remainder being for sterite and pyroxene type crystals in glass.

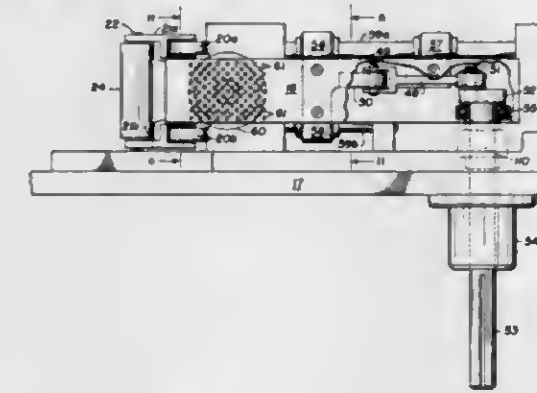
3,421,750
DEVICES FOR SUPPORTING WORKPIECES
Cyril W. Tridgell, Leverstock Green, England, assignor to Power Jacks Limited, London, England, a British company
Filed Jan. 11, 1967, Ser. No. 608,653
Claims priority, application Great Britain, Apr. 27, 1966, 18,493/66
U.S. Cl. 269—20 13 Claims
Int. Cl. B25b 1/00; B23q 3/04; B60t 7/00

An automatically adjustable jack whose movable work supporting plunger is itself supported by two relatively

denominational position to ticket and like forms without the use of numbering devices, including steps of imprinting in successive denominational positions and of collating the ticket forms intermediate imprinting operations to form numerically related groups and sets within groups.

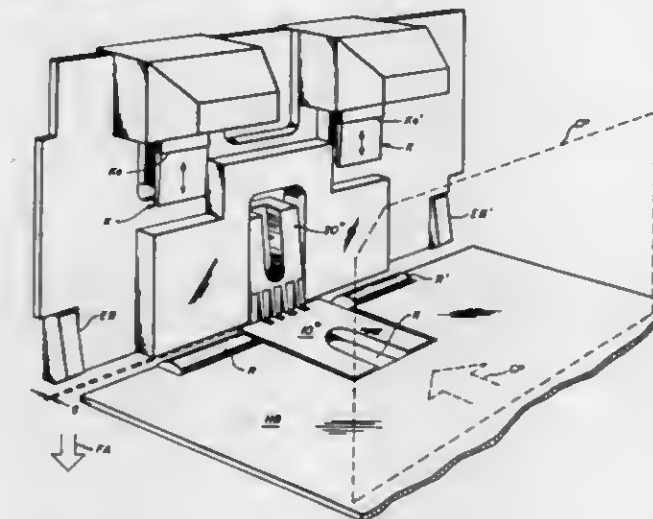
3,421,753 VACUUM OPERATED DOCUMENT FEEDER SYSTEM

Ernest L. Staples, Jr., Dallas, Tex., assignor to Recognition Equipment Incorporated, Dallas, Tex., a corporation of Delaware
Filed July 11, 1967, Ser. No. 652,566
U.S. Cl. 271—26 15 Claims
Int. Cl. B65h 3/08; B65h 3/24



A rotary valve having a port therethrough rotates adjacent to a fixed registration plate having a corresponding port therethrough in order to periodically apply a vacuum to a perforated shuttle plate. The plate is laterally reciprocated adjacent to the end of a stack of documents to engage and laterally feed one document at a time to a conveyor. A rotary control disk may be selectively stepped to block the application of vacuum to the shuttle plate in order to positively stop the feeding action of the shuttle plate.

3,421,754
SELECTION APPARATUS
Frank H. Schaller, Needham Heights, Eugene G. Richter, Lexington, and Paul R. Lozeau, Southville, Mass., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed July 5, 1966, Ser. No. 562,692
U.S. Cl. 271—61 13 Claims
Int. Cl. B65h 1/02

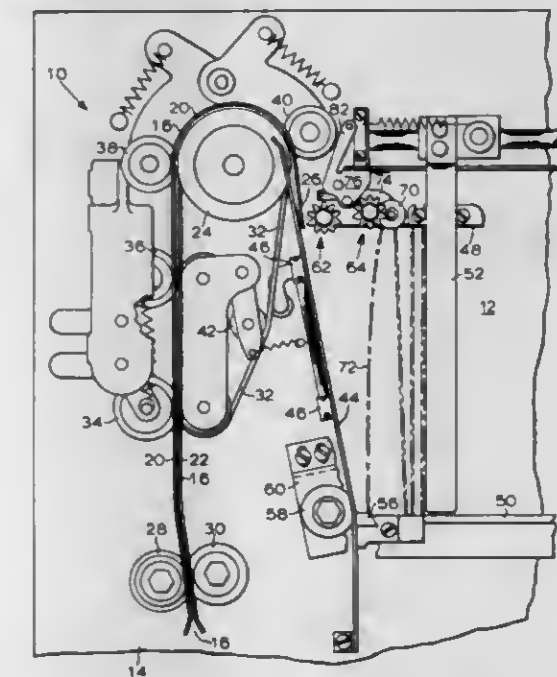


For the "in-feed" section of a document handling apparatus, an improved throating arrangement for separating documents injected from a stack and comprising a throat knife and an opposed throat block, the knife edge being notched in a prescribed "crenelated" fashion and the opposing, gap-defining, block edge being complementarily notched so that, in certain embodiments, documents which have overly-thick portions may be passed

and "under-thickness" documents passed by injecting them through such a "crenelated" throat which ripples or corrugates the concerned document portion.

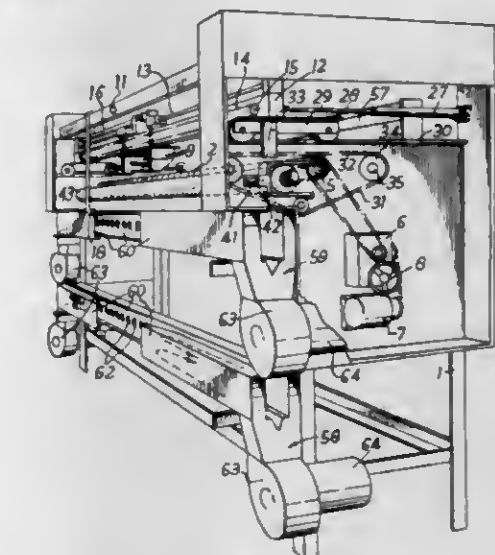
3,421,755 SHEET ANTI-CREEP APPARATUS FOR SHEET STACKING MECHANISMS

Donald E. Brozo, Livonia, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed May 3, 1967, Ser. No. 635,807
U.S. Cl. 271—68 2 Claims
Int. Cl. B65h 29/00; B65h 31/12



A resilient wheel is used to align sheets going into an expandable stacking hopper. As the sheets are discharged from the stacking mechanisms, the wheel engages the edges of the sheets and aligns them through a rolling tamping motion. The wheel is driven by continued growth of the stack of sheets.

3,421,756
LAUNDRY FEEDING MACHINE
Henry John Weir, Chepstow, England, assignor to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Filed May 16, 1966, Ser. No. 550,439
Claims priority, application Great Britain, May 21, 1965, 21,725/65; May 31, 1965, 23,156/65; Dec. 7, 1965, 51,913/65; Jan. 31, 1966, 4,265/66
U.S. Cl. 271—79 16 Claims
Int. Cl. B65h 29/28



A laundry flatwork feeding machine comprising a conveyor having an upper run which moves in a forward di-

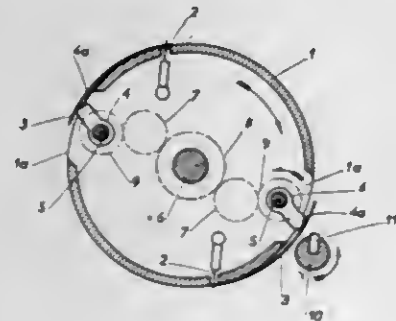
rection, a pair of clamps adapted to grip the two corners of a leading edge of a flatwork article to be fed, means for moving the clamps apart transversely and holding them apart under tension in the leading edge whereby the flatwork article is stretched laterally, means coupled with the conveyor for advancing the clamps thereon held apart over the upper run of the conveyor at the same speed and means for opening the clamps to drop the leading edge on the conveyor whereby rucking of said leading edge is prevented.

3,421,757
RETARDING DEVICE FOR THE DELIVERY
END OF A PRINTING MACHINE
Lucien Boisseau, Paris, France, assignor to Societe des Forges et Ateliers du Creusot, Paris, France, a French company

Filed June 23, 1967, Ser. No. 648,323
Claims priority, application France, June 28, 1966, 67,253

U.S. Cl. 271—80
Int. Cl. B65h 29/20

4 Claims



A retarding device for the delivery end of a printing machine for printing a flexible material such as paper in the form of a web or web-portion, comprising, upstream of a take-off station for sheets or sections of sheets, a rotary take-up cylinder having retractable means for entraining the sections or sheets by their forward portions. This cylinder has at least one retarding element rotated in the opposite direction from the cylinder and projecting periodically outside the cylinder periphery, in a predetermined angular position of the cylinder, and this retarding element co-operates in this angular position of the cylinder, with a rotary roller outside the cylinder, to retain the sections or sheets by their trailing portions.

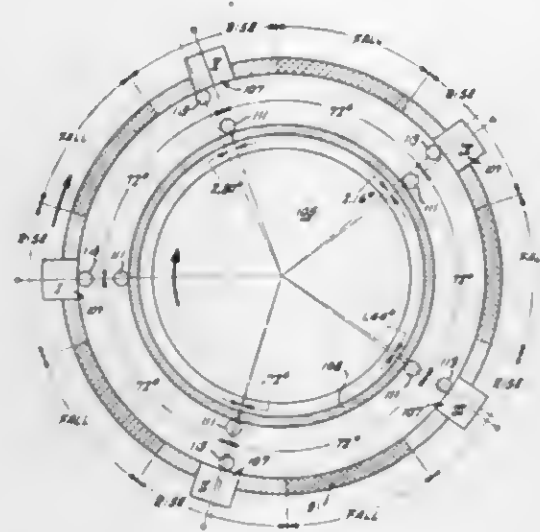
3,421,758
SPLIT-STREAM COLLATING APPARATUS
James B. Cole, Mercer Island, Wash., assignor to Crown Zellerbach Corporation, San Francisco, Calif., a corporation of Nevada

Filed Apr. 2, 1965, Ser. No. 445,086
U.S. Cl. 271—82
Int. Cl. B25h 29/06; B25g 3/00; B25g 57/00

14 Claims

Collating apparatus for orientating relatively flat articles such as paper grocery bags so that alternate groups thereof have their thick bottoms disposed in opposite directions to cause any bundle comprising a plurality of such groups to be of relatively uniform dimension thereacross. The apparatus includes a pair of spaced apart collating units defining a bag-gripping station therebetween into which bags are advanced one by one in the same direction. Each collating unit is in the form of a rotatable wheel or support element equipped with a plurality of angularly spaced bag-grippers each adapted to close at the bag-gripping station to engage a bag thereat and carry the same to a discharge station angularly spaced therefrom at which the gripper then opens to release the

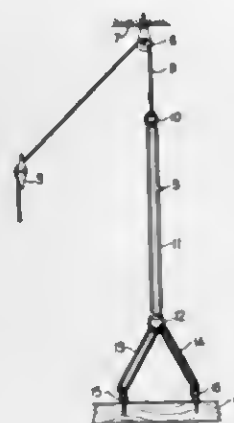
bag. The collating units are operated in enforced synchronism such that the gripper of one unit are cyclically constrained in an inoperative condition for a predetermined



period during which a plurality of bags successively advanced into the gripping station are gripped and transported by the other unit to the discharge station associated therewith, and vice versa.

3,421,759
RESILIENT MEMBERED JUDO
TRAINING DEVICE
John E. Chambers, Anderson, Ind.
(P.O. Box 4162, Atlanta, Ga. 30302)
Filed Oct. 19, 1965, Ser. No. 497,636
U.S. Cl. 272—76
Int. Cl. A63b 69/00

4 Claims



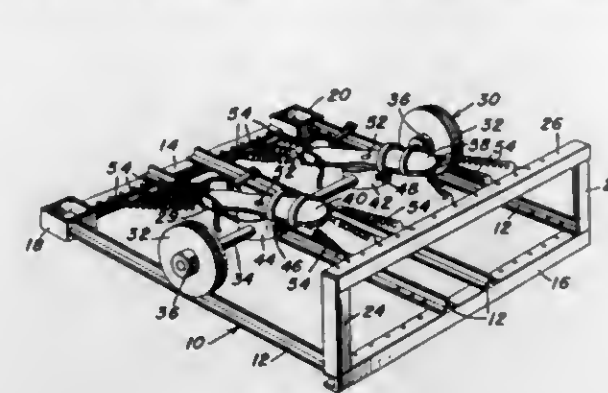
A judo trainer having a vertical resilient strap and two diverging resilient straps connected to the vertical resilient strap at its lower extremity. A cord is connected to the upper extremity of the vertical resilient strap and reeved over a pulley positioned over the vertical resilient member. A manikin encompasses the major portion of the three straps.

3,421,760
EXERCISER DEVICE
Habern W. Freeman, Jr., Baltimore, Md., assignor of fifty percent to Michael M. Maslan, Baltimore, Md.
Filed Nov. 23, 1965, Ser. No. 509,320
U.S. Cl. 272—83
Int. Cl. A63b 21/02

3 Claims

1. In combination an exercising device comprising a frame including a plurality of spaced-apart track members, said track members being rigidly secured in parallel

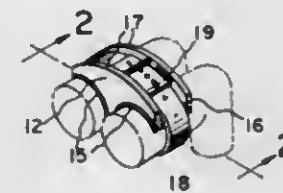
spaced-apart relationship by a pair of transverse frame members secured adjacent the ends of said track members, the sleeves in longitudinally spaced relationship relative to the stake; each sleeve being provided with a plurality



a pair of vertically disposed upstanding members secured adjacent the ends of one of said transverse frame members, a cross member secured to and extending between said upstanding members in spaced-apart relationship from said one of said transverse frame members, a body member manipulable means adapted to track upon said track members to traverse said track members under the influence of a person utilizing the device, resilient means operatively associated with said body member manipulable means to resist the traversing motion of said manipulable means, said resilient means being secured to the laterally opposed sides of said manipulable means, said resilient means being connectable to the other of said transverse frame members and to said one of said transverse frame members and/or said cross member to resist the movement of the manipulable means, said resilient means being selectively positionable and securable on said members to vary the tension on the manipulable means resiliently retained therebetween.

3,421,761
BOWLER'S FINGER BRACE
Richard Grant, 978 Amarillo Ave.,
Palo Alto, Calif. 94303
Filed Sept. 21, 1964, Ser. No. 397,700
U.S. Cl. 273—54
Int. Cl. A63d 5/00; A63b 43/00

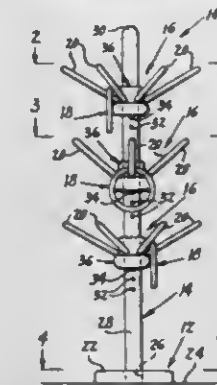
2 Claims



3,421,762
DISMANTLABLE PEGGED TARGET
Mose L. Paradise, 615 E. 2nd St.,
Ladysmith, Wis. 54848
Filed Mar. 1, 1966, Ser. No. 530,941
U.S. Cl. 273—104
Int. Cl. A63b 9/00; A47f 5/06; A47g 29/00

1 Claim

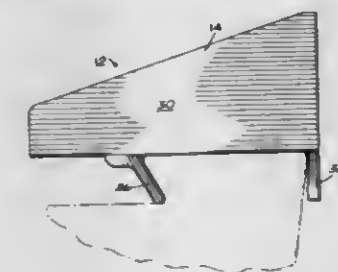
Amusement apparatus including a normally horizontal base supporting an upright post adapted to slidably receive a plurality of sleeves thereon and including spaced apertures and pegs received in the apertures for holding



of normally upwardly inclined target prongs which project radially from their respective sleeve, a plurality of closed rings to be thrown towards the prongs for capture thereover; the target prongs are releasably received in their respective sleeve.

3,421,763
GAME BOARD WITH TOY TOP
Ruben C. Little, 7800 SW. 52nd Court,
South Miami, Fla. 33143
Filed July 27, 1965, Ser. No. 475,061
U.S. Cl. 273—108
Int. Cl. A63f 9/16; A63f 5/04

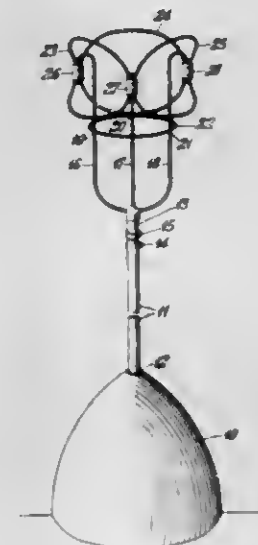
3 Claims



An amusement device including a receptacle defining playing field, support means for the receptacle and a toy top adapted to be spun in a circuitous path on the playing field and an upright pin adapted to be knocked down by the spinning top.

3,421,764
AERIAL PROJECTILE GOAL
Ansel M. Smith, 9 Central Highway, Garnerville, N.Y. 10923, and Roy K. Smith, Box 111 Vlewland Ave., Schenectady, N.Y. 12306
Filed June 2, 1965, Ser. No. 460,768
U.S. Cl. 273—105
Int. Cl. A6b 63/00

2 Claims



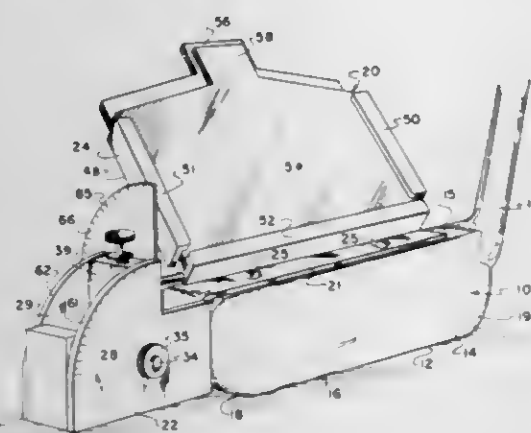
A recreational device comprising a horizontal hoop supported by an upright member and three vertical hoops

mounted above and around the horizontal hoop the three vertical hoops are shaped to conform to an imaginary vertical cylindrical surface concentric with the axis of the upright member.

3,421,765 GOLF CLUB

John Wright Martin Scott, The Hill, Gordon, Ga. 31031
Filed July 27, 1966, Ser. No. 568,232
U.S. Cl. 273-163
Int. Cl. A63b 53/00

1 Claim



A golf club including a sighting apparatus for aligning the face of the golf club with a golf ball and the flag stick used on the putting green of a golf course. The sighting apparatus includes a housing positioned at the toe of the club head, and a mirror support arm extending from the housing over the upper surface of the club head. The support arm is pivotal about its own longitudinal axis, and about an axis extending at a right angle to the face of the club head. A mirror is connected to the mirror support arm, and the mirror support arm is adjusted to position the mirror at an angle so that the player can sight through the mirror from above the club head and align the club head with the golf ball and the flag stick.

3,421,766

COMPOSITION OF MATTER AND GOLF BALL MADE THEREFROM

Chester T. Chmiel, Newfoundland, N.J., and Harry S. Witt, Nantuxuck, Conn., assignors to Uniroyal, Inc., a corporation of New Jersey
No Drawing. Filed Dec. 13, 1965, Ser. No. 513,539
U.S. Cl. 273-218
Int. Cl. A63b 37/00

9 Claims

This invention relates both to a composition of matter and a unit construction or solid golf ball made therefrom. The composition, which is comprised of (1) a polybutadiene elastomer, (2) an ionomer, (3) a thermoplastic resinous material other than an ionomer, (4) filler, (5) a polyfunctional co-curing monomer ester having at least two non-conjugated ethylenic double bonds, (6) and a source of free radicals.

3,421,767

HEAD COVER ARRANGEMENT ON MAGNETIC TAPE RECORDER

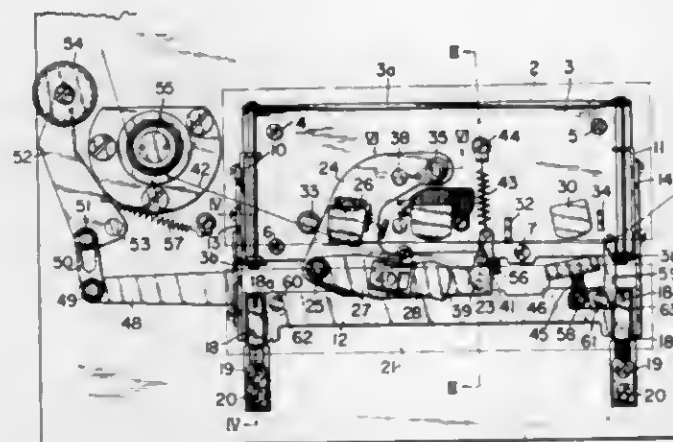
Katsuya Atsumi, Tokyo, Japan, assignor to Akai Electric Company Limited, Tokyo, Japan
Filed Dec. 28, 1965, Ser. No. 516,957
Claims priority, application Japan, Dec. 31, 1964, 39/74,792

7 Claims

U.S. Cl. 274-4
Int. Cl. G11b 5/10

A magnetic tape recording and reproducing machine has a cover for protecting the magnetic heads and other related mechanical parts from impact and dust. The

cover forms a box-like chamber, one portion of which is movable to an open position in order to expose the tape



for threading purposes. As the cover portion moves to the open position the tape is automatically freed from any gripping means and from contact with the magnetic heads.

3,421,768

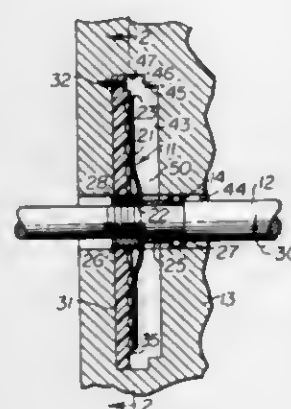
FOIL SEAL

Lawrence P. Ludwig, Fairview Park, Ohio, assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Apr. 20, 1966, Ser. No. 545,224

U.S. Cl. 277-25
Int. Cl. F16j 15/42; F16j 15/40; F16j 15/54

12 Claims



A circular foil disc mounted on a rotating shaft in close proximity with a spirally grooved plate forms a seal. The fluid to be sealed enters a radial gap between the disc and plate, and the movement of the rotating disc relative to the plate creates a pumping action which prevents leakage.

3,421,769

SHAFT SEALS

John L. Boop, Youngstown, and Robert F. Hodgson, Canfield, Ohio, assignors to Commercial Shearing & Stamping Company, a corporation of Ohio
Filed Aug. 27, 1964, Ser. No. 392,418

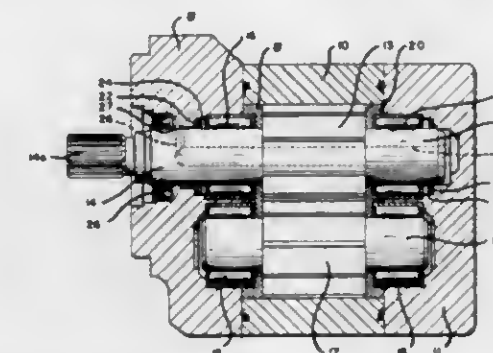
U.S. Cl. 277-58
Int. Cl. F16j 15/00; F16j 9/00; F16k 41/00

6 Claims

1. In a housing for containing fluid under pressure having an end member and a rotatable shaft journaled in said end member, a sealing structure comprising an annular well in said end member opening into the interior of the housing and concentric with the rotatable shaft, said annular well having a major surface in a plane transverse to the axis of the shaft and at least one separate, single, metal ring mounted on and concentric with said shaft in

said well and axially slidable on said shaft, said ring having a major surface parallel with the major surface of the

binding will release through five angles of release namely an upward angle of release, left and right lateral shear angles and left and right lateral roll angles.



well and a minor surface area coaxial with and contacting the shaft, said ring having a single radial crack permitting expansion of the ring, and said ring being free of any closely surrounding confining means.

3,421,770

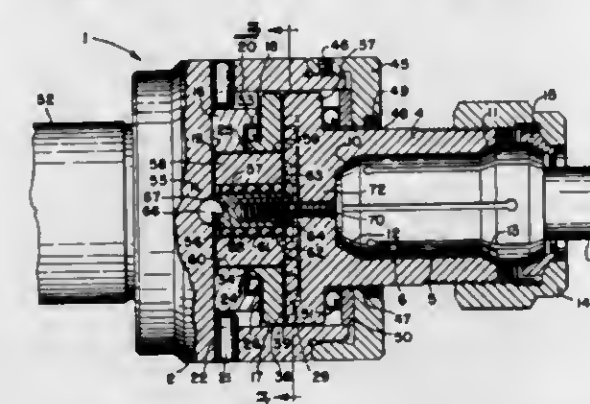
FLOATING HOLDER

Milton L. Benjamin and David D. Walker, Chagrin Falls, Ohio, assignors to Erickson Tool Company, Solon, Ohio, a corporation of Ohio

Filed Feb. 18, 1966, Ser. No. 528,551

U.S. Cl. 279-16
Int. Cl. B23b 31/16; B23b 5/22; B23b 5/34

5 Claims



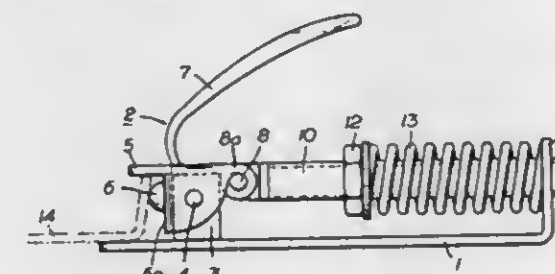
A floating holder in which the tool gripping bushing is mounted for limited radial movement to accommodate for axial misalignment between the tool and a workpiece, and a spring centering mechanism for yieldably maintaining the bushing in axial alignment with the holder.

3,421,771

SAFETY SKI BINDINGS

Earl Andrew Miller, Orem, Utah 84057
Original application Oct. 23, 1964, Ser. No. 405,947, now Patent No. 3,330,572, dated July 10, 1967. Divided and this application Feb. 24, 1967, Ser. No. 618,409
U.S. Cl. 280-11.35
Int. Cl. A63c 9/08

7 Claims



A safety ski binding including a boot plate for attachment to a ski boot and having an upstanding portion having a raised central portion and surfaces on either side of the raised central portion and boot clamping means including spring urged arms extending horizontally on each side of the boot plate and passing over and only slightly beyond and engaging said surfaces whereby the

3,421,772

SKI BOOT TOE FIXTURE

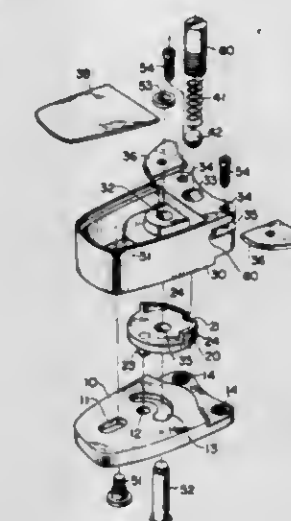
Tokuyasu Hashloka, Tokyo, Japan, assignor to Hope Kabushiki Kaisha, Tokyo, Japan, a corporate body of Japan

Filed Nov. 21, 1967, Ser. No. 684,758

Claims priority, application Japan, June 3, 1967, 42/46,725

U.S. Cl. 280-11.35
Int. Cl. A63c 9/08

11 Claims



A "safety binding" ski boot toe fixture is provided having a toe-fitting member. The toe fixture will not only be turned sideways but also advanced along the ski (away from the heel fixture) to positively disengage the toe of a ski boot when a dangerously large side force is applied to the toe. Once the toe-fitting member disengages the toe, it will be almost automatically, i.e., with little force, returned to its original centered position by the increased pressure of a spring. The same spring tends to retain the toe-fitting member in its normal centered position. The pressure of the spring can be properly adjusted in accordance with the weight and skill of the skier.

3,421,773

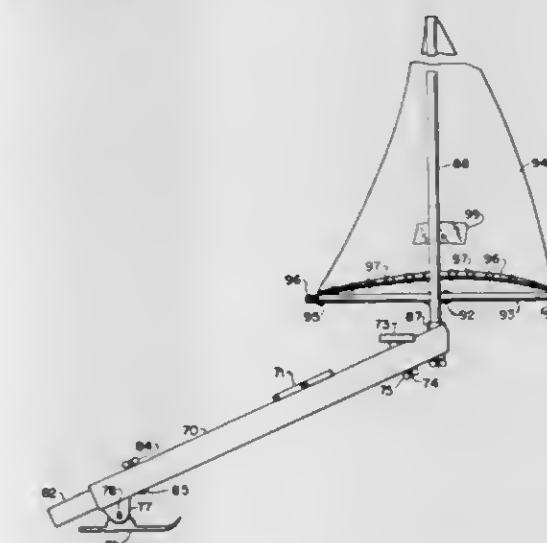
SPORT VEHICLE

Martin Pearson, 402 N. Village Ave., Rockville Centre, N.Y. 11570

Continuation-in-part of application Ser. No. 458,987, May 26, 1965. This application Oct. 24, 1967, Ser. No. 678,487

U.S. Cl. 280-11.39
Int. Cl. A63c 1/04

1 Claim



A sport vehicle having a shaft on which a rider sits wearing ice skates, skis, or roller skates, the shaft having

a transverse knee rest resting on the knees of the rider to support the front end of the shaft, the back end of the shaft having means selectively mounting an ice skate blade, a ski, or wheels, an extendable brake block at the rear of said shaft to be forced against the ground by raising the front of said shaft, and a demountable sail at the front of said shaft.

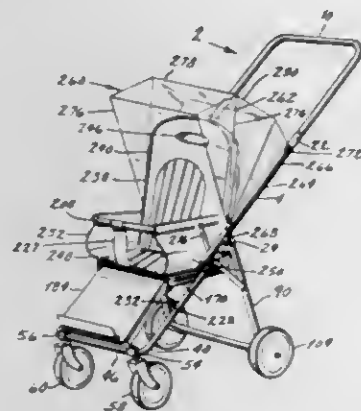
3,421,774

BABY STROLLERS

David D. Patterson, Seward, Nebr., assignor to Herschel F. Garhan, Rising City, Nebr.
Filed Dec. 5, 1966, Ser. No. 599,128

U.S. Cl. 280—41
Int. Cl. B62d 21/14

22 Claims



Collapsible baby strollers which can be folded to form a compact carrying package are provided. Front and rear frames are hingedly connected to an upper frame. Frame locking means hold the front frame adjacent the upper frame as an extension, suitable links hold the front and rear frames at predetermined angles when the stroller is erected, a backrest and seat are hingedly secured to the links, backrest locking means are provided for holding the backrest at a predetermined angle to the frames, a seat is supported by a handrail in upwardly spaced relation thereto, and the handrail is supported by the backrest and front frame.

3,421,775

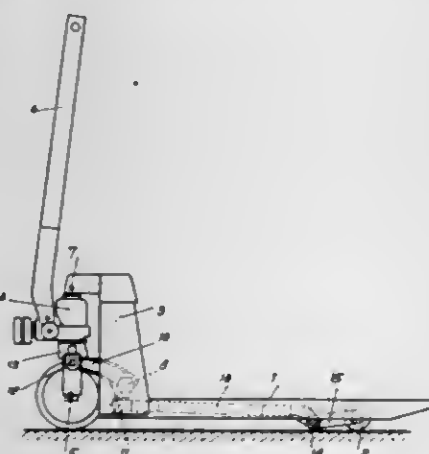
LOW-LIFT PALLET TRUCK

George Michel Dugelay, Chateaufort-Malabry, France, assignor to Saxby, Paris, France, a corporation of France

Filed Feb. 6, 1967, Ser. No. 614,157
Claims priority, application France, Feb. 23, 1966, 50,778

U.S. Cl. 280—43.12
Int. Cl. B62b 3/00

1 Claim



A low-lift pallet truck having a pair of spaced, longitudinal lifting members connected by a bridge adjacent one end thereof. The truck is supported by casters connected to the lifting members adjacent the free ends thereof and a guide wheel connected adjacent the bridge. The guide

wheel is connected to the bridge by means for raising the bridge end of the truck. Linkage means connects the elevating means to the casters for raising the other end of the truck.

3,421,776

LAWNMOWER HEIGHT ADJUSTMENT APPARATUS

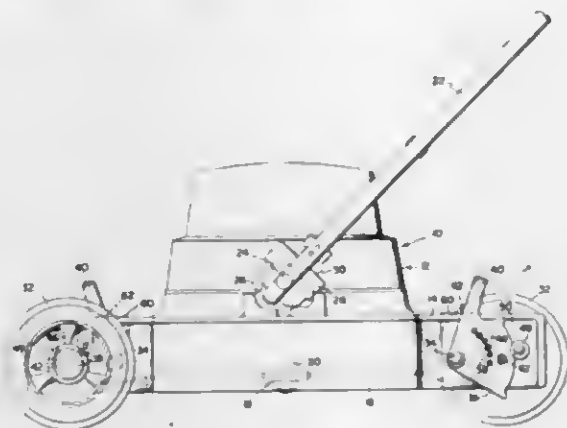
Donald P. McCoy, Easley, and Charles J. Stockburger, Pickens, S.C., assignors to The Singer Company, New York, N.Y., a corporation of New Jersey

Filed Oct. 5, 1966, Ser. No. 584,513

U.S. Cl. 280—43.17

Int. Cl. B62b 3/02; B62b 5/00; A01d 35/26

1 Claim



Height adjustment apparatus for a lawnmower is described. The mower has a blade shroud, a horizontal face of such shroud being provided with an opening exposing a generally horizontally disposed spring loaded pin that projects through a generally vertical wall of the shroud to engage selectively one of several apertures in a bell crank pivotally supported by and on the outside of the shroud. By reaching through the shroud opening to release the pin, blade height may be set as desired by positioning the bell crank about its pivotal axis, and thereafter returning the pin to a new aperture in the crank.

3,421,777

DOLLY FOR SEMITRAILER

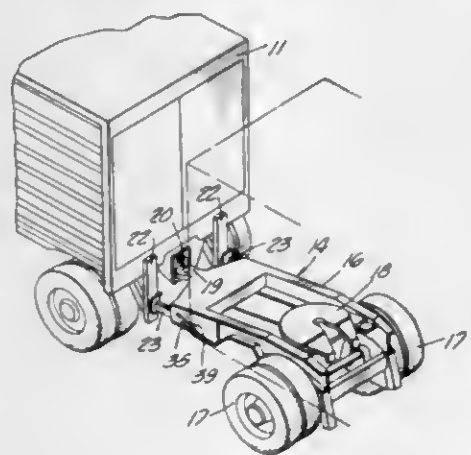
Stephen Barker, Temple City, and Paul F. Bennett, San Marino, Calif., assignors to Utility Trailer Mfg. Company, City of Industry, Calif., a corporation of California

Filed Mar. 2, 1967, Ser. No. 620,010

U.S. Cl. 280—408

Int. Cl. B60d 1/04; B60d 1/14; B62d 53/06

5 Claims



A dolly for connecting two semitrailers in tandem has laterally spaced plungers which contact the lead semitrailer, and reduce the lateral pivotal movement to the minimum required for highway travel. This, in turn, reduces the clearance space required between the semitrailers to allow longer, greater capacity, semitrailers within a given overall length, and also minimizes jackknifing

action under sharp braking. Furthermore, the plungers may be moved to eliminate all lateral pivotal movement, for optimum maneuverability in backing.

being arcuately and vertically movable in response to movement of the adjustable means and the arms.

3,421,778

DUAL PURPOSE DOLLY FOR SEMITRAILERS

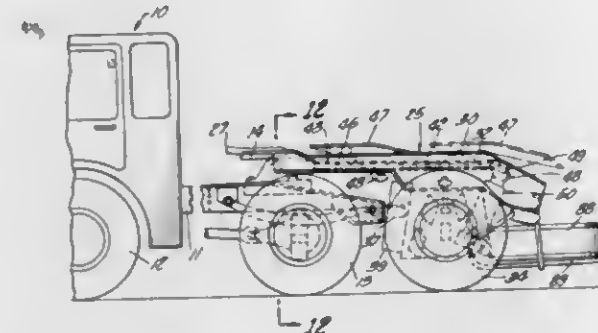
Stephen Barker, Temple City, and Ray D. Fleck, La Puente, Calif., assignors to Utility Trailer Mfg. Company, City of Industry, Calif., a corporation of California

Filed Nov. 18, 1966, Ser. No. 595,443

U.S. Cl. 280—476

Int. Cl. B60d 1/04; B60d 1/14; B62d 53/06

2 Claims



A wheeled dolly for use as either an auxiliary wheeled axle for a truck when towing a large semitrailer or as a towing connection between adjacent ends of two smaller semitrailers. The dolly includes a longitudinal frame with a hitch at its forward end for coupling a truck or a semitrailer and a fifth wheel device pivotable about a transverse axis and selectively longitudinally shiftable relative to the dolly frame to automatically engage a resilient snubber device at the rear of the frame for resisting pivotal movement of the fifth wheel device while permitting variation at its angular position.

3,421,779

HITCH DEVICE

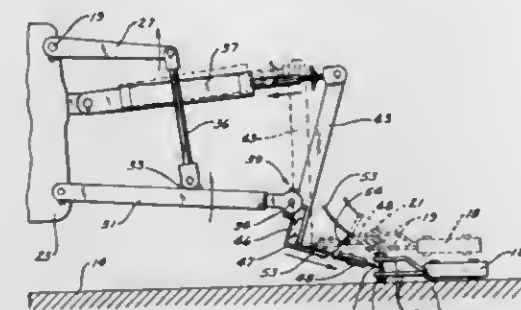
Earl E. Shelby, Silver City, Iowa 51571

Filed Oct. 25, 1966, Ser. No. 589,342

U.S. Cl. 280—479

Int. Cl. B60d 1/00

4 Claims



This invention relates to a hitch device for a tractor which, in cooperation with the lifting levers on the tractor, is adapted to engage the coupling of an implement to be towed by the tractor regardless of the disposition of the coupling when unconnected to the tractor. The hitch device comprises a drawbar rotatably mounted between rearwardly projecting arms pivotally connected to the tractor and to the levers, an elongated post secured to the drawbar which extends above the drawbar and depends below the drawbar, an adjustable means pivotally secured on one end to the tractor and on the other end to the free end of the upwardly projecting end of the post, and a rearwardly extending hitch means mounted on the free end of the depending end of the post, the hitch means

3,421,780

HITCHING DEVICE

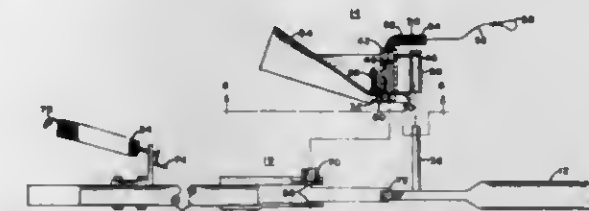
Robert R. Rimmey, R.D., Centre Hall, Pa. 16828

Filed July 14, 1966, Ser. No. 565,159

U.S. Cl. 280—508

Int. Cl. B60d 1/02; B60d 1/12

9 Claims



This invention sets forth a new and novel device for coupling and releasing farm vehicles from a tractor or other prime moving device. Essentially the coupling device is comprised of a dual prong hitching arm having holes through each of the prongs, which is attached to a wagon or other implement to be drawn. An automatic coupler is attached to the tractor or drawing implement having a coupling hole therein, and is comprised in general of an outwardly flaring funnel shape guide member which directs the dual pronged arm into a spring loaded pin member which is tripped by a trigger member allowing the spring loaded pin to be driven through the holes in said dual prongs and through the coupling hole, thus coupling the dual prongs to the tractor. A retracting cable member is attached to the spring loaded member allowing a spring loaded pin to be withdrawn to decouple the device. A stopping device attached to the automatic coupler stops the movement of the dual prongs when the spring loaded pin member and holes in the dual prongs, are aligned.

3,421,781

TRANSITION SECTION HAVING A CONSTANT CROSS SECTIONAL AREA

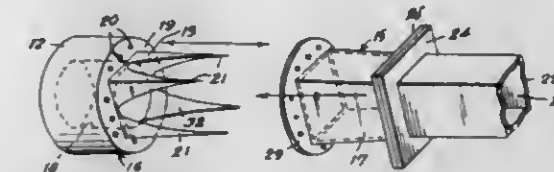
Joseph H. Spurk, Darlington, Md., assignor to the United States of America as represented by the Secretary of the Army

Original application Aug. 21, 1964, Ser. No. 391,344, now Patent No. 3,324,534, dated June 13, 1967. Divided and this application Jan. 30, 1967, Ser. No. 633,311

U.S. Cl. 285—176

Int. Cl. F16l 25/00; F16l 55/00

9 Claims



A transition section of constant cross sectional area between tubular members of different sectional shape but of identical cross sectional area.

3,421,782

TUBE END FITTING

Robert L. Kalish, Nixon, Anthony J. Kanyuk, East Hanover, Warren E. Hulick, Somerville, and Edward A. G. Hamer, Metuchen, N.J., assignors to American Standard Inc., New York, N.Y., a corporation of Delaware

Filed Nov. 16, 1965, Ser. No. 508,054

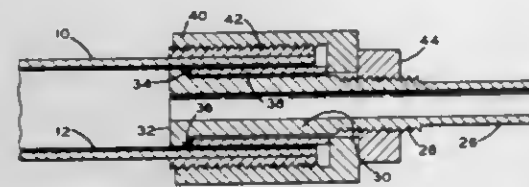
U.S. Cl. 285—248

Int. Cl. F16l 33/00

3 Claims

An end fitting for a tube which comprises in combination an expandable member adapted to be inserted in the

tube near an end thereof and expanded radially against the interior of the tube, thereby forming a seal, the seal

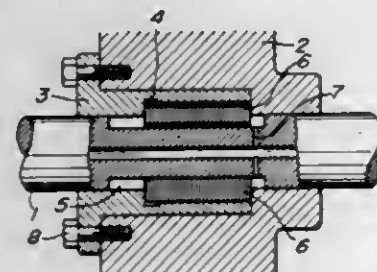


being effective to prevent fluid transfer to the end of the tube from portions of the interior of the tube separated from the end by the seal, and tubular means communicating with the interior of the tube at a point therein separated from the end of the seal.

3,421,783

SHOCK-ABSORBING KEY FOR ROTARY BODY

Yoshitaka Sakai, Nagoya, Japan, assignor to Sakai Manufacturing Co. Ltd., Nagoya, Japan, a corporation of Japan
Filed Aug. 30, 1967, Ser. No. 664,328
U.S. Cl. 287—52.05 2 Claims
Int. Cl. F16d 1/06



A shock-absorbing key capable of transmitting rotation of a rotary shaft elastically to a cooperating rotary body, said shock-absorbing key consisting of a hollow, circular, deformable coil spring to be fitted in an axial cylindrical hollow or key was defined by a semicylindrical cavity formed in the exterior wall of said rotary shaft axially thereof and a semicylindrical cavity formed in the interior wall of said rotary body axially thereof.

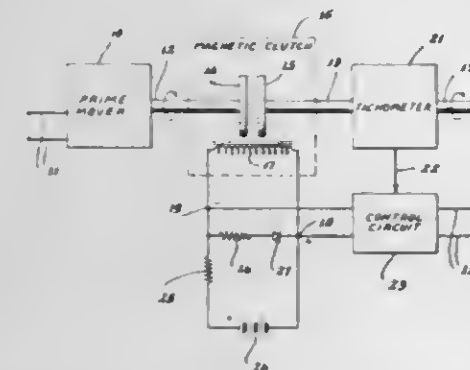
3,421,784

DEGAUSSING CIRCUIT FOR ELECTRO-MAGNETIC CLUTCH

John S. Paterson, Torrington, Conn., assignor to General Time Corporation, Stamford, Conn., a corporation of Delaware

Filed Dec. 28, 1966, Ser. No. 605,446
U.S. Cl. 192—84 7 Claims
Int. Cl. F16d 27/00; F16d 37/02; F16d 43/24

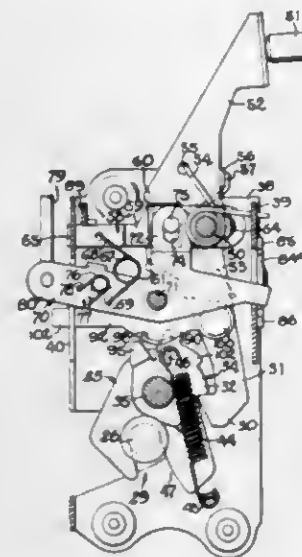
A system and circuit for a variable speed drive incorporating an intermittently-slipping magnetic clutch with a pulse-energized coil having a current-dissipating return bypass circuit, across which a reverse bias voltage source



is connected to counteract the remanence or residual magnetism in the magnetic clutch, thus facilitating rapid correction of undesired speed variations.

DOOR LATCH FOR AUTOMOTIVE VEHICLES

Robert E. Slattery, Rockford, Ill., assignor to L. W. Menzimer, trustee, Rockford, Ill.
Filed Dec. 7, 1966, Ser. No. 599,913
U.S. Cl. 292—216 12 Claims
Int. Cl. E05c 3/00



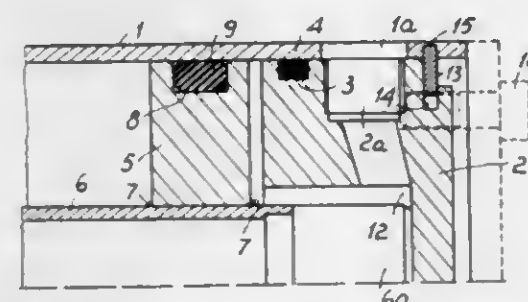
The present invention relates to a latch for the doors of a vehicle and more particularly to a latch which may be locked from the inside by a conventional inside, remote control handle or garnish button and which may be locked from the outside of the vehicle with or without the use of a key. It comprises a rotatable latch member dogged by a pawl which is in turn operated by a contactor lever co-pivoted with the pawl. The connection between the pawl and contactor lever is effected by a sliding link mounted on the same pivot as the pawl and contactor. A cancellation lever is pivoted on the contactor lever and serves to shift the sliding link from a disconnect to a connect position upon being engaged by the rotatable latch member when closing the door. If the contactor lever is rotated to the unlatched position by an outside operator while the sliding link is in the disconnect position the cancellation lever is unable to shift the sliding link from the disconnect to the connect position.

3,421,786

REMOVABLE FASTENING DEVICE

Pier Luigi Panigati, Via Friuli 64, Milan, Italy
Continuation of application Ser. No. 494,762, Oct. 11, 1965. This application Nov. 27, 1967, Ser. No. 685,981
Claims priority, application Italy, Oct. 14, 1964, 22,087/64

U.S. Cl. 292—256.65 3 Claims
Int. Cl. B65d 45/32; B65d 45/30

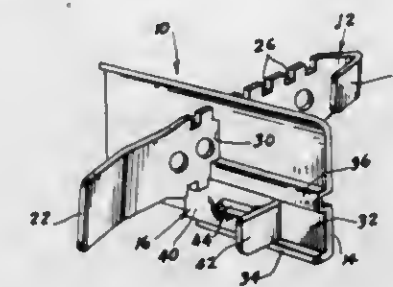


Pressure fluid operated power cylinders having removable head or bottom members and wherein the connection between the cylinder and the head or bottom members thereof is provided by a snap ring which engages on the one side into a groove provided on the periphery of the head or bottom member, and on the other side into notches cut into the cylinder wall and spaced around the periphery thereof.

3,421,787

AUXILIARY DOOR LOCK

Louis Hoffman, 184—28 Tudor Road, Jamaica, N.Y. 11432, and Arthur Behrman, 47—56 Glenwood St., Little Neck, N.Y. 11362
Filed June 1, 1967, Ser. No. 642,744
U.S. Cl. 292—289 4 Claims
Int. Cl. E05c 19/18

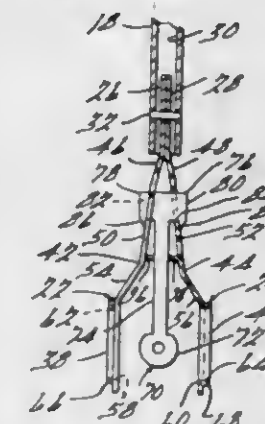


Auxiliary door locks of removable or semi-permanent type, suited for use on hotel and motel room doors and elsewhere, auxiliary to or in substitution of existing door locks.

3,421,788

GOLF BALL RETRIEVER

Norman A. Smith, 9094 E. Outer Drive, Detroit, Mich. 48213
Filed Aug. 15, 1967, Ser. No. 660,703
U.S. Cl. 294—19 12 Claims
Int. Cl. A47f 13/06; B25j 1/00

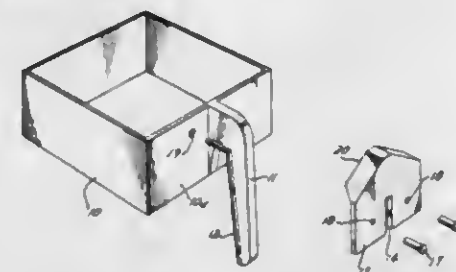


There is herein disclosed a golf ball retrieving tool comprising an extensible shaft having a handle on one end and a ball gripping device on the other end.

3,421,789

CARTON HOLDER

Jack R. Klomparens, 125 W. Oregon, Phoenix, Ariz. 85013
Filed Jan. 19, 1967, Ser. No. 610,443
U.S. Cl. 294—31.2 1 Claim
Int. Cl. A47j 45/00

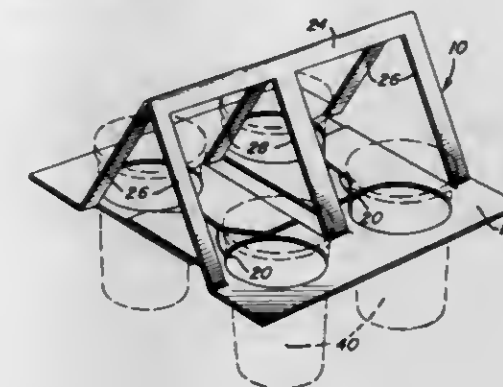


A carton-holding device to retain liquid-holding and pouring cartons to facilitate carrying and pouring. The device has a carton-encircling member which slips down over the carton and locationally engages an indentation in the carton and provides a base for an attached handle.

3,421,790

FOLDING CARRIER FOR PAPER CUPS

Raymond M. Carson, Rte. 1, Box 101, Faxon, Okla. 73540
Filed Apr. 14, 1967, Ser. No. 631,016
U.S. Cl. 294—87.26 8 Claims
Int. Cl. B66c 1/10



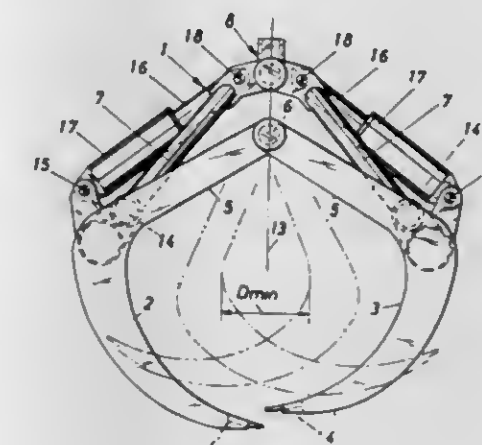
A support device readily formable from a precut panel-like blank and including a handle from which downwardly divergent leg means are supported for relative swinging movement of the lower ends toward and away from each other with the leg means including horizontally disposed article supporting members at their lower ends projecting toward the other leg means with the free ends of the article supporting members being releasably engaged with each other to prevent the lower ends of the leg means from swinging toward each other.

3,421,791

CATCHING TOOL FOR A LOADING CRANE

Jonas Herman Lindqvist, Hudiksvall, Sweden, assignor to HIAB-FOCO Aktiebolag, Hudiksvall, Sweden, a corporation of Sweden
Filed Dec. 18, 1967, Ser. No. 691,632
Claims priority, application Sweden, Dec. 20, 1966, 17,391/66

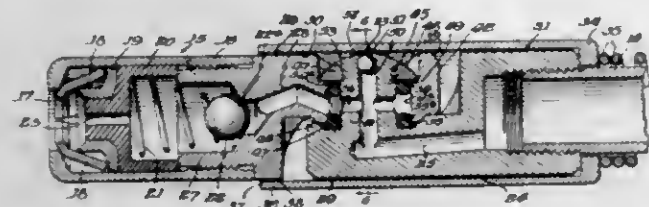
U.S. Cl. 294—88 4 Claims
Int. Cl. B66c 1/44; B66c 3/16



The present invention has reference to a catching tool for a loading crane to be used on a truck especially for transporting timber, pulp wood and the like. The purpose of the invention is to reduce the construction height of the tool and to reduce the time required for the loading of the truck. The purpose aimed at is achieved by suspending the catching arms of the catching tool in pendulous link arms which at the upper ends are pivoted at an attachment for the suspension of the tool at the lifting arm of the crane. Further, the catching arms are pivoted in a special way for rendering possible a construction giving the advantages mentioned in the foregoing.

3,421,792 ANGULARLY ADJUSTABLE COUPLER ASSEMBLY

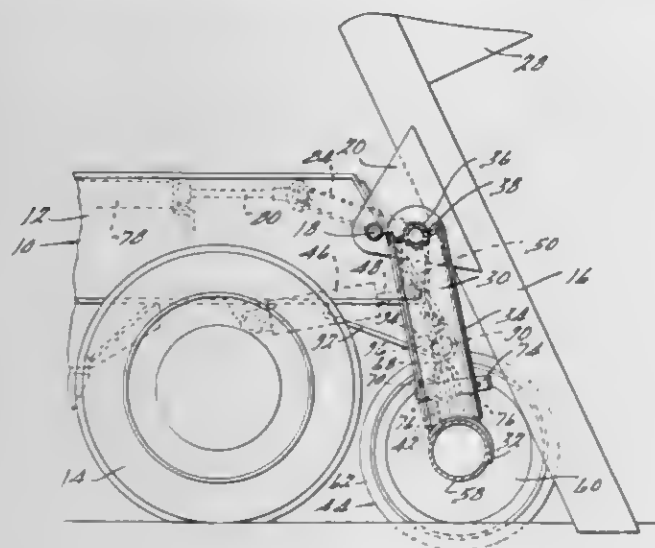
Edwin P. Sundholm, Albert City, Iowa 50510
Filed Feb. 2, 1966, Ser. No. 524,589
U.S. Cl. 285-98 7 Claims
Int. Cl. F16l 17/02; F16l 27/00; F16l 41/00



An angularly adjustable coupler assembly for application to a grease fitting. The coupler assembly is highly compact and does not substantially enlarge the usual size of the coupler and grease pipe, thereby facilitating insertion of the assembly in restricted spaces. The coupler assembly includes a connector body having its rearward end connected to the grease supply pipe and its forward end providing a transversely projecting stud with an annular seat around its base. A connector swivel is adapted at its forward end to be connected to a grease fitting and is provided at its rearward end with a collar having a transversely extending bore which is loosely received on the connector body stud. The inner side of the collar bears against the annular seat around the base of the stud and the outer portion of the collar bore is enlarged to receive a washer which is inserted over the end of the stud. Abutment means in the collar bore limit the inward movement of the washer and the outer end of the stud is forced transversely outwardly of the stud to lock the washer on the stud and to hold the collar on the stud.

3,421,793 TILT-DUMP VEHICLE WITH STABILIZING MEANS

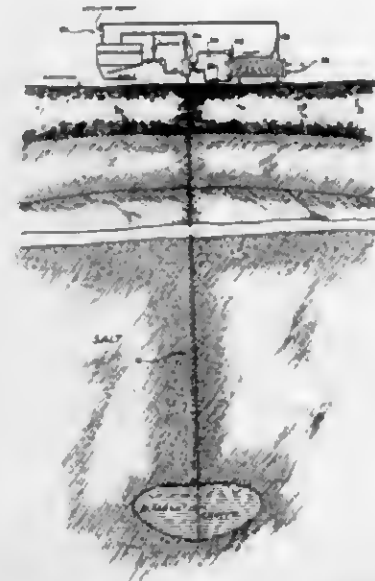
Robert J. Pinch, 116 1st St., Jackson, Mich. 49201
Filed June 1, 1967, Ser. No. 642,862
U.S. Cl. 298-17 10 Claims
Int. Cl. B60p 1/04; B60p 1/28



A combination stabilizer assembly for tilt-bed type vehicles which is selectively movable from a storage or retracted position in which it comprises a rear vehicle bumper to an operative position in which it is attachable to an auxiliary stabilizing member which extends transversely of the vehicle and beyond the fixed wheel tread thereof for increasing the lateral stability of the vehicle during periods when the load on the tilt bed is in a raised or dumping position.

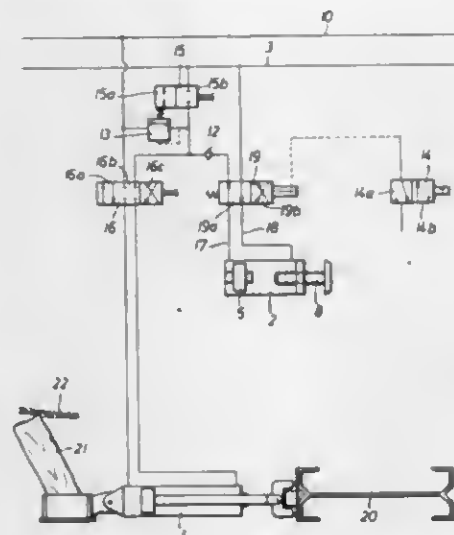
3,421,794 SOLUTION MINING AND REFINING MINERALS

Charles H. Jacoby, Grosse Ile, Mich., assignor to International Salt Company, Clark Summit, Pa.
Filed Sept. 27, 1966, Ser. No. 582,352
U.S. Cl. 299-5 17 Claims
Int. Cl. E21b 43/28; E21c 41/08



Some of the heat extracted at the earth's surface incidental to winning crystallized mineral from a high temperature saturated mineral solution obtained by flowing solvent through a mineral deposit at great depth is used to (a) minimize temperature drop of the up-coming solution and (b) reduce the rate at which heat is extracted from the deposit.

3,421,795
FLUID PRESSURE SUPPLY SYSTEM
Willy Heyer, Bochum-Gerthe, and Friedrich Brinkmann, Altlunen, Westphalia, Germany, assignors to Gesellschaft Eisenhutte Westfalia, Wethmar, near Lunen Westphalia, Germany
Filed May 31, 1967, Ser. No. 642,558
Claims priority, application Germany, June 18, 1966, G 47,202 22 Claims
Int. Cl. E21c 29/02; E21d 11/00

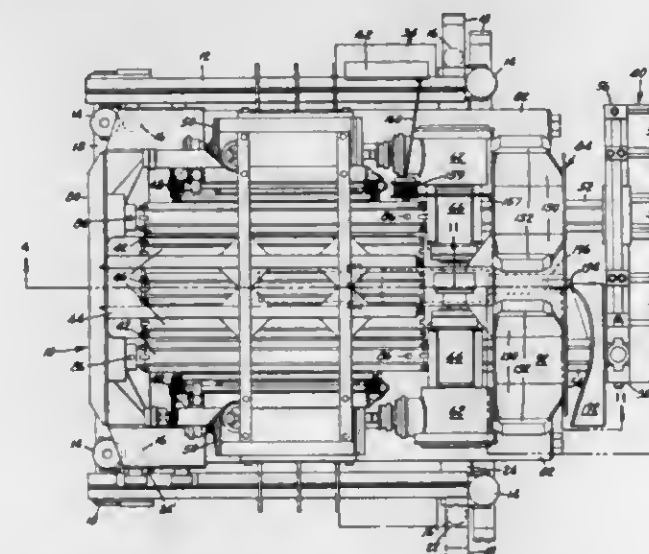


Pressure fluid supply system for longwall mining operations including a pressure fluid flow conduit circuit for supplying fluid to a series of shifting means composed of coacting pistons and cylinders which are to be arranged in spaced apart disposition along a guide for a mining machine to urge the guide against the mine face to enable the mining machine to engage operatively such mine face to extract material therefrom, at least some of the shifting means having corresponding quantity-regulating metering means, e.g. a double acting piston pump, flow-connected therewith in the circuit either upstream or downstream

of the shifting means therefor, to determine the fluid quantity flowing through the particular shifting means, and metering valve control means to control the flow of fluid through the metering means to operate the metering means and thereby to regulate the fluid quantity flowing through the associated shifting means, whereby to achieve substantially unyielding urging via such shifting means of such guide even during passage of the mining machine thereat and controlled advance of the guide and in turn of the mining machine in the direction of the mine face in dependence upon the quantity regulation by the metering means of the fluid flowing through the corresponding shifting means associated therewith.

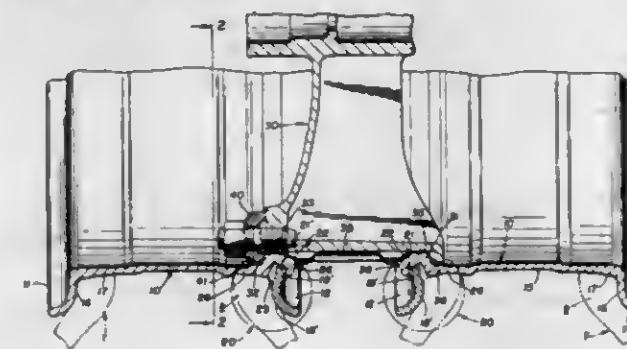
3,421,796 RIB EXTRACTOR WITH A STEERABLE DRILLING HEAD STRUCTURE

Arthur L. Barrett, 2928 Lothair Way, Long Beach, Michigan City, Ind. 46360
Continuation-in-part of application Ser. No. 202,642, June 11, 1962. This application July 11, 1966, Ser. No. 570,109
U.S. Cl. 299-59 8 Claims
Int. Cl. E21c 1/02; E21c 5/00; E21c 37/04



A mining machine having a power base activating a steerable mining head structure with a pair of rotatable cutter heads thereon to advance the structure into a mineral vein. Steering means on the mining head structure to vary the positioning of the structure within bores formed by the mining heads and guide means within the structure to vary the positioning of the heads with respect to the structure.

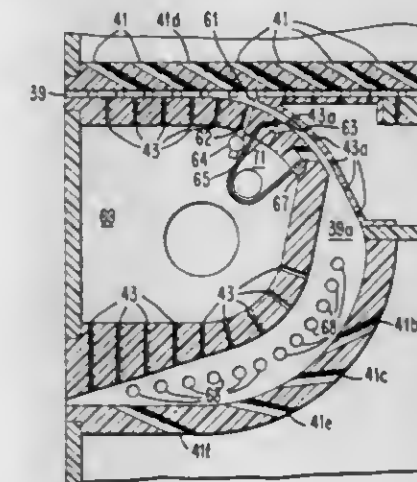
3,421,797
TIRE RIMS
William D. Walther, Dayton, Ohio, assignor to The Dayton Steel Foundry Company, Dayton, Ohio, a corporation of Ohio
Filed Aug. 4, 1966, Ser. No. 570,269
U.S. Cl. 301-12 1 Claim
Int. Cl. B60b 23/00



A rim for mounting a tire. The rim has a fixed and a removable side flange. The base of the removable side

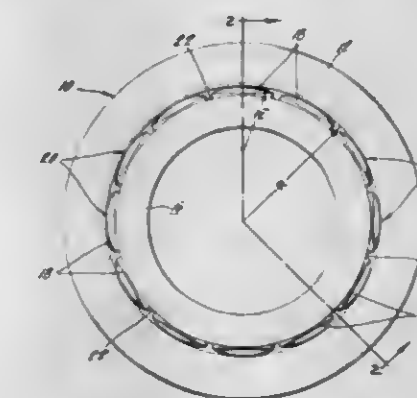
flange is received in a cove on the rim edge and mechanically seats the tire bead. The tire bead is pneumatically sealed against a tapered surface adjacent the cove.

3,421,798
SHEET ITEM TURNAROUND DEVICE FOR
A SHEET HANDLING SYSTEM
Charles Barton Albright, Norristown, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 4, 1966, Ser. No. 570,298
U.S. Cl. 302-29 6 Claims
Int. Cl. B65g 53/04; B65h 29/32



The present device provides a spur passageway in a fluid transport mechanism which acts to move items therewithin. The spur passageway is formed in the mirror image of the letter C, if the transport mechanism is carrying cards from left to right. The spur passageway has apertures located along all sides and from these apertures there are jets of air emitted into the spur passageway. Some of the jets of air act to propel, or move items, passing through the spur passageway around its half loop while other jets act to simply cushion, or buoy up, the items being so moved.

3,421,799
ELASTOHYDRODYNAMIC SLIDING BEARINGS
Tibor E. Tallian, Paoli, and Lewis B. Sibley, Wayne, Pa., assignors to SKF Industries, Inc., King of Prussia, Pa., a corporation of Delaware
Continuation-in-part of application Ser. No. 457,913, May 24, 1965. This application May 10, 1967, Ser. No. 649,762
U.S. Cl. 308-121 8 Claims
Int. Cl. B61f 17/14; F16c 33/66; F16c 1/24



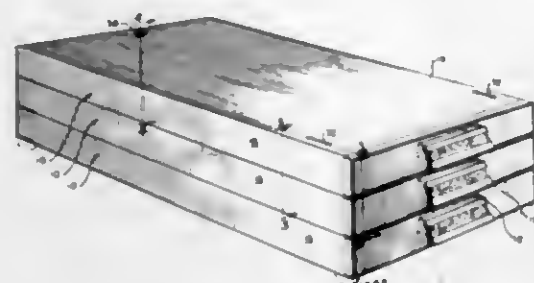
An elastohydrodynamic sliding bearing comprising first and second relatively movable members having intercontacting bearing surfaces. The movable members may comprise inner and outer rings, the outer ring having a generally cylindrical inner bearing surface and the inner ring

bearing surface being formed with a plurality of circumferentially spaced, radially outward arcuate projections which may be in the form of spherical or otherwise convex segments. A lubricant is provided between the bearing surfaces so that when the rings are rotated relative to one another while being in pressure-applying relation, a load-carrying uninterrupted elastohydrodynamic film is formed for a predetermined range of entrainment velocities of the members moving through the contact zones and for a predetermined range of loads and contact curvatures. It has been found that ranges of variables to produce an elastohydrodynamic film are given approximately by the following inequalities:

$$\frac{G^{1.5}V^{0.7}}{L^{0.15}} \geq 1.5 \frac{\sigma}{R_c} \frac{V}{L^{2.5}G^{1.7}} \leq 10^7$$

where G is the material parameter, V is the entrainment velocity, L is load, R_c is the equivalent radius of the contacting surfaces and σ is the surface roughness of the surfaces in contact.

ture; the interlocking means being of such a nature as to permit positional rearrangements of the modules and/or



additions thereto or subtractions therefrom as may be required, with improved ease and facility.

3,421,800 TOILET PAPER DISPENSER

Everette Vernon Brown, 3326 Ave. M,
Fort Worth, Tex. 76105
Filed Sept. 8, 1967, Ser. No. 666,389
U.S. Cl. 312-39
Int. Cl. B65h 19/00



An elongated, vertically disposed box-like receptacle which in use is hung on a wall and forms a holder for a first roll of paper arranged on a removable roller positioned in the extreme upper portion of the receptacle, and in addition, provides a storage compartment for two or more other rolls arranged on their sides and stacked one upon another, parallel to and below said first roll. The receptacle has a first opening extending across the top and a short distance down the front thereof whereby said first roll is accessible for use as needed, and has a second opening in the front adjacent the bottom thereof for removal of said other rolls from the receptacle, one at a time, beginning with the lowermost roll.

3,421,801 FILING CABINET MODULE

Frederick A. Carpenter, Wabash, Ind., and Forest G. Stark, Jamestown, N.Y., assignors, by mesne assignments, to Clark Adams Corp., Chicago, Ill., a corporation of Delaware
Filed Jan. 19, 1967, Ser. No. 610,343
U.S. Cl. 312-111
Int. Cl. A47b 87/00

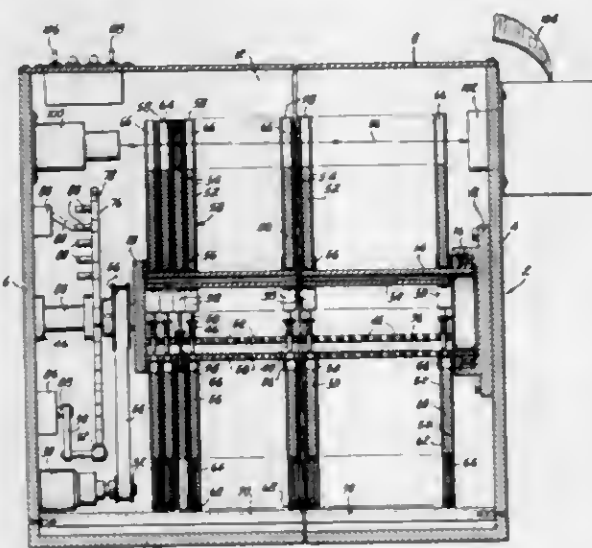
Improved means whereby any desired number of cabinet-drawer or tray modules may be interlocked so as to form a functionally integrated, single cabinet-like struc-

3,421,802 INSTANT RETRIEVAL OPTICAL STORAGE SYSTEM

Carlos A. Irazoqui, New York, N.Y., assignor to Ragen Precision Industries, Inc., a corporation of New Jersey
Filed July 6, 1967, Ser. No. 651,546
U.S. Cl. 312-183
Int. Cl. A47b 63/06; B42f 19/04

1 Claim

5 Claims



A plurality of supports each having a row of a plurality of transparencies thereon, the supports being movable in respective parallel planes to move their transparencies serially about a closed path intersecting a common projection path being defined by aligned gaps in the rows of transparencies so that a selected transparency on any one of the supports can be moved into the projection path, means, such as a laser, at one end of the projection path for projecting collimated light therealong and through a transparency therein and to an image receiving device at the other end of the projection path.

3,421,803 CABINET STRUCTURE

Leonard C. Lustig, St. Paul, Minn., assignor to Whirlpool Corporation, a corporation of Delaware
Filed May 1, 1967, Ser. No. 635,207

U.S. Cl. 312-350

8 Claims

Int. Cl. A47b 97/00; F25d 11/00
A storage cabinet such as a refrigerator or freezer chest having a plurality of baskets movably carried on tracks attached to the walls of the cabinet by new and improved

attaching devices. The tracks are mounted by inserting spaced apart fastening devices into openings in the wall



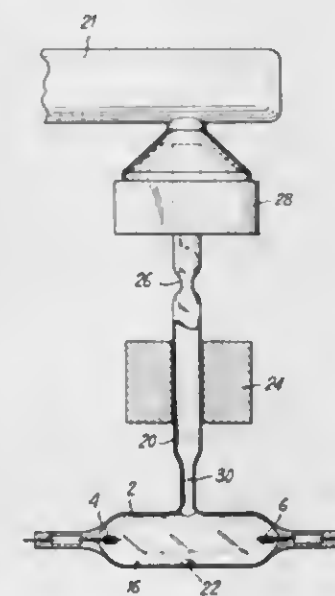
and installing the track thereon by suitably positioning and pivotally associating the track with the fastening devices.

3,421,804 PROCESS FOR FILLING AN ELECTRIC DISCHARGE LAMP HAVING AN IONISABLE ATMOSPHERE

André Taxil, Ruell-Malmaison, France, assignor to Claude Paz et Visseaux
Filed Mar. 7, 1967, Ser. No. 621,181
Claims priority, application France, Apr. 18, 1966, 57,985

U.S. Cl. 316-26
Int. Cl. H01j 9/38

8 Claims



The gas introduced into the discharge tube of the lamp contains hydrocarbons in order to increase the metal vapour content of the discharge atmosphere during functioning. In some cases, after electric discharges have been caused in the tube, the latter is pumped then the metals for the discharge atmosphere are sent back into the tube.

3,421,805 CHANGING OPTICAL PATTERN DISPLAY

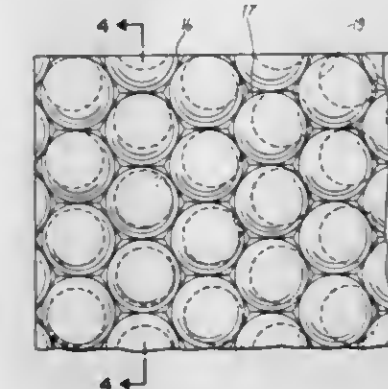
William P. Rowland, Southington, Conn., assignor to Rowland Products Incorporated, Kensington, Conn., a corporation of Connecticut
Filed Jan. 6, 1965, Ser. No. 423,664

U.S. Cl. 350-6
Int. Cl. G02b 17/00

12 Claims

There is disclosed a changing optical pattern display provided by a pair of sheets of material each having a

multiplicity of closely spaced curvilinear lens-like formations on one surface and a smooth surface. The two sheets of material are held with their smooth surfaces in optical contact with each other and means are provided for mov-



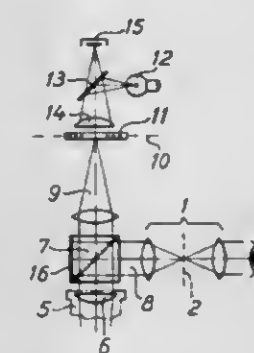
ing one of the sheets relative to the other while maintaining the optical contact therebetween. The lens-like formations phase in and out of axial alignment during such movement so as to produce the changing optical pattern.

3,421,806 MICROSCOPE APPARATUS INCLUDING PHOTOMETRIC MEANS

Klaus Weber, Nauborn, Kreis Wetzlar, Germany, assignor to Ernst Leitz G.m.b.H., Wetzlar, Germany
Filed Feb. 3, 1964, Ser. No. 342,058
Claims priority, application Germany, Feb. 8, 1963, L 44,084

U.S. Cl. 350-19
Int. Cl. G02b 21/18; 23/04

11 Claims



A photometric attachment for use with a microscope. The attachment comprises an aperture of adjustable area which restricts the photometric measurement to light received from a predetermined portion of the object. Beam splitting means are provided for simultaneous observation of the object and the portion thereof from which light will be received for measurement, the measurement portion of the object being designated by the temporary imposition on the image thereof of an illuminated area which corresponds to the measurement area.

3,421,807 ZOOM LENS SYSTEM FOR MICROSCOPE

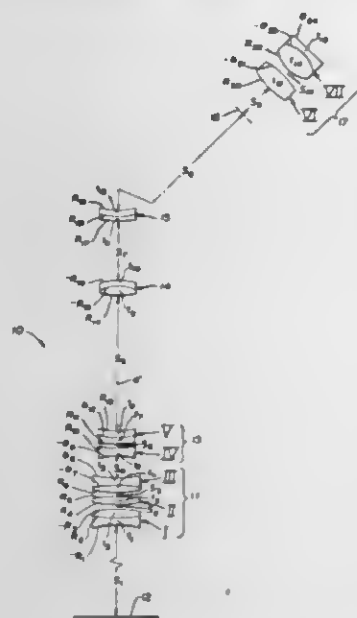
Paul E. Nothangle, Rochester, and Harold E. Rosenberger, Brighton, N.Y., assignors to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 368,236, May 18, 1964. This application Sept. 8, 1967, Ser. No. 674,034

U.S. Cl. 350-43
Int. Cl. G02b 7/04, 15/00

12 Claims

A zoom lens system which is one of the two similar lens systems used in a stereomicroscope, said system hav-

ing a continuous range of magnification at least as large as 7:1 and wherein the numerical aperture of said system is varied substantially continuously linearly with the



change in magnification without significantly changing the good state of correction of the image aberrations, particularly the correction of secondary spectrum.

3,421,808

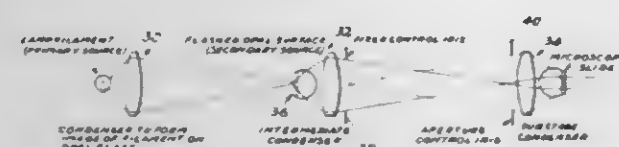
MICROSCOPE ILLUMINATING SYSTEM
Nathan Gottlieb, Buffalo, N.Y., assignor to American Optical Company, Southbridge, Mass.

Filed Feb. 19, 1964, Ser. No. 345,907

U.S. Cl. 350—87

Int. Cl. G02b 21/06

9 Claims



In a microscope illuminating system providing Köhler illumination, the problem of filling the fields and matching the numerical apertures for different microscope objectives is met by imaging the light source at the front surface of a secondary condenser whereat light scattering is provided. In this way, the necessity for movable or replaceable lens elements to accommodate for the various objectives is eliminated.

3,421,809

APPARATUS FOR EXCEEDING THE CUTOFF FREQUENCY OF A BAND LIMITED OPTICAL SYSTEM

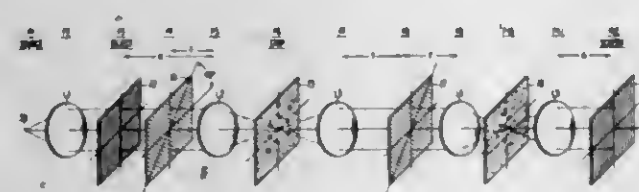
Adolf W. Lohmann, San Jose, Calif., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Mar. 15, 1965, Ser. No. 439,787

U.S. Cl. 350—162

Int. Cl. G02b 5/18; G02b 1/00

3 Claims



Objects, which vary mostly in one direction, have a cigar-shaped spatial frequency spectrum. Such an object

spectrum is badly matched to the frequency transfer domain of most lens systems, since lens systems usually have a circular transfer domain. By means of spatial modulation, one can adapt the object spectrum to the transfer domain of the lens. Modulation is accomplished by a periodic structure positioned in front of the optical system and demodulation is accomplished by a periodic structure positioned behind the optical system.

3,421,810

COATED OPTICAL DEVICES

James W. Edwards, Creve Coeur, Mo., and Ronald B. Coffey, Raleigh, N.C., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Continuation-in-part of application Ser. No. 311,992,

Sept. 27, 1963. This application Oct. 31, 1967, Ser.

No. 679,371

U.S. Cl. 350—166

Int. Cl. G02b 5/28

13 Claims



An optical device comprising a substrate which is transparent in the wave length range in which it is desired to transmit radiation. An optically thin film on the substrate having one layer of a high index of refraction material and one layer of a low index of refraction material. The layer of the high index of refraction material is selected from a group of compounds consisting of tin molybdate, tin tungstate, tin chromate, cadmium molybdate, cadmium tungstate, and cadmium chromate.

3,421,811

COATED OPTICAL DEVICES

James W. Edwards, Creve Coeur, Mo., and Ronald B. Coffey, Raleigh, N.C., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Continuation-in-part of application Ser. No. 311,992,

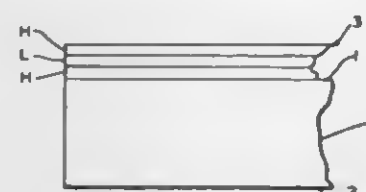
Sept. 27, 1963. This application Oct. 31, 1967, Ser.

No. 679,372

U.S. Cl. 350—166

Int. Cl. G02b 5/28

10 Claims



An optical device having a substrate which is transparent in the wave length range in which it is desired to transmit radiation. An optically thin film having at least two layers is disposed on one flat surface of the substrate and has at least one optically active layer having a high index of refraction and a thickness of at least one-fourth wave length. The optically active layer having a high index of refraction is formed of either lead molybdate, lead tungstate, or lead chromate.

ERRATUM

For Class 351—121 see:
Patent No. 3,422,449

3,421,812

AUTOMATIC EXPOSURE CONTROL MOTION PICTURE CAMERA

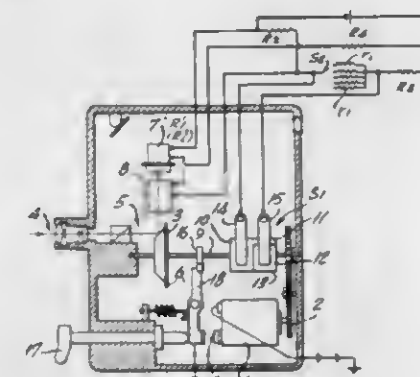
Isamu Kubota, Sakai-shi, Osaka, Japan, assignor to Minolta Camera Company Ltd., Osaka, Japan, a corporation of Japan

Filed Feb. 24, 1966, Ser. No. 529,813

U.S. Cl. 352—141

Int. Cl. G03b 7/08

7 Claims



A motion picture camera includes a photoconductor and a shutter which directs the light entering the objective during the shutter closed position to the photoconductor. The photoconductor forms one leg of a closed bridge, first opposite corners of which are connected to a battery and the other corners of which are connected to an automatic diaphragm control meter movement which regulates the light through the objective. A compensating resistor is connected in one of the bridge legs through a switch which is open and closed with the actuation and deactuation of the shutter so that the diaphragm opening is independent of the actuation or deactuation of the shutter.

3,421,813

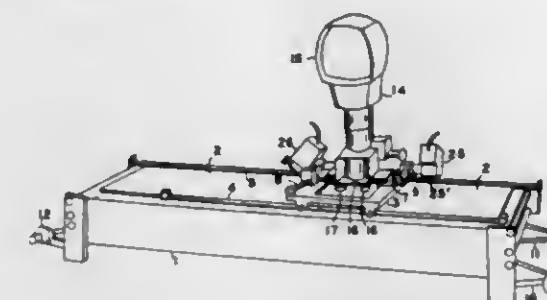
TRAVELING PROJECTION LIGHT VIEWER MEANS
Andre R. Brault, North Merrick, N.Y., and Robert E. White, Westbury, N.Y., assignors to OPTOMECHANISMS, Inc., Plainview, N.Y.

Filed June 6, 1966, Ser. No. 555,624

U.S. Cl. 353—22

Int. Cl. G03b 21/14

4 Claims



1. Viewing means for film comprising, a transparent table, a viewer movably mounted over said table, a first magnet connected to said viewer, said magnet being suspended close to the upper surface of said table, projector light means adapted to be mounted under said table, a second magnet connected to said light means, said second magnet being adapted to be held under said first magnet by virtue of magnetic force between them whereby said light means follows movement of said viewer along said table.

3,421,814

FILM HOLDING VACUUM MEANS

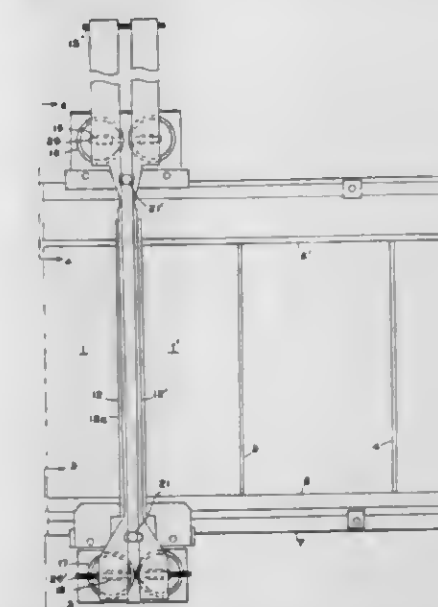
William W. Burnham, Mineola, N.Y., assignor to OPTOMECHANISMS, Inc., Plainview, N.Y.

Filed Mar. 25, 1966, Ser. No. 537,495

U.S. Cl. 353—23

Int. Cl. G03b 1/48

5 Claims



A mounting plate for holding a film flat against the top by vacuum. The top of the mounting plate has a plurality of communicating grooves and the film is laid over them. The vacuum is then applied to the grooves with a manifold arrangement. Pivotal mounted clamping arms may also be used to hold down the film when it is desired to form a loop in the film in order to place two separated frames together for viewing comparison. These arms are also actuated by the vacuum.

3,421,815

STRUCTURE FOR AUTOMATICALLY FOCUSING A PROJECTOR

Dieter Dönitz, Braunschweig, Germany, assignor to Volgländer A.G., Braunschweig, Germany, a corporation of Germany

Filed Feb. 28, 1966, Ser. No. 530,720

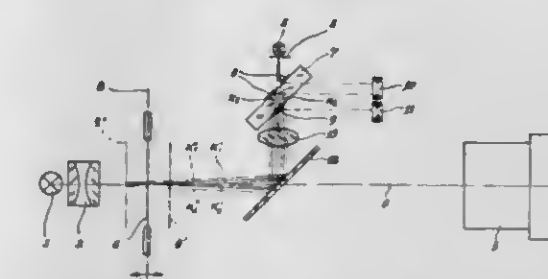
Claims priority, application Germany, Apr. 6, 1965,

V 28,215

U.S. Cl. 353—99

Int. Cl. G03b 21/28; G03b 3/00; G03b 27/34

9 Claims

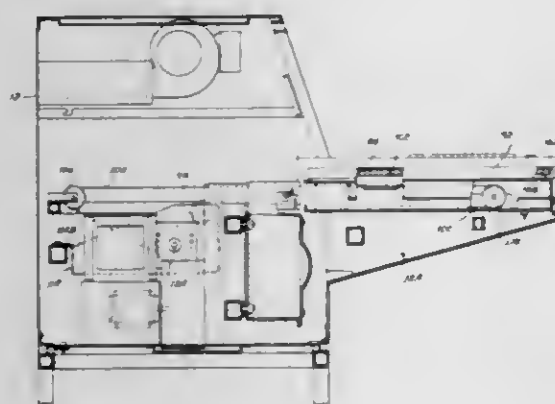


Automatic focusing arrangement for a photographic projector wherein a radiation source provides diverging beams of radiation and first optical elements in the path of the latter bring the beams into coincidence in the focal plane of the objective. The beams are reflected back along the original paths by a slide which is in a projection plane when the projection plane and the focal plane coincide. The radiation beams are reflected by the slide along a first return path when the projection plane is between the focal plane and the objective and along a second return path when the focal plane is between the projection plane and the objective. A pair of beam receiving elements and a pair of additional optical elements are respectively located at the first of the return paths for directing the reflected beams specifically to the beam receiving elements. When the planes are out of coincidence in one direction,

one of the beam receiving elements will receive a reflected beam, and when the planes are out of coincidence in an opposite direction the other of the beam receiving elements will receive the reflected beam. When the planes are in coincidence there will be no beam reflected to either of the pair of beam receiving elements. An adjusting device responds to that one of the beam receiving elements which receives a reflected beam to bring the planes into coincidence for automatically focusing the projector.

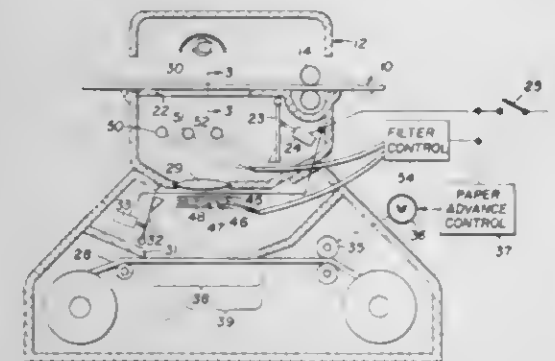
3,421,816 SAFETY ARRANGEMENT FOR COPYING MACHINE

Richard C. Robertson, Mount Prospect, and Robert M. Koch, Villa Park, Ill., assignors to Addressograph-Multigraph Corporation, Mount Prospect, Ill., a corporation of Delaware
Filed Apr. 6, 1966, Ser. No. 540,716
U.S. Cl. 355-8 4 Claims
Int. Cl. G03g



The application discloses a photoelectrostatic copying machine in which a table carrying an original to be copied is reciprocated past a scanning station to provide a reflected light image that selectively exposes a charged photoelectrostatic element. The table moves relative to an exposed portion of the machine housing and carries a safety switch that arrests movement of the table when the table strikes an impediment to its movement.

3,421,817
PROJECTION PRINTER
David N. Schwardt, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Apr. 12, 1965, Ser. No. 447,385
U.S. Cl. 355-36 11 Claims
Int. Cl. G03b 27/16

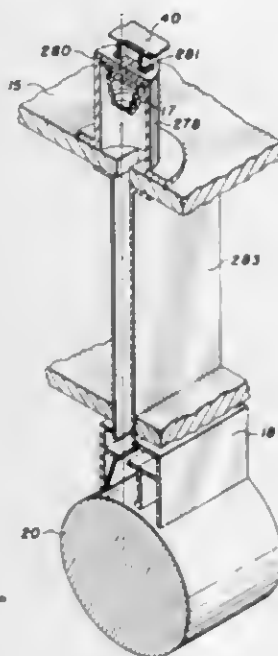


A projection printer has a high speed change-over system for printing of different size images on film strips. Negative and paper masking apertures have corresponding sides simultaneously masked or unmasked. The operation of photosensitive paper advance means is adjusted

to advance a length of paper corresponding to the paper frame size. Adjustment is provided for proper color-balance-correcting of the images by controlling the position of color filters.

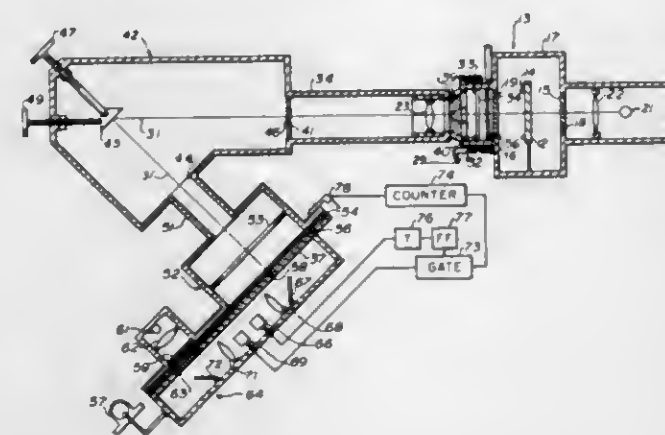
3,421,818 OPTICAL SYSTEM FOR REPRODUCTION MACHINES

Thomas C. Murray, Rochester, and Russell R. Roberts, Ontario, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed June 30, 1965, Ser. No. 468,324
U.S. Cl. 355-42 4 Claims
Int. Cl. G03b 27/52



An apparatus for supporting and presenting each micro-image in a microfiche card and projecting image rays therefrom to a light sensitive surface. Means are provided for separating each microimage in order to prevent light rays from impinging upon adjacent microimages and for holding the projected microimage in a fixed optical plane.

3,421,819
OPTICAL EXTENSOMETER
Thure Anderson, Castro Valley, and Ernest H. Lorbeer, Livermore, Calif., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed July 17, 1964, Ser. No. 383,534
U.S. Cl. 356-32 4 Claims
Int. Cl. G01b 11/16

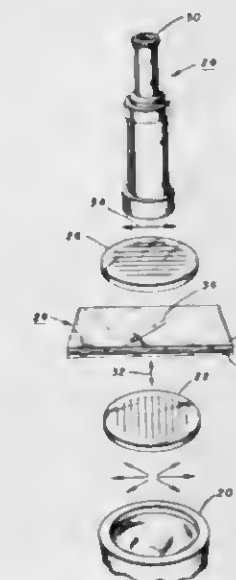


An extensometer for monitoring dimensions of specimens disposed in an extreme environment, including an optical system for producing a real image of the test

specimen with fiducial markers thereon in an external plane. The external image is scanned by means of a slit provided in a reciprocating carriage and moving in the image plane, and actuating a means coupled to said carriage to produce signal pulses proportional to the distance travelled by the carriage. Signals representative of the distance between the markers are summed in response to the triggering action of photosensitive means coupled to the carriage for sensing changes in light intensity between background light and the marker position of the image and passing through said slit.

3,421,820 OPTICAL DETERMINATION OF LOW LUSTER IN DRAWN NYLON

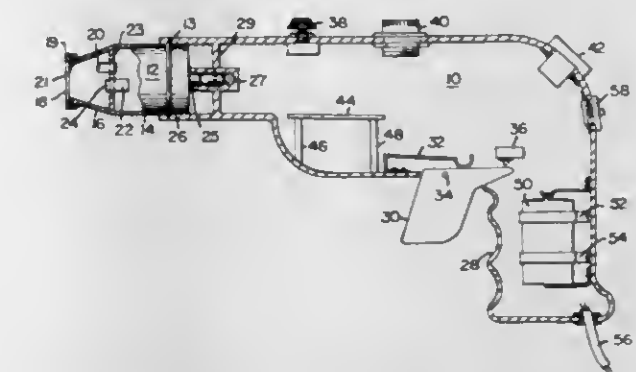
Melvin C. Huebschman, Pensacola, Fla., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Dec. 3, 1964, Ser. No. 415,664
U.S. Cl. 88-14 2 Claims
Int. Cl. G01r 1/00



A drop of 67-78% aqueous formic acid is added to a drawn nylon filament. This creates characteristic changes in interference color bands of low-luster filaments when inspected with a polarizing microscope, but does not substantially affect normal nylon.

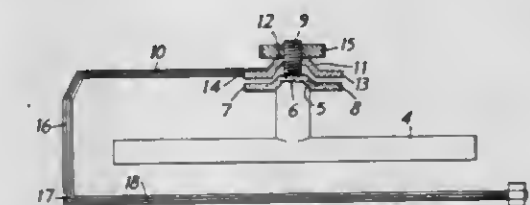
3,421,821
COLOR SPECTRUM ANALYZER
Patrick A. Alessi, 105 Beaufort Ave., Needham, Mass. 02192
Filed Dec. 10, 1964, Ser. No. 417,387
U.S. Cl. 356-186 5 Claims
Int. Cl. G01j 3/00; G01j 3/48; G01j 3/46

A hand-held color analyzer measures the reflectance from a specimen to determine its color value. The analyzer has a main body in the form of a hand-held gun containing a null balancing circuit and resistance adjustments to establish desired reference conditions; it also has a detachable probe containing a light source, a photo-detector, and an optical filter, these components being mounted adjacent a forward aperture in the probe for positioning adjacent a specimen whose color value is to be determined. The probe is readily replaced with others of different optical characteristics in order to extend the range of the instrument over a broad color spectrum when desired. Relative color values of two or more specimens



are readily determined by means of a single switch and a pair of adjustable resistors mounted on the main body, one of the resistors providing a direct digital indication of the desired relative values when appropriately adjusted.

3,421,822
PAINT ROLLER
André Roche, 45 Ave. St. Gerome, Aix-en-Provence, Bouches-du-Rhone, France
Filed Mar. 23, 1966, Ser. No. 536,844
Claims priority, application France, Mar. 24, 1965, 20,934
U.S. Cl. 401-137 1 Claim
Int. Cl. B44d 3/28



1. A paint roller comprising
(a) a roller support in the form of a U-shaped rod having a longer arm and a shorter arm, said arms being parallel, said longer arm carrying a nut threaded on its free end and serving as a paint roller bearing, said shorter arm having an arched portion adjacent to the free end and having an aperture formed centrally in said arched portion,
(b) a paint distributor assembly comprising a handle and a paint supply conduit and a tap in said conduit and a tubular T-shaped body, the stem of said T-shaped body carrying a threaded journal engaged through the aperture of the roller support and carrying a nut, said body having an arched formation against which the arched formation of the roller support arm seats the head of said T-shaped body being apertured and lying parallel to and spaced from the axis of said longer arm of said roller support whereby said roller support and distributor assembly may be selectively located in two positions of relative rotation 180° about the axis of said journal, as determined by engagement of said arched formations one on the other.

3,421,823
WRITING IMPLEMENT
Hiroyuki Matsumoto, Tokyo, Japan, assignor to Dai Nihon Bungu Co., Ltd.
Filed June 21, 1965, Ser. No. 465,467
Claims priority, application Japan, Feb. 23, 1965, 40/13,616; Mar. 10, 1965, 40/18,259, 40/18,260
U.S. Cl. 401-199 4 Claims
Int. Cl. B43k 5/18

A writing implement having a tubular casing and a plug with a bore inserted in an open end of the casing.

A hard fiber core passes through the bore and has a writing point at one end, its other end being immersed in an absorbent pad within the casing. The core has a capillary slit extending from the pad toward the writing



point. Complementary features are that the capillary slit extends to within the bore of the plug and that there are channels or pits at the interface between the plug and the core.

3,421,824

METHOD OF BURNING INDUSTRIAL FUELS

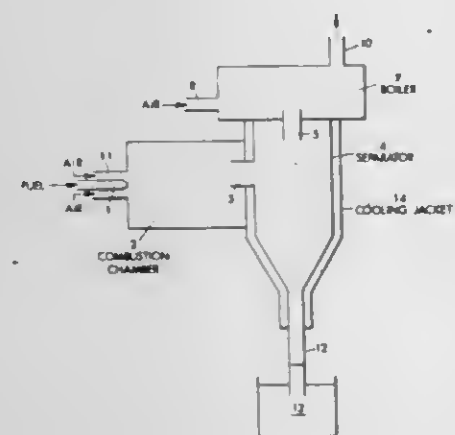
Walter A. Herbst, Union, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed June 1, 1967, Ser. No. 642,928

U.S. Cl. 431-10

Int. Cl. F23m 3/04; F23c 1/00

7 Claims



The corrosivity and air polluting tendencies of the combustion products of liquid, high boiling, industrial fuels can be reduced by a process which comprises burning atomized fuel in a combustion zone with a controlled amount of air so as to produce intermediate solid and gaseous combustion products, separating the intermediate solid products from the intermediate gaseous products, adding additional air to the intermediate gaseous products in an amount sufficient to give substantially complete combustion of the gases, and burning the intermediate gaseous products.

3,421,825
ELECTRIC SPARK IGNITION UNITS

William Henry Maycock, Coventry, England, assignor to Associated Electric Industries Limited, London, England, a British company

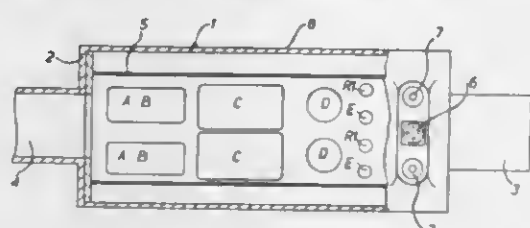
Filed May 31, 1966, Ser. No. 553,813

Claims priority, application Great Britain, June 3, 1965, 23,751/65

U.S. Cl. 431-208

Int. Cl. F23d 11/00; F23q 7/06; F02p 1/00

8 Claims



A solid state ignition unit, mounted on a turbine is cooled by the liquid fuel utilized to feed the engine turbine.

3,421,826

CATALYTIC BURNER

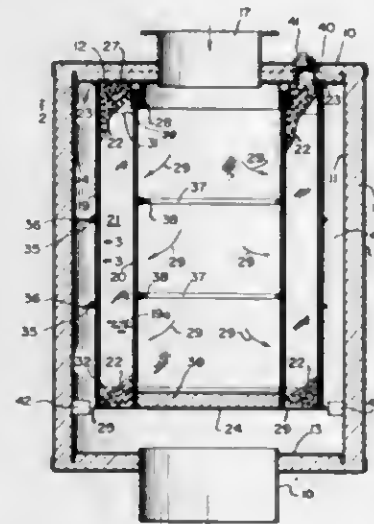
Paul H. Tope and Siegfried Schmidt, St. Joseph, Mich., assignors to Whirlpool Corporation, a corporation of Delaware

Filed Feb. 21, 1967, Ser. No. 617,694

U.S. Cl. 431-328

Int. Cl. F23d 13/12; B01j 9/02

13 Claims



A catalytic burner for burning a hydrogen or hydrocarbon fuel in the presence of air with the catalyst bed retained between an upright first gas pervious member and an upright second gas pervious member both surrounded by a housing with the upper end of one of the gas pervious members being fixedly held within the housing so that the first member is free to expand and contract thermally, the second gas pervious member having its lower end attached to the lower end of the first member and the upper end of the second gas member being free to expand and contract longitudinally but held against substantial sideways movement in order to maintain the spacing between the members that determines the lateral dimensions of the catalyst bed.

CHEMICAL

3,421,827
FABRIC

Kermit S. La Fleur, Clemson, S.C., assignor to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware

No Drawing. Filed Dec. 11, 1962, Ser. No. 243,748

U.S. Cl. 8-14

Int. Cl. D06p 7/00

8 Claims

1. A method for the preparation of an embossed kera-

tinous fiber containing fabric having a melange dyed effect with heavier concentration of dye in the embossed areas comprising immersing said keratinous fiber containing fabric in an aqueous solution of a reducing agent, placing the reducing agent treated fabric in a mold and subjecting said fabric to heat and pressure and then subjecting the resultant embossed keratinous fiber containing fabric to a melange type dye bath.

3,421,828
SULFURIC ACID ESTER DERIVATIVES OF 1-ANILINO-4-HYDROXY-ANTHRAQUINONE AND MIXTURES

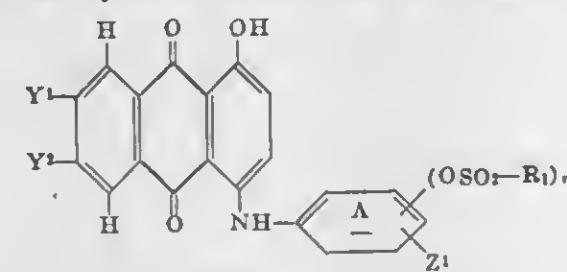
Hans Peter Kölliker, Munchensteln, Basel-Land, and Peter Hindermann, Batterie, Bottmingen, Switzerland, assignors to J. R. Geigy A.G., Basel, Switzerland
No Drawing. Filed July 16, 1964, Ser. No. 383,254
Claims priority, application Switzerland, July 19, 1963, 9,050/63, 9,051/63; June 3, 1964, 7,239/64

U.S. Cl. 8-25

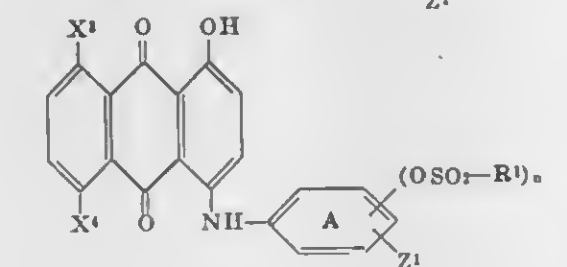
Int. Cl. C09b 1/52

17 Claims

The present invention provides new substituted α -phenylamino-anthraquinone dyestuffs. In a first aspect there are provided dyestuffs falling under one of the formulas:

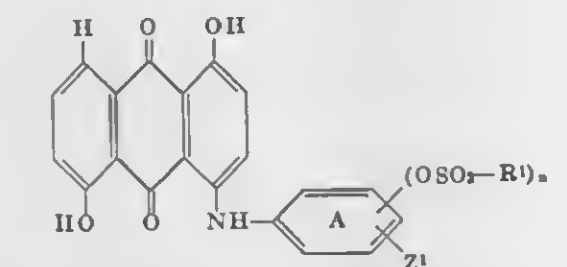


(III)



(IIIA)

and



(IIIB)

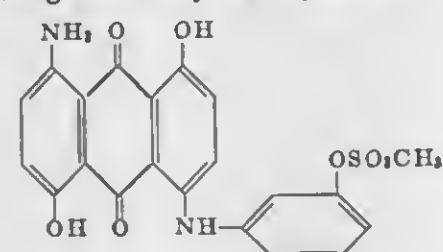
in which formulas the respective symbols have the following meanings:

one of X^3 and X^4 represents hydroxy and the other represents hydroxy, nitro, amino, N-lower alkyl-amino, N,N-di-lower alkyl-amino, N-lower alkoxy-N-lower alkyl-amino or hydroxy-lower alkylamino, each of Y^1 and Y^2 represents hydrogen, chlorine or bromine,

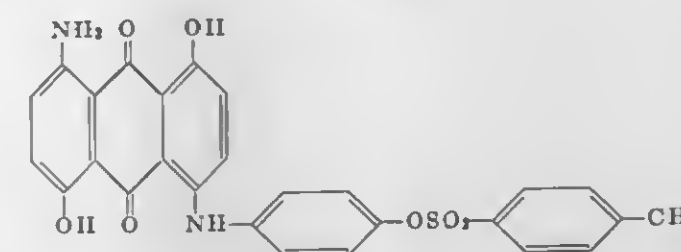
R^1 represents lower alkyl, alkenyl of from 2 to 4 carbon atoms, chloro-lower alkyl, chloro-lower alkenyl, cycloalkyl of from 5 to 7 carbon atoms, phenyl, chlorophenyl, bromophenyl, fluorophenyl, lower alkyl-phenyl, (lower alkyl-sulfonyl)-phenyl, (lower alkyl-carbonyl)-phenyl, (lower alkanoyl-amino)-phenyl, (N-lower alkyl-sulfonyl-N-lower alkyl)-phenyl, or pyridyl-3-oxy, Z^1 represents from one to two of the following: hydrogen, lower alkyl, lower alkoxy, chlorine, bromine, lower alkyl-sulfonyl, and lower alkyl-sulfonyl-amino, and n has the above-given meaning;

preferably the benzene ring A is not further substituted or, if substituted, it contains chlorine, or methyl or methoxy.

In a particular aspect a dyestuff composition is provided consisting essentially of a dyestuff of the formula

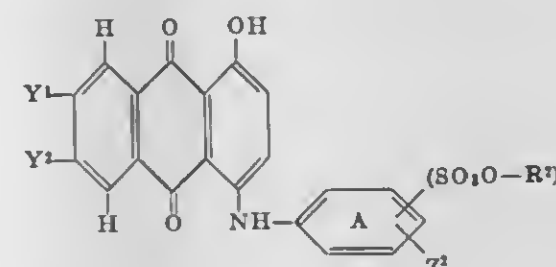


mixed with a dyestuff of the formula

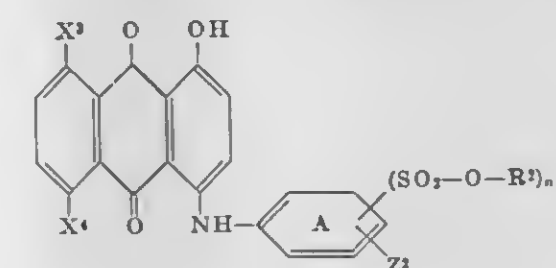


in a weight ratio of about 1:1.

According to a second aspect of the invention dyestuffs are provided falling under one of the formulas

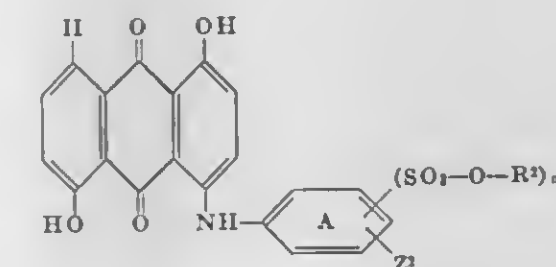


(IIH*)



(IIIA*)

and



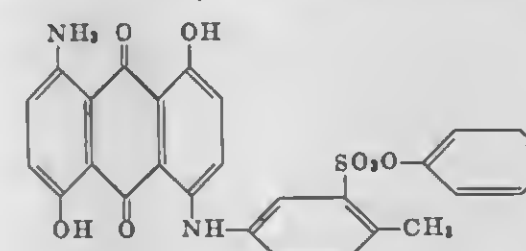
(IIIB*)

in which formulas the respective symbols have the following meanings:

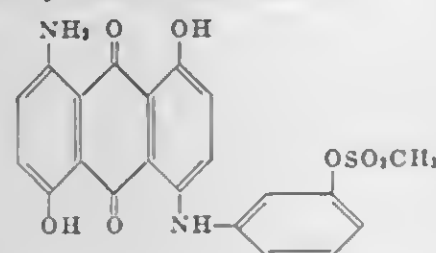
n , X^3 and X^4 have the same meanings as in Formulas III, IIIA and IIIB, respectively;

R^2 represents alkyl of from 4 to 10 carbon atoms, chloro-lower alkyl, cycloalkyl of from 5 to 7 carbon atoms, phenyl, chlorophenyl, bromophenyl, fluorophenyl, lower alkylphenyl, lower alkoxyphenyl, chloro-lower alkyl-phenyl, (lower alkyl-sulfonyl)-phenyl, (lower alkyl-carbonyl)-phenyl, (lower alkanoyl-amino)-phenyl, (lower alkyl-sulfonyl)-phenyl, (N-lower alkyl-sulfonyl-N-lower alkyl-amino)-phenyl, benzyl, chloro-benzyl, bromo-benzyl, lower alkyl-benzyl, or pyridyl-(3)-, and Z^2 represents from one to two of the following substituents: hydrogen, lower alkyl, lower alkoxy, chlorine and bromine.

In a further aspect a dyestuff composition is provided consisting essentially of a dyestuff of the formula



mixed with a dyestuff of the formula



in a weight ratio of about 1:1.

3,421,829

PROCESS FOR COLOURING AROMATIC POLYESTER AND CELLULOSE ACETATE TEXTILE MATERIALS WITH WATER-INSOLUBLE DISAZO DYESTUFFS

George Arthur Bennett, Alistair Howard Berrie, and Raymond Windle, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Continuation-in-part of application Ser. No. 366,139, May 8, 1964. This application Nov. 13, 1967, Ser. No. 682,519

Claims priority, application Great Britain, June 21, 1963, 24,811/63; Mar. 23, 1964, 12,191/64

U.S. Cl. 8—41

7 Claims

Int. Cl. D06p 1/18

Coloration of aromatic polyester or cellulose acetate textile materials with an aqueous dispersion of a water-insoluble disazo dyestuff obtained by coupling a tetra-rotized benzidine with 2 molecular proportions of a para coupling phenol.

3,421,830

PROCESS AND PREPARATION FOR COLORING WOOL

Richard Casty, Kaiser-Augst, Alfred Berger and Walter Moslmann, Basel, and Heinz Abel, Reinach, Basel-Land, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Filed Jan. 31, 1964, Ser. No. 341,786

Claims priority, application Switzerland, Feb. 8, 1963, 1,566/63

U.S. Cl. 8—43

5 Claims

Int. Cl. D06p 3/16

A process for dyeing wool with difficultly soluble dyestuffs is disclosed which consists of treating the wool with an aqueous preparation containing the dyestuff, a co-acervating agent, an at most dibasic organic acid and, if desired, a thickening agent, and thereafter subjecting the treated material to moist heat without intermediate drying.

3,421,831

METHOD OF DYEING SYNTHETIC POLYMERIC MATERIALS

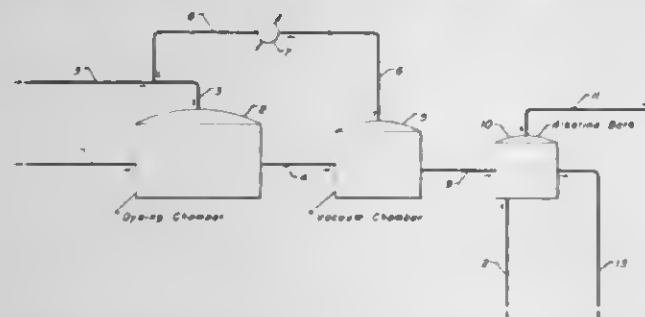
William K. T. Gleim, Island Lake, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Jan. 25, 1965, Ser. No. 427,571

U.S. Cl. 8—55

15 Claims

Int. Cl. D06p 1/16; C09b 67/00; D06p 3/00



Relatively insoluble dyes are applied to synthetic polymeric textile materials by contacting said materials with a

solution of the dye dissolved in anhydrous hydrogen fluoride at sub-ambient temperatures.

3,421,832

12 OR HIGHER MOL ALKALI METAL HYDROXIDE-1 MOL SODIUM HYDROXIDE REACTION PRODUCT, DEPILOTORIES AND DEPILOTATION THEREWITH

Alfred O. Minkler, Kenmore, Theodore H. Dexter, Lewiston, and James S. Sconce, Niagara Falls, N.Y., and Thomas C. Thorstensen, Chelmsford, Mass., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed May 27, 1964, Ser. No. 370,702

U.S. Cl. 8—94.16

30 Claims

Int. Cl. C14c 1/06

Depilatories are made by reacting 12 mols or more of NaOH with phosphorus pentasulfide. Part of the alkali can be replaced by alkali metal sulfides and/or supplemented by calcium chloride as a sharpener.

3,421,833

DYED AND PRINTED METAL MODIFIED POLYPROPYLENE AND PROCESSES THEREFOR

Hermann Wunderlich, Cologne-Muelheim, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Apr. 30, 1964, Ser. No. 363,990

Claims priority, application Germany, May 7, 1963, F 39,666

U.S. Cl. 8—97

12 Claims

Int. Cl. D06p 3/00; C09b 65/00

Metal modified polypropylene materials may be dyed and printed by a process which comprises applying isoindolenines under dyeing conditions with the application of heat, whereby metal-containing phthalocyanines are formed which dye and print the material.

3,421,834

PHOSPHONIUM SALTS HAVING A REACTIVE VINYL GROUP OR A PRECURSOR THEREOF AS ANTI-STATIC AND FLAMEPROOFING AGENTS FOR CELLULOSIC MATERIALS

Martin Grayson, Norwalk, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed July 29, 1963, Ser. No. 298,468

U.S. Cl. 8—120

17 Claims

Int. Cl. D06m 13/00

1. A fibrous cellulosic composition treated with a small amount of phosphonium salt of the formula



wherein

R¹, R², and R³ each represent a member selected from the group consisting of alkyl C₁–C₁₆, substituted alkyl C₁–C₁₆, and cycloalkyl;

X represents halogen and;

Y represents the residue of an esterifying agent.

3,421,835

TWIN FILTER WITH BACKWASH FOR DRY CLEANING MECHANISM

Lee A. McCarty, Santa Clara, Calif., assignor to Self-Service Machines, Inc., a corporation of California

Filed May 8, 1967, Ser. No. 636,940

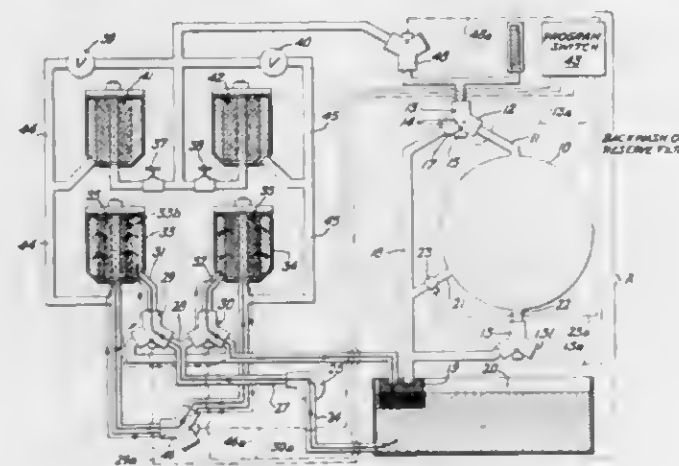
U.S. Cl. 8—158

2 Claims

Int. Cl. D06l

A dry cleaning mechanism comprising a usual wash cylinder, a sump, a fill wash and rinse valve herein referred to as a fill valve, a dump valve and a solvent pump, is connected by various pipes and automatically controlled valves to a pair of filter means, the flow of solvent through selected ones of the pipes and valves being auto-

matically controlled in such a manner that during each fill, wash and rinse cycle of the dry cleaning mechanism selected ones of the valves are so actuated that solvent drawn from the sump will flow in parallel, and in the normal direction for filtering, through both filter means and thence through the fill valve into the wash cylinder; during a portion of each interim between successive fill, wash and rinse cycles selected ones of the valves are so automatically actuated as to cause the solvent to flow from the pump in a normal direction through one of the filter means, herein referred to as the main filter or filter means, and thence in a reverse direction through the other filter means, the latter being herein referred



to as the reserve filter or filter means, and back into the sump, thereby to backwash the reserve filter so as to wash therefrom dirt which the reserve filter had removed from the solvent during the preceding fill, wash and rinse cycle; and during the remainder of each interim selected ones of the valves are so automatically actuated as to cause the solvent drawn from the sump to flow from the pump in a normal direction for filtering through the main filter only, and thence back into the sump, thereby to remove from the solvent, by the main filter means alone, as much as possible of the filterable impurities so as to reduce to a minimum the deposit of such impurities on the reserve filter.

3,421,836

METHOD OF AND APPARATUS FOR OZONIZING AIR CIRCULATING IN A CONFINED REFRIGERATED SPACE

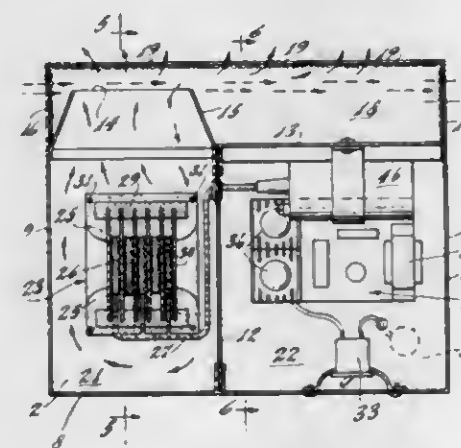
Anita G. Sundin, Philadelphia, Pa., and Benjamin Caplan, 5519 Walnut St., Philadelphia, Pa. 19139; said Sundin assignor to said Caplan

Filed July 3, 1964, Ser. No. 380,143

U.S. Cl. 21—53

2 Claims

Int. Cl. F24f 3/16; A61l 13/06



A method of and apparatus for maintaining a continuous circulation of ozonized air in a confined refrigerated space. The apparatus includes a venturi passage as the

discharge opening for the ozone generator, across which is blown the air being circulated in the confined space thereby enabling a continuous supply of ozone to be discharged to the circulating air stream.

3,421,837

SOLID OXIDANT AND METHOD FOR DEODORIZING AIR THEREWITH

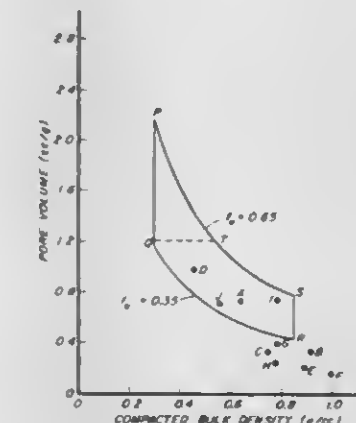
Robert Henry Ebel, Riverside, Stephen Fred Adler, South Norwalk, and Janis J. Keggi, Stamford, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

Continuation-in-part of application Ser. No. 346,309, Feb. 20, 1964. This application Sept. 28, 1966, Ser. No. 582,666

U.S. Cl. 21—53

7 Claims

Int. Cl. A61l 13/00



Air is deodorized by contacting it with a supported solid oxidant composed essentially of an activated dried alumina having a void fraction, determined by multiplying its apparent bulk density (which is about 0.3 to 0.85 gram per cc.) by its pore volume, of about .35 to .65 and impregnated with about 0.5 to 3 pounds per cubic foot of potassium permanganate.

3,421,838

METHOD FOR INHIBITING THE EVAPORATION OF VOLATILE MATERIALS

Richard E. Hellings, Pennsauken, N.J., assignor to Cities Service Oil Company, Bartlesville, Okla., a corporation of Delaware

No Drawing. Filed Jan. 14, 1966, Ser. No. 520,644

U.S. Cl. 21—60.5

6 Claims

Int. Cl. C10c 3/00

1. Method for inhibiting the vapor loss from the free surface of a volatile liquid contained in a storage tank which comprises covering said free surface of said volatile liquid with a floating film, said floating film comprising a solution of elastomer in an organic solvent.

3,421,839

CONTAINER FOR AIR TREATING DEVICES

Samuel I. Ward, West Hartford, Conn., assignor to Crystal Research Laboratories, Inc., Hartford, Conn., a corporation of Connecticut

Filed Jan. 19, 1965, Ser. No. 426,621

U.S. Cl. 21—74

5 Claims

Int. Cl. A61l 9/00

Air treating devices having a novel arrangement for releasably enclosing deodorizing and dehumidifying cartridges and the like. A tubular container is provided which is made of a flexible plastic open mesh material that is filled with one or more air treating cartridges. Removably mountable end caps are provided as tube closure means with an elastic cord extending through the

interior of the tube, each end of the cord being attached respectively to one of the end caps, with the cord being



under yieldable tension to urge the end caps into closure position on the ends of the tube.

3,421,840

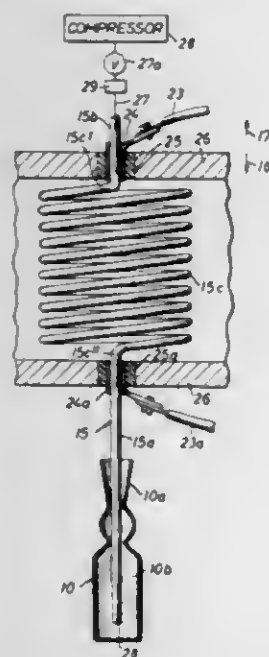
PROCESS AND APPARATUS FOR TREATING AMPOULES AND SIMILAR CONTAINERS
 Wilhelm Pechmann, Burscheid, near Cologne, Germany, assignor to H. Strunck & Co. Maschinenfabrik, Cologne-Ehrenfeld, Germany

Filed Feb. 8, 1963, Ser. No. 257,323

Claims priority, application Germany, Feb. 10, 1962, St 18,844

U.S. Cl. 21—80
 Int. Cl. B08b 3/10

5 Claims



5. A vaporizing device for increasing the rate of vaporization of solid substances comprising an outer housing having a plurality of relatively closely spaced openings therein, crystal vapor emitting means positioned within said housing, flexible heating means responsive to electrical current within said housing, means for coupling said heat emitting means to a source of electrical energy, and tubular separating means surrounding said flexible heating means and electrically insulating said heating means from said vapor emitting means; said separating means constructed of an open mesh heat resistant and electrically nonconductive plastic.

3,421,842

PROCESS FOR PRODUCING EFFERVESCENT PERBORATE COMPOUNDS

Leonard R. Darbee, Trenton, William C. De Kleine, Skillman, and Paul R. Mucenleke, Trenton, N.J., assignors to FMC Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 30, 1965, Ser. No. 491,810

U.S. Cl. 23—60
 Int. Cl. C01b 15/12

5 Claims

1. An apparatus for cleaning and sterilizing the interior of open ended ampoules and similar containers with a fluid, comprising, in combination, at least one fluid conveying tube having a first end portion adapted to be connected to a supply of fluid, a substantially rectilinear second end portion having an open end adapted to extend through an open end of an ampoule and similar container, and an intermediate helically convoluted tube portion extending between and being integrally connected at opposite ends with said tube end portions, at least said

helically convoluted tube portion being of current-conducting material; means for applying electrical energy to said tube so that electrical current will flow at least through said helically convoluted portion to thereby heat fluid passing therethrough before it is discharged through the open end of said rectilinear second end portion; conveyor means for intermittently moving a series of open ended containers along a predetermined path so as to align said open end of said second end portion of said tube with the open end of said one container between the intermittent movements of said containers along said path; and means for moving said tube and at least said one container relative to each other in direction of said rectilinear second end portion so as to extend said rectilinear end portion in said open end of said one container to introduce heated fluid into the latter and to withdraw said end portion from said container to permit further transportation of the latter along said path.



tact with water by suspending particles of said perborate salts in a stream of inert gas, maintaining the average distance between the particles at least about 0.07 times the diameter of the particles, heating the perborate salts while in a suspended state to a temperature of from about 50 to about 250° C. but below the melting point of the particles during said conversion, maintaining the water vapor content of the inert gas surrounding the suspended particles sufficiently low that it does not decompose the perborate-derived product, and continuing said heating until water evolved during the conversion has been removed.

3,421,843

PROCESS OF PREPARING BARIUM CARBONATE BY CARBONATION OF AQUEOUS BARIUM SULFIDE

William A. Conaway, Glendale, Arthur J. Johnson, Mountville, and Joe Smisko, New Martinsville, W. Va., assignors to PPG Industries, Inc., a corporation of Pennsylvania

Filed May 5, 1965, Ser. No. 453,412

U.S. Cl. 23—66
 Int. Cl. C01f 11/18

13 Claims

Finely-divided barium carbonate seed are prepared by rapid partial carbonation of an aqueous barium sulfide solution with carbon dioxide to precipitate barium carbonate seeds and to form barium hydrosulfide in solution. This slurry or fresh barium sulfide solution which has been seeded is carbonated with carbon dioxide to form reactive, free-flowing barium carbonate suitable for scum prevention in structural clay and hydrogen sulfide gas.

3,421,844

METHOD OF PRODUCING HIGHLY PURE HALOGEN COMPOUNDS OF GALLIUM AND INDIUM

Ludwig Mögele, Erlangen, Germany, assignor to Siemens Aktiengesellschaft, Berlin, Germany, a corporation of Germany

No Drawing. Filed May 10, 1967, Ser. No. 637,337

Claims priority, application Germany, May 14, 1966, S 103,815

U.S. Cl. 23—87
 Int. Cl. C01g 15/00

6 Claims

Disclosed is method of producing highly-pure halogen compounds of gallium and indium of the general formula



wherein Me is gallium or indium and X is bromide or iodine. The chlorides or bromides of trivalent gallium or trivalent indium are reacted with a halide compound of the general formula RX' , wherein R is hydrogen or an alkyl radical of 1-5 C-atoms and X' is the same as X at a temperature between room temperature and the boiling temperature of the reaction mixture.

3,421,845

PRODUCTION OF SODIUM PHOSPHATES

John A. Peterson, Niagara Falls, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

Filed June 7, 1965, Ser. No. 461,749

U.S. Cl. 23—107
 Int. Cl. C01b 25/30

14 Claims

Crude phosphoric acid is treated with a reducing agent to convert metallic impurities contained in the acid to lower valence states. Crude sodium hydroxide is added at temperatures not in excess of about 100 degrees centigrade to produce a solid and a liquid phase which are separated, and pure disodium phosphates are recovered by crystallization from the liquid phase.

3,421,846

PRODUCTION OF SODIUM PHOSPHATES

George T. Miller, Lewiston, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

Filed June 7, 1965, Ser. No. 462,026

U.S. Cl. 23—107
 Int. Cl. C01b 25/30

11 Claims

The production of pure disodium phosphates by reacting phosphoric acid with crude sodium hydroxide to produce a solid phase and a liquid phase, separating the solid and liquid phases, and crystallizing disodium phosphates from the liquid phase.

3,421,847

MODIFICATION IN THE PRODUCTION OF CRYSTALLINE AMMONIUM PHOSPHATES

John Edward Such, Birmingham, and Derek Aubrey Palgrave, Doncaster, England, assignors to Electric Reduction Company of Canada Ltd., Islington, Ontario, Canada, a Canadian company

Continuation-in-part of application Ser. No. 364,210, May 1, 1964. This application Dec. 29, 1965, Ser. No. 517,309

Claims priority, application Great Britain, Jan. 14, 1965, 1,637/65; Oct. 21, 1963, 41,454/63; May 10, 1963, 18,576/63

U.S. Cl. 23—107
 Int. Cl. C01b 25/28

17 Claims

An improvement in the process for producing ammonium phosphate by reacting ammonia obtained from the destructive distillation of coal with wet process phosphoric acid, the improvement comprising reacting the ammonia with the phosphoric acid in the presence of an ammonium polyphosphate, a potassium polyphosphate, or a sodium polyphosphate.

3,421,848

PROCESS FOR THE ADVANTAGEOUS UTILIZATION OF SO_2 AND NH_3 FROM THE PRODUCTION OF NITROGEN AND PHOSPHATIC FERTILIZERS

Nicolae Popovici, 74 Strada Popa Savu; Petre Potop, 22 Strada Avram Iancu; and Liviu Brandus, 19B Strada Bujoreni; all of Bucharest, Rumania

Filed Apr. 14, 1967, Ser. No. 631,043

Claims priority, application Rumania, Apr. 16, 1966, 51,316

U.S. Cl. 23—107
 Int. Cl. C01b 25/28

7 Claims

A process of utilizing residual gaseous components of sulphuric acid production and ammonium phosphate production employed in a nitrogen and phosphatic fertilizer plant by absorbing SO_2 from the residual gases in ammonia solutions, the desorption of SO_2 from the ammonium sulfite-bisulfite which is obtained with an excess of phosphoric acid. Gases concentrated with SO_2 are obtained which are introduced in the existent sulfuric acid production process. An acid solution of ammonium phosphate free of aluminum and iron phosphate precipitates is also obtained and used for recovering ammonium from the installation producing ammonium phosphates.

3,421,849

METHOD FOR UPGRADING PEBBLE PHOSPHATE

Arthur N. Baumann, Lakeland, Fla., assignor to International Minerals & Chemical Corporation, a corporation of New York

No Drawing. Filed May 7, 1964, Ser. No. 365,805

U.S. Cl. 23—109
 Int. Cl. C01b 25/12; C01b 25/04

7 Claims

A phosphate rock of increased BPL and having desirable characteristics for use in the manufacture of phosphoric acid and superphosphate is prepared by treating pebble phosphate having a BPL in the range of 65 to 80%

and a size in the range of about $-6 + 80$ mesh with 5 to 20% by weight of phosphoric acid having a P_2O_5 content in excess of 25%. The amount and concentration of the phosphoric acid is controlled to produce a reaction product of increased BPL in the range of 75 to 85%. The reaction product is heated to a temperature in the range of 450° F. to 1400° F. to improve its physical properties, and enhance its characteristics for further manufacturing operations. The product is heated to 450° to 700° F. if it is intended for use in the manufacture of superphosphate, and should be heated in the range of from 800° to 1400° F. if it is intended to be used in the manufacture of phosphoric acid.

3,421,850

SEPARATE RECOVERY OF COPPER SULFIDE AND ZINC SULFIDE FROM AQUEOUS SOLUTIONS CONTAINING WATER-SOLUBLE SALTS OF COPPER AND ZINC

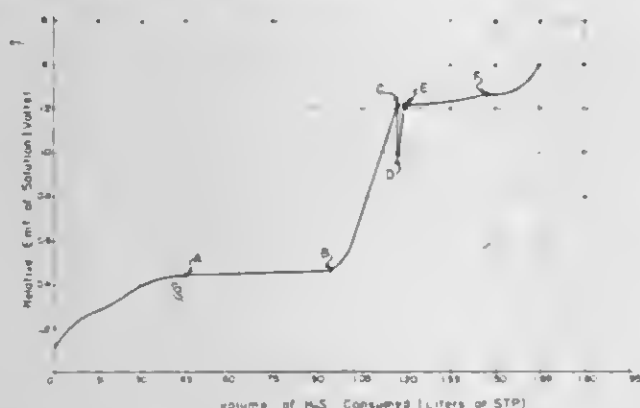
Robert C. Peterson and Herman M. Maass, Anaconda, Mont., assignors to The Anaconda Company, a corporation of Montana

Filed July 2, 1965, Ser. No. 469,145

U.S. Cl. 23—135

Int. Cl. C01g 3/12; C0g 9/08

7 Claims



Copper sulfide and zinc sulfide are recovered separately from an aqueous solution containing both copper and zinc dissolved therein. Copper sulfide is first precipitated from the solution by first adjusting the pH of the solution to below about 3.5 and then adding hydrogen sulfide gas to the solution until the solution EMF changes abruptly, whereupon the addition of H_2S is stopped and the precipitated copper sulfide is recovered from the solution. Zinc sulfide is then precipitated from the solution by adjusting the solution pH to between about 3.5 and 5.5 and then again adding H_2S gas until the solution EMF again changes abruptly, whereupon the addition of H_2S is again stopped and the precipitated zinc sulfide is recovered from the solution.

3,421,851

METHOD OF GROWING ALPHA-ALUMINA SINGLE CRYSTAL RIBBONS

James J. Shyne, Caldwell, and John V. Milewski, Saddle Brook, N.J., assignors to General Technologies Corporation, Reston, Va., a corporation of Delaware

Continuation of application Ser. No. 373,982, June 10, 1964. This application Mar. 26, 1965, Ser. No. 443,153

U.S. Cl. 23—142

Int. Cl. C01f 7/42

12 Claims

A new ribbon form of single crystal alpha-alumina is described. This form is characterized by advantageous crystallographic and geometrical properties. An improved process is described for making such a product in high yield during a short growth period. The process involves periodically increasing the water concentration of hydrogen gas passed over a melt of aluminum during growth of the ribbons. A ceramic receptacle of predetermined composition and made under certain firing conditions is described for holding the aluminum melt during the process.

PROCESS FOR TREATMENT OF ALUMINOUS ORES FOR PRODUCTION OF PURIFIED ALUMINUM OXIDE

Rene Perieres, La Tronche, and Yves de Bard, Grenoble, France, assignors to Pechiney—Compagnie de Produits Chimiques et Electrometallurgiques, Paris, France

No Drawing. Filed Aug. 8, 1966, Ser. No. 570,684

Claims priority, application France, Aug. 10, 1965, 27,826

U.S. Cl. 23—142

Int. Cl. C01f 7/02

8 Claims

1. A process for the production of solid alumina impoverished in impurities of silicon, iron and titanium, in elementary or in combined form, from an aluminous raw material containing such impurities comprising adding carbon and sulphur to aluminous raw material and heating at a temperature which is raised gradually from a minimum within the range of 200° to 1000° C. to a maximum within the range of 1200° to 1500° C., in which the amount of carbon is 1 to 1.25 times the theoretical amount required for reduction of the oxides of silicon, iron and titanium to be eliminated and in which the sulphur is present in an amount at least equal to the amount required to convert the silicon to be eliminated to silicon monosulphide but less than 1.6 times the amount necessary to convert the silicon, iron and titanium to their corresponding higher sulphides.

3,421,853

PRODUCTION OF HYDROGEN FLUORIDE FROM ALKALI- AND ALKALINE EARTH FLUOSILICATES

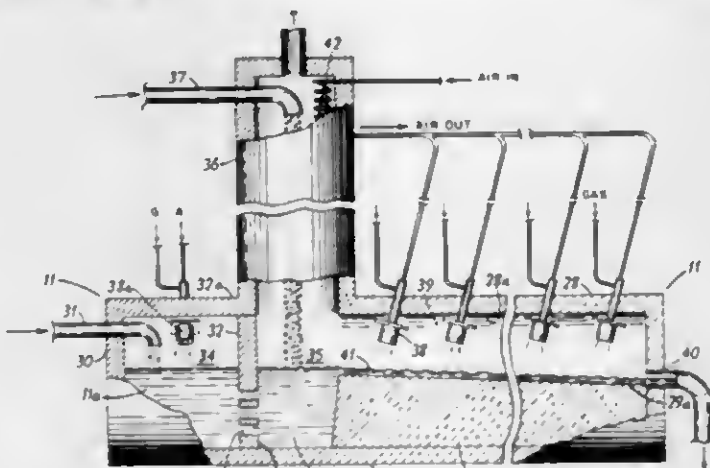
Ralph R. Hennig, Cos Cob, Conn., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed Feb. 24, 1967, Ser. No. 618,361

U.S. Cl. 23—153

Int. Cl. C01b 7/22

6 Claims



Pure hydrogen fluoride is produced by pyrolysis of an alkali- or alkaline earth metal fluosilicate dispersed in a fluid stream of molten alkali- or alkaline earth metal silicate in the presence of water vapor at temperatures between 1300° C. and 1600° C. and recovering the resulting hydrogen fluoride.

3,421,854

MANUFACTURE OF NITROGEN TETROXIDE

Joseph A. Smith, Richmond, and Richard E. Formanl, Colonial Heights, Va., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed Aug. 15, 1963, Ser. No. 302,399

U.S. Cl. 23—162

Int. Cl. C01b 21/20

2 Claims

Nitrogen tetroxide is prepared, without production of by-product nitric acid, from a gas obtained by the high temperature combustive oxidation of a nitrogen contain-

ing gas, such as by the catalytic oxidation of ammonia which results in a gas mixture that includes nitric oxide and nitrogen dioxide. The latter gas mixture is converted to nitrogen tetroxide by integrating the stages of the process which includes treatment with oxygen and with nitric acid of predetermined concentration produced during the course of the operation, the concentration being differentiated at respective stages. By appropriately recycling and

transferred to a second titration vessel, heated, and the pH is lowered to 2.0–3.5; and the sample undergoes an automatic final titration with either amidosulfuric acid or a nitrite solution, depending on whether the sample contains an excess of said acid or said nitrite.

3,421,856

METHOD AND APPARATUS FOR DETERMINING THE OXYGEN DEMAND OF OXIDIZABLE MATERIALS

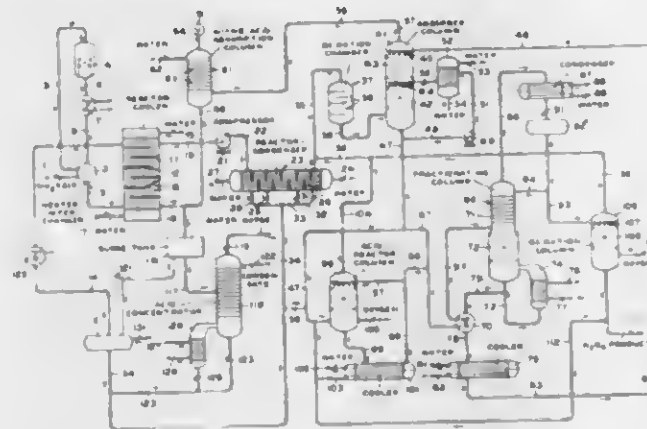
Vernon A. Stenger and Clayton E. Vanhall, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Dec. 29, 1965, Ser. No. 517,298

U.S. Cl. 23—230

Int. Cl. G01n 31/00

21 Claims



correlating nitric acid of differing concentrations, produced at several stages, for effecting the treatment of the gases with nitric acid of the desired concentration, and by recycling a portion of the nitrogen tetroxide product for admixture with concentrated nitric acid utilized at a designated stage of the operation, which is effected under regulated conditions of temperature as well as pressure, nitrogen tetroxide is prepared without the by-product production of nitric acid.

3,421,855

PROCESS AND APPARATUS FOR THE AUTOMATIC DETERMINATION AND/OR CONTROL OF THE HYDROXIDE:NITRITE RATIO IN NITRITE SOLUTIONS

Gerrit Kateman, Kurt von Morgen, and Joannes B. G. Wijenberg, Geleen, Netherlands, assignors to Stamicarbon N.V., Heerlen, Netherlands

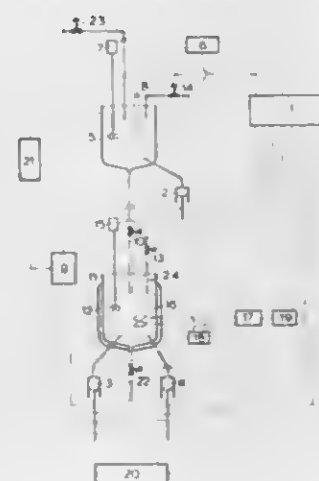
Filed Dec. 1, 1964, Ser. No. 415,140

Claims priority, application Netherlands, Dec. 2, 1963, 301,241

U.S. Cl. 23—230

Int. Cl. G01n 31/16

11 Claims



Process and apparatus for the automatic determination of the hydroxide:nitrite ratio in a nitrite solution wherein the sample undergoes an automatic preliminary titration until pH~5 is reached; the sample is then automatically

I. A method for determining the oxygen demand of a material which comprises:

flowing a feed gas stream containing carbon dioxide as essentially the sole oxidant into a combustion conduit having a heating zone at a temperature of at least 500° C. and through a catalyst bed in the heating zone of the combustion conduit, said catalyst bed being effective to promote the equilibration of carbon dioxide with oxidizable components of the material to be analyzed,

inserting a predetermined quantity of the material to be analyzed into the gas stream on the upstream side of the catalyst bed within the combustion conduit, and

sweeping gaseous product formed through the catalyst bed and effluent gas from the heating zone into an analyzer for quantitatively indicating carbon monoxide.

3,421,857

PYROLYSIS AND REACTION CHAMBER FOR GAS AND CHROMATOGRAPHY

Alfred Reichle, Martin Wandel, Heinrich Borger, and Hubert Tengler, Dormagen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

Filed Jan. 14, 1966, Ser. No. 520,587

Claims priority, application Germany, Jan. 19, 1965, F 27,355

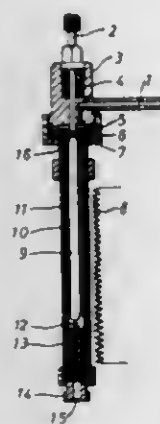
U.S. Cl. 23—253

Int. Cl. B01d 15/08

5 Claims

Pyrolysis and reaction chamber for gas chromatography including a tube closed off at its inlet end by a removable cap and at its outlet end by an inwardly projecting perforated spike spaced from the surrounding tube wall and a plunger carrying a piston-like plug axially movably mounted in the cap, so that upon insertion of a glass ampoule containing an analysis substance through said inlet end and thence closing said end by said cap and plunging said plunger into said tube to cause said plug to

shatter said ampoule against said spike, said analysis substance will be released and rapidly exhausted through said



outlet end via passage through the spike perforations under the piston-like control of said plug.

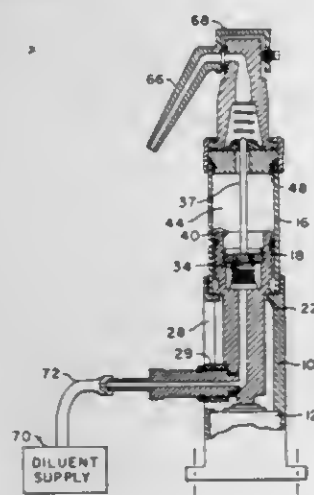
3,421,858 SAMPLING APPARATUS

Joseph F. Quinn, Wellesley, Mass., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California

Filed Dec. 7, 1965, Ser. No. 512,067

U.S. Cl. 23—253
Int. Cl. G01n 1/00

9 Claims



Fluid dilutions are made using coaxially disposed sample and diluent cylinders separated by a check valve permitting flow from the diluent to the sample cylinder. The sample chamber has a sample dispensing piston of constant cross-sectional area which extends from the sample cylinder through the diluent cylinder and is connected for reciprocatory motion to the diluent piston. The diluent chamber has a constant cross-sectional area. Reciprocation of the diluent piston successively draws a volume of sample into a sample dispensing tube connected to the sample cylinder and a volume of diluent into the diluent cylinder and then dispenses the sample and diluent in a volume ratio determined by the ratio of the cross-sectional area of the diluent cylinder to the sample piston. This ratio is independent of the stroke of the pistons.

3,421,859 INERT ATMOSPHERE GENERATOR

Roy W. Kruggel, St. Joseph, Mich., assignor to Whirlpool Corporation, a corporation of Delaware

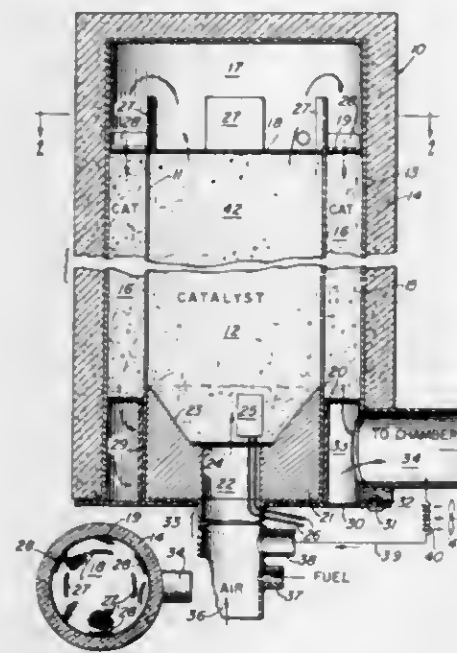
Filed Dec. 30, 1964, Ser. No. 422,210

U.S. Cl. 23—281
Int. Cl. B01f 7/00

2 Claims

A catalytic hydrocarbon fuel burner having a dual cylindrical catalyst bed whereby the two beds are spaced from each other but are in thermal contact so that the cool incoming air-fuel mixture flows through the first

bed to cool the bed and preheat the mixture and then flows through the second bed to complete the burning of the mixture. The heat from the second catalyst bed flows



to the cooler first bed thereby maintaining a predetermined temperature of the second bed while preheating the incoming mixture.

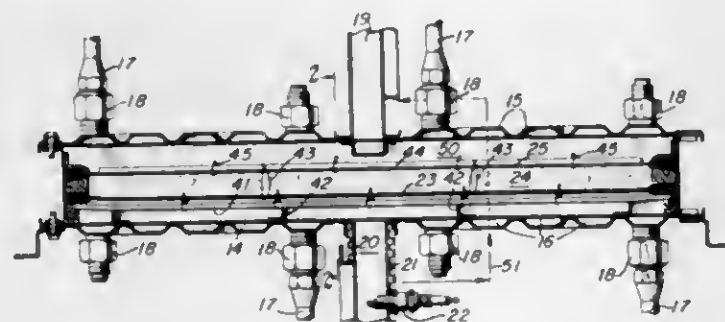
3,421,860 REACTOR FOR GENERATING A CARBON DIOXIDE RICH ATMOSPHERE

Michael J. Bottas, St. Joseph, Mich., assignor to Whirlpool Corporation, a corporation of Delaware

Filed Jan. 14, 1965, Ser. No. 425,566

U.S. Cl. 23—281
Int. Cl. B01f 7/00

4 Claims



A catalytic hydrocarbon fuel burner having confining screens above and below the catalyst bed whereby the catalyst is prevented from substantially moving by vibration or other movement of the burner.

3,421,861 PROCESS FOR THE PREPARATION OF OZONATES AND COMPOSITIONS RESULTING THEREFROM

Andrew J. Kacmarek and Irvine J. Solomon, Chicago, Ill., assignors to IIT Research Institute, Chicago, Ill., a nonprofit corporation of Illinois

No Drawing. Application Mar. 7, 1960, Ser. No. 13,382, which is a continuation-in-part of applications Ser. No. 778,540, Dec. 5, 1958 and Ser. No. 817,435, May 28, 1959. Divided and this application Apr. 1, 1965, Ser. No. 444,841

U.S. Cl. 23—315
Int. Cl. C01b 13/00

11 Claims

A method for the production of ozonates by the reaction of alkali metal hydroxides and hydroperoxides and tetramethylammonium hydroxide with ozone in the presence of ammonia resulting in higher yields. Novel compositions resulting from this method included lithium ozonate tetraammoniate and sodium ozonate pentaammoniate.

3,421,862 HIGH STRENGTH WHISKER COMPOSITE ARTICLE

James J. Shyne, Caldwell, John V. Milewski, Saddle Brook, and Charles B. Smith, Princeton, N.J., assignors to General Technologies Corporation, Reston, Va., a corporation of Delaware

No Drawing. Filed May 17, 1965, Ser. No. 456,556
U.S. Cl. 29—182.5
Int. Cl. B22f 3/00; 5/00; 7/00

2 Claims

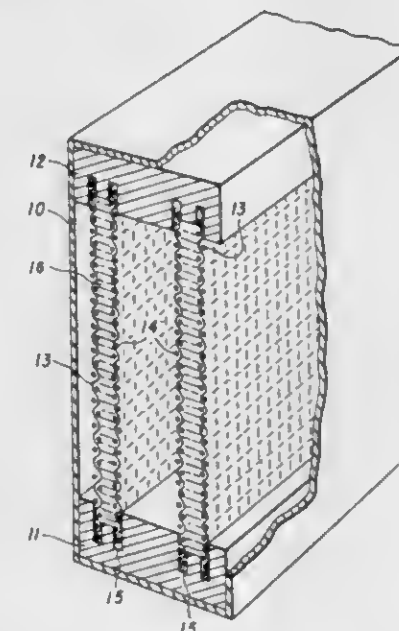
A high-strength whisker composite article is provided herein. The article includes an alloyed matrix which is wetted to single crystal, non-metallic whiskers which are distributed throughout the alloy. One such article comprises a castable alloy matrix, such as aluminum or magnesium into which is incorporated a plurality of discontinuous whiskers.

3,421,863 CERMET MATERIAL AND METHOD OF MAKING SAME

Mohendra S. Bawa, Dallas, Leslie O. Connally, Arlington, and James K. Truitt, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Mar. 4, 1966, Ser. No. 531,897
U.S. Cl. 29—182.5
Int. Cl. B22f 1/00

3 Claims



Disclosed are cermet materials formed by compression molding a mixture comprising about 80% to about 98% aluminum powder by weight and about 20% to about 2% aluminum silicate powder by weight and maintaining the molded article at a temperature of about 1,000° C. to about 1,400° C. for a period of about 4 hours to about 8 hours in an oxidizing environment. The cermet materials so formed are particularly useful as spacer members for fuel cell electrodes.

3,421,864 MULTILAYER POROUS IONIZER

Otto K. Husmann, Santa Monica, Calif., assignor, by mesne assignments, to The United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed June 7, 1965, Ser. No. 461,765

U.S. Cl. 29—182.2

Int. Cl. B22f 3/00; B22f 5/00; B22f 7/00

8 Claims

An ion source is provided comprising at least two center layers. One of these layers, the substrate, is thick and porous, and is composed of large-sized grains. The layer on the substrate is relatively thin, is porous, and has grains of micron size. Both materials are refractory metals such as tungsten.

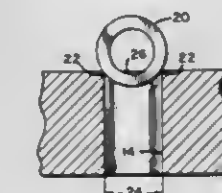
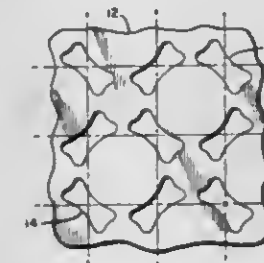
3,421,865 CORE NEST

Alan R. Hanson, Minneapolis, Paul R. Minks, Milaca, and Oliver M. Moc, St. Paul, Minn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Jan. 3, 1966, Ser. No. 518,060

U.S. Cl. 29—183
Int. Cl. C23f 1/00; G11b 5/84

5 Claims



A planar tooling jig having a plurality of apertures therethrough, or cavities therein. The jig has particular application as a core nest for aligning toroidal memory cores during the mechanized core-stringing operation. The apertures, or cavities, which are chemically machined in a single sheet, have a bone-shaped planar cross-section for providing chordal nesting of the cores and for avoiding corner radii interference.

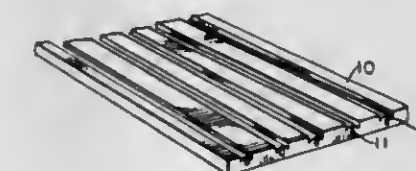
3,421,866 COMPOSITE METAL STRIPS

Earl W. Palmer, Watertown, and Roger E. Laigle and Peter J. Kabelka, Torrington, Conn., assignors to Anaconda American Brass Company, a corporation of Connecticut

Filed Jan. 5, 1966, Ser. No. 518,846

U.S. Cl. 29—191.6
Int. Cl. B32 15/00

6 Claims



1. A composite strip comprising:
 - (a) a metal strip,
 - (b) at least one elongated groove formed into one broad face of the strip,
 - (c) a wire positioned in the groove in flush contact therewith, said wire having a smaller diameter than the depth of said groove, and
 - (d) integral strip portions partially cut from the metal strip along opposite sides of the groove adjacent the

broad face of the strip infolded relative to each other and clinched about the wire to interlock the wire to the strip.

3,421,867 SATURATED ALIPHATIC HYDROCARBON GASOLINE

Robert Y. Heisler and Kenneth L. Dille, Wappingers Falls, N.Y., Marc F. Fontaine, Houston, Tex., and George W. Eckert, Wappingers Falls, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 350,650, Mar. 10, 1964. This application Mar. 3, 1966, Ser. No. 531,350

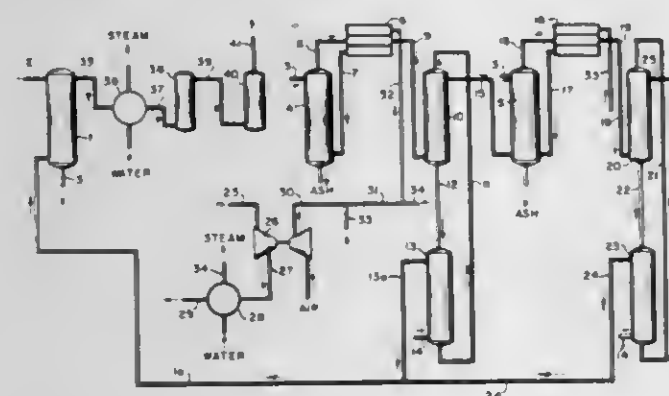
U.S. Cl. 44—66 9 Claims
Int. Cl. C101 1/14

1. A hydrocarbon fuel in the gasoline boiling range consisting essentially of saturated aliphatic hydrocarbons having a minimum research octane number with 3 cc. of tetraethyl lead per gallon of 102, said fuel containing an organo-lead anti-knock agent in a concentration of at least 0.5 cc. per gallon and 0.1 to 2.0 volume percent of an oxygenated hydrocarbon selected from the group consisting of t-alkyl esters of a hydrocarbyl monocarboxylic acid, said monocarboxylic acids containing from 1 to 30 carbon atoms, said concentration of said oxygenated hydrocarbons effecting a substantial improvement in the research octane number of said saturated aliphatic hydrocarbon fuel.

3,421,868
FREE FALL SHALE HYDROGASIFICATION
Herman F. Feldmann, Berkeley, Ill., assignor to Institute of Gas Technology, a corporation of Illinois
No Drawing. Filed Mar. 19, 1964, Ser. No. 353,278
U.S. Cl. 48—197 4 Claims
Int. Cl. C10j 1/20; C10i 3/00

A process for recovering natural gas supplements, such as methane and ethane, from oil shale wherein the mineral carbonate decomposition is greatly reduced. A free falling oil shale is passed through a reaction zone of at least about 1100° F. and at a hydrogen pressure of at least about 400 p.s.i.g. Hydrogen is simultaneously passed through the reaction zone so that oil vapor is driven from the oil shale and the oil vapor is converted into methane and ethane by the hydrogen.

3,421,869
METHOD FOR THE PRODUCTION OF A
MIXTURE OF HYDROGEN AND STEAM
Homer E. Benson, Shaker Heights, Ohio, assignor to Con-Gas Service Corporation, Cleveland, Ohio, a corporation of Delaware
Filed June 1, 1964, Ser. No. 371,447
U.S. Cl. 48—197 2 Claims
Int. Cl. C01b 1/08



A process for the production of a mixture of hydrogen and steam wherein steam and air are reacted with carbo-

naceous materials to produce a first producer gas which is then reacted with iron oxide to produce a lower iron oxide and metallic iron which in turn is reacted with steam to produce hydrogen and steam. The spent producer gas from the reaction with iron oxide is reacted with carbonaceous material and air to enrich the spent producer gas, which is thereafter reacted with iron oxide to reduce the oxide to a lower oxide and metallic iron, which are in turn reacted with steam to produce additional hydrogen and steam.

3,421,870 LOW-TEMPERATURE CATALYTIC HYDROGEN- OLYSIS OF HYDROCARBONS TO METHANE

John H. Sinfelt, Berkeley Heights, William F. Taylor, Scotch Plains, and Jerzy Dembinski, Chatham, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Feb. 17, 1964, Ser. No. 345,095
U.S. Cl. 48—213 8 Claims
Int. Cl. C01b 2/16; B01j 11/06

A catalyst of promoted Ni-Al₂O₃ or Ni-SiO₂ is used at temperatures of about 500 to about 925° F. for reacting higher hydrocarbons with hydrogen to form methane.

3,421,871
STEAM REFORMING OF HYDROCARBONS
Phineas Davies, Norton-on-Tees, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Dec. 27, 1963, Ser. No. 334,006
Claims priority, application Great Britain, Jan. 3, 1963, 423/63; May 21, 1963, 20,171/63

U.S. Cl. 48—214 4 Claims
Int. Cl. C01b 2/14

Hydrocarbons are reformed with steam to give synthesis gas or methane-containing fuel gas over a catalyst containing nickel chromite or cobalt chromite or both.

3,421,872
ELECTRICAL CONTACT CLEANER COMPOSITION
Clarence Harry Anglin, 1122 Corn Tassel Trail, Martinsville, Va. 24112

No Drawing. Filed Oct. 19, 1965, Ser. No. 498,102
U.S. Cl. 51—304 2 Claims
Int. Cl. C09g 1/02

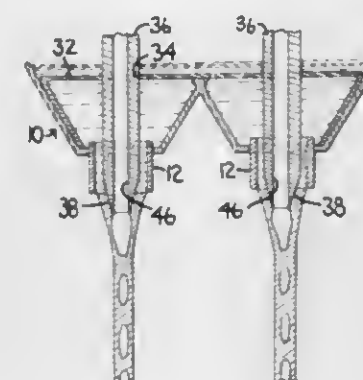
A cleaning and polishing composition for electrical contacts and the like comprised of a mixture of powdered graphite, pumice and bodied grease of selected viscosity.

3,421,873
METHOD AND APPARATUS FOR PRODUCING AN
INTERMITTENTLY HOLLOW GLASS FILAMENT
Jerome A. Burgman, 572 Idlewood Road, Pittsburgh, Pa. 15235, and Lester L. Margason, R.R. 1, Cheswick, Pa. 15024
Filed Mar. 17, 1966, Ser. No. 535,057

U.S. Cl. 65—1 2 Claims
Int. Cl. C03b 37/00

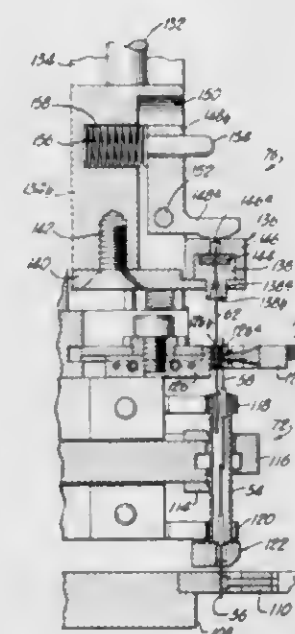
1. Apparatus for producing intermittent hollow and solid fibers comprising a source of molten glass, a bushing having a plurality of orifices therethrough for the passage of streams of glass from said source, a plurality of hollow tubes each extending into an orifice and being arranged substantially concentrically with its respective orifices, each tube extending beyond the terminus of its respective orifice and restricting its respective orifice to an annulus, a source of gas, means connecting each hollow tube to said gas source for discharge through each tube

and into a central area of a glass stream, means to intermittently supply gas to each tube so as to form intermit-



tently hollow glass streams, and means to attenuate said streams of glass into fibers.

3,421,874
APPARATUS FOR MAKING PRESSURIZED
REED SWITCHES
Harry Chanowitz, Skokie, Ill., assignor to C. P. Clare & Company, Chicago, Ill., a corporation of Delaware
Filed Jan. 17, 1966, Ser. No. 521,078
U.S. Cl. 65—155 12 Claims
Int. Cl. C03c 27/04; H01b 11/00

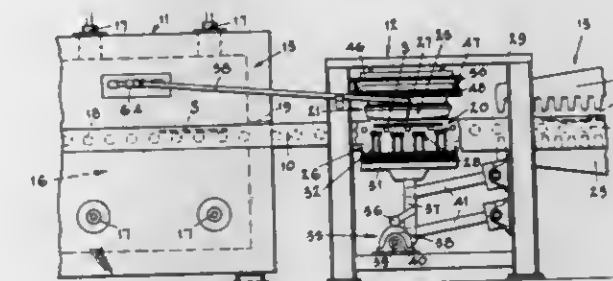


A machine for making pressurized reed switches includes a tubulation cutter which severs a section of tubulation from a length thereof and transfers the cut section to a point adjacent the path of travel of a switch making head. A tubulation holder on the head picks up the cut section and inserts it into one end of a glass tube adjacent one of the reeds. After the two ends of the glass tube are sealed, a controlled atmosphere is introduced through the tubulation, and the tubulation is then welded closed.

3,421,875
APPARATUS FOR BENDING GLASS SHEETS
William Kirkman, Ottawa, Ill., assignor to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio

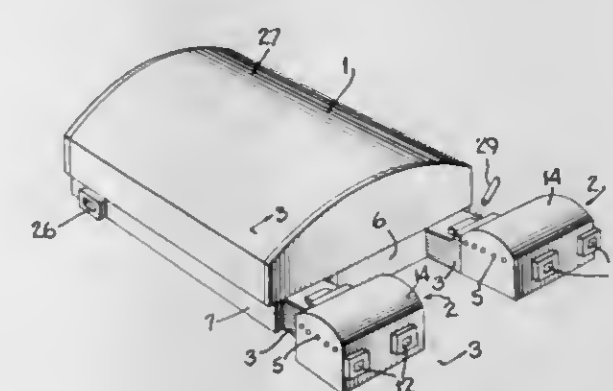
Filed Sept. 13, 1965, Ser. No. 486,904
U.S. Cl. 65—273 7 Claims
Int. Cl. C03b 23/02

Apparatus for heating the male mold member of a press bending apparatus in which pressurized gas is piped first through the bending furnace where it absorbs heat and



then to an air chamber formed behind the mold member. According to another aspect of the invention orifices are

3,421,876
GLASS FURNACE WITH TWO SEPARATE
THROAT PASSAGES
Beuther L. Schmidt, Fairfield County, Ohio, assignor to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware
Filed Nov. 4, 1965, Ser. No. 506,384
U.S. Cl. 65—346 5 Claims
Int. Cl. C03b 5/16



An improved glass furnace having two or more separate flow passages or throats in the front wall of the melting chamber each connecting with its own refining chamber. The passageways are positioned along the front wall and particularly at the corners to permit free flow of the glass from the melting chamber to avoid stagnant areas therein and are appropriately spaced to permit easy access to all the walls for making repairs. Adjustable skimming means are provided in the passageways and colorants may be added at one or all of the passages to produce different colored glasses from the same batch.

3,421,877
METHOD OF PRECIPITATING POTASH FROM A
PHOSPHATE MIXTURE
Maria G. Dunseth, Phoenix, and Murrell L. Salutsky, Silver Spring, Md., assignors, by direct and mesne assignments, of one-half each to W. R. Grace & Co., New York, N.Y., and the United States of America as represented by the Secretary of the Interior

No Drawing. Filed Apr. 19, 1965, Ser. No. 449,341
U.S. Cl. 71—36 2 Claims
Int. Cl. C05b 7/00

A mixture of magnesium potassium phosphate, sodium phosphate and calcium phosphate is contacted with potassium chloride solution to effect the formation of a phosphate precipitate rich in potassium.

3,421,878

AMMONIUM NITRATE-CALCIUM CARBONATE FERTILIZER MIXTURE

Leonard W. Zahnstecher, Livingston, N.J., assignor to Foster Wheeler Corporation, a corporation of New York

No Drawing. Filed Apr. 6, 1966, Ser. No. 540,527
U.S. Cl. 71-60 6 Claims
Int. Cl. C05c 1/02; C05c 3/00

A process for the production of a granular mixed composition of a fertilizer containing ammonium nitrate and calcium carbonate by adding solid calcium carbonate to a solution of ammonium nitrate for forming a uniform slurry and mixing an additive such as a solid compound selected from the group consisting of ammonium sulfate and potassium sulfate, and drying the mixture to form a granular mixed composition.

3,421,879

METHOD FOR PREPARING A SLURRY FERTILIZER

Andrew B. Funk, Memphis, Tenn., and Casimer C. Legal, Jr., and Alvin Richmond, Baltimore, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed Oct. 7, 1965, Ser. No. 493,929
U.S. Cl. 71-64 6 Claims
Int. Cl. C05b 1/16

A method for preparing a slurry fertilizer which may be stored in a substantially static state for prolonged periods of time as a colloidal gel. The gel is refluidized at the end of the storage period for distribution of the fertilizer. The method comprises acidulating phosphate rock to a citrate soluble phosphate level of at least 85 percent and ammoniating the acidulate to a colloidal susceptible pH range between 6.5 and 7.5. The slurry is next agitated to gelation. At the end of the storage time the gelled mass is refluidized by introducing anhydrous ammonia into the gelled mass until the mass returns to a liquid slurry consistency.

3,421,880

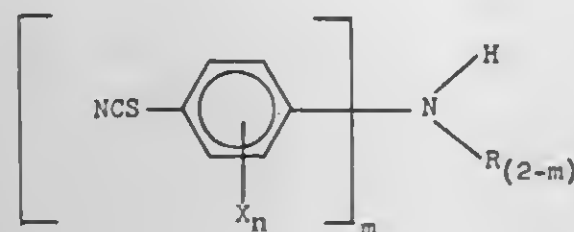
AQUATIC HERBICIDE

Dorsey R. Mussell, Clare, and Theodore W. Holmsen, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 505,955, Nov. 1, 1965. This application Feb. 6, 1967, Ser. No. 614,021

U.S. Cl. 71-66 12 Claims
Int. Cl. A01m 9/18; C07c 161/02

The present invention is concerned with methods and compositions for controlling the growth of aquatic plants. These methods employ, and the compositions comprise, an active agent which is a thiocyanatoaniline compound of the formula



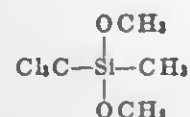
wherein R represents hydrogen, methyl, or acetyl; each X independently represents methyl, fluoro, chloro, bromo, or iodo; and each of m and n independently represents an integer of from 1 to 2, both inclusive; or

its salt with hydrochloric, hydrobromic, sulfuric, or phosphoric acid.

3,421,881

METHOD FOR MODIFYING THE GROWTH CHARACTERISTICS OF PLANTS

John K. Leasure, Carbondale, Ill., and Dorsey R. Mussell, Clare, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed May 11, 1966, Ser. No. 549,175
The portion of the term of the patent subsequent to May 11, 1982, has been disclaimedU.S. Cl. 71-79 2 Claims
Int. Cl. A01n 5/00; A01n 9/60

Applied to living plants and their parts alters or inhibits growth or kills the plants.

3,421,882

WATER DISPERSIBLE POWDERED PESTICIDE CONCENTRATES

Eugene P. Ordas, Gary, Ind., assignor to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Aug. 12, 1965, Ser. No. 479,336
U.S. Cl. 71-100 6 Claims
Int. Cl. A01n 9/12

1. A wettable powder, pesticide concentrate consisting essentially of a water insoluble, solid pesticide; a water soluble, solid diluent therefor selected from the group consisting of ammonium salts and alkali metal salts of inorganic chlorides, inorganic phosphates and inorganic sulfates; and a surfactant.

3,421,883

PESTICIDAL PREPARATION AND METHOD OF USE

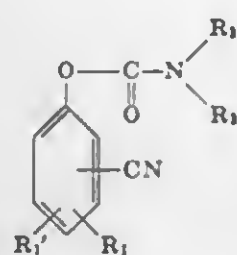
Otto Rohr, Neu-Altschwil, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a Swiss company

No Drawing. Original application Jan. 23, 1964, Ser. No. 339,818, now Patent No. 3,329,702, dated July 4, 1967. Divided and this application Mar. 20, 1967, Ser. No. 635,286

Claims priority, application Switzerland, Jan. 29, 1963, 1,086/63

U.S. Cl. 71-105 4 Claims
Int. Cl. A61k 13/00; A01n 9/22

A pesticidal preparation, more especially an insecticidal, herbicidal and microbicidal preparation, which comprises as active substance a compound of the general formula



(1)

wherein R₁ and R₁' are identical or different and each represents a hydrogen atom, a halogen atom, preferably a chlorine atom, an alkoxy radical containing 1 to 4 car-

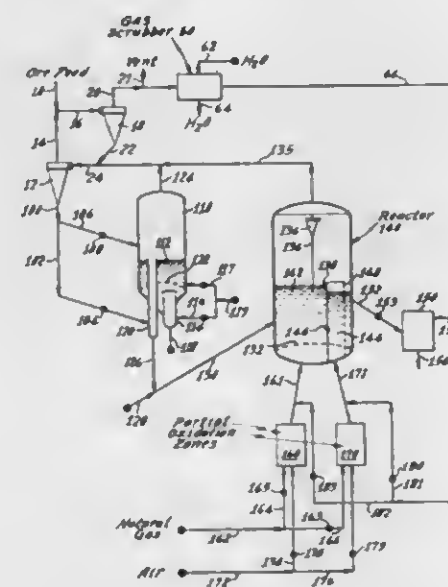
bon atoms or the group —NO₂, R₂ represents a hydrogen atom or an alkyl radical containing 1 to 4 carbon atoms, and R₃ represents an alkyl radical containing 1 to 4 carbon atoms—and, if desired, one or more of the following additives: a solvent, a diluent, a dispersing agent, a wetting agent, an adhesive and other pesticides.

3,421,884

METHOD FOR CARRYING OUT GAS-SOLIDS REACTIONS

Robert W. Pfeiffer, Bronxville, N.Y., and Luther W. Garrett, Jr., Allison Park, Pa., assignors to Pullman Incorporated, Chicago, Ill., a corporation of Delaware

Original application Dec. 7, 1964, Ser. No. 416,541, now Patent No. 3,276,858, dated Oct. 4, 1966. Divided and this application Feb. 18 1966, Ser. No. 528,594

U.S. Cl. 75-1 5 Claims
Int. Cl. C01g 49/08; C22b 1/10

A process is disclosed for the reduction of iron-containing materials, wherein the reduction is carried out in two or more zones and wherein substantial reductions in the overall solids residence times are achieved.

3,421,885

METHOD AND COMPOSITION FOR PRODUCING EXOTHERMIC REACTIONS

Arthur Adler, Easton, Pa., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 83,142, Jan. 17, 1961. This application Aug. 20, 1965, Ser. No. 481,430

U.S. Cl. 75-27 26 Claims
Int. Cl. C21b 15/02

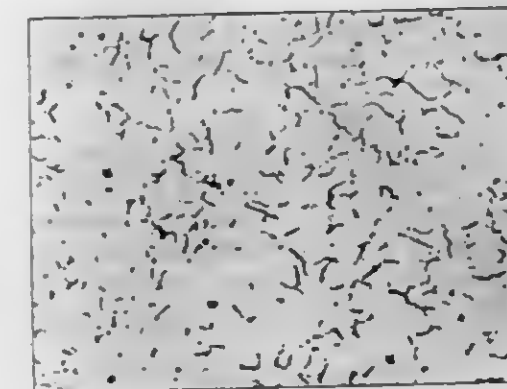
1. In a method for producing exothermic reactions, the steps comprising providing a mixture of ingredients containing a first reagent selected from the group consisting of carboxylic acids of 2 to 10 carbon atoms and salts thereof, a second reagent selected from the group consisting of oxidizing acids and salts thereof, and a metallic element in combined form, said element being selected from the group consisting of those of atomic number at least 24 of the Groups I-B, II-B, III-A, IV-A, V-A, VI-A, VI-B, VII-B and VIII of the Periodic Table and thorium and uranium, the sum of the concentrations of said first and second reagents being selected to provide at least one molar equivalent per mole of said metallic element and a molar ratio of said first to said second reagent of at least about 0.2 and less than about 10 after vaporization of any excess volatile reagent, heating said mixture for a time at least sufficient to boil off volatile components and to form a viscous liquid, and cooling said viscous liquid, to a solid glassy mass capable of decomposing exothermically when heated to elevated temperature.

3,421,886

CAST IRON WITH AT LEAST 50% OF THE GRAPHITE IN VERMICULAR FORM AND A PROCESS FOR MAKING SAME

Robert Douglas Schelleng, Ramapo, N.Y., assignor to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware

Continuation-in-part of application Ser. No. 453,223, May 4, 1965. This application Mar. 13, 1968, Ser. No. 713,280

U.S. Cl. 75-123 7 Claims
Int. Cl. C21c 1/00

A graphitic cast iron consisting essentially of about 2% to about 4% carbon, about 1.5% to about 3.5% silicon, up to about 36% nickel, about 0.005% to about 0.06% magnesium, about 0.001% to about 0.015% of a metal from Group III-B of the periodic table, about 0.15% to about 0.5% titanium, with said magnesium, Group III-B metal and titanium contents being effective to control the occurrence of graphite in said cast iron predominantly in the vermicular form and the balance of said cast iron being essentially iron with other elements and impurities in small amounts which do not materially interfere with the occurrence of graphite in said vermicular form. A process for making said cast iron is also claimed.

3,421,887

PROCESS FOR PRODUCING A MAGNESIUM-CONTAINING SPHERICAL GRAPHITE CAST IRON HAVING LITTLE DROSS PRESENT

Kazuji Kusaka, Fujisawa, Japan, assignor to Kusaka Rare Metal Products Co. Ltd., Tokyo, Japan

No Drawing. Continuation of application Ser. No. 399,270, Sept. 25, 1964. This application May 29, 1967, Ser. No. 642,239

Claims priority, application Japan, Sept. 30, 1963, 38/51,706

U.S. Cl. 75-130 7 Claims
Int. Cl. C22c 33/00

A two step process for producing a magnesium-containing spherical graphite cast iron having only a small amount of dross present. In the first step, a magnesium alloy is added to molten cast iron, and in the second step, an additive consisting of a mixture of a calcium-silicon alloy and alkali metal fluorides, alkaline earth metal fluorides, or rare earth metal fluorides is added to the molten cast iron.

3,421,888

COPPER ALLOY

Matt J. Saarivirta, Marquette, Mich., assignor, by mesne assignments, to Calumet & Hecla Corporation, Evans-

ton, Ill., a corporation of Delaware

No Drawing. Filed Aug. 12, 1966, Ser. No. 571,983
U.S. Cl. 75-159 3 Claims
Int. Cl. C22c 9/00

1. A copper base alloy having good responses to precipitation hardening and cold working consisting essentially of: about 0.4-1.5% chromium, about 0.3-0.9%

titanium, about 0.1–0.8% nickel, about 0.02–0.16% phosphorus, and substantially the entire remainder a member of the class consisting of initially oxygen free and deoxidized copper, the amount ratio of nickel to phosphorus being about 5 of nickel to 1 of phosphorus and the amount of titanium being about 1–1.7 times the sum of the amounts of nickel plus phosphorus, the percentages and amounts being by weight.

3,421,889

MAGNETIC RARE EARTH-COBALT ALLOYS
Werner Ostertag, Yellow Springs, and Karl J. Strnat, Dayton, Ohio, assignors to the United States of America as represented by the Secretary of the Air Force
No Drawing. Filed Jan. 13, 1966, Ser. No. 520,840
U.S. Cl. 75—170 2 Claims
Int. Cl. C22c 19/00; C01g 51/00

Magnetic intermetallic compounds of the general formula R_2Co_{17} consisting essentially of 85 to 95 atomic percent cobalt and where R is a member selected from the group consisting of cerium, praseodymium, neodymium, samarium, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, ytterbium, lutetium, yttrium, and lanthanum.

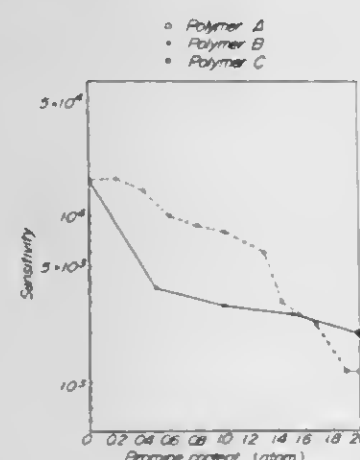
3,421,890

FUSED CORROSION RESISTANT COBALT-CHROMIUM ALLOY
Anton Bäumel, Lank (Lower Rhine), Germany, assignor to Gebr. Böhler & Co. Aktiengesellschaft, Vienna, Austria
No Drawing. Filed Aug. 29, 1966, Ser. No. 575,532
Claims priority, application Austria, Sept. 3, 1965, A 8,071/65 6 Claims
U.S. Cl. 75—171
Int. Cl. C22c 19/00

A fused corrosion resistant cobalt-chromium alloy which is to be affixed to a metallic article by means of a welding process. Other constituents of the alloy include carbon, silicon, manganese, tungsten, molybdenum, copper, nickel and elements from the class which consists of columbium, tantalum and vanadium.

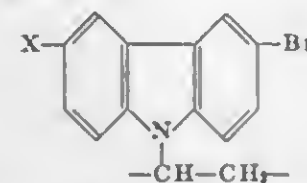
3,421,891

ELECTROPHOTOGRAPHIC MATERIALS COMPRISING BROMINATED POLY-N-VINYL CARBAZOLES
Akira Inami, Hirakata-shi, Kazuhisa Morimoto, Osaka, and Yoshinobu Murakami, Hirakata-shi, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Kadoma-shi, Osaka, Japan, a corporation of Japan
Filed June 14, 1965, Ser. No. 463,612
Claims priority, application Japan, June 18, 1964, 39/34,908, 39/34,910; Oct. 13, 1964, 39/58,871
U.S. Cl. 96—1.6 11 Claims
Int. Cl. G03g 5/00



This photosensitive material for electrophotography

comprises a polymer including recurring units represented by the general formula

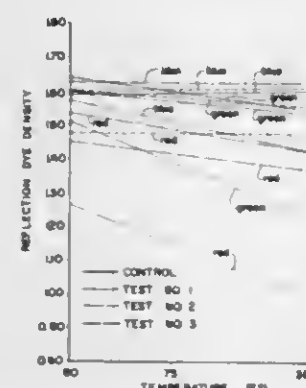
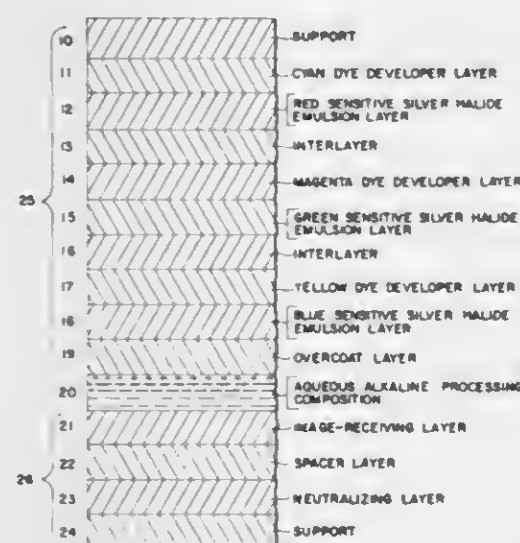


in which X represents a member selected from hydrogen and bromine, and said polymer is selected from the group consisting of poly-3,6-dibromo-9-vinylcarbazole, copolymers of 3,6-dibromo-9-vinylcarbazole and a vinyl monomer, and brominated poly-9-vinyl carbazole.

3,421,892

NOVEL PHOTOGRAPHIC PRODUCTS AND PROCESSES

Lloyd D. Taylor, Everett, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed May 26, 1967, Ser. No. 641,669
U.S. Cl. 96—3 42 Claims
Int. Cl. G03c 7/00



A sensitive photographic element for diffusion transfer color systems wherein two of its sensitized layers containing dye image-forming material soluble and diffusible in alkali are separated from each other by a layer comprising a polyvinyl amide.

3,421,893

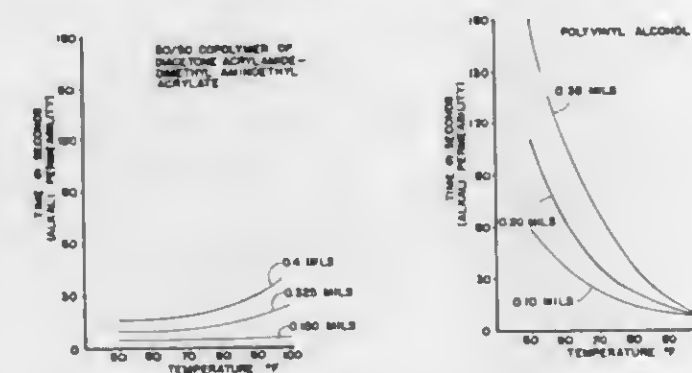
ACRYLIC POLYMER SPACER LAYERS FOR PHOTOGRAPHIC ELEMENTS

Lloyd D. Taylor, Everett, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed May 26, 1967, Ser. No. 641,670
U.S. Cl. 96—29 26 Claims
Int. Cl. G03c 5/54

Novel image receiving elements for diffusion transfer

color processes which include polymeric layers which maintain the high pH concentration necessary during de-

velopment by their temperature-related permeability to alkaline solutions.

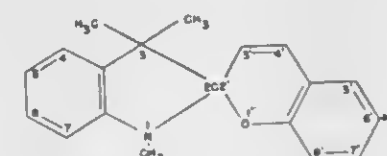
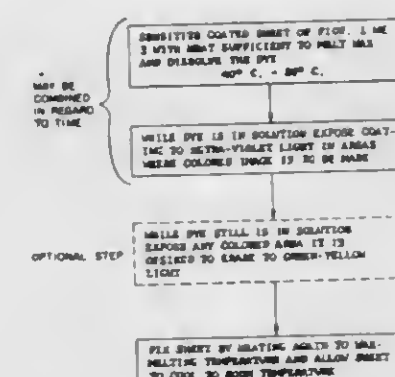
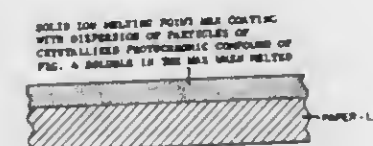


velopment by their temperature-related permeability to alkaline solutions.

3,421,894

RECORDING PROCESS UTILIZING 6'-NITRO-1,3,3-TRIMETHYL-BENZOINDOLINOSPIROPYRAN DISPERSED IN HEAT-MELTABLE WAX

Henry H. Baum, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Jan. 13, 1966, Ser. No. 520,325
U.S. Cl. 96—48 6 Claims
Int. Cl. G03c 5/16

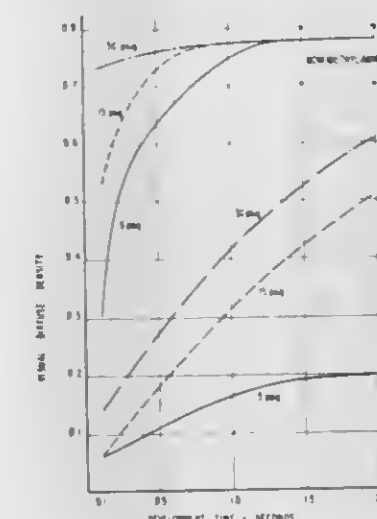


This invention relates to a process for using a record sheet sensitized by a layer of heat-meltable wax having dispersed in it the compound 6'-nitro-1,3,3-trimethylbenzoindolinospirpyran, by first heating the layer to fuse it, then subjecting the heated layer to an ultraviolet light

3,421,895

PROCESS FOR DEVELOPING DIAZOTYPE MATERIALS

Frank W. Haining, Vestal, Bernard I. Halperin, Glen Aubrey, and James O. Thompson, Endwell, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Dec. 23, 1965, Ser. No. 515,857
U.S. Cl. 96—49 9 Claims
Int. Cl. G03c 5/22



1. A method for developing a two-component diazo-type element comprising contacting said element with vapors of a lower aliphatic amine compound at a pressure above about 5 p.s.i.g. for a period sufficient to yield a visible image.

3,421,896

PREVENTION OF SILVER OCCCLUSION IN COLOR PHOTOGRAPHY

Alex P. Altavilla, Johnson City, N.Y., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Continuation of application Ser. No. 337,528, Jan. 14, 1964. This application Aug. 3, 1967, Ser. No. 658,295
U.S. Cl. 96—55 5 Claims
Int. Cl. G03c 1/40

Prevention of silver occlusion in the bleaching and fixing for color development of photographic silver halide emulsions containing hydrophilic color formers including solubilizing groups, by incorporating in the emulsion prior to coating on a film base poly-N-vinyl-5-methyl-2-oxazolidinone having a Sikentscher K value of about 10 to 50.

3,421,897

METHOD OF PREPARING FOOD SUPPLEMENT
James R. Simmons, Chicago, and Arthur Rapport, Glen-coe, Ill., assignors to Simmons Milk Products, Inc., a corporation of Illinois

No Drawing. Filed May 19, 1965, Ser. No. 457,214
U.S. Cl. 99—2 5 Claims
Int. Cl. A23c 21/00

Production of a food supplement by incubating a condensed cultured whey having a major proportion of solids content with an iron-containing carrier until at least 0.5 weight percent iron is extracted from the carrier into the whey to provide a usable iron supplement in the whey.

3,421,898

PRODUCT AND PROCESS OF FEEDING RUMINANTS FEED CONTAINING ETHOXYLATED ALCOHOLS TO PROMOTE GROWTH
Eugene S. Erwin, Tolleson, Ariz., and Gino J. Marco, Webster Groves, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 286,172, June 7, 1963. This application Dec. 20, 1966, Ser. No. 603,183
U.S. Cl. 99—2
Int. Cl. A23k 1/16
The growth of ruminants is stimulated by feeding the ruminants a feed composition containing an ethoxylated alcohol of the formula



wherein R is alkyl of at least 9 and not more than 20 carbon atoms and n is an integer of at least 2 and not more than 20.

3,421,899

FISH BAIT AND METHOD OF MAKING THE SAME
Robert E. Humphreys, Franklin Township, Butler County, Pa., assignor to Angler Products, Inc., a corporation of Pennsylvania
Filed Mar. 5, 1965, Ser. No. 437,382
U.S. Cl. 99—3
Int. Cl. A23j 3/00; A01k 85/00
Edible fish bait formed from a homogeneous protein gel which has been combined with a hardening and toughening agent so that it will be retained on a hook, but by its slow solubility releases fish-attracting substances in the water.

3,421,900

PROCESSES FOR PREPARATION OF A CHICK GROWTH FACTOR FROM FISH SOLUBLES AND THE RESULTING PRODUCT
Edward Luther Stephenson, R.F.D. 8, Fayetteville, Ark. 72701
No Drawing. Filed Mar. 23, 1965, Ser. No. 442,168
U.S. Cl. 99—7
Int. Cl. A23k 1/10; A23k 1/18
Preparation of chick growth promoting substances by first dialyzing condensed fish solubles or extracts thereof. The dialysate is then subjected to electrophoresis and the fractions selected from the anode side are then fractionally crystallized from acetone and/or methanol to yield the growth factor in crystalline form.

3,421,901

PRODUCING AROMATIC SOLUBLE COFFEE
James P. Mahlmann, Wayne, Norman R. Migdol, Carteret, and William W. Kaleda, Washington Township, N.J., assignors to General Foods Corporation, White Plains, N.Y., a corporation of Delaware
No Drawing. Continuation of application Ser. No. 453,470, May 5, 1965. This application July 5, 1966, Ser. No. 562,917
U.S. Cl. 99—7
Int. Cl. A23f 1/08
A bed of roasted and ground coffee is steamed under atmospheric conditions to release aromatic vapors, only those vapors released at temperatures of above 180° F. are collected. These aromas are then combined with coffee oil and added to the extract obtained from the steamed coffee. This aromatized extract when freeze-dried under controlled conditions produces a soluble coffee having a flavor and aroma similar to roasted and ground coffee and will produce a unique gas chromatographic spectrum not produced by any other coffee.

3,421,902

RICE MILLING PROCESS
Truman B. Wayne, P.O. Box 13086, Houston, Tex. 77019
Continuation-in-part of applications Ser. No. 308,560, Sept. 12, 1963, Ser. No. 408,702, Nov. 3, 1964, and Ser. No. 107,505, May 4, 1961. This application Feb. 24, 1966, Ser. No. 529,814
U.S. Cl. 99—80
Int. Cl. A23i 1/10; B02 5/02
11 Claims

1. An improved process for extractive milling of brown rice comprising wetting brown rice with full miscella; milling bran softened by the full miscella from kernels of the rice with rice grains in intimate rubbing contact and with pressure on each other; during the milling step passing a stream of full miscella through rice undergoing milling thereby extracting additional oil from the rice and bran; controlling the rate of flow of full miscella through the rice in the milling step to flush a major proportion of removed bran from the rice kernels; separately withdrawing a rice kernel fraction containing a minor proportion of removed bran, and a bran-miscella slurry from the milling step; passing the withdrawn bran-miscella slurry to a settling step; recycling settled full miscella to the milling step; separately passing the withdrawn rice fraction through a series of rice washing and extraction steps wherein flow of rice is countercurrent to flow of fresh solvent; desolventizing the resulting washed rice fraction; passing a settled bran fraction from the settling step through a series of bran washing and extraction steps countercurrent to a weak miscella withdrawn from a first step in said series of rice washing and extraction steps; and desolventizing the resulting washed bran fraction.

3,421,903

PROCESS FOR IMPROVING THE TENDERNESS, COLOR AND RICHNESS OF MEAT
Beverly E. Williams, 716 N. La Grange Road, La Grange Park, Ill. 60525
No Drawing. Filed Dec. 2, 1965, Ser. No. 511,236
U.S. Cl. 99—107
Int. Cl. A23i 3/34
1 Claim

An aqueous solution containing gelatin, a proteolytic enzyme, and a buffer for the enzyme is stitch pumped into the muscles of freshly slaughtered animals. The buffer is sugar or sodium chloride or a mixture of sugar and sodium chloride and the temperature of the solution is from 100° F. to 140° F.

3,421,904

CHEESE, PHOSPHATE AND POLYGLYCERYL PARTIAL ESTER COMPOSITION
Charles W. Tatter, Homewood, and Peter P. Noznick, Evanston, Ill., assignors to Beatrice Foods Co., Chicago, Ill., a corporation of Delaware
No Drawing. Filed June 11, 1965, Ser. No. 463,374
U.S. Cl. 99—117
Int. Cl. A23c 19/12; A23c 19/14
Emulsified cheese compositions are prepared by admixing water, a water soluble nontoxic phosphate, a fermented type cheese and a polyglyceryl partial ester of a higher fatty acid. The product can be spray dried.

3,421,905

METHOD FOR IMPROVING AND INCREASING THE FLAVOR OF FOODS BY THE ADDITION OF DEOXYNUCLEOSIDES
Mao Hsun Yueh, Minneapolis, Minn., assignor to General Mills, Inc., a corporation of Delaware
No Drawing. Filed Apr. 4, 1966, Ser. No. 539,622
U.S. Cl. 99—140
Int. Cl. A23i 1/26
8 Claims

1. Process for enhancing the flavor of food products which comprises adding thereto a deoxyribonucleoside in a flavor enhancing amount.

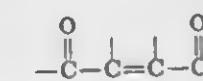
3,421,906

COFFEE STABILIZATION
Ismar M. Reich, Stamford, Conn., and Alexander S. Cascone, Yonkers, N.Y., assignors to Coffee Instant, Inc., a corporation of New York
No Drawing. Filed Sept. 3, 1964, Ser. No. 394,323
U.S. Cl. 99—152
Int. Cl. A23f 1/04; A23f 1/06
2 Claims
Stabilization of the flavor and aroma of processed coffee products without introducing objectionable aromas and flavors so that the desirable quality of freshly roasted coffee may be retained. The processed coffee having vapors of a stabilizing agent providing sulfur dioxide associated therewith and vapors of ammonia so that any acrid odor resulting from the sulfur dioxide is reduced to a tolerable level.

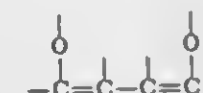
3,421,907

SILICEOUS COMPOSITIONS CONTAINING WATER SOLUBLE INDIGOID COMPOUNDS AS STABILIZERS
Robert L. Rusher, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 369,617, May 22, 1964. This application Dec. 20, 1967, Ser. No. 691,944
U.S. Cl. 106—14
Int. Cl. B28b 7/36; C04b 35/14
19 Claims

The evolution of gas from an aqueous dispersion of granular fused silica and colloidal silica or an aqueous zinc-alkali metal silicate composition can be inhibited by adding to the dispersion a small amount of a water-soluble indigoid compound containing a chromophore grouping selected from



and



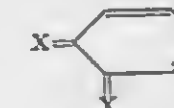
3,421,908

SILICEOUS COMPOSITIONS CONTAINING WATER SOLUBLE QUINOID COMPOUNDS AS STABILIZERS
Robert L. Rusher, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 369,616, May 22, 1964. This application Dec. 20, 1967, Ser. No. 691,981
U.S. Cl. 106—14
Int. Cl. B28b 7/36; C04b 35/14
25 Claims

The evolution of gas from an aqueous dispersion of granular fused silica and colloidal silica or an aqueous zinc-alkali metal silicate composition can be inhibited by adding to the composition a small amount of a water-soluble quinoid compound containing a grouping selected from



and



wherein X is selected from oxygen, sulfur, N-R, and salts of N-R, where R is hydrogen, aliphatic or aromatic.

3,421,909

SILICEOUS COMPOSITIONS CONTAINING AZO AROMATIC COMPOUNDS AS STABILIZERS
Robert L. Rusher, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 369,589, May 22, 1964. This application Dec. 20, 1967, Ser. No. 691,982
U.S. Cl. 106—14
Int. Cl. B28b 7/36; C04b 35/14
26 Claims

The evolution of gas from an aqueous dispersion of granular fused silica and colloidal silica or an aqueous zinc-alkali metal silicate composition can be inhibited by adding to the composition a small amount of an azo aromatic compound.

3,421,910

STENCIL DUPLICATING PASTE INK
John L. Gilson, Morton Grove, and Gall V. Larson, Glen Ellyn, Ill., assignors to A. B. Dick Company, Niles, Ill., a corporation of Illinois
No Drawing. Filed Nov. 10, 1964, Ser. No. 410,314
U.S. Cl. 106—14.5
Int. Cl. C09d 11/00
13 Claims

An emulsion paste ink for stencil duplication having a mineral oil content consisting of one portion having an API number less than 26 and preferably within the range of 20-23 and a separate portion having an API number above 32 and preferably within the range of 32-37 whereby more stable ink of improved characteristics is secured. Aside from the combination of mineral oils, the ink composition is formulated to contain petroleum sulfonate, tinctorial agents, a surface active agent, and a polyol with water making up the remainder.

3,421,911

PLASTICIZER FOR SULFUR ROAD MARKING MATERIAL

Carl C. Greco, Bronx, N.Y., and Stanley B. Mirviss, Stamford, Conn., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Aug. 22, 1966, Ser. No. 573,864
U.S. Cl. 106—19
Int. Cl. C09d 11/00
8 Claims

Plasticized sulfur road-marking compositions are prepared by reacting a major amount of elemental sulfur and a minor amount of diacyl disubstituted glycol polysulfide plasticizer.

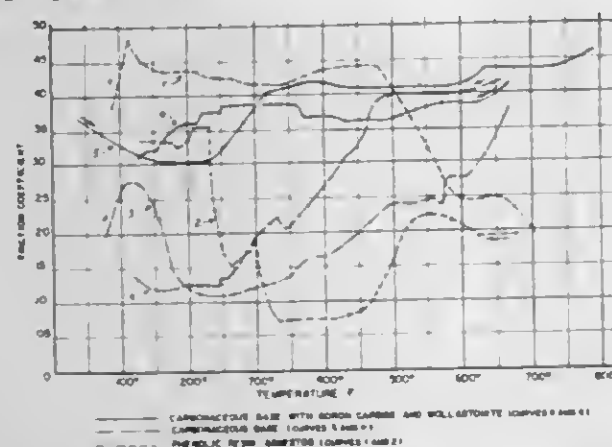
3,421,912

PREVENTION OF GASSING IN INKS AND COATINGS CONTAINING NITROCELLULOSE

Sherman L. Boles, Jr., Short Hills, N.J., assignor to Interchemical Corporation, New York, N.Y., a corporation of Ohio
No Drawing. Filed Mar. 26, 1965, Ser. No. 443,061
U.S. Cl. 106—26
Int. Cl. C09d 11/14; C09d 3/16
3 Claims

Printing ink and coating compositions composed of a pigment dispersed in a solution of nitrocellulose and trihexylene glycol diborate in an oxygenated solvent. The addition of trihexylene glycol diborate prevents the formation of gases due to the interaction of nitrocellulose with other ingredients of the composition.

3,421,913
METHOD OF STABILIZING FRICTION COEFFICIENT OF CARBONACEOUS BASE MATERIALS AND THE PRODUCTS THEREOF
 John B. Falcettoni, Kersey, Pa., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
 Filed Nov. 12, 1964, Ser. No. 410,634
 U.S. Cl. 106—36 3 Claims
 Int. Cl. C09k 3/14

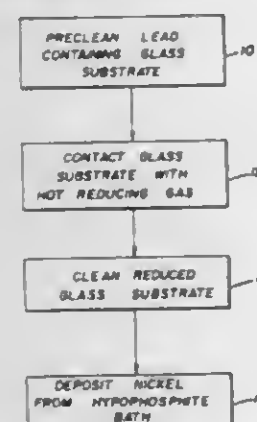


A method of stabilizing the coefficient of friction of an essentially carbonaceous base material between about 0.25 and about 0.45 over a temperature range from ambient to about 800° F. by including in the carbonaceous base material boron carbide in amount from about 7% to about 10% by weight thereof, and wollastonite in amount from about 3% to about 5% by weight thereof.

3,421,914
PROCESS FOR MAKING POROUS LIGHT-WEIGHT ZIRCONIA BODIES
 Weston Andrew Hare, Northfield, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
 No Drawing. Continuation-in-part of application Ser. No. 317,763, Oct. 21, 1963. This application Jan. 8, 1968, Ser. No. 696,117
 U.S. Cl. 106—40 5 Claims
 Int. Cl. B28b 1/50; C04b 43/00; B28b 11/00

A process for making a porous refractory material by mixing particles of an acid-soluble refractory material, e.g., magnesia, with particles of zirconia, molding to form a shaped object, firing, and then extracting the acid-soluble refractory material from the fired shape.

3,421,915
METHOD FOR FORMING STRONG METALLIC BONDS TO LEAD-CONTAINING GLASS
 Eugene C. Letter, Penfield, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
 Continuation-in-part of application Ser. No. 311,958, Sept. 27, 1963. This application Nov. 28, 1967, Ser. No. 686,032
 U.S. Cl. 117—54 9 Claims
 Int. Cl. B44d 5/00; C03c 17/10



A strong metallic bond is formed on a lead-containing

glass, such lead silicate glass or lead borate glass containing at least 9 weight percent lead oxide and preferably above 15 weight percent. The lead containing glass substrate is placed in a hot reducing gas atmosphere to reduce a thin layer of the lead oxide within the glass surface. A nickel layer is subsequently deposited on the surface containing reduced lead.

3,421,916
VITREOUS CERAMIC COMPOSITIONS
 Masanari Mikoda, Hirakata-shi, Tadashi Hikino, Takatsuki-shi, and Takayuki Kuroda, Moriguchi-shi, Osaka, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan

No Drawing. Filed Aug. 20, 1965, Ser. No. 481,407

Claims priority, application Japan, Oct. 23, 1964, 39/60,703

U.S. Cl. 106—53 3 Claims
 Int. Cl. C03c 3/04

Addition of 2–8 mol percent PbF_2 to a glass composition consisting essentially of 50–65 silica; 15–25 lead oxide; 5–15 mol percent total of the alkali metal oxides; potassium oxide and/or lithium oxide and/or sodium oxide; 5–15 mol percent total of one or more of magnesium oxide, strontium oxide and calcium oxide; and 1–15 mol percent boric oxide produces a composition of good sinterability at, e.g., about 600°, high electrical insulation resistance and low dissipation factor, the dielectric constant of the composition being stable over the range from –55° C. to 125° C. The devitrification temperature is much lower than that of a composition containing PbO in lieu of PbF_2 . The new composition is especially suitable for use in capacitors.

3,421,917
ALUMINOSILICATE REFRACTORY BRICK
 Stanley R. Pavlica, Irwin, and Berhl E. Wishon, Bethel Park, Pa., assignors to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware

No Drawing. Filed Apr. 28, 1966, Ser. No. 545,882

U.S. Cl. 106—67 5 Claims
 Int. Cl. C04b 33/32; C04b 33/22

A ceramically bonded fireclay brick analyzing less than 0.2% alkali oxides prepared from a batch comprising aluminosilicate grogs and bond clays which analyze less than 0.75% alkali oxides.

3,421,918
ALCOHOL SOLUBLE CASEIN PRODUCT FOR SETTING HUMAN HAIR
 Samuel Loshaek, Stamford, Conn., and Harold K. Salzberg, Balobridge, N.Y., assignors to Borden, Inc., New York, N.Y., a corporation of New Jersey

No Drawing. Filed Nov. 27, 1963, Ser. No. 326,378

U.S. Cl. 106—146 6 Claims
 Int. Cl. C09d 3/06; A61k 7/10

1. A sprayable dispersion comprising 2–15% of the reaction product of casein, of calcium content calculated as the oxide not above about 0.2% of the weight of said casein, with an alkanolmonoamine having a molecular weight not above about 250 and 2–4 carbon atoms in each alkanol group in a medium of mixed water and a monohydric saturated aliphatic alcohol having from 2 to 3 carbon atoms, said dispersion being substantially non-settling and drying to a clear film, the proportion of water in said medium being about 5 to 50 parts by weight for

100 parts of said medium, and the proportions of said amine being about 1 gram mole for 300–1000 grams of casein.

3,421,919
NITROCELLULOSE LATICES COMPRISING BOTH OVERPLASTICIZED AND UNDERPLASTICIZED NITROCELLULOSE PARTICLES
 Kuang Farn Lin, Monroe Park, Del., assignor to Hercules Incorporated, a corporation of Delaware
 No Drawing. Filed Apr. 18, 1966, Ser. No. 543,074
 U.S. Cl. 106—170 15 Claims
 Int. Cl. C08b 21/10; C08b 29/18

Mixed particle nitrocellulose-water latices comprise at least one phase of hard nitrocellulose particles having a nitrocellulose to plasticizer ratio between about 90/10 and 70/30 and at least one phase of soft particles having a nitrocellulose to plasticizer ratio between about 1/99 and 55/45. The hard and soft particles are blended in a hard-soft ratio of about 1/1 to 9/1 in order to yield an overall nitrocellulose to plasticizer ratio between 80/20 and 40/60. Upon drying of the latex, the hard and soft particles come into contact and plasticizer migrates from the soft particles, causing coalescence of the nitrocellulose into a continuous film, properly plasticized so as to be hard and non-tacky.

3,421,920
TABLET COATING CONTAINING A LINEAR POLY-1,3-β-GLUCOSIDE
 Pravin Sheth, Summit, and Leon Lachman, Millburn, N.J., assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware
 No Drawing. Filed May 25, 1965, Ser. No. 458,756
 U.S. Cl. 106—217 9 Claims
 Int. Cl. C09d 3/10; A61k 3/06

The solution consisting of (a) a sugar syrup, (b) a hexanehexol, (c) an alkyl sulfosuccinate salt and (d) a linear poly-1,3-β-glucoside containing on every third glucose moiety of the chain a 1,6-β-glucosido group, is useful for direct tablet or candy coating.

3,421,921
COLORED, TRANSPARENT, DURABLE TITANIA FILMS ON GLASS
 Albert E. Junge, New Kensington, and Joseph Chahal, Curtisville, Pa., assignors to PPG Industries, Inc., Pittsburgh, Pa., a corporation of Pennsylvania
 No Drawing. Filed July 25, 1966, Ser. No. 567,388
 U.S. Cl. 106—287 12 Claims
 Int. Cl. C09d 5/00

A stable solution for coloring transparent glass articles without destroying their transparency. The solution is composed of a mixture of a hydrolyzable, organic titanate and a xanthene type dye. The presence of a copper salt in the solution improves the light fastness of the colored glass article. Salts of aluminum, lead, antimony and trivalent titanium stabilize the solution to prevent the titanate from precipitating from the solution.

3,421,922
PROCESS FOR PRECONDITIONING A NON-METALLIC SURFACE FOR CHEMICALLY DEPOSITING A METAL THEREON
 Bruce W. Wilson, Woodbury, Conn. 06798
 No Drawing. Filed Mar. 8, 1965, Ser. No. 438,118
 U.S. Cl. 117—47 2 Claims
 Int. Cl. B44d 1/14; B44d 1/22

A process is disclosed for the preparation of a non-conductive substrate for electrodeless deposition thereon of a metal film or plate to improve the adhesion of the metal to the surface of the substrate. The process is characterized by the inclusion of a processing step following the usual chemical etching of the substrate surface and

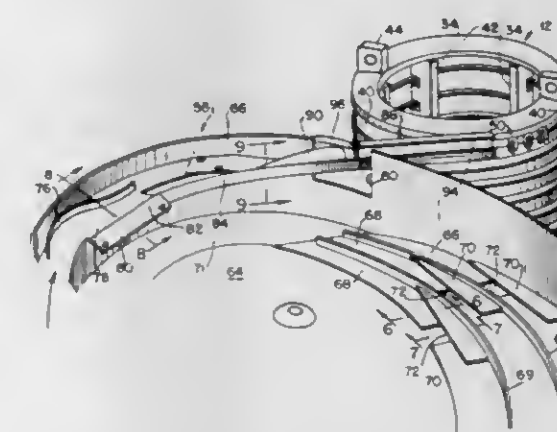
preceding sensitization and activation of that surface, which comprises contacting the surface with a dilute solution of a cationic film-forming water-soluble resin of the group consisting of melamine-formaldehyde-polyalkylene-polyamines, alkylated methylol-melamines, triazine-formaldehyde and alkali metal sulfurous-acid-salt-modified urea-formaldehyde resins.

ERRATUM
 For Class 117—54 see:
 Patent No. 3,421,915

3,421,923
PROCESS FOR FLAME-PROOFING OF CELLULOSE-CONTAINING TEXTILES
 Christian Guth, Basel, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a Swiss company
 No Drawing. Filed June 22, 1965, Ser. No. 466,117
 Claims priority, application Switzerland, July 10, 1964, 9,064/64 7 Claims

U.S. Cl. 117—62.2
 Int. Cl. D06m 13/54
 A process for the flame-proofing of cellulose-containing textile materials is provided, wherein the textile material first is impregnated with an aminoplast, wet-fixed and dried and then impregnated in an aqueous bath containing tetrakis-(hydroxymethyl)-phosphonium chloride. The textile material is dried and after-treated with ammonia. The process yields textile materials with an unaltered hand, a wash-fast flame-proofing finish, and excellent tensile and tear strengths.

3,421,924
METHOD AND APPARATUS FOR COATING ARTICLES
 Gerald F. Harlam, Providence, and Marian A. Okolowicz, Cranston, R.I., assignors to Pilling Chain Co., Inc., West Barrington, R.I., a corporation of Delaware
 Filed June 1, 1965, Ser. No. 460,310
 U.S. Cl. 117—66 24 Claims
 Int. Cl. B05b 15/00

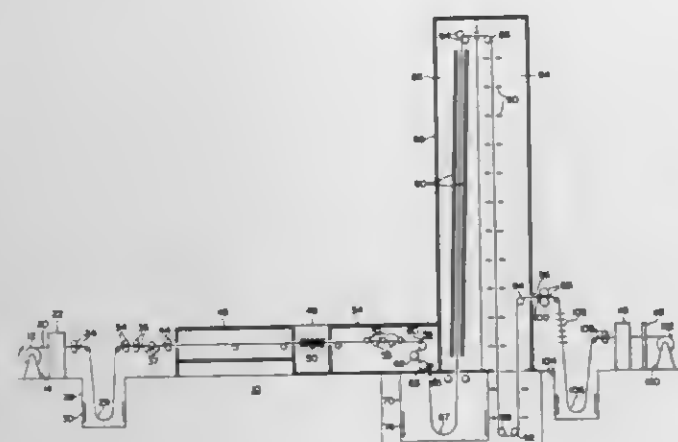


A method and apparatus for coating articles wherein the articles, constructed with pivotally mounted elements, are first oriented by means of a vibrating hopper and thereafter transported to a carrier having a helically extending peripheral track for receiving the articles, said track being continuous in length and extending from the upper end of the carrier to the lower end. The carrier is transferred to a coating station and is rotated at a speed that is sufficient to pivotally elevate the depending elements by centrifugal force to a substantially horizontal, outwardly extending position and while in this position coating material is sequentially applied so as to effectively coat all of the external surfaces of the articles.

3,421,925 METHOD FOR PRODUCING IMPROVED METALLIC STRIP MATERIAL

Ronald A. Hair, Hickory Township, Sharon, and Gerald J. Hattrup, Sharpsville, Pa., and John H. Bramble, Brookfield, Ohio, assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed July 30, 1965, Ser. No. 476,033
U.S. Cl. 117—66 19 Claims
Int. Cl. C21d 7/14

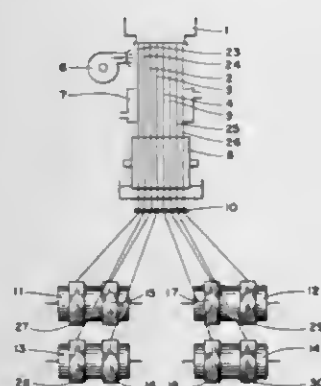


A method of continuously processing magnetic strip material which includes the steps of uncoiling, insulating, flattening, annealing and recoiling the strip material, while subjecting the strip material to three distinct tension zones which enables optimum temperature-tension relationships to be provided for each processing step. An embodiment of the invention also continuously grades the strip material after annealing, to provide a continuous signal responsive to the electrical quality of the steel. Another embodiment controls the temperature-tension relationship of the strip material while it is being subjected to the flattening step, in response to the magnitude of the grading signal.

3,421,926 DEVICE FOR APPLYING LIQUID TO TRAVELLING FILAMENTS

Gerald Thomas Davies, Raglan, and Kenneth Gordon Brown, Abergavenny, England, assignors to British Nylon Spinners Limited, Pontypool, Monmouthshire, England, a corporation of Great Britain

Continuation-in-part of application Ser. No. 432,162, Feb. 12, 1965. This application Aug. 4, 1967, Ser. No. 658,460
U.S. Cl. 117—66 8 Claims
Int. Cl. B05c 1/04



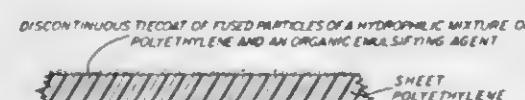
An improved method of applying liquids to a plurality of travelling filaments wherein the filaments travel different distances to a wind-up mechanism, the improvement

comprising applying a greater amount of finish to those filaments travelling the greatest distance from the point of application to the point of wind-up.

3,421,927 SHEET POLYETHYLENE CARRYING A FUSED HYDROPHILIC TIECOAT OF A POLYETHYLENE-EMULSIFYING AGENT MIXTURE AND A HYDROPHOBIC ORGANIC TOPCOAT

Malcolm Macfarland Donaldson, Bedford Village, N.Y., and Adolph Roy Morris, South Norwalk, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

Filed Sept. 15, 1964, Ser. No. 396,485
U.S. Cl. 117—76 5 Claims
Int. Cl. B32b 27/32



Sheet polyethylene possesses good affinity for hydrophilic organic topcoat material when it has fused thereto a tiecoat consisting essentially of a mixture of polyethylene and an organic emulsifying agent, the amount of emulsifying agent being sufficiently large that the tiecoat is hydrophilic.

3,421,928 MAR-RESISTANT PLASTIC SHEET AND PROCESS FOR PRODUCING SAME

Wallace Burton Ramsey, Stamford, and Darwin Fiske De Lapp, New Canaan, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Sept. 27, 1965, Ser. No. 490,720
U.S. Cl. 117—76 11 Claims
Int. Cl. B44d 5/00; B44d 1/16

This invention relates to a method for the production of a plastic body having a mar-resistant surface which comprises coating said plastic body with a solution of a vinyl butyral polymer, evaporating off the solvent and coating the thus treated body with a substantially linear, water-insoluble, non-gelled, unsaturated polyester resin composition. Still more particularly, this invention relates to a plastic body having a mar-resistant surface which is bonded to the body by means of a binding agent comprising a polymer of vinyl butyral.

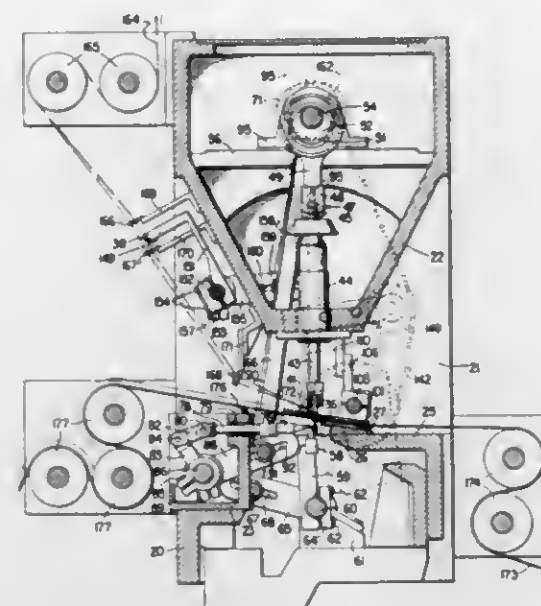
3,421,929 TUFTING MECHANISM, METHOD, STITCHES AND ARTICLE

Charles W. Watkins, Hixson, Tenn., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey

Filed June 14, 1966, Ser. No. 557,570
U.S. Cl. 117—79 14 Claims
Int. Cl. D05c 15/08; D05c 3/02; D04b 23/00

This disclosure relates to the tufting art and is more particularly directed to the production of a novel tufted fabric through a novel method and mechanism for producing said novel fabric. Heretofore, pile fabrics such as terry cloth and the like have usually been produced by methods and mechanisms other than those found in the

tufting arts. The present disclosure relates to the accomplishment of production of these types of fabrics through

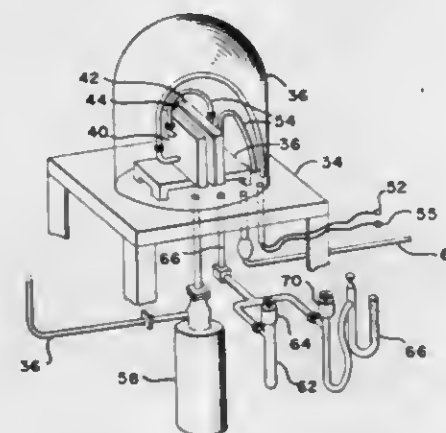


tufting with its inherent advantages of speed of production and other advantages as will be apparent herein.

3,421,930 CONDENSATION OF MONOMER AND LOW N-MER VAPORS TO INCREASE POLYMERI- ZATION RATES IN A CORONA DISCHARGE

Jack R. Knox, Wilmington, Del., and Karl-Heinz Teumer, Chicago, Ill., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Aug. 13, 1965, Ser. No. 479,456
U.S. Cl. 117—93.1 7 Claims
Int. Cl. B01k 1/00



A polymeric coating is formed on a substrate by exposing the substrate to the atmosphere of a gaseous polymerizable monomer, the substrate being maintained at a temperature below the condensation temperature of the gaseous monomer and inducing the polymerization by a corona discharge operating at a pressure at least equal to atmospheric.

3,421,931 COATING OF PULVERULENT MATERIALS

Auguste Reverand, Lyon, France, assignor to Societe Rhodiaca, Paris, France, a corporation of France

No Drawing. Filed Aug. 2, 1965, Ser. No. 476,722
Claims priority, application France, Aug. 6, 1964, 984,415

U.S. Cl. 117—100 16 Claims
Int. Cl. C06b 19/02

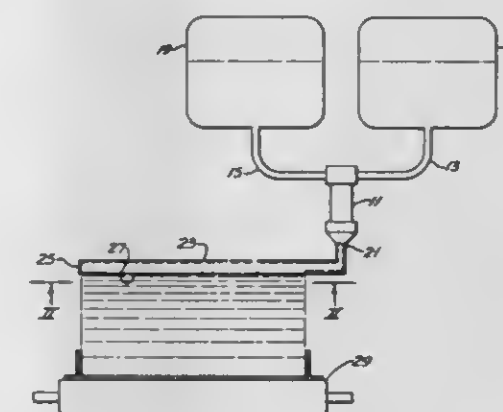
Pulverulent materials are given an improved coating of a soluble interpolyamide by suspending the pulverulent material in a system of 3 or more components which dissolves the interpolyamide and progressively adding to the suspension a system of 3 or more components which

is a non-solvent for the polyamide. At least two of the components, and preferably all of them, are common to the solvent and non-solvent, one being an alcohol and another being (i) a diol or (ii) an alcohol of more than 4 carbon atoms. The solvent contains more than 50% of alcohol and the non-solvent less than 50%.

3,421,932 METHOD AND APPARATUS FOR PREPARING CELLULAR POLYURETHANE PLASTICS

William A. McGregor, Jr., Paul G. Gemeinhardt, Jesse Fred Gurley, Edward L. Reichard, and William F. Gauss, Pittsburgh, Pa., assignors to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware

Filed Dec. 16, 1965, Ser. No. 514,223
U.S. Cl. 117—105.3 6 Claims
Int. Cl. B29d 7/08; B05c 5/00

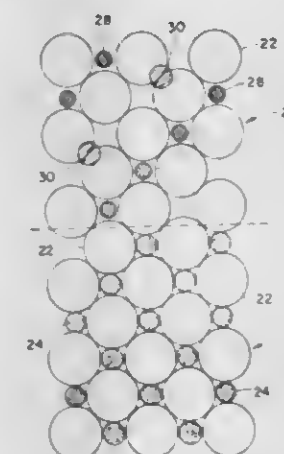


Uniform thickness coatings or cellular plastic layers are prepared from highly reactive ingredients by mixing the ingredients and passing the mixed ingredients through a distributing device having a shaping aperture therein so the material emerging therefrom is a coherent, continuous, free-falling liquid film and depositing the free-falling film within less than 75 percent of the gel time when the material is nonporous and within 75 percent of the cream time when the material is cellular onto a surface movable with respect to and disposed beneath the shaping aperture.

3,421,933 SPINEL FERRITE EPITAXIAL COMPOSITE

George R. Pulliam, La Mirada, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware

Original application Mar. 4, 1963, Ser. No. 262,742. Divided and this application Dec. 14, 1966, Ser. No. 623,781
U.S. Cl. 117—121 3 Claims
Int. Cl. H01f 10/04



An epitaxial composite comprising a substrate of magnesium oxide and a thin film of monocrystalline magnetic spinel ferrite epitaxially disposed on the substrate. The

composite is useful as a magnetic memory, for example, by providing crossing electrical conductors adjacent elements of the epitaxial ferrite.

3,421,934

COATING CEMENTITIOUS ARTICLES WITH HEXAVALENT CHROMIUM-RESINOUS DISPERSIONS

Ludwig K. Schuster, Drescher, and Siogkata Tongyai, Warrington, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

Filed Feb. 23, 1965, Ser. No. 434,214

U.S. Cl. 117—123 7 Claims
Int. Cl. B28b 11/04; B44d 1/20; C04b 41/06



Cementitious articles like asbestos-cement panels are coated with thin layer of aqueous coating dispersion of resin containing CrO_3 or water soluble dichromate of metal having valence greater than 1, and a reducing agent for the hexavalent chromium. Dispersion can also contain hiding pigment such as inorganic oxides. Panels are preheated, or coating dispersion is thickened with viscosity-increasing agent to keep dispersion from soaking into panel.

3,421,935

BULKABLE NYLON YARN

Nell L. Finch, Kinston, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 12, 1965, Ser. No. 479,280

U.S. Cl. 117—138.8 4 Claims
Int. Cl. D01f 7/06; D06m

Continuous filament, bulkable nylon yarn having on its surface a lubricating composition comprised of specific proportions of coconut oil, the tetraoleate-laurate penta-ester of the condensate of one mol of sorbitol with about 30 mols of ethylene oxide, and the polyether condensate of nonylphenol and about 6 mols of ethylene oxide.

3,421,936

SILICON NITRIDE COATING ON SEMI-CONDUCTOR AND METHOD

Ferdinand Lincoln Vogel, Jr., Williamstown, Mass., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts

Filed Dec. 21, 1964, Ser. No. 419,814

U.S. Cl. 117—215 8 Claims
Int. Cl. H01g 9/00; H01c 7/00; H01l 7/36



A semiconductor structure having a monocrystalline silicon semiconductor with a single crystal silicon nitride layer on a major surface of the silicon semiconductor

3,421,937

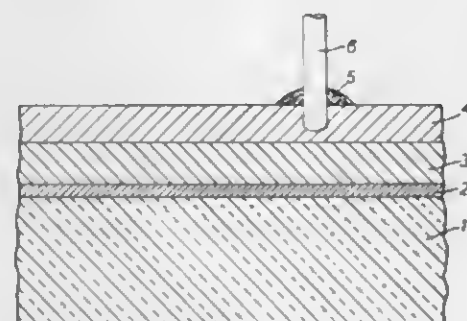
ELECTRICALLY CONDUCTIVE SOLDERABLE METALLIC COATINGS ON NON-METALLIC BASES

Peter Rheinberger, Vaduz, and Fritz Kümmerer, Triesen, Liechtenstein, assignors to Balzers Patent- und Lizenz-Anstalt, Balzers, Liechtenstein

Filed Nov. 30, 1964, Ser. No. 414,767

Claims priority, application Switzerland, Dec. 2, 1963, 14,680/63

U.S. Cl. 117—217 3 Claims
Int. Cl. C23c 17/00



The production of a firmly adhering electrically conductive solderable metallic coating on a solid inorganic non-metallic carrier body, comprising the steps of pre-heating said carrier body to a temperature of at least 200° C., firstly thermally depositing from the vapor phase in an oxidizing atmosphere of pressure of about 10^{-4} mm. Hg at least one of the metals selected from the group consisting of nickel, cobalt and manganese on said carrier body, secondly thermally depositing from the vapor phase in a high vacuum of about 10^{-6} mm. Hg a layer of a solder on said preceding layers.

3,421,938

METHOD OF FABRICATING IMPROVED SOLDERABLE LANDS

George W. Leck, Princeton Junction, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Aug. 10, 1965, Ser. No. 478,593

U.S. Cl. 117—217 4 Claims
Int. Cl. H01b 1/02; C23b 5/50; C23c 17/00

This specification discloses a method of preparing a solderable land by vacuum deposition of manganese and tin from a single source.

3,421,939

METHOD AND APPARATUS FOR CLEANING A PIPE WITH SONIC ENERGY

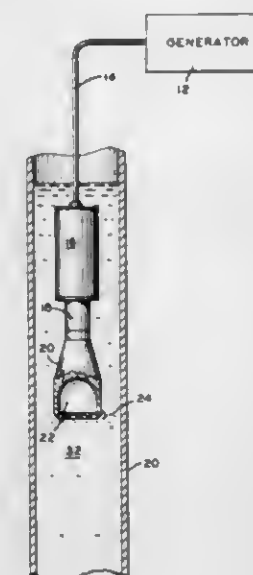
Stanley E. Jacke, Ridgefield, Conn., assignor to Branson Instruments, Incorporated, Stamford, Conn., a corporation of Delaware

Filed Dec. 27, 1965, Ser. No. 516,483

U.S. Cl. 134—1 13 Claims
Int. Cl. B08b 3/10

The inside surface of a liquid-filled pipe is cleaned by using a resonating horn having a bell-shaped frontal portion. The horn is coupled to an electro-acoustic transducer which is immersed in the liquid and operates in the sonic

or ultrasonic frequency range for causing cavitation in the liquid. The bell-shaped portion provides radial shock



waves, effecting a scrubbing action upon the inside pipe surface at a location opposite the horn.

3,421,940

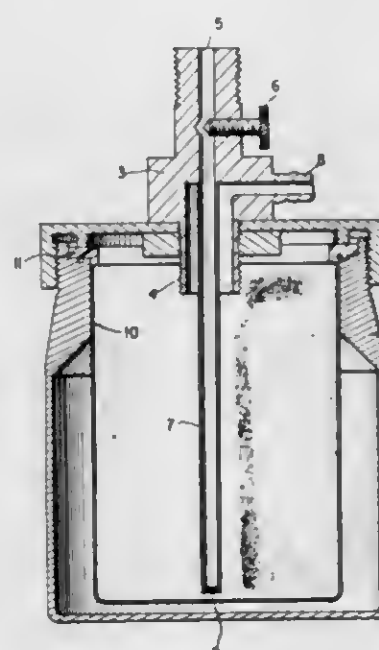
WASHING AGENTS AND PROCESS FOR MACHINE WASHING OF DISHES

Hans Wedell and Rolf Peist, Dusseldorf-Holthausen, Germany, assignors to Bohme Fettchemie G.m.b.H., Dusseldorf, Germany, a corporation of Germany

Filed Jan. 15, 1962, Ser. No. 166,072

Claims priority, application Germany, Jan. 27, 1961, B 61,028; Mar. 23, 1961, B 44,623

U.S. Cl. 134—29 4 Claims
Int. Cl. B08b 3/02; A47I 15/00; C11d 1/82



Improvement of a machine dishwashing process which is widely used in practice and in which an alkaline principal washing cycle and a neutral rinsing cycle with surfactive substances are employed and the spent rinsing water is continuously or discontinuously sent into the principal washing cycle. The well known process has been improved by the present invention in that solid, silicon-containing agents in chunk or powder form are used for the principal washing cycle.

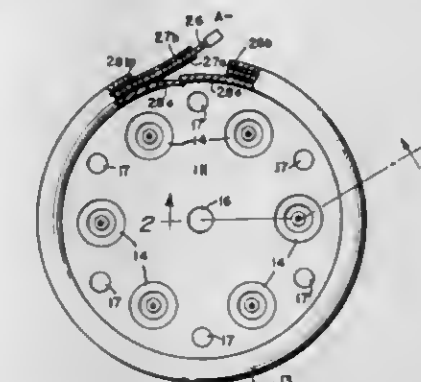
3,421,941

BATTERY

Fred H. Osborne, Snyder, and Charles J. Hull, Williams-ville, N.Y., assignors to the United States of America as represented by the Secretary of the Army

Filed Aug. 7, 1956, Ser. No. 602,685

U.S. Cl. 136—83 1 Claim
Int. Cl. H01m 23/00; H01m 17/06



1. A thermal battery construction for use in an ordnance projectile, said battery construction comprising in combination: a matrix consisting of a cylindrical block of ignitable thermite-type material having longitudinal holes of circular cross section extending therethrough; a plurality of metal rods inserted in said blocks; a B-stack of generally cylindrical form mounted in one of said longitudinal holes, said B-stack comprising a plurality of stacked discoid cells connected in series and adapted to be activated upon application of sufficient heat thereto; an A-cell of generally tubular form surrounding and in contact with said cylindrical block so as to form an outer casing for said block, said A-cell having inner and outer electrically connected sheets of a first metal constituting one electrode of said A-cell, a middle sheet of a second metal constituting the other electrode of said A-cell, and first and second sheets of inert pervious electrically non-conductive material interposed between said middle sheet and said inner and outer sheets respectively, said non-conductive material being impregnated with an electrolyte, said A-cell being adapted to be activated upon application of sufficient heat thereto; means for connecting said B-stack and said A-cell to associated circuitry; and an igniter mounted in one of said longitudinal holes and adapted to ignite said block in response to a predetermined condition; said block being so formed that it has good combustion characteristics and substantially maintains its mechanical dimensions and strength during and after burning, said metal rods acting to increase the uniformity of distribution of the heat produced by said burning, the heat thereby applied to said B-stack and said A-cell being sufficient to cause activation thereof.

3,421,942

METHOD AND APPARATUS FOR PRODUCING ELECTRICITY COMPRISING A FUEL CELL IN COMBINATION WITH AN ECOLOGICAL SYSTEM

Clifford K. McBaine, La Habra, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware

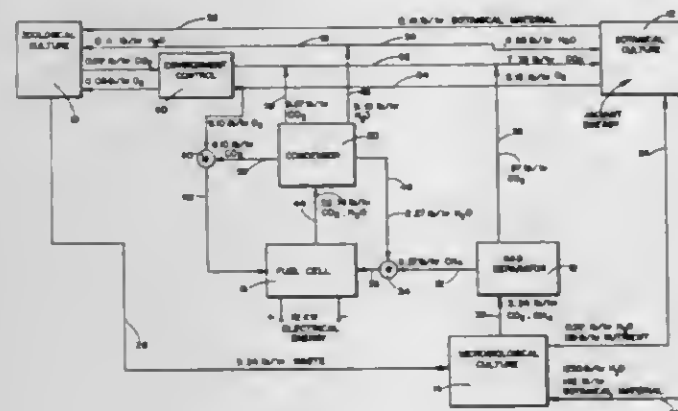
Filed Oct. 5, 1962, Ser. No. 228,573

U.S. Cl. 136—86 2 Claims
Int. Cl. H01m 27/24

1. A method for integrating the operation of a life system having a plurality of animals, photosynthetic plants, a microbiological digester containing anaerobic bacteria and an electrochemical fuel cell comprising the cyclically repetitive steps of:

injecting a minor proportion of body wastes from the animals and a major proportion of said plants into the microbiological digester;

fermenting said body wastes and said plants by the anaerobic bacteria to produce carbon dioxide, methane, and decomposed carbohydrates, proteins, lipids and cellulose;
separating said carbon dioxide and said methane from said decomposed carbohydrates, proteins, lipids, and cellulose;
separating said carbon dioxide from said methane;
supplying said decomposed carbohydrates, proteins, lipids and cellulose to the plants;
exposing the plants to radiant energy;
anabolizing carbon dioxide, water, and decomposed carbohydrates, proteins, lipids and cellulose to produce oxygen and grow photosynthetic plants;
injecting methane from the separating steps and oxygen from the anabolizing step of the plants into the fuel cell;



electrochemically reacting said methane and said oxygen in the fuel cell to produce electrical energy, water and carbon dioxide;
condensing said water from said carbon dioxide;
mixing a portion of the carbon dioxide from the condensing step with oxygen from the plants before injecting the oxygen in the fuel cell;
mixing a portion of the water from the condensing step in the form of steam with the methane before injecting the methane into the fuel cell;
transferring major and minor portions of said water from the condensing step to the plants and animals respectively;
transferring oxygen and plants to the animals;
catabolizing the water and plants by the animals to produce carbon dioxide and body wastes;
transferring carbon dioxide from the second mentioned separating step, from the condensing step, and from the catabolizing step to the plants for use in the anabolizing step.

3,421,943
SOLAR CELL PANEL HAVING CELL EDGE AND BASE METAL ELECTRICAL CONNECTIONS
Mohammed S. Shaikh, Mountain View, Calif., and Krishan S. Tarneja, Pittsburgh, and Robert K. Riel, Irwin, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 14, 1964, Ser. No. 345,011
U.S. Cl. 136—89 3 Claims
Int. Cl. H01l 1/00

1. A solar cell panel comprising a plurality of individual solar cells, a metal base member, each of said cells comprising a body of semiconductor material of a first conductivity type and a low resistivity and having opposed major surfaces, a thin opposite conductivity type diffused layer in each of the major surfaces, a large area metal contact member on one of the surfaces and alloyed to the first conductivity type bulk through the opposite conductivity type diffused layer on that surface, a groove through

the opposite conductivity type layer about the large area contact to electrically isolate that member from lateral contact with that layer, at least one small area ohmic contact to the opposite conductivity type diffused layer on the other major surface, and a metal contact member on the edges of the body and in electrical contact with the said small area ohmic contact; at least two of said cells



having their edge metal contact members arranged in abutting relationship and in contact with one another on said metal base member, the cells being arranged with their large area contact members resting on and in electrical contact with said metal base member, and the edge metal contact members comprising inter-cell electrical leads.

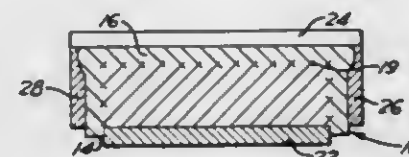
3,421,944
PULSE BATTERY
Paul Bauer, Reseda, Calif., assignor to TRW Inc., a corporation of Ohio
Filed June 1, 1964, Ser. No. 371,299
U.S. Cl. 136—6 6 Claims
Int. Cl. H01m 35/00; H01m 21/00

1. A battery comprising
a plurality of metal foil electrodes in a spaced apart relationship each having a current collecting surface area that is substantially large with respect to said foil thickness,
a spacer member bonded to the peripheral portion of each of said foil electrodes for maintaining said spaced apart relationship whereby said electrodes are held in an insulating and sealing relationship to each other,
a porous insulator member having substantially the same thickness as said spacer member and substantially the same surface area as said electrodes located within said spacer member and in contact with said spaced apart electrodes, and at least two terminal members each having a current collecting surface area substantially equal to said electrodes and located in a contacting relationship with the outermost electrodes whereby said terminal members provide mechanical rigidity and current terminals for the battery structure.

3,421,945
FUSION-SEALED METAL-ENCLOSED RECHARGEABLE BATTERY CELL
Ignatius Melchalko, Ossining, N.Y., assignor to Sonotone Corporation, Elmsford, N.Y., a corporation of New York
Filed Aug. 11, 1965, Ser. No. 478,813
U.S. Cl. 136—6 3 Claims
Int. Cl. H01m 1/02

A seal about the terminal member of a rechargeable alkaline battery cell, having an alkaline resistant ceramic collar joined to the adjacent metal surfaces of the terminal and cell casing by metallic fusion seals, in which a protective solidified molten glass seal is interposed between the metallic fusion seals and the cell interior for protecting the metal fusion seals from electrolyte penetration.

3,421,946
UNCOMPENSATED SOLAR CELL
Mohammed S. Shaikh, Mountain View, Calif., Krishan S. Tarneja, Pittsburgh, and Michael F. Amsterdam, Greensburg, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 20, 1964, Ser. No. 361,132
U.S. Cl. 136—89 3 Claims
Int. Cl. H01l 1/00



1. A solar cell comprising (1) a body of semiconductor material, said body having a first-type of semiconductor, said body having a resistivity of from about 4 to 10 ohm-cm. when said first type of semi-conductivity is p-type and from about 1 to 20 ohm-cm. when said first-type of semiconductor is n-type, said body having oppositely opposed major surfaces, (2) an epitaxial layer disposed on one of said oppositely opposed major surfaces of said body, said epitaxial layer being thin relative to the thickness of said body, said epitaxial layer having a second-type of semiconductor, said epitaxial layer having a resistivity of from about 100 to 1000 ohm-cm., said epitaxial layer being uncompensated, (3) a large area electrical contact, said large area electrical contact being disposed on the other said oppositely opposed major surface of said body and substantially completely covering said surface, said large area electrical contact forming an ohmic electrical contact with said body of first type semiconductor, (4) another electrical contact, said another electrical contact being disposed on a surface of said epitaxial layer, said another electrical contact forming an ohmic contact with said epitaxial layer, said another electrical contact being of a substantially smaller area than the surface upon which it is disposed.

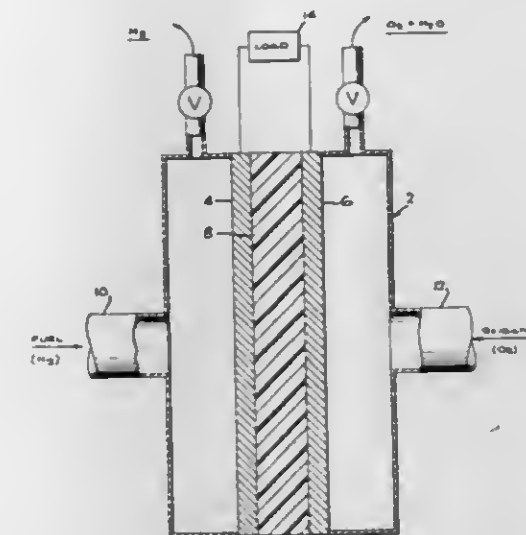
3,421,947
ORGANIC CHARGE TRANSFER SOLUTION BATTERY
Norvell E. Wisdom, Jr., Elizabeth, and Eric O. Forster, Scotch Plains, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Sept. 2, 1966, Ser. No. 576,838
U.S. Cl. 136—100 6 Claims
Int. Cl. H01m 17/02

A battery having as an electrolyte a solution of molecular halogen in an amine solvent, an anode of an electro-positive metal which dissolves into said solution and a chemically inert cathode has been found to be an effective system for the production of electrical energy.

3,421,948
METHOD OF MAKING MEMBRANES
James E. Webb, Administrator of the National Aeronautics and Space Administration with respect to an invention of Frank C. Arrance, Costa Mesa, Calif., and Daniel G. Soltis, West Richfield, Ohio
Filed Apr. 13, 1965, Ser. No. 447,933
U.S. Cl. 136—146 2 Claims
Int. Cl. H01m 3/02

This invention teaches an improved method of making an inorganic membrane suited for fuel cell use. Zeolite and a binder, such as zirconium phosphate, are used. Essentially, a mixture of zirconium oxide, phosphoric acid, and zeolite is formed under conditions (such as low temperature and control of the amount of water used) that

inhibit bond formation until substantially all physical working of the membrane is complete. Then it is sintered to form the bonds. The resulting membrane is strong, con-



tinuous, flexible, can withstand high temperatures, is unaffected by radiation, can be hydrated and dehydrated without ill effect, and has good dimensional stability.

3,421,949
COMPOSITION AND PROCESS FOR PRODUCING AN ELECTRICALLY RESISTANT COATING ON FERROUS SURFACES
Roy A. Halversen, Dearborn, Mich., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
No Drawing. Filed Aug. 12, 1964, Ser. No. 389,178
U.S. Cl. 148—6.2 9 Claims
Int. Cl. C23c 1/10

A composition and process for forming an electrical resistant chemical coating of the non-conversion type on ferrous metal. The coating composition used contains a source of hexavalent chromium, such as CrO_3 ; a source of silicons such as SiO_2 ; and an organic reducing material, such as polyacrylic acid. Additionally, the composition may also contain aluminum, such as Al_2O_3 and iron, such as ferrous or ferric acetate. The composition, as an aqueous solution or dispersion is applied to the metal surface, the surface heated to cure the coating and, thereafter, the treated surface is annealed.

3,421,950
METHOD OF HEAT-TREATING WORKPIECES
Fritz Frehn, Krefeld, Germany, assignor to Deutsche Edelstahlwerke Aktiengesellschaft, Krefeld, Germany
No Drawing. Filed Aug. 29, 1966, Ser. No. 575,529
Claims priority, application Germany, Sept. 14, 1965, D 48,205
U.S. Cl. 148—13.1 4 Claims
Int. Cl. C21d 1/44

1. A method of heat-treating hardenable metal workpieces which comprises packing the metal workpieces in a size-reduced sintered hard material composition comprising

	Percent by weight
Titanium carbide	30—40
Chromium	1—15
Molybdenum	1—5
Carbon	0.2—0.8
Remainder, iron.	

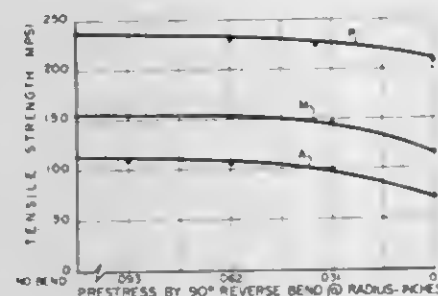
and heat-treating the packed metal workpieces.

3,421,951

STEEL STRAPPING

Lawrence S. Shelton, Morton Grove, Ill., assignor to Signode Corporation, a corporation of Delaware
 Filed Apr. 8, 1966, Ser. No. 541,211
 U.S. Cl. 148—39
 Int. Cl. C22c 39/00; C21d 9/52

6 Claims



1. A steel strapping prepared from carbon steel having a carbon content in the range between 0.2% and 0.85% and a manganese content in the range between 0.3% and 1.4%, having a cross-sectional thickness in the range between about 0.010 inch and about 0.065 inch, said cross-sectional thickness having core and surface layer portions, identifiable by differing crystalline structures, said core portion constituting between about 40% and 90% of the strapping thickness and having substantially uniform distribution of carbon throughout the core thickness in an amount in the range between about 0.2% and 0.85% and each of said surface layer portions constituting between about 5% and about 30% of the total strap thickness, said surface layers being identifiable by physical structure different from that of the core due to the lower carbon content and having an average carbon content at a depth in the range between about 0.0015 inch and 0.0025 inch from the outer surface such that the ratio of carbon content of the core to said carbon content at the specified depth is in the range between about 2:1 and 15:1 and having a carbon content in the zone intermediate said core and said specified portion of said outer surface layer which decreases progressively as the distance from the core increases.

3,421,952

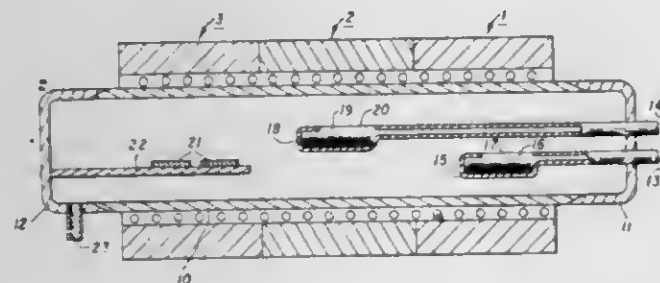
METHOD OF MAKING HIGH RESISTIVITY GROUP III-V COMPOUNDS AND ALLOYS DOPED WITH IRON FROM AN IRON-ARSENIDE SOURCE

Raymond W. Conrad, Dallas, Tex., Robert W. Haisty, Fellbach, Stuttgart, Germany, and Pete L. Hoyt, Garland, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Feb. 2, 1966, Ser. No. 524,538

U.S. Cl. 148—175
 Int. Cl. H01l 7/00

9 Claims



1. The method of doping epitaxially formed deposits of Group III-V materials with iron wherein said Group III-V materials are formed by reacting a gaseous mixture comprising hydrogen, at least one Group V element or

volatile compound of a Group V element, and at least one Group III element or volatile compound of a Group III element in a reaction chamber, comprising the step of introducing iron arsenide vapors into said reaction chamber during the formation of said deposits of Group III-V materials.

3,421,953

CARBIDE DEPOSITION ON TANTALUM

Joseph C. McGuire, Kennelwick, Wash., and Cornel Wohlberg, Los Alamos, N. Mex., assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Oct. 7, 1966, Ser. No. 586,007

U.S. Cl. 148—20.3

8 Claims

Int. Cl. C23f 7/00

1. A method of carburizing the inside surface of a tantalum tube closed at one end comprising soaking an organic compound into a porous graphite rod, said graphite rod being of smaller diameter than the inside diameter of the tantalum tube, inserting said graphite rod into the tantalum tube and inductively heating under vacuum conditions.

3,421,954

MELT EXPLOSIVE COMPOSITION HAVING A MATRIX OF AN INORGANIC OXYGEN SUPPLYING SALT

Errol Linton Falconer, St. Hilaire, Quebec, Canada, assignor to Canadian Industries Limited, Montreal, Canada, a corporation of Canada

No Drawing. Filed July 19, 1967, Ser. No. 654,393

Claims priority, application Canada, Oct. 28, 1966, 974,368

U.S. Cl. 149—17
 Int. Cl. C06b 1/04

5 Claims

Melt explosive compositions normally comprise a matrix of an inorganic oxygen-supplying salt with a fuel such as a solid organic explosive, carbonaceous material or particulate light metal dispersed therein. Such explosives may be employed in a variety of commercial or military applications. It has now been found that the sensitivity of melt explosive compositions may be improved by incorporating therein a soluble lignosulphonate.

3,421,955

DIESTERS OF N-NITRO-IMINO-BIS-CARBOXYLIC ACIDS, USEFUL AS ADDITIVES IN EXPLOSIVES OR PROPELLANTS

Martin Hauser, Stamford, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

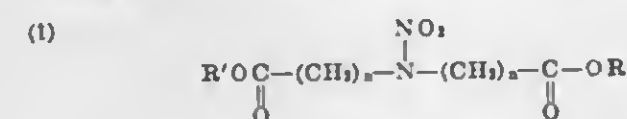
No Drawing. Filed Feb. 23, 1967, Ser. No. 619,120

U.S. Cl. 149—19

7 Claims

Int. Cl. C06b 15/00

This invention relates to a new class of compounds having the formula



wherein R and R' are, individually, an alkyl radical, including substituted alkyl radicals, or a $-(\text{CH}_2)_m-\text{O}-$ $(\text{CH}_2)_n-\text{OH}$ radical and m and n are, individually, whole, positive integers of 1-9, inclusive. The compounds are liquids or low-melting solids which are stable up to about 150° and are useful in propellant or explosive composition when admixed with a fuel such as aluminum, magnesium, boron or carbon, a polymeric binder and various oxidizers.

3,421,956

METHOD OF ETCHING SIC

Ekkehard Ebert, Boblingen, and Werner Spielmann, Dachtel, Kreis Calw, Germany, assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

No Drawing. Filed Mar. 3, 1965, Ser. No. 436,918
 Claims priority, application Germany, Mar. 6, 1964, J 25,392

U.S. Cl. 156—17

3 Claims

Int. Cl. H01l 7/62; C23f 1/00

Silicon carbide bodies used in the fabrication of semi-conductive elements are symmetrically etched by immersion in a hot melt comprising of 1:1 ratio of NaNO_2 and Na_2O_2 at 400-600° C.

3,421,957

SEAM SEALER FOR PLASTIC MATERIALS

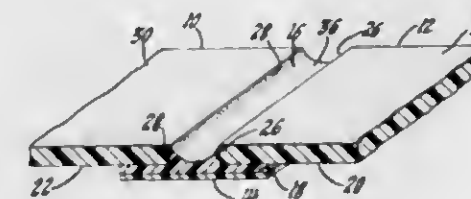
Raymond A. Kwapisz, Warren, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Sept. 8, 1965, Ser. No. 485,819

U.S. Cl. 156—153

5 Claims

Int. Cl. C09j 3/16



A seam sealer suitable for filling joints between plastic panels or parts containing glycidyl methacrylate, plasticizer, powdered filler, initiator and an accelerator is disclosed. The sealer mixture is prepared and shortly thereafter placed into the previously routed seam or joint separating two plastic panels. The mixture hardens in a short time to form a non-porous, air bubble-free seam at room temperature.

3,421,958

METHOD OF FORMING REINFORCED RUBBER TAPE AND HELICALLY WINDING SAME TO FORM AN UNVULCANIZED BAND

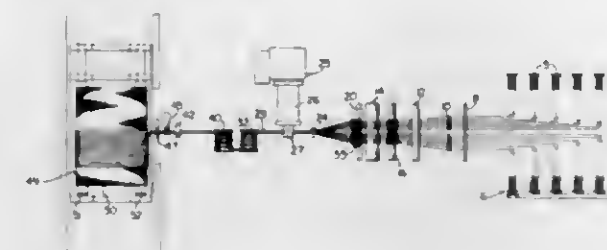
William C. Gallagher, Akron, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Mar. 16, 1965, Ser. No. 440,084

U.S. Cl. 156—192

3 Claims

Int. Cl. B29h 9/04; B29h 17/28



The method of forming an unvulcanized band helically reinforced by elongated continuous parallel reinforcing members which method comprises encapsulating a plurality of such reinforcing members with rubber to form a tape, parallelly beveling and heating the longitudinal edges of the tape and then winding the tape into a band by continuously butt splicing opposite heated beveled edges of the tape.

858 O.G.—19

3,421,959

METHOD AND APPARATUS FOR PREFORMING RESIN IMPREGNATED FELTS AND MATS

Dallas N. Vickers, Decatur, Ala., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

Filed Feb. 27, 1963, Ser. No. 261,357

U.S. Cl. 156—224

7 Claims

Int. Cl. B29c 17/04; B32b 1/10

5. A method of preforming a plurality of uncured resin impregnated felts and mats into a laminated sheet of material that is to be used as a liner for the head end of a rocket motor case, comprising the placing of a first sheet of stretchable material on a mold having therein a cavity conforming to the shape of the head end of said rocket motor case, building up on said first sheet a layer of uncured resin impregnated felts and mats, positioning on said last sheet a perforated sheet of film releasing material, positioning on said last sheet a second sheet of stretchable material, placing on said last sheet a lid for said mold and removably securing said lid to said mold, introducing a fluid under pressure into said mold through said lid to force said sheets into the cavity in said mold and then heat curing said layer of felts and mats until said resin is cured to retain said layer in a shape conforming to the shape of the cavity in said mold.

3,421,960

BONDING TECHNIQUE AND APPARATUS FOR PLASTIC STRUCTURES

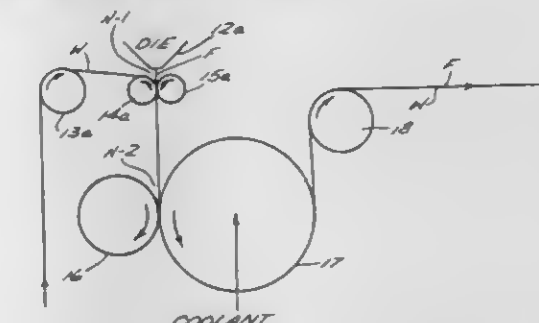
Harold A. Arbit, Rockford, Ill., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin

Filed Apr. 1, 1964, Ser. No. 356,627

U.S. Cl. 156—244

11 Claims

Int. Cl. B29c 27/00; B32b 31/00



A coating mechanism receiving an extruded plastic and a web in a first pressure nip and thereafter immediately passing the plastic coated web into a second pressure nip with a cooled roll engaging the plastic.

3,421,961

METHOD OF MAKING HIGH DENSITY ELECTRICAL CONNECTIONS

Richard D. Joyce, Kettering, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Filed Jan. 10, 1966, Ser. No. 519,748

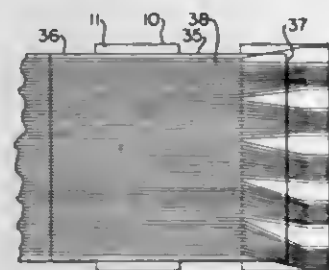
U.S. Cl. 156—296

3 Claims

Int. Cl. H05k 1/04; H01r 5/02

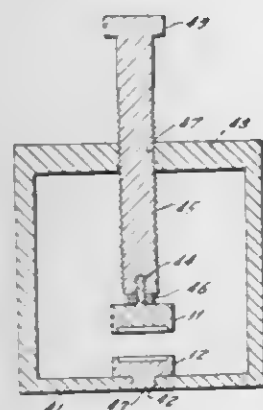
1. A method of making permanent electrical connections between a plurality of closely spaced electrical conductors carried on the surface of an electrically-non-conductive support structure and similarly spaced electrical conductors carried on the surface of another electrically-non-conductive support structure, comprising the steps of applying a viscous electrically-non-conductive resin adhesive to at least one of said support structures overlaying said electrical conductors thereon, and bringing together said support structures with pressure sufficient to cause said electrical conductors on one support structure to contact said electrical conductors on said other support structure, said resin adhesive

being forced between said electrical conductors and curing to form a strong bond between said support



structures retaining said electrical conductors in contact with each other.

3,421,962
APPARATUS FOR DICING SEMICONDUCTOR WAFERS
Benjamin Topas, Santa Monica, Calif., assignor to International Rectifier Corporation, El Segundo, Calif., a corporation of California
Continuation-in-part of application Ser. No. 218,706, Aug. 22, 1962. This application Apr. 5, 1965, Ser. No. 445,683
U.S. Cl. 156—345
Int. Cl. C23f 1/04

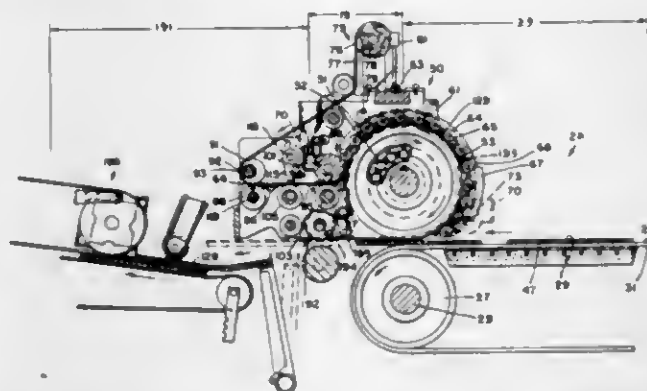


A method and apparatus for etch-cutting semiconductor wafers in which an acid-resistant frame having a threaded post is used, with one end of the post carrying a first mask and the bottom of the frame carrying a second mask. A wafer to be cut is laid on the bottom mask and the post is threaded toward the wafer until the first mask and second mask are clamped on the opposite surfaces of the wafer. The wafer and frame are then immersed into an acid solution which etches the area exposed around the outer periphery of the masks.

3,421,963
APPARATUS FOR APPLYING TAPE
Leon E. La Bombard, deceased, late of Nashua, N.H., by Mary I. La Bombard, 45 Courtland St., Nashua, N.H. 03060, and Indian Head National Bank of Nashua, Nashua, N.H., co-executors, and Raymond A. Labombard, Lowell Road, Nashua, N.H. 03060
Filed Aug. 30, 1965, Ser. No. 484,164
U.S. Cl. 156—355
Int. Cl. B31b 1/72

1. A machine for applying a predetermined length of tape to the seam of each of a plurality of flat articles, said machine comprising:
means for advancing said flat articles individually and successively along a path through said machine at a predetermined speed, said path including a taping zone;
tape applying means in said taping zone, said means including a combined article-feed, tape-carrier, and tape-applicator roll rotating at a surface speed equal to the speed of advance of said articles, the circumferential face of said roll being arranged to receive

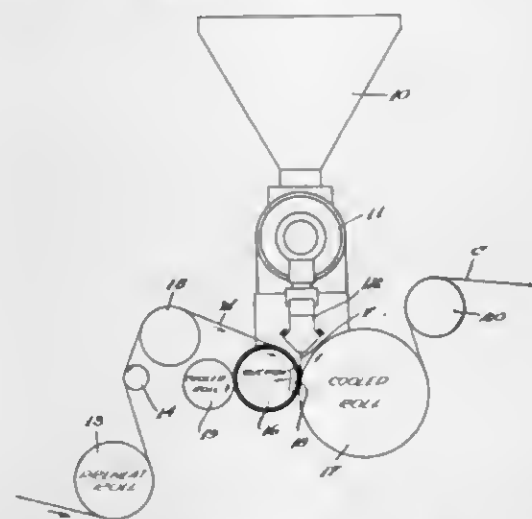
a strip of tape and apply the said strip upon each flat article fed thereby along said path;
tape feeding means in said taping zone, said means including a tape feed roll, opposed by a backer roll, and movable toward and away therefrom to open and close a tape feed nip therebetween, at least one of said rolls rotating at a predetermined speed to feed tape onto said circumferential face when said tape feed nip is closed;



tape cutting means, mounted in said taping zone, between said tape feed means and said tape applying means, said cutting means including an oscillatably mounted knife, opposed by an anvil roll, to form a tape cutting nip therebetween, and mechanism oscillating said knife at a predetermined speed to advance with tape fed through said cutting nip at equal speed therewith, cut said tape at the point of tangency with said anvil roll, and retract to its original position, thereby cutting successive tape strips of said predetermined length;

and automatic actuation means including sensing mechanism mounted along said path in advance of said zone to sense the presence of each oncoming article, and mechanism responsive to said sensing mechanism normally maintaining said tape feed nip closed, but opening said tape feed nip when no article is sensed on said path, to prevent undesired feed of tape while said machine is in operation.

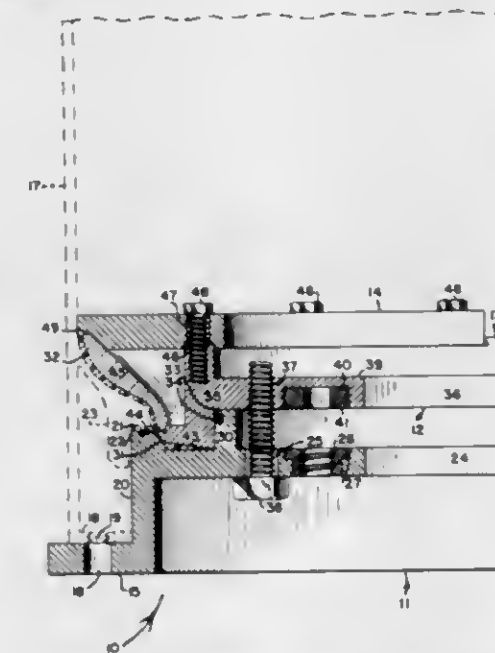
3,421,964
PLASTIC EXTRUSION COATER
Harold A. Arbit, Rockford, Ill., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Filed Nov. 27, 1963, Ser. No. 326,628
U.S. Cl. 156—244
Int. Cl. B29c 27/00; B32b 31/00



7. A process of applying a film of normally solid synthetic linear polymer of sharp melting point to a porous sheet which process comprises carrying out substantially simultaneously the steps of contacting a molten film of polymer with said sheet, pressing said molten film against said sheet, applying a pressure differential across said sheet holding the film against the sheet, and chilling

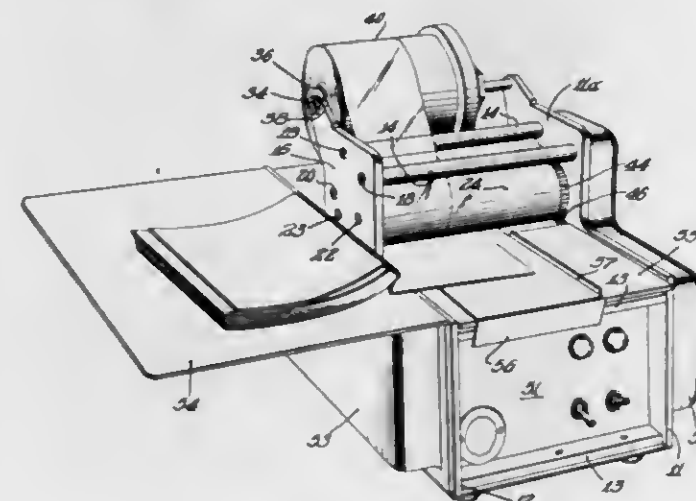
the exposed surface of said molten film to a temperature below the solidification point of said film while said pressure differential is maintained.

3,421,965
METHOD AND APPARATUS FOR INSTALLING RIGID AFT INSULATION IN ROCKET MOTOR CASES
Martin T. Olliff, Jr., Alfred H. Hecht, and Robert H. Brown, Huntsville, and William B. Brooks, Guetersville, Ala., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed Oct. 8, 1964, Ser. No. 402,493
U.S. Cl. 156—423
Int. Cl. B32b 1/06



An apparatus for installing aft insulation in the aft opening of a rocket motor case including a mounting ring for mounting the apparatus on the rocket motor case, a reservoir in the mounting ring containing a bonding agent, an alignment ring for supporting the aft insulation in the motor case, screw jacks connecting the mounting ring to the alignment ring, the operation of the screw jacks moving the alignment ring into engagement with the mounting ring for the application of the bonding agent to the aft insulation to bond the aft insulation to the motor case.

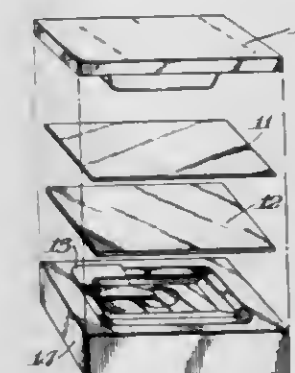
3,421,966
OPEN END LAMINATOR
John A. McLaughlin, Bon Air, Va., assignor to General Binding Corporation, Northbrook, Ill., a corporation of Illinois
Filed Aug. 20, 1965, Ser. No. 481,220
U.S. Cl. 156—555
Int. Cl. B32b 31/04



A laminating apparatus constructed to permit lamination of a single page of a book, or like product, without

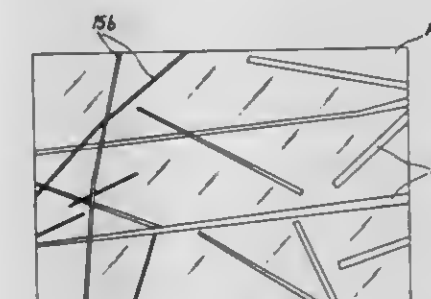
disassembly of the book. Rigid structure is provided for maintaining the laminating rolls in a substantially parallel relationship although the laminator frame is slotted to provide an open end at the laminating rolls.

3,421,967
DECORATED THERMOSETTING PLASTIC ARTICLE AND METHOD OF PRODUCING SAME
Walter L. Hochner, Wilmington, Del., assignor to Kaumagraph Company, Wilmington, Del., a corporation of Delaware
Filed Mar. 3, 1965, Ser. No. 436,832
U.S. Cl. 161—5
Int. Cl. B44f 1/06; B31f 1/36



A process for producing decorated thermosetting plastic articles comprising contacting a thermosetting resin impregnated design layer, a resin-free absorbent paper and thermosetting resin material, said absorbent paper being interposed between the decorated side of said design layer and the resin material and applying heat and pressure; the decorated article so produced and a composite decorative overlay comprising a decorated thermosetting resin containing paper attached on the decorated side to a resin free absorbent paper.

3,421,968
ORNAMENTAL GLASS SLAB CONTAINING FLAT GLASS STRIPS
Lucien Préaux and Léo Bred, Bousois-sur-Sambre, France, assignors to Glaces de Bousois, Paris, France, a corporation of France
Filed Apr. 5, 1965, Ser. No. 445,392
Claims priority, application France, Apr. 7, 1964, 969,947/64
U.S. Cl. 161—5
Int. Cl. B44f 1/06



To make an ornamental glass slab, thin strips of glass (possibly colored) are randomly disposed on a casting surface whereupon glass is poured onto that surface to envelop the strips and fuse onto them without obliterating their outlines.

3,421,969

BEARING PREFORM MEANS

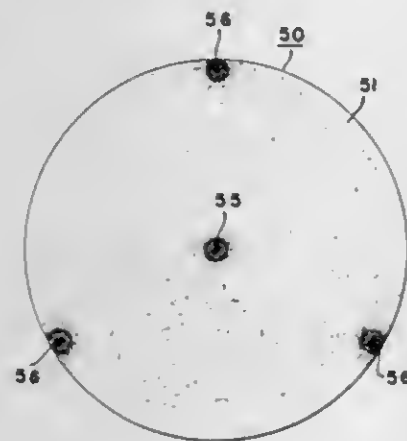
Melvin V. Roode and James F. Marlow, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Nov. 19, 1964, Ser. No. 412,436

U.S. Cl. 161—148

2 Claims

Int. Cl. D04b 1/58; B32b 7/14



A bearing preform laminant composed of two laminations of phenolic impregnated fibrous material bonded together and a selected pattern of stitching of polytetrafluoroethylene threads on at least one side of the laminant to provide a low friction bearing surface.

3,421,970

ELASTOMERIC COMPOSITION CONTAINING CHROMIC OXIDE FOR USE AS ROCKET INSULATION

James H. Daly, 258 Green Hill Drive, Tallmadge, Ohio 44278, John G. Sommer, 2236 Mayfield Road, Cuyahoga Falls, Ohio 44221, and Daniel A. Meyer, 775 New Castle Drive, Akron, Ohio 44313

No Drawing. Continuation of application Ser. No. 652,981, July 12, 1967, which is a continuation of application Ser. No. 196,498, May 21, 1962. This application Dec. 15, 1967, Ser. No. 690,765

U.S. Cl. 161—170

6 Claims

Int. Cl. C08f 45/04; C08g 51/02; B32b 5/16

The invention relates to an ablative lining as coating for insulating metals or reinforced plastics formed from a vulcanizable elastomeric composition which contains asbestos fibers and finely divided chromic oxide particles.

3,421,971

WEATHERABLE PLASTIC LAMINATES

Musa Rasim Kamal, Hamden, Conn., assignor to Formica Corporation, Cincinnati, Ohio, a corporation of Delaware

No Drawing. Filed Jan. 7, 1966, Ser. No. 519,186

U.S. Cl. 161—184

7 Claims

Int. Cl. B32b 27/38; B32b 27/30

1. A unitary, heat and pressure consolidated weather resistant laminate which consists of:

- (I) a rigidity imparting resinous plastic substrate in sheet form and
- (II) at least one adjacent sheet of a substantially transparent overlay member of adherable polyvinyl fluoride, an adherable side of which is directly bonded to said substrate member by means of a curable adhesive mixture which comprises:

(A) a reactive, water-insoluble, essentially linear thermoplastic copolymer of

- (1) from about 50% to 98% by weight of a monoethylenically unsaturated hardening comonomer containing no functional groups reactive with component (B), as defined hereinbelow,

- (2) from about 50% to 2% by weight of a monoethylenically unsaturated comonomer containing at least one functional group reactive with component (B), and
- (3) from about 0% to 45% by weight of a monoethylenically unsaturated softening comonomer containing no functional groups reactive with component (B), wherein the sum of the amounts of (1), (2) and (3) is 100%, and having an ultra-violet light absorber incorporated in said overlay member,

(B) a cross-linking amount of an agent selected from the group consisting of a 3,4-epoxy-cyclohexylmethyl, 3,4-epoxy-cyclohexanecarboxylate and hexamethoxymethylmelamine.

3,421,972

PROCESS FOR DIRECTLY BONDING POLYTETRAFLUOROETHYLENE TO METAL, ADHESIVE COMPOSITION USED THEREFOR AND LAMINATED PRODUCT THEREOF

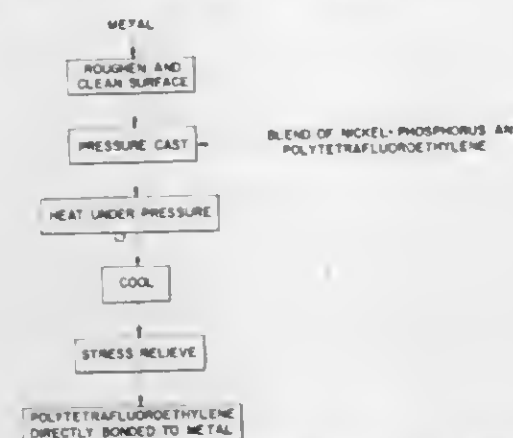
John E. Cromwell and Arthur G. Robson, Baltimore, Md., assignors to Koppers Company, Inc., a corporation of Delaware

Filed June 28, 1965, Ser. No. 467,645

U.S. Cl. 161—189

14 Claims

Int. Cl. B32b 15/08; B32b 27/20; B32b 31/12



A polytetrafluoroethylene composition is directly bonded to a metal surface by roughening the metal surface, applying a layer of the composition to the surface, compressing the layer to the metal at superatmospheric pressure, and sintering the layer; the composition being a blend of polytetrafluoroethylene and nickel-coated phosphorus particles. The composition may be filled with materials such as glass fibers, coke flour, bronze powder and cadmium-oxide powder. The composition may be used as a coating for the metal or as an adhesive for adhering two layers of metal together.

3,421,973

PROTECTION OF PLASTIC MATERIALS

Musa Rasim Kamal, Hamden, Conn., assignor to Formica Corp., Cincinnati, Ohio, a corporation of Delaware

No Drawing. Filed Dec. 20, 1965, Ser. No. 515,225

U.S. Cl. 161—189

5 Claims

Int. Cl. B32b 27/30

1. A unitary, heat and pressure consolidated weather resistant laminate which consists of:

- (I) A rigidity imparting resinous plastic substrate in sheet form and
- (II) at least one adjacent sheet of a substantially transparent overlay member of adherable polyvinyl fluoride, an adherable side of which is directly bonded to said substrate member by means of
- (III) a curable adhesive mixture which comprises a curable adhesive polyester resin comprising the esterification product of:

- (A) from about 34 to 49 mol percent of a cycloaliphatic dihydric alcohol,

3,421,977

THERMAL INSULATION

William George Hutchinson, Lymm, and Leslie Charles Cole, Culcheth, Warrington, England, assignors to United Kingdom Atomic Energy Authority, London, England

Filed Apr. 16, 1965, Ser. No. 448,649

Claims priority, application Great Britain, Apr. 23, 1964, 16,979/64

U.S. Cl. 176—40

5 Claims

Int. Cl. G21c 15/20

3,421,974
COPOLYESTERS OF MIXED PHTHALIC ACIDS, ACYCLIC DICARBOXYLIC ACIDS AND TETRAMETHYLENE GLYCOL

Maria V. Wiener, Akron, Ohio, assignor to The Good-year Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Sept. 18, 1964, Ser. No. 397,648

U.S. Cl. 161—226

5 Claims

Int. Cl. B32b 27/08; C08g 17/08

1. A random linear copolyester resin consisting of units of tetramethylene glycol, terephthalic acid, isophthalic acid and an acyclic dicarboxylic acid containing from 6 to 12 carbon atoms, in which the terephthalic acid units and the isophthalic acid units are present in the ratio of 3:2 to 2:3, the sum of the terephthalic acid units plus the isophthalic acid units comprising from 70 to 85 mol percent of the total mols of acid component of the resin, the acyclic dicarboxylic acid units correspondingly comprising from 30 to 15 mol percent of the total mols of acid component of the resin.

3,421,975

REVERSIBLE FLOCCULATION AND REDISPERSION OF CHRYSOTILE ASBESTOS

Robert G. Woolery, Monroe, and William H. Dresher, Warwick, N.Y., assignors to Uolon Carbide Corporation, a corporation of New York

No Drawing. Filed Apr. 30, 1965, Ser. No. 452,360

U.S. Cl. 162—3

11 Claims

Int. Cl. C03b 37/00; C04b 43/04

Asbestos fibers are dispersed in water, and flocculated by adjusting the pH to 6 to 10.5 by the addition of an alkaline reagent such as ammonium hydroxide, water soluble hydroxides, carbonates and phosphates of the alkali metals and of the alkaline earth metals. The flocculation produces an increase in freeness and thus quick separation of fibers from the water. The dried asbestos fibers may be redispersed in water by adjustment of the pH of the mixture in the range of 4 to 6 with a monobasic acid.

3,421,976

PROCESS OF ROSIN SIZING PAPER

Harold L. Jones, Mobile, Ala., assignor to International Paper Company, New York, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 456,515, May 17, 1965. This application Mar. 7, 1968, Ser. No. 711,166

U.S. Cl. 162—180

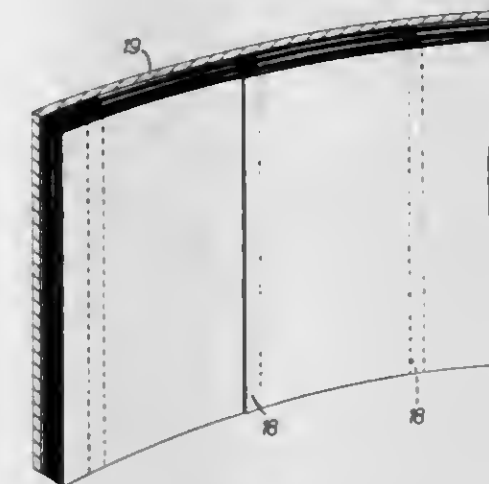
5 Claims

Int. Cl. D21d 3/00; D21h 3/34

A process of sizing paper in which papermaker's alum and a material yielding hydroxide ions (e.g., sodium hydroxide) are added to aqueous wood pulp, the pH thereof is kept at 7 or below, and rosin size is applied to the surface of paper made from the pulp.

ERRATUM

For Class 162—247 see:
Patent No. 3,422,450



Thermal insulation for direct contact with liquids is composed of metal sheets. Along lines which are possibly ribbed, continuous welds are made to join the sheets directly to one another and so define between the sheets a multiplicity of gas-filled compartments which are fully sealed from one another.

3,421,978

THERMAL POWER PLANT AND METHOD OF OPERATION

Henri-Jacques Gollion, Aix-en-Provence, Marcel Robin, Paris, and Bernard Schwab, Bourg-la-Reine, France, assignors to Commissariat à l'Energie Atomique, Paris, France

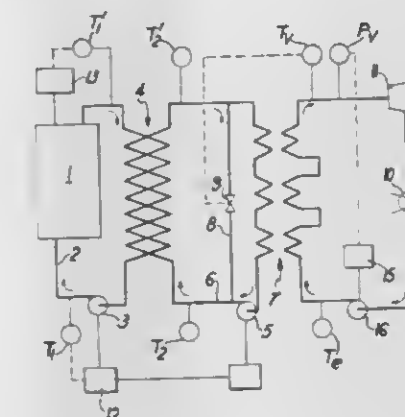
Filed Apr. 17, 1967, Ser. No. 631,274

Claims priority, application France, Apr. 29, 1966, 59,793

U.S. Cl. 176—65

6 Claims

Int. Cl. G21c 19/28; 15/00



A method for the production of power from a heat source such as a nuclear reactor cooled by a liquid metal comprising circulating a primary fluid between said heat source and a heat exchanger, circulating a secondary fluid between said heat exchanger and a steam generator and circulating a working fluid through said steam generator in which said working fluid vaporizes. A fraction of the secondary fluid flow is by-passed outside said steam generator and said fraction is regulated at each moment so

as to maintain at a constant predetermined value either the temperature or the pressure of the stream produced in said steam generator.

3,421,979

NUCLEAR REACTOR FUEL ELEMENTS

David Lees Lining, Culcheth, Warrington, England, assignor to United Kingdom Atomic Energy Authority, London, England

Filed Dec. 19, 1966, Ser. No. 602,850

Claims priority, application Great Britain, Dec. 23, 1965, 54,510/65

U.S. Cl. 176—68

Int. Cl. G21c 3/16

6 Claims



For a fast nuclear reactor, a fuel element of the kind having ceramic fuel in metallic sheathing, wherein the fuel is divided into a central zone and an outer zone or interlayer interposed contiguously between the central zone and the sheath, and fissile fuel is predominantly in the central zone with fertile fuel predominantly in the interlayer which has thermal insulating properties whereby the operating temperature of the fuel can be increased so as to lower its compressive creep resistance to enable irradiation-induced swelling of the fuel to be absorbed in voidage distributed in the fuel by virtue of its aggregated density being arranged to be less than (for example 85% of) maximum theoretical density. Where plutonium fissile atoms are employed, they are included in the central zone, while the interlayer is of natural or depleted uranium.

3,421,980

PROCESS FOR THE PRODUCTION OF β -CAROTENE

Leon Ninet and Jacques Albert Renaut, Paris, and Robert Charles Francois Tissier, Maisons-Alfort, France, assignors to Rhone-Poulenc S.A., Paris, France, a French body corporate

No Drawing. Filed June 29, 1966, Ser. No. 561,405

Claims priority, application France, July 8, 1965, 23,959, 23,960, 23,961

U.S. Cl. 195—28

Int. Cl. C12b 1/00

6 Claims

1. Process for the production of β -carotene which comprises culturing aerobically the + and the - forms of *Blakeslea tripora* in a nutrient medium containing, as an activator, a member selected from the group consisting of (a) a hydrazide of the formula:



where Het represents a mono- or di-nuclear unsaturated heterocyclic radical, other than 4-pyridyl, in which each ring has 5 or 6 atoms and the hetero atom or atoms are selected from the group consisting of oxygen, sulphur and nitrogen; (b) a pyridine of the formula:



where R is a member selected from the group consisting of alkanoyl of 1 to 4 carbon atoms, benzoyl, a thiosemicarbazone thereof, hydroxyl, hydroxyalkyl of 1 to 4 carbon atoms, carbamoyl, N-alkyl or N,N-dialkyl-carbamoyl in which each alkyl contains up to 4 carbon atoms, thio-carbamoyl and N-alkyl or N,N-dialkyl-thiocarbamoyl in which each alkyl contains up to 4 carbon atoms; and (c) pyridazine.

3,421,981

PRODUCTION OF THERAPEUTIC AND PROPHYLACTIC AGENT FOR UPPER RESPIRATORY INFECTIONS

Byron E. Leach, Alexandria, Va., assignor, by mesne assignments, to Byron E. Leach, Memphis, Tenn., Richard G. Hibbs, New Orleans, La., George T. Mabile, Washington, D.C., and William R. Klein, Vienna, Va.

Filed June 9, 1965, Ser. No. 462,536

U.S. Cl. 195—80

Int. Cl. A61k 13/00; C12d 9/00

4 Claims

A process for making a therapeutic and prophylactic agent for the treatment of upper respiratory infections is disclosed, wherein an acidic fermentation beer is treated with absorptive material, the absorptive material is eluted with a water-miscible alcohol or ketone, the eluting liquid is removed and extracted, the mother liquor remaining after the extraction is distilled to obtain a first distillate, and the first distillate is redistilled to obtain a second distillate. This distillate exhibits the desired properties and may be used as such, or may be subjected to certain additional purification steps.

3,421,982

ENZYMATIC ANALYSIS

Frederick C. Schultz and Gordon P. McFaul, St. Joseph, Mich., and Franklin Lim, Richmond, Va., assignors to Laboratory Equipment Corporation, St. Joseph, Mich., a corporation of Michigan

Filed May 14, 1965, Ser. No. 455,828

U.S. Cl. 195—103.5

Int. Cl. G01n 27/00

8 Claims

An analytical method for the quantitative determination of either of the elements of an enzyme-substrate system wherein the reaction product has a conductivity different from that of the substrate which comprises mixing only solutions of the enzyme and substrate, one of which is a quantitative known, immersing a pair of electrodes having a voltage thereacross in the mixture and reading the variation in current flow between the electrodes in a predetermined period of time within that period during which the rate of reaction is linear.

3,421,983

AZEOTROPIC DISTILLATION OF AQUEOUS TOLUENE DIAMINE

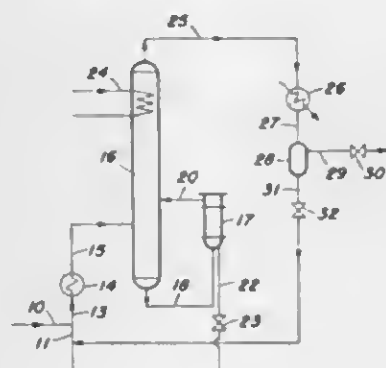
Norbert N. Buchsbaum, Clifton, N.J., assignor to The Lummus Company, New York, N.Y., a corporation of Delaware

Filed Mar. 7, 1967, Ser. No. 621,282

U.S. Cl. 203—14

Int. Cl. C07c 87/50; B01d 3/36

5 Claims



A method for removing water from a crude reactor effluent containing toluene diamine wherein monochlorobenzene is admitted with the crude reactor effluent to permit azeotropic distillation of the water.

3,421,984

PURIFICATION OF FLUIDS BY SELECTIVE ADSORPTION OF AN IMPURE SIDE STREAM FROM A DISTILLATION WITH ADSORBER REGENERATION

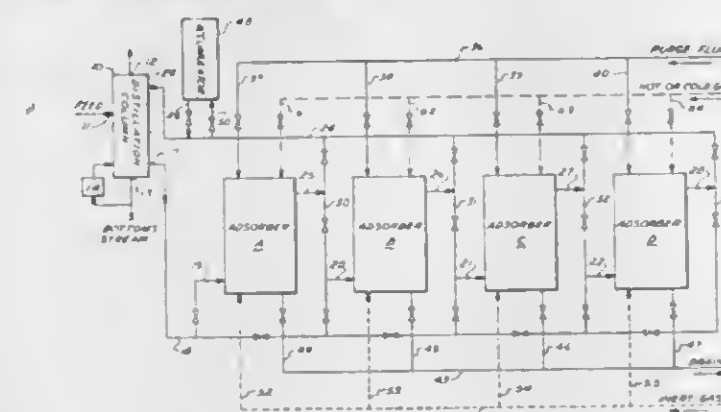
William Paul Jensen, Springfield, and Stanley Lazerus, Alexandria, Va., assignors to The Susquehanna Corporation, a corporation of Delaware

Filed May 2, 1967, Ser. No. 635,551

U.S. Cl. 203—41

Int. Cl. B01d 3/00; B01d 15/06

7 Claims



Method and apparatus for reducing the amount of selected impurities present in the effluent issuing from a continuously operating distillation column by treating a side stream of fluid removed from the column by selective adsorption. A plurality of adsorbers are cycled on and off stream in a continuous process. Single or multiple adsorbers remove the selected contaminants and are removed from the stream and replaced by others when they are saturated. Removed adsorbers are purged and rejuvenated by exposure to various fluids to desorb the impurities, dry and cool the adsorbers, and then pressurize and prime them before they are in condition to be returned to on-stream use.

3,421,985

METHOD OF PRODUCING SEMICONDUCTOR DEVICES HAVING CONNECTING LEADS ATTACHED THERETO

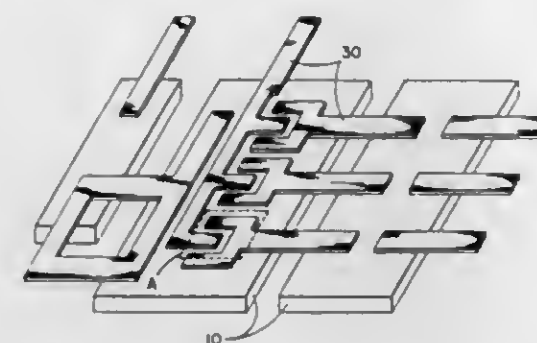
Allen G. Baker, Waltham, and Robert C. Ingraham, Topsfield, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed Oct. 19, 1965, Ser. No. 498,039

U.S. Cl. 204—15

Int. Cl. C23b 5/50; C23b 7/68

8 Claims



1. The method of forming connecting leads to a body of semiconductor material having a surface coated with an adherent layer of a non-conductive material interspersed with conductive contacts in ohmic connection with underlying portions of said body including the steps of placing a first temporary layer of material on predetermined portions of the surface of the layer of non-conductive material leaving exposed other portions of the surface of the layer of non-conductive material and at least portions of the conductive contacts, said exposed portions delineating areas on which the connecting leads are to be formed,

placing conductive material on said exposed portions of the surface of the layer of non-conductive material and the conductive contacts and on the first temporary layer of material,

subjecting the assembly to etching material capable of dissolving the material of the first temporary layer but not the other materials of the assembly to remove the first temporary layer and the overlying conductive material whereby conductive material remains on portions of the surface of the layer of non-conductive material and the conductive contacts,

placing a layer of a second conductive material and an overlying non-conductive masking coating on regions of the surface of the layer of non-conductive material to cause the conductive material on each of the portions of the surface of the layer of non-conductive material and the conductive contacts to be electrically connected to the conductive material on every one of the other portions,

electroplating a conductive material onto the exposed conductive material to provide conductive members overlying the portions of the surface of the layer of non-conductive material and the conductive contacts, removing said overlying non-conductive masking coating, and

subjecting the assembly to etching material capable of dissolving said second conductive material but not the other materials of the assembly to remove the second conductive material.

3,421,986

METHOD OF ELECTROPLATING A BRIGHT ADHERENT CHROMIUM COATING ONTO CAST-IRON

Wolfram Ruff, Frankfurt am Main, and Heinz Boucher, Neu Isenburg, Germany, assignors to Alfred Teves Maschinen- und Armaturenfabrik KG., Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed July 23, 1965, Ser. No. 475,044

Claims priority, application Germany, Oct. 28, 1964, T 27,311

U.S. Cl. 204—36

Int. Cl. C23b 5/50

4 Claims

Method of chromium-plating cast iron wherein a 3 to 8 micron layer of hard chromium is applied to the cast-iron body at a temperature above 45° C. in a hard chromium plating bath and is followed by 25 microns or more of soft chromium deposited at a current density of 60–120 amperes per dm.² from an alkali-free electrolyte with 0.45 to 0.75% free sulfate and 200 to 400 g. per liter of chromium trioxide, the soft chromium being plated at a temperature between 20° C. and 40° C. The soft-chromium layer is then polished.

3,421,987

ELECTROCHEMICAL MACHINING USING A FILM FORMING ELECTROLYTE INCLUDING AMINE ALCOHOLS

Mitchell A. La Boda, East Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

No Drawing. Filed Oct. 23, 1965, Ser. No. 504,108

U.S. Cl. 204—143

Int. Cl. B32p 1/16

3 Claims

Electrochemical erosion-inhibiting film-forming electrolytes for electrochemically machining ferrous metals, consisting essentially of aqueous solutions of alkali metal chlorides and amines of low molecular weight alcohols.

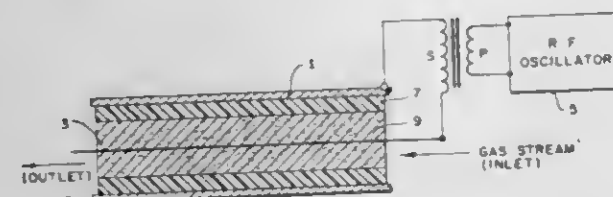
3,421,988 METHOD OF EMPLOYING SEMI-CONDUCTING CATALYSTS

Engene G. Rochow, 37 Squire Road,
Winchester, Mass. 01890

Continuation-in-part of application Ser. No. 263,248,
Mar. 6, 1963. This application May 19, 1967, Ser.
No. 641,429

U.S. Cl. 204-164
Int. Cl. B01k 1/00

7 Claims



Method and apparatus for controlling the catalytic action of a semi-conductor body upon a chemical medium, the current carriers within the body being varied by the application of electrical energy. The electrical energy may be applied, for example, by an alternating electric field, the period of which may be made equal to the reaction time of a chemical reaction in order to modify the reaction. By varying the periodicity and monitoring the reaction product the period corresponding to the reaction time may be determined.

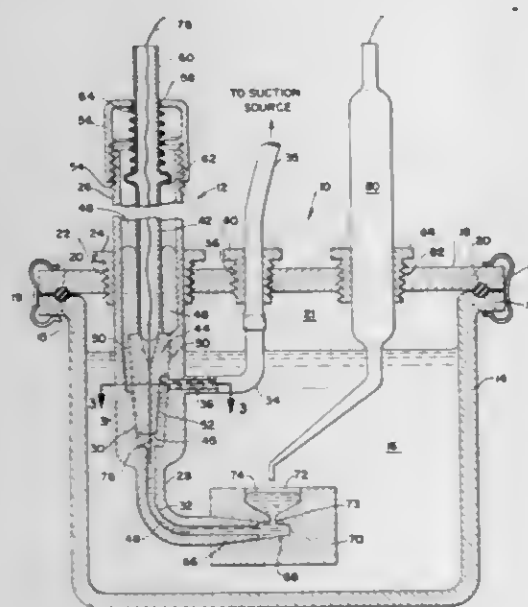
3,421,989 MERCURY POOL ELECTRODE

Jan W. Haagen-Smit, San Gabriel, Calif., assignor to
Beckman Instruments, Inc., a corporation of California

Filed Nov. 24, 1964, Ser. No. 413,421

U.S. Cl. 204-195
Int. Cl. B01k 3/06

14 Claims



The specification discloses a mercury pool-type electrode for use in electrochemical analysis apparatus and is comprised of two tubular bodies, one within the other, forming a mercury reservoir therebetween and also defining a valve, an exchangeable electrode cup connected to the reservoir which allows various mercury surface areas to be in contact with a test solution and a suction source connected to the cup to empty the mercury from the cup. In operation, the mercury pool electrode and a reference electrode are sealably inserted into a sealed electrolysis cell containing the test solution and containing a gas which does not adversely affect the solution.

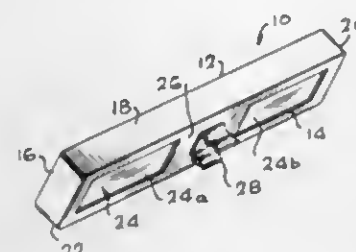
3,421,990 SACRIFICIAL ANODE

William B. Penix, Northridge, Calif., assignor to
Nancy Ann Penix

Filed Apr. 28, 1966, Ser. No. 551,836

U.S. Cl. 204-197
Int. Cl. C23f 13/00

10 Claims



1. A sacrificial anode for the galvanic protection of cathodic metal objects in a fluid electrolyte comprising:

A reactive mass;

A substantially continuous sheath of relatively non-reactive material surrounding said reactive mass and in fluid-tight relationship with the outer surface thereof;

An opening in said sheath through which said mass is exposed to said fluid electrolyte;

A strap of relatively non-reactive material lying across said opening in fluid-tight relationship with the outer surface of said mass and contiguous with the portions of said sheath lying adjacent opposite sides of said opening;

Mounting means positioned on said strap for detachably mounting said anode on said cathodic metal objects and in electrical contact therewith; and

Connecting means connecting said mounting means to the portion of said reactive mass lying under said strap.

3,421,991 PREPARATION OF CARBON AGGREGATE

Richard D. Hildebrandt, Cupertino, Calif., assignor to
Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware

Filed Mar. 22, 1966, Ser. No. 536,452

U.S. Cl. 204-294
Int. Cl. B01k 3/08

5 Claims



1. In the method for preparing carbon material for anode and cathode electrodes by blending various size fractions of a conventional carbon coke material to form a graded size distribution which gives a desired green bulk density, the improvement comprising:

(a) crushing a charge of as-received coarse carbon material consisting essentially of 100% plus 4 Tyler screen mesh particle size in a confined chamber in a press under a pressure of from 1000-20,000 p.s.i. whereby the weaker particles crumble and fill in between the stronger particles until there is sufficient

dove-tailing to bear the full pressure load without further degradation so as to obtain a natural and reproducible particle size distribution having a specific first bulk density; and

(b) adding fine particle size carbon material so as to obtain the desired particle size distribution and second bulk density.

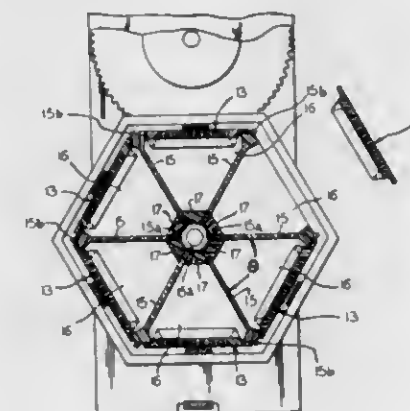
3,421,992 ELECTROPLATING BARREL

Anton Lazaro, 2022 N. California Ave.,
Chicago, Ill. 60647

Filed June 24, 1965, Ser. No. 466,789

U.S. Cl. 204-213
Int. Cl. C23b 5/78

11 Claims



Electroplating barrels radially divided into compartments. Centrally located sealed cathodes are electrically connected to each of the compartments through flexible contact extensions which protrude through the means sealing the central cathodes.

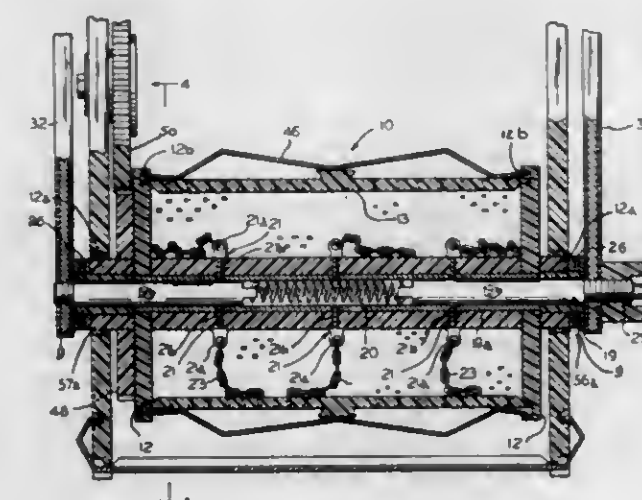
3,421,993 ELECTROPLATING BARREL

Anton Lazaro, 2022 N. California Ave.,
Chicago, Ill. 60647

Continuation-in-part of application Ser. No. 466,789,
June 24, 1965. This application Mar. 21, 1966, Ser.
No. 535,822

U.S. Cl. 204-213
Int. Cl. C23b 5/78

8 Claims



The invention disclosed is a perforated polygonal electroplating barrel divided longitudinally into multiple chambers, each chamber having flexible chain type cathodic contacts in electrical contact with a hollow female axial tubular conductor tube which rotates with the barrel, said conductor tube rotatably and slidably supported

by two fixed male conductor supports which are connected to each other and to an appropriate source of current.

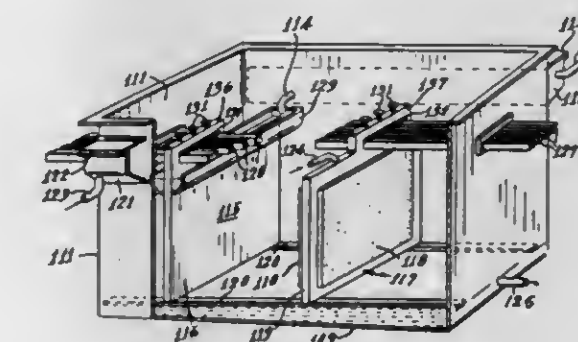
3,421,994 ELECTROCHEMICAL APPARATUS

Joseph Adrien M. Leduc, Short Hills, N.J., assignor to
Pullman Incorporated, Chicago, Ill., a corporation of Delaware

Original application Mar. 1, 1962, Ser. No. 176,534, now
Patent No. 3,325,382, dated June 13, 1967. Divided and
this application Sept. 27, 1966, Ser. No. 582,446

U.S. Cl. 204-219
Int. Cl. C23b 5/72

11 Claims



Electrochemical apparatus comprising a cell body for containing an electrolyte bath and having a plurality of electrodes vertically disposed therein, the electrodes having respective lower sections comprising an electrode surface adapted to be immersed in the electrolyte bath and respective upper sections having horizontal slots there-through, the slots of the electrodes of common polarity being aligned in the same horizontal plane, the aligned slots being adapted to receive slidably therethrough at least one electrically conductive bar, the bar being removably secured in place by means of adjustable connectors in association with the upper slotted section, at least one set of electrodes of common polarity being further provided with means for bringing a fluid reactant into contact with the electrode surface to be immersed in the electrolyte bath. An electrochemical cell is also provided having a plurality of electrodes at least one of which comprises two outer porous side walls and an inner chamber adapted to be fed a fluid reactant, the porous side walls of the electrode being separated from the next succeeding electrode by a spacer member provided with inlet and outlet means for introducing and withdrawing electrolyte to and from the space between the opposing electrode surfaces.

3,421,995 MEANS FOR PREVENTING DEFORMATION AND RAISING OF BATHS FOR IGNEOUS ELECTROLYSIS

Paul Morel, Paris, Jean-Pierre Givry, St.-Jean-de-Maurienne, and Robert Scaillet, St. Cloud, France, assignors to Pechiney-Compagnie de Produits chimiques et Electrometallurgiques, Paris, France

Filed June 9, 1966, Ser. No. 556,415

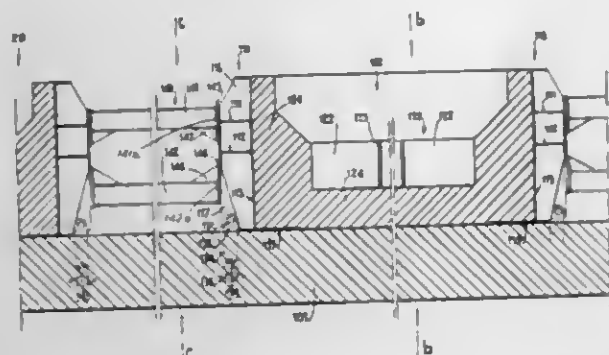
Claims priority, application France, June 18, 1965,
21,371

U.S. Cl. 204-244
Int. Cl. C22d 3/02

15 Claims

1. Means for preventing vertical and horizontal deformations during aging of a bath for igneous electrolysis in which the baths are aligned in side by side relation in a series with each bath surrounded by a casing having vertically disposed end and side walls, comprising anchoring means having portions embedded in the ground immediately adjacent the bath and fixed to the casing about

the bath to prevent the bath from being raised, buttressing means engaging the side walls of the casing to prevent horizontal deformations in which the buttressing means between the side walls of adjacent baths in the series comprises at least one thrust block extending crosswise between the adjacent side walls of the casings to brace one against



the other and insulation separating at least one of the thrust blocks from the engaged side walls of the casing, at least one thrust block adjacent the sides of the bath parallel with the axis of the series and anchored to the ground, and a solid retaining mass anchored to the ground alongside the outer wall of the outermost baths in the series.

3,421,996

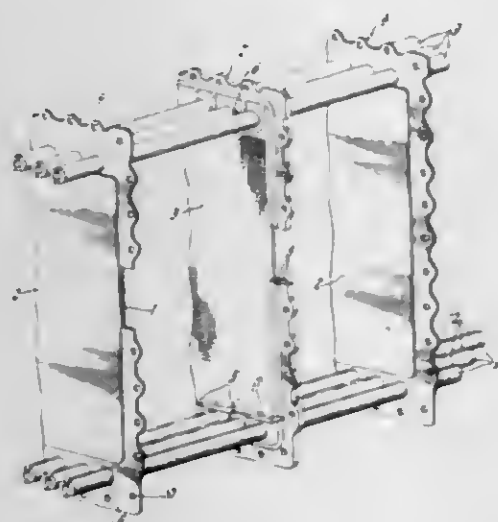
BATTERIES OF ELECTROCHEMICAL CELLS CONTAINING ELECTROLYTE METERING TUBES

Robert A. Coval and Charles W. Schade, Indianapolis, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Mar. 2, 1966, Ser. No. 531,166

U.S. Cl. 204-255
Int. Cl. C23b 5/68

5 Claims



1. In a battery of electrochemical cells wherein each cell comprises an anode, a cathode, and an electrical insulator separating said anode and said cathode and forming an electrolyte chamber between said anode and said cathode, said electrical insulator having an electrolyte inlet port therein, said insulators being provided with aligned holes connecting said inlet ports, a means for metering the flow of electrolyte to each of said electrolyte chambers of said cells of said battery comprising at least one longitudinally extending tube passing through said aligned holes and provided with a longitudinal slot in registered relation to said ports whereby orifices are formed at the junctions of said ports and said slot, each orifice having a cross sectional area equal to the width of said slot by the depth of said ports.

ELECTRODE FOR ELECTROLYTIC SHAPING

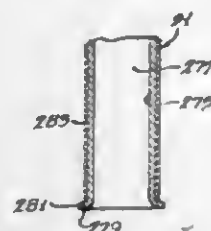
Lynn A. Williams, Winnetka, Ill., assignor to Anocut Engineering Company, Chicago, Ill., a corporation of Illinois

Continuation of application Ser. No. 165,569, Jan. 11, 1962, which is a division of application Ser. No. 772,960, Nov. 10, 1958, now Patent No. 3,058,895, dated Oct. 16, 1962. This application Feb. 14, 1966, Ser. No. 552,652

U.S. Cl. 204-284

Int. Cl. B01k 3/04; B23p 1/02; C23b 5/74

8 Claims



1. An electrode for use in electrolytic shaping apparatus, comprising a hollow metallic member adapted to be connected into an electrolyzing electric circuit, said member having a working and electrically conductive tip at one end thereof adapted to be brought into close spacing relationship with a metallic workpiece to be shaped, said member having an opening opposite said working tip through which an electrolyzing fluid is adapted to be pumped, said member having a minor metallic area contiguous to said tip and exposed laterally to provide controlled lateral electrolytic erosion of the workpiece, and an insulating sheath encasing and secured to said tubular member from said laterally exposed area toward and substantially to said end of said member opposite said working tip.

3,421,998

ELECTROPHORESIS APPARATUS WITH MEMBRANE STRIP HOLDING MEANS

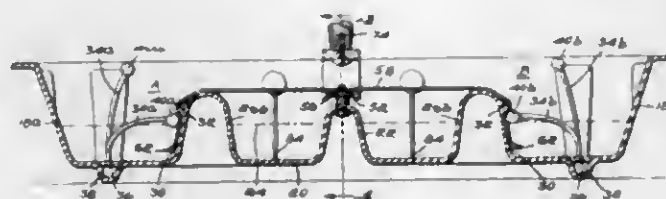
Stanley Yallen, 116 Sunset Drive,

Brockton, Mass. 02401

Filed Feb. 18, 1966, Ser. No. 528,590

U.S. Cl. 204-299
Int. Cl. B01k 5/00

10 Claims



1. An electrophoresis chamber comprising the combination of: a tray separated into two sections by a dividing wall extending upwardly from the bottom thereof, each said sections being suitably dimensioned to contain a desired measure of buffer solution; stationary support means in each said sections spaced laterally from said dividing wall, said support means extending upwardly to a level above that of the top of said dividing wall; and, a plurality of resilient holding means disposed laterally from each of said support means on the sides of said support means remote from the dividing wall, said holding means extending upwardly from the bottom of said tray and being adapted to be deflected to an operative position cooperating with said support means in securing at least one membrane strip in a taut position extending transversely over said dividing wall, the strip when in said taut position being spaced vertically above said dividing wall with its end immersed in the buffer solution contained in each said sections.

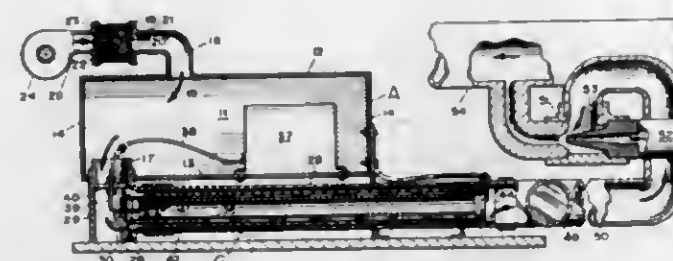
OZONE GENERATOR FOR PURIFYING A CONTAMINATED FLUID SYSTEM

Earl L. Corwin, Miami, Fla., assignor to Tri-O Dynamics, Inc., Miami, Fla.

Filed Mar. 28, 1966, Ser. No. 537,761

U.S. Cl. 204-314
Int. Cl. C01b 13/12

3 Claims



1. An ozone generating system comprising a metallic casing forming an enclosed chamber, said metallic casing having an inlet duct and a plurality of outlets, a plurality of ozone generating units mounted in proximity of said metallic casing, each of said ozone generating units consisting of a plastic tubular member having an outlet and an inlet communicating with one of said plurality of casing outlets, a glass tube having an end wall mounted concentrically in said plastic tubular member, a metallic tubular member positioned within said glass tube and in contact relation thereto along substantially its full length, a cap enclosing on an open end of said glass tube, said cap having an opening therein, a further metallic tubular member mounted within said plastic tubular member in spaced relation to said glass tube, and having a multiplicity of prongs struck from said further metallic tubular member and directed toward said glass tube, said prongs having a free end engaging said glass tube and forming passageways for air to pass from said tubular inlet to said outlet of said plastic tubular member, a tubular header connected to said last named outlets of said plastic tubular members, a ground connecting said further metallic tubular members and said casing, a transformer mounted in said chamber, a plurality of electric conduit means connected at one end to said transformer and extending through said opening in said caps and connected at the other end to each of said first named metallic tubular members, filter means for filtering out carbon monoxide and carbon dioxide and fan means mounted at said casing inlet duct for directing filtered air into said chamber and through said passageways in said ozone generating units.

3. The structure as recited by claim 2 taken in combination with venturi means connected to a source of contaminated water, a tubular header connected to said outlets of said plastic tubular members, a duct connecting said header and said venturi means for mixing ozone and contaminated water, said venturi means having an outlet, a water tank, an inlet in said tank connected to said outlet of said venturi means, air release valve means mounted at a top portion of said tank for discharging excess ozone in said tank, means connecting said air release valve means and further venturi means, said further venturi means having an inlet and an outlet, water pipe means connected to said inlet of said venturi means for mixing drinking water and said excess ozone, further tank means connected to said outlet for receiving said mixed excess ozone and drinking water, further air release valve means mounted on said last named tank for discharging further excess ozone, an air duct, means connecting said further air release valve means and said air duct for directing and mixing said further excess ozone with air passing through said air duct.

PHOSPHATE ADDITIVES IN A TAR SAND WATER SEPARATION PROCESS

John A. Bichard, Point Edward, Ontario, Canada, assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed Nov. 18, 1965, Ser. No. 508,439

U.S. Cl. 208-11
Int. Cl. C10g 1/00

5 Claims

The process is concerned with the recovery of oil from tar sands using an integrated process which comprises a plurality of stages. A particular sodium phosphate compound is utilized wherein in the first stage a relatively small amount of water is used and in a secondary stage a relatively greater amount of water is used. An oil-rich froth is separated from the secondary stage, passed to a distillation zone to segregate the oil, which is mixed with a diluent to separate the final traces of solids.

3,422,001

PROCESS FOR THE HYDROGENATION OF UNSATURATED HYDROCARBONS

Herman W. Kouwenhoven, Pieter C. Aben, and Karel van der Wal, Amsterdam, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 3, 1966, Ser. No. 524,856
Claims priority, application Netherlands, Feb. 8, 1965, 6501529

U.S. Cl. 208-143

Int. Cl. C10g 23/02; B01j 11/74; B01j 11/78

3 Claims

A process for hydrogenation of unsaturated hydrocarbons with a sulfided hydrogenation catalyst prepared by contacting a calcined supported hydrogenation metal component catalyst with a gas providing HCl during or subsequent to sulfiding.

3,422,002

HYDROREFINING WITH A SULFIDED CATALYST OF A PLATINUM SERIES METAL AND MOLYBDENA ON ALUMINA

Stephen M. Kovach, Highland, Ind., and Edward S. Rogers, Hinsdale, Ill., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 10, 1965, Ser. No. 486,523

U.S. Cl. 208-254
Int. Cl. C10g 17/00

8 Claims

Hydrocarbon feeds, e.g., boiling above 450° F., which contain nitrogen impurities are hydrorefined using a catalyst consisting essentially of about 0.5-5 weight percent of a platinum series metal and about 4-30 weight percent of molybdena on alumina, the catalyst having been pre-sulfided. Hydrorefining conditions include a temperature of about 400-800° F.; however, when using ruthenium and iridium, temperatures of at least about 635° F. are employed.

3,422,003

ISOTHERMAL MOLECULAR SIEVE HYDROCARBON SEPARATION PROCESS

Roger Hilary Anstey, Blackwater, and Robert Marshall Macnab, Richmond, England, assignors to The British Petroleum Company Limited, London, England, a corporation of England

No Drawing. Filed Dec. 15, 1964, Ser. No. 418,536
Claims priority, application Great Britain, Jan. 1, 1964, 52/64; July 20, 1964, 29,465/64

U.S. Cl. 208-310

Int. Cl. C10g 25/00

14 Claims

Straight chain hydrocarbons are separated from C₄-450° C. hydrocarbon mixtures by adsorption on a fixed 5 A. molecular sieve bed in a first stage. The bed is purged in a second stage to remove surface held and interstitially held material, and the straight chain hydrocarbons are desorbed in a third stage. All three stages are

operated isothermally in the vapour phase. Purging and desorption are effected by pressure variation alone.

3,422,004

MOLECULAR SIEVE REGENERATION METHOD
Frank G. Padra, Bellwood, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Apr. 19, 1965, Ser. No. 449,331
U.S. Cl. 208—310 11 Claims
Int. Cl. C10g 25/00; C07c 9/14

Regeneration of deactivated molecular sieve sorbents by treatment with liquid water to remove high molecular weight polar contaminants.

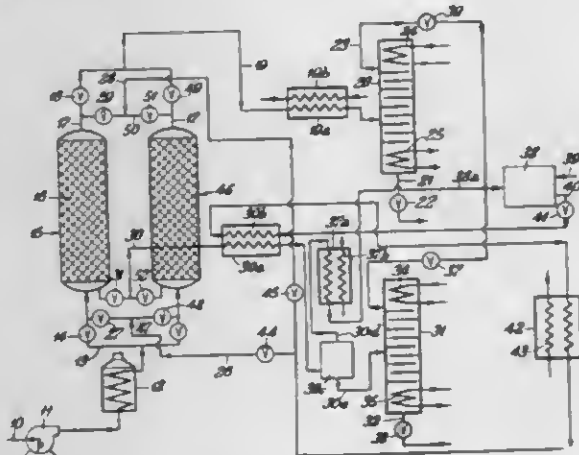
3,422,005

ISOBARIC PROCESS FOR MOLECULAR SIEVE SEPARATION OF NORMAL PARAFFINS FROM HYDROCARBON MIXTURES

William F. Avery, Neuss (Rhine), Germany, assignor to Union Carbide Corporation, a corporation of New York

Continuation-in-part of application Ser. No. 396,279, Sept. 14, 1964. This application Nov. 8, 1967, Ser. No. 693,036

U.S. Cl. 208—310 6 Claims
Int. Cl. C10g 25/02

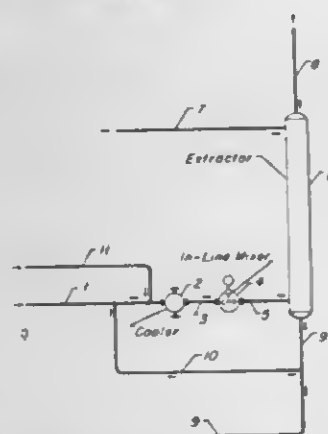


A constant pressure process for separating normal paraffins from a hydrocarbon vapor feed stream having 10 to 25 carbon atoms per molecule using normal hexane purge and zeolitic molecular sieve selective adsorbent.

3,422,006

SOLVENT RECOVERY PROCESS
Donald B. Broughton, Evanston, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed July 26, 1966, Ser. No. 568,023
U.S. Cl. 208—321 18 Claims
Int. Cl. C10g 21/28; C10g 21/16



Process for the recovery of primary solvent contained in a raffinate stream produced by a primary extraction process which comprises mixing the raffinate in a condi-

tioning zone with a first stream of secondary solvent under conditions sufficient to render the raffinate stream more readily extractable, passing the resulting mixture of secondary solvent, primary solvent, and conditioned raffinate into an extraction zone wherein it is contacted with a second stream of secondary solvent, and withdrawing from the extraction zone a third stream of secondary solvent and a raffinate stream which is substantially free of primary solvent. In more particular embodiments, a part of the third stream of secondary solvent is sent to the conditioning zone either to provide a part of, or to provide all of the first stream of secondary solvent. In further particular embodiments, a separation zone is contained intermediate to the conditioning zone and the extraction zone whereby a fourth stream of secondary solvent is withdrawn from the process while the conditioned raffinate is passed to the extraction zone. The process has particular application where the primary extraction process is an aromatics extraction process, the raffinate comprises paraffinic hydrocarbons, and the secondary solvent comprises water. Primary solvents recovered within the scope of the inventive process include sulfolane-type chemicals, polyethylene glycols, polypropylene glycols, dimethyl sulfoxide, etc.

3,422,007

WASTE TREATMENT PROCESS
Francis J. Larkin, 1707 N. 78th Ave., Elmwood Park, Ill. 60635

No Drawing. Filed Oct. 22, 1965, Ser. No. 502,354
U.S. Cl. 210—7 8 Claims
Int. Cl. B03b 7/00

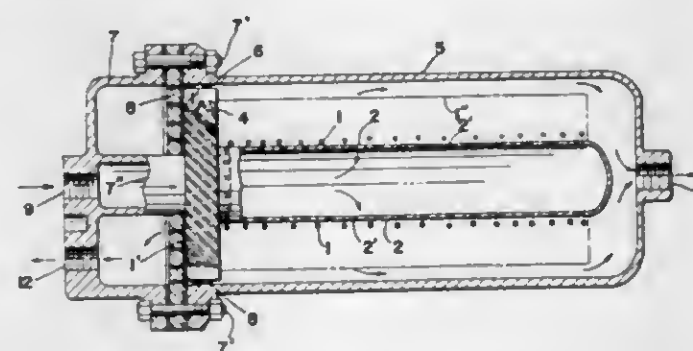
A method for treatment of waste materials such as sewage comprising side by side settling and aeration zones with a common boundary therebetween and having the bottom of the settling zone elevationally higher than the bottom of the aeration zone and having upper and lower communication links between the zones, the lower communication link for return of sludge being below the bottom of the common boundary. Sludge settling adjacent the bottom of the common boundary is moved intermittently on a preestablished time cycle in response to a positive thrust biased in the direction of the aeration tank by means moving in the lower communication link whereby sludge is swept beneath the common wall into the aeration zone.

3,422,008

WOUND HOLLOW FIBER PERMEABILITY APPARATUS AND PROCESS OF MAKING THE SAME

Earl A. McLain, Walnut Creek, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Oct. 24, 1963, Ser. No. 318,555
U.S. Cl. 210—22 55 Claims
Int. Cl. B01d 13/04



This invention comprises permeability separatory apparatus and process of manufacture and use of such apparatus. In preparing this apparatus hollow fibers of a

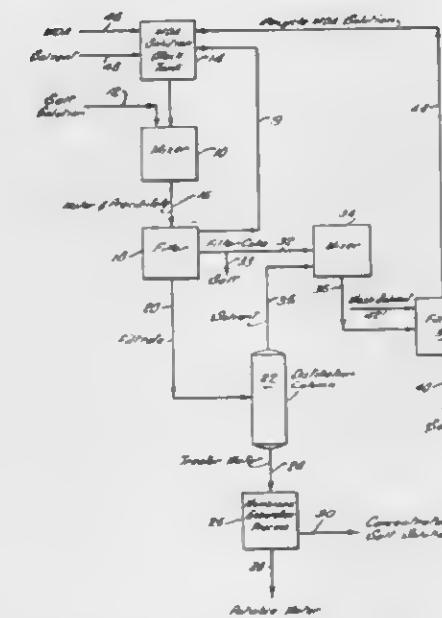
selectively permeable membrane are wound spirally around a cylindrical core through a substantial portion of the length of the core. Near at least one end of such winding, a region is impregnated with a casting resin so as to form a flange extending annularly and perpendicularly from the core. This flange is subsequently cut in a direction perpendicular to the axis of the core so as to provide open ends of the fibers extending through the flange.

3,422,009

PROCESS FOR REMOVAL OF SALTS FROM AQUEOUS SOLUTIONS WITH METHYLENEDIANILINE

Frederic C. McCoy, Beacon, and Howard V. Hess, Glenham, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

Filed June 28, 1967, Ser. No. 649,553
U.S. Cl. 210—23 11 Claims
Int. Cl. B01d 21/01



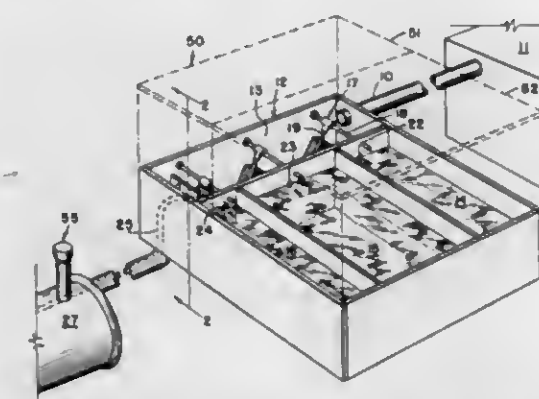
A process for removing certain sodium and lithium salts from aqueous solutions in the form of insoluble precipitates by reacting the soluble salts with a solution of 4,4'-methylenedianiline in a solvent having a mutual solubility for both water and methylenedianiline.

3,422,010

METHOD AND APPARATUS FOR TREATING FLOWING SEWAGE IN A NITRIFICATION LINE

Charles A. Case, Box 492, Oak Ridge, N.C. 27310

Filed Mar. 25, 1965, Ser. No. 442,661
U.S. Cl. 210—50 14 Claims
Int. Cl. C02b 1/20; C02b 1/34



An apparatus and method for purifying sewage in a nitrification line, increasing the percolation rate of the surrounding soil, and protecting that soil from the ad-

3,422,011

FOAM PRODUCING MATERIAL

John F. Jackovitz, Morton Grove, Ill., and Will B. Jamison, Wyckoff, N.J., assignors, by mesne assignments, to Walter Kidde & Company, Inc., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 315,664, Oct. 11, 1963. This application May 3, 1966, Ser. No. 547,185

U.S. Cl. 252—3 5 Claims
Int. Cl. A62d 1/00

A foam concentrate is described which comprises an ethoxylated alkyl sulfate salt, an aliphatic alcohol such as myristyl or lauryl alcohol which acts as a foam stabilizer, and a diether monohydric alcohol which acts as a leveling agent to reduce the weight of the foam and improve the drainage characteristics.

3,422,012

NON-THIXOTROPIC OIL

Jack R. Hopper and Blaine G. Corman, Baytown, Tex., assignors to Esso Research and Engineering Company

Filed Aug. 15, 1966, Ser. No. 572,383
U.S. Cl. 252—28 10 Claims
Int. Cl. C10m 1/10

A pseudoplastic, non-thixotropic viscous mixture is formed by the combination of a highly aromatic, high-boiling hydrocarbon oil and a finely divided pyrogenic silica. The aromatic hydrocarbon content of the oil is at least 80 weight percent, and the boiling range is from 600° F. to 800° F., with a 50% point of at least 665° F. The pyrogenic silica is admixed with the aromatic hydrocarbon oil in proportions from 3 to 20 parts by weight of pyrogenic silica for each 100 parts by weight of the aromatic hydrocarbon.

The mixture is found to be non-thixotropic, contrary to the common experience which shows that oils thus thickened are thixotropic in nature.

3,422,013

PROCESS FOR THE PREPARATION OF NON-NEWTONIAN COLLOIDAL DISPERSE SYSTEMS

Robert W. Scher, Chagrin Falls, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Filed July 7, 1967, Ser. No. 651,688
U.S. Cl. 252—33 14 Claims
Int. Cl. C09k 3/00

An improved process for the preparation of non-Newtonian colloidal disperse systems such as are prepared by the treatment of a carbonated, highly basic calcium sulfonate with water. The carbonation of basic calcium sulfonates ordinarily is not carried to the point of complete neutrality because of processing difficulties which arise because of complete carbonation; thus, a somewhat incompletely carbonated metal sulfonate is the usually available material for use in the preparation of certain non-Newtonian colloidal disperse systems. The improvement of this invention consists in carbonating the non-Newtonian product in a fluid medium. That is, the incompletely carbonated calcium sulfonate, for example, is treated with water (or some other treating agent) to form the non-Newtonian product which is fluidized as formed, and then is carbonated. The resulting product is

much easier to handle, e.g., to transfer from one container to another, and is a more desirable component for formulation of plastic compositions.

3,422,014

SYNTHETIC LUBRICANT COMPOSITION OF IMPROVED OXIDATION STABILITY

Alan D. Forbes, Knaphill, Woking, and Patrick Gould, Woodham, near Weybridge, England, assignors to The British Petroleum Company Limited, London, England, a corporation of England

No Drawing. Filed Jan. 17, 1966, Ser. No. 520,886

Claims priority, application Great Britain, Jan. 15, 1965, 1,868/65

U.S. Cl. 252—37
Int. Cl. C10m 3/22

6 Claims

1. A lubricating composition consisting essentially of a blend of

(A) a liquid aliphatic ester consisting of at least one neutral polyester having at least two ester linkages per molecule prepared by reacting together under esterification conditions in at least one stage;

- (1) an alcohol selected from the group consisting of a monohydric and polyhydric alcohol having from about 5 to about 15 carbon atoms per molecule and having no hydrogen atom attached to any carbon atom in a beta position with respect to any —OH group, and
- (2) a carboxylic acid selected from the group consisting of monocarboxylic acids and polycarboxylic acids having from about 2 to about 14 carbon atoms per molecule,

and

(B) at least one organo-metallic compound selected from the group consisting of

- (1) salts of carboxylic acids containing from 8 to 22 carbon atoms,
- (2) complexes of beta di-ketones having the formula



wherein R_1 and R_2 are lower alkyl groups containing from 1 to 10 carbon atoms, and

- (3) complexes of phthalocyanines, wherein the metal component of said organo-metallic compound is selected from the group consisting of metals of the first transition series according to the Periodic Table of Mendeleeff and cerium, said organo-metallic compound being present in an amount which produces a metal content of up to 500 parts per million, based on the total weight of the lubricating composition.

3,422,015

GREASE COMPOSITION

Peter Stanley Backlund, Anaheim, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California

No Drawing. Filed Dec. 16, 1966, Ser. No. 602,138

U.S. Cl. 252—42.7
Int. Cl. C10m 5/00

10 Claims

A grease composition comprising a lubricating oil and a thickening agent consisting of the reaction product of a metal alkoxide and a copolymer of ethylene and an unsaturated ester.

3,422,016

ANTIOXIDANT MIXTURE OF BORON ESTER OF AN ALKANOLAMINE AND A HYDROXYPHENONE, AND USE THEREOF

Henryk A. Cyba, Evanston, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 367,854, May 15, 1964. This application July 21, 1967, Ser. No. 654,961

The portion of the term of the patent subsequent to Jan. 31, 1984, has been disclaimed

U.S. Cl. 252—49.6
Int. Cl. B01f 1/16

19 Claims

Synergistic antioxidant mixture of borate of N,N-dihydrocarbyl-alkanolamine or borate of polyalkyl- or polycycloalkyl - polyhydroxyalkyl-alkylenepolyamine and a hydroxyphenone, with or without small amount of tri-alkylphenol. This antioxidant mixture is used as an additive in organic substrates normally subject to oxidative deterioration.

3,422,017

LUBRICANT COMPOSITIONS CONTAINING AMINE SALTS

James G. Dadura, Fishkill, Edwin C. Knowles, Poughkeepsie, and Frederic C. McCoy, Beacon, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 183,353, Mar. 29, 1962. This application June 1, 1965, Ser. No. 460,579

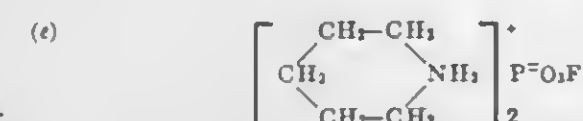
U.S. Cl. 252—49.9

8 Claims

Int. Cl. C10m 1/44; C07f 9/04

1. A lubricating composition comprising a major portion of a lubricating oil and an amine salt in an amount sufficient to improve the load-carrying capacity of said lubricating oil, said amine salt having a formula selected from the group consisting of:

- (a) $(R''R'RN+H)_2P=O_2F$
- (b) $R''R'RN+HP-O_2F_2$
- (c) $R''R'RN+HP-F_6$
- (d) $(R''R'RN+H)HP-O_2F$ and



wherein R is selected from the group consisting of hydrocarbyl radicals and hydroxy substituted hydrocarbyl radicals containing from 1 to about 30 carbon atoms and R' and R'' are selected from the group consisting of hydrogen hydrocarbyl radicals and hydroxy-substituted hydrocarbyl radicals containing 1 to about 24 carbon atoms.

3,422,018

METHOD OF MANUFACTURING FERRO-ELECTRIC CERAMICS

Pierre Auguste Marcel Belloc, Paris, France, assignor to Societe Anonyme: Societe Alsacienne de Constructions Atomiques de Telecommunications et d'Electronique "Alcatel," Paris, France, a corporation of France

No Drawing. Filed July 28, 1965, Ser. No. 475,596
Claims priority, application France, July 31, 1964, 983,867

U.S. Cl. 252—62.9
Int. Cl. H01b 1/06

12 Claims

Ferroelectric ceramic lead-barium niobates are provided with increased density and uniformity and with improved dielectric properties and reproducibility by replacing substantial but small quantities of niobium atoms—up to 5%—with hafnium atoms.

3,422,019

METHOD FOR PROCESSING FERRITE CORES

James E. Webb, Administrator of the National Aeronautics and Space Administration with respect to an invention of Albert W. Vinal, Owego, N.Y.

Filed Apr. 30, 1965, Ser. No. 452,422

U.S. Cl. 252—62.64
Int. Cl. C04 35/26

2 Claims

A method of processing magnesium manganese ferrite cores to optimize their electrical response characteristics by first sintering the cores in accordance with a selected time-temperature product to optimize the "0" response characteristic, and thereafter providing controlled quench rate annealing to optimize the threshold coercivity of the "1" electrical response characteristic. One method of controlling quench rate is by allowing the ferrite bodies to fall freely through a space having a temperature gradient.

3,422,020

LOW-SUDSING DETERGENT COMPOSITIONS

Edmund Schmadel, Dusseldorf-Benrath, and Ernst Gotte, Ratingen-Tiefenbroich, Germany, assignors to Henkel & Cie. G.m.b.H., Dusseldorf, Holthausen, Germany, a corporation of Germany

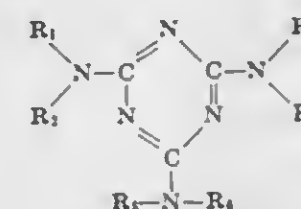
No Drawing. Filed Feb. 7, 1966, Ser. No. 525,765

Claims priority, application Germany, Dec. 15, 1965, H 57,959

U.S. Cl. 252—99
Int. Cl. C11d 3/28

14 Claims

Low-sudsing detergents comprising at least one wash-active agent and a water-insoluble melamine derivative having the formula:



wherein R_1 , R_3 and R_5 each represent hydrogen or an organic radical containing 1 to 24 carbon atoms, and R_2 , R_4 and R_6 are each an organic radical containing 1 to 24 carbon atoms.

3,422,021

DETERGENT COMPOSITION

Clarence H. Roy, Cincinnati, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Mar. 18, 1963, Ser. No. 266,055

U.S. Cl. 252—161
Int. Cl. C11d 1/37; C07f 9/02; C11d 1/10; C11d 1/34

1. A detergent composition consisting essentially of an organic detergent selected from the group consisting of anionic detergents selected from the group consisting of

- (a) fatty acid soaps, and
- (b) water-soluble alkali metal salts of organic sulfuric reaction products having in their molecular structure an alkyl radical having 8 to 22 carbon atoms and a radical selected from the group consisting of sulfonic acid and sulfuric acid ester radicals;

nonionic detergents;

ampholytic detergents selected from the group consisting of

- (a) sodium-3-dodecylaminopropionate, and
- (b) sodium - 3 - dodecylaminopropanesulfonate; and zwitterionic detergents which are aliphatic quaternary ammonium compounds containing straight chain or branched chain aliphatic radicals, and wherein one of the aliphatic substituents contains from about 8 to 18 carbon atoms and one contains an anionic water solubilizing group which is carboxy, sulfo, or sulfato, and mixtures thereof, and

3,422,022

REDUCED FOULING OF STEAM TURBINES BY TREATMENT WITH SULFUR CONTAINING COMPOUNDS

James H. Richards, Holland, Pa., assignors to Betz Laboratories, Inc., Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Oct. 27, 1966, Ser. No. 589,795

U.S. Cl. 252—181

10 Claims

Int. Cl. C22f 11/16; C23f 11/00

A method of eliminating, reducing, or inhibiting the fouling of steam turbines and in particular, the controlling of fouling which is due to the presence of contaminants in the steam by dispersing in the steam employed to operate a turbine between one to fifty parts by weight of a sulphur compound selected from the group consisting of sodium acid sulphite, ethylene sulphite, sodium bisulphate, sodium sulfoxylated formaldehyde, sodium formaldehyde bisulfite and morpholine sulphate for each part by weight of the contaminant contained in the steam.

3,422,023

FLUORESCENT LANTHANIDE CHELATES OF DIBENZOYLAMINE

Marcos Y. Kleinerman, Southbridge, Mass., assignor, by mesne assignments, to American Optical Company, Southbridge, Mass., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 419,209, Dec. 17, 1964. This application Mar. 17, 1967, Ser. No. 623,827

U.S. Cl. 252—301.2

10 Claims

Int. Cl. C09k 1/00

A composition with ligands whose excited energy levels are high enough for achieving energy transfer to a rare earth ion without substantial quenching of the resultant fluorescent emission from the rare earth ion. The desirable fluorescence properties are enabled by lanthanide chelates of dibenzoylamine; $(C_6H_5CO)_2NH$, wherein the ligand ion may be either terbium, europium, samarium, and dysprosium.

3,422,024

STRONTIUM AND BARIUM SUBSTITUTED LANTHANUM PHOSPHATE PHOSPHORS

William A. McAllister, Morristown, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Feb. 3, 1966, Ser. No. 524,816

U.S. Cl. 252—301.4

4 Claims

Int. Cl. C09k 1/04

1. A phosphor composition having a matrix consisting essentially of (lanthanum, X) phosphate, wherein X is at least one metal of the group consisting of strontium and barium, said matrix is activated by one of the group consisting of europium and europium plus lithium, and the ratio of metallic elements in said phosphor to phosphorus

in said phosphor fall within the following gram-atom ranges:

$$0.01 < \frac{\text{Eu}}{\text{P}} < 0.24$$

$$0 < \frac{\text{Li}}{\text{P}} < 0.24$$

$$0.05 < \frac{\text{Sr}}{\text{P}} < 0.875$$

$$0.05 < \frac{\text{Ba}}{\text{P}} < 0.7$$

and

$$\frac{X + \text{La}}{\text{P}} \approx 1$$

3,422,025

GLASS LASERABLE MATERIAL

Elias Snitzer, Sturbridge, Mass., and Robert W. Young, Woodstock, and Richard F. Woodcock, South Woodstock, Conn., assignors, by mesne assignments, to American Optical Company, Southbridge, Mass., a corporation of Delaware

Filed Nov. 10, 1964, Ser. No. 410,209

U.S. Cl. 252—301.6
Int. Cl. C09k 1/04

4 Claims

Laserable materials including a glassy host material with a sufficient quantity of a fluorescent material therein to support in the host material a sufficient inversion in population to provide enough energy by stimulated emission to overcome light energy losses in the host are known. Examples are given in the co-pending application of Elias Snitzer, Ser. No. 168,012, filed Jan. 16, 1962, and assigned to the same assignee as the present application.

Where a selected glass is used as a host material, the inclusion of a quantity of heavier monovalent, potassium, cesium, or rubidium ions or combinations thereof for a portion of the lighter sodium ions contained in such glass and a quantity of heavier divalent ions such as cadmium, lead or one or more ions selected from the alkali earth group increases the fluorescent lifetime of the laserable material and permits the addition of larger quantities of the activated material before quenching occurs. Furthermore, increased ease of operation as a 4-level energy system is attained.

3,422,026

BITUMINOUS PAVING EMULSIONS

James R. Wright, Bethesda, Md., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 103,823, Apr. 18, 1961. This application Apr. 6, 1965, Ser. No. 446,118

U.S. Cl. 252—311.5

Int. Cl. B01j 13/00; C09d 3/24

2 Claims

An oil-in-water type paving emulsion of 50 to 75% by weight of asphalt emulsified in water with the aid of a combination of cation-active and ampholytic emulsifiers, wherein from 0.025 to 0.25% by weight is an ampholytic emulsifier whose isoelectric point lies on the acid side of the neutral point. The pH of the emulsion is on the acid side, and the ampholytic component of the emulsifier combination contains at least one aliphatic C₈—C₂₄ hydrocarbon chain, and at least one basic nitrogen atom, and at least one acid radical.

3,422,027
NOVEL COMPOSITIONS AND THEIR USE IN PREVENTING AND INHIBITING FOAM
Elemer Domba, Olympia Fields, Ill., assignor to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

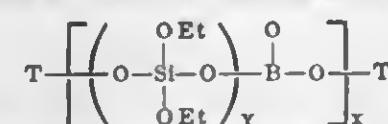
No Drawing. Continuation-in-part of application Ser. No. 391,796, Aug. 24, 1964. This application Feb. 15, 1967, Ser. No. 616,186

U.S. Cl. 252—321

8 Claims

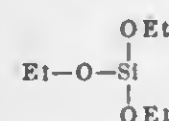
Int. Cl. B01d 19/04; C07f 5/04; C07f 7/04

This invention is directed to new compositions containing silicon and boron in the form of polymeric esters. These compounds have the structural formula:



where X is an integer ranging from 10 to 200, Y is an integer ranging from 4 to 15 and R is an organic alkyl radical ranging from 1 to 18 carbon atoms. T may be either

or



The polymer itself is best described as a polyoxyethyl-silicoxyalkylboroxy oligomer having the above repeating units.

These compositions are useful in defoaming a wide variety of industrial systems which tend to foam. The invention is also concerned with preparative techniques for making the above-described compounds.

3,422,028

EMULSION TREATER

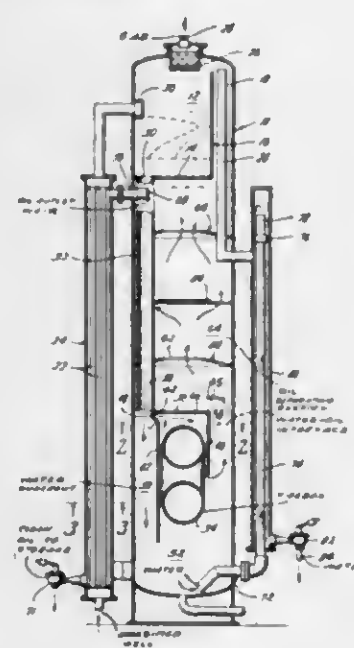
Charles R. Perry, Odessa, Tex., assignor to Sivalis Tanks, Inc., Odessa, Tex.

Filed Jan. 3, 1967, Ser. No. 607,037

U.S. Cl. 252—362

Int. Cl. B01d 17/04; B01d 19/02

11 Claims



A well fluid water-oil emulsion is tangentially admitted into the top of a tower from which gases are centrifuged and exhausted. The emulsion is then conveyed by a vertical conduit to a water knockout box in the bottom of the tower while emulsion is laterally removed from the box to a heater for further separation of water and oil. The oil rises from the heater into the central oil separating section of the tower and is removed near the top of the tower. Water is removed from the tower bottom.

3,422,029
CONVERSION OF 3-CARENE TO A COMPOSITION COMPRISED OF META-MENTHADIENES AND PARA-MENTHADIENES IN SUBSTANTIAL AMOUNTS

Albert B. Booth, Jekyll Island, Ga., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 18, 1966, Ser. No. 595,350

U.S. Cl. 252—364

Int. Cl. C07c 13/00

A rubber solvent comprised of meta-menthadienes and para-menthadienes in admixture, is prepared by isomerization of 3-carene in the presence of an acid, such as sulfuric acid, and a surface-active agent, such as an ethylene oxide-rosin amine reaction product.

3,422,030

ALKYL PHENYL PHOSPHITE INHIBITORS FOR ALKYLATED PHENOLS

Charles P. Riley, Jr., Chelmsford, Mass., assignor to National Polychemicals, Inc., Wilmington, Mass., a corporation of Massachusetts

No Drawing. Filed May 11, 1966, Ser. No. 549,189

U.S. Cl. 252—400

Int. Cl. B01j 1/16

A composition composed of a eutectic comelt of an alkylated phenol and an alkyl phenyl phosphite.

3,422,031

METHOD FOR REACTIVATION OF OXIDE CATALYSTS

Jakov Rafailovich Katsobashvili and Galina Mikhailovna Belova, Moscow, U.S.S.R., assignors to Institut Neftekhimicheskogo Sinteza imeni A.V. Topchieva, Moscow, U.S.S.R.

No Drawing. Filed Nov. 17, 1964, Ser. No. 411,721

U.S. Cl. 252—417

Int. Cl. B01j 11/04

A method of reactivating a catalyst deteriorated by carbonaceous materials deposited thereon in the course of hydrocracking diverse hydrocarbon feed stock. Hydrogen gas low in carbon monoxide is obtained as a result of the reactivation procedure.

The reactivation is carried out at a temperature of 600–750° C. and a pressure of 20–30 atm. with a gas consisting of oxygen and steam taken in a ratio of from 10:1 to 15:1 and containing additions of a hydrocarbon material injected into the deteriorated catalyst bed simultaneously with said steam-oxygen mixture. The gas produced as a result of the reactivation process consists essentially of H₂ and CO₂ and a small percentage of H₂S, CO and CH₄.

3,422,032

SYNTHETIC DIAMANTIFEROUS COMPOSITION

Francis J. Figiel, Boonton, N.J., and Raffaele F. Muraca, Los Altos, Calif., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed Sept. 7, 1965, Ser. No. 485,392

U.S. Cl. 252—444

Int. Cl. C01b 31/06

8 Claims

This application is directed to synthetic diamantiferous material composed of individual diamond particles characterized by being free of microscopically detectable crystalline faces, by an average diameter less than about 0.1 micron, by a surface area between about 40 and 400 square meters per gram, and by having at least 10% of their surface area attached to hydroxyl, carboxyl and carbonyl functional groups. The diamantiferous material, when substantially anhydrous, has an infrared spectrogram which has characteristic infrared absorption peaks at the wave lengths 5.65 and 16.2 microns and broad absorption bands at the wave lengths 2.8 to 3.5 microns and 9.2 to 9.8 microns.

3,422,033
METHOD OF CRYSTALLIZING ALUMINO-SILICATES

Henry D. Ballard, Jr., Dolton, John Mool, Homewood, and Edward S. Rogers, Hinsdale, Ill., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed May 25, 1965, Ser. No. 458,744

U.S. Cl. 252—455

Int. Cl. B01j 11/00

A treatment for crystallizing silica-alumina hydrogel to form crystalline aluminosilicates providing superior hydrocarbon conversion catalysts comprises treating the gel with an aqueous solution of a strongly basic, lower alkyl-substituted ammonia until the gel is converted to a crystalline material, neutralizing the base, and drying the resultant solid. A preferred lower alkyl-substituted ammonia is tetramethy ammonium hydroxide.

3,422,034

POLYALKYLENE OXIDE POLYMERIZATION PROCESS AND PRODUCT

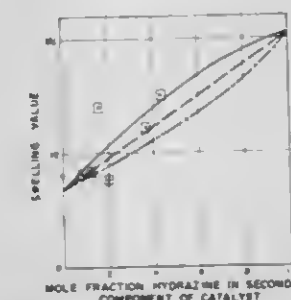
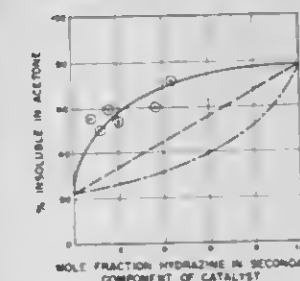
Nissim Calderon, Akron, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Aug. 26, 1964, Ser. No. 392,188

U.S. Cl. 260—2

Int. Cl. C08g 23/14; C08g 23/00; B01j 11/00

12 Claims



A catalyst system for vicinal alkylene oxides and vicinal alkylene sulfides polymerization, comprised of dialkylzinc and hydrazine, results in semicrystalline elastomeric polymers. The poly(propylene oxide) obtained by the described catalyst exhibits solubility and swelling characteristics in acetone, which indicate a broad distribution of the crystalline sequences among the polymer chains. The activity of the dialkylzinc-hydrazine catalyst depends on the molar ratio of hydrazine to dialkylzinc. Best results are achieved when the hydrazine/dialkylzinc ratio is in the range 0.6–0.8. By using hydrazine/water combinations as the secondary component with dialkylzinc, it is possible to prepare poly(propylene oxides) with varying acetone solubility and swelling characteristics.

3,422,035

PROCESS FOR POLYMERIZING CYCLIC ACETALS

Herbert May, Oldbury, near Birmingham, Brian John Kendall-Smith, Birmingham, and Susannah Burr, Camargue, Welland, England, assignors to British Industrial Plastics Limited, Manchester, England, a corporation of the United Kingdom

No Drawing. Filed Aug. 27, 1965, Ser. No. 483,337

U.S. Cl. 260—2

Int. Cl. C08g 1/18

A cyclic acetal is polymerized under substantially an-

hydrous conditions in the presence of a catalyst which is an iodonium, substituted iodonium, nitril or nitrosyl hexafluoroantimonate.

3,422,036

CATALYSIS OF THE ACTIVE HYDROGEN-ISOCYANATE REACTION

Konrad Ellegast, Leichlingen, and Gerd Reinecke, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation
No Drawing. Filed Apr. 19, 1965, Ser. No. 449,299
Claims priority, application Germany, Apr. 21, 1964, F 42,678

U.S. Cl. 260—2.5

Int. Cl. C08g 22/40

The active hydrogen-isocyanate polyaddition reaction is conducted in the presence of a catalytic amount of alkali metal compound that dissociates in aqueous solution to give a pH range of from about 3 to 6.

6 Claims

3,422,037

PROCESS FOR THE PRODUCTION OF FLAME RESISTANT POLYURETHANE FOAMS

Kazumi Yamamoto, Mitsuhiro Iwasa, Kenji Ema, and Noboru Aral, Nagoya, Japan, assignors to Mitsui Kagaku Kogyo Kabushiki Kaisha Matsui Chemical Industry Co., Ltd., Tokyo, Japan, a corporation of Japan
Filed June 28, 1966, Ser. No. 561,019
Claims priority, application Japan, July 3, 1965, 40/39,548, 40/39,549

U.S. Cl. 260—2.5

Int. Cl. C08g 22/44; C08g 22/14

A flame resistant phosphorous-containing polyurethane foam wherein at least a portion of the polyol component reacted with an organic polyisocyanate component comprises a high molecular weight phosphorous-containing polyol obtained by the intermolecular condensation of a polyether polyol and the intramolecular condensation product of a trisalkylene glycol phosphite.

7 Claims

3,422,038

SYNTHETIC LATEX FOAM COMPOSITION AND METHOD OF MAKING SAME

Victor E. Meyer, Midland, Clarence J. Tacey, Sanford, and Dennis E. Houggy, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed July 21, 1966, Ser. No. 566,752
U.S. Cl. 260—2.5
Int. Cl. C08g 53/08; C08g 37/32

A latex foam composition comprising a latex of (1) a copolymer of a styrene compound, an aliphatic conjugated diene, and an α,β -ethylenically unsaturated carboxylic acid and (2) a water dispersible melamine-formaldehyde resin, the improvement of including in the blend from 0.5 part to 2.0 parts by weight of a water-soluble sulfite. The invention also encompasses the process of making the latex foam composition.

7 Claims

3,422,039

METHOD FOR PRODUCING SILYLMETHYLENE POLYMER[ELASTOMER]

Nikolai Sergeevich Nametkin, Valentin Mikhailovich Vdovin, and Valery Ivanovich Zavyalov, Moscow, U.S.S.R., assignors to Institute Neftekhimicheskogo Sintezu im. S.V. Topchieva, Moscow, U.S.S.R.
No Drawing. Filed June 16, 1965, Ser. No. 464,543
U.S. Cl. 260—2
Int. Cl. C08g 31/34; C08g 31/32; C07f 7/20

A method for the preparation of a high-molecular weight silylmethylene elastomer-type polymer by subjecting 1,1,3,3-tetramethyl-1,3-disilacyclobutane which has

been preliminarily purified from absorbed air components and moisture to thermal polymerization at temperatures below 250° C.

3,422,040

CATALYTIC POLYMERIZATION OF CYCLIC ALKYLENE OXIDES

Hideo Tomomatsu, Austin, Tex., assignor to Jefferson Chemical Company, Inc., Houston, Tex., a corporation of Delaware
No Drawing. Filed Aug. 21, 1967, Ser. No. 661,838
U.S. Cl. 260—2
Int. Cl. C08g 23/14

High molecular weight polymers having a high degree of crystallinity are obtained from the polymerization of cyclic alkylene oxides employing a binary catalyst system consisting of an organometallic compound wherein the metal is selected from Groups II and III A of the Periodic Table of Elements and aluminum formate. Cyclic alkylene oxides employed are those containing oxygen-carbon rings consisting of one oxygen atom in a ring with two or three carbon atoms.

3,422,041

USE OF REACTIVE LIGNOCELLULOSE AS ADDITIVE FOR EPOXY RESINS

Ronald L. Broadhead, Addison, and William R. Dunlop, Maywood, Ill., assignors to The Richardson Company, Melrose Park, Ill., a corporation of Ohio
No Drawing. Filed Feb. 7, 1966, Ser. No. 525,385
U.S. Cl. 260—9
Int. Cl. C08g 51/18; C08g 45/00

Epoxy resins of improved cure characteristics are prepared using as an additive reactive lignocellulose containing at least 10 weight percent of curable resin having numerous active phenolic groups and derived from a 2-step substantially dry steam and heat treatment of a mixture of lignocellulose and a phenolic agent.

7 Claims

3,422,042

ALDEHYDE-MODIFIED UNSATURATED CARBOXYLIC ACID AMIDE INTERPOLYMER/CELLULOSE ACETATE BUTYRATE RESINOUS COMPOSITIONS

Samuel Porter, Jr., Tarentum, Pa., assignor to PPG Industries, Inc., a corporation of Pennsylvania
No Drawing. Original application Oct. 19, 1961, Ser. No. 146,271, now Patent No. 3,276,905, dated Oct. 4, 1966. Divided and this application Feb. 16, 1966, Ser. No. 553,586
U.S. Cl. 260—15
Int. Cl. C08b 21/06

A resinous composition comprising (1) from 0.5 percent by weight to about 30% by weight cellulose acetate butyrate and (2) from 99.5 percent to about 70 percent of an aldehyde modified unsaturated carboxylic acid amide interpolpolymer useful as a primer coating for metal.

7 Claims

3,422,043

COMPOSITION AND METHOD FOR TREATING TOBACCO SMOKE FILTER TOW

Charles Clayton White and James Sheffield Crowell, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Original application Jan. 3, 1964, Ser. No. 335,669, now Patent No. 3,330,286, dated July 11, 1967. Divided and this application Mar. 6, 1967, Ser. No. 655,682
U.S. Cl. 260—17
Int. Cl. A24d 1/06; C08b 27/08

Novel homogeneous-mixture liquid suspensions adapted for application to filter tow materials, as well as a method for imparting high removal characteristics to filter tow materials, are disclosed. These suspensions and methods involve the use of activated carbon, polyvinyl alcohol

2 Claims

and methyl cellulose combined with certain selected additives.

3,422,044

AQUEOUS COATING COMPOSITIONS COMPRISING A SALT OF A HEAT-BODIED MALEINIZED OIL AND A POLYMERIC LATEX

J. Alden Erikson and Roger M. Christenson, Gibsonia, Pa., assignors to PPG Industries, Inc., Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Oct. 28, 1964, Ser. No. 407,248
U.S. Cl. 260—23.7
Int. Cl. C08f 21/04; C08f 43/08

Vehicles suitable for water-dispersed coating compositions having improved stability and pigment wetting characteristics are produced by reacting maleic anhydride with a drying oil and heating the adduct until the viscosity is substantially increased. From 8 to 15 percent by weight of maleic anhydride is used in the initial step and heating is continued to a specified minimum viscosity which is correlated with the amount of maleic anhydride. The product is then hydrolyzed and reacted with a base to form a water-soluble material.

12 Claims

3,422,045

PROCESS FOR IMPROVED FLEX-RESISTANCE OF SULFUR-MODIFIED POLYCHLOROPRENE

Charles Elmer Aho, Louisville, Ky., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed July 27, 1966, Ser. No. 568,151
U.S. Cl. 260—27
Int. Cl. C08f 3/32

A method for improving the flex-resistance of sulfur-modified polychloroprene by incorporating minor amounts of levopimaric acid in said polychloroprene.

8 Claims

3,422,046

COATING CONTAINING A CONDENSATE OF A PHOSPHATE ETHER POLYOL AND A MELAMINE, AN ALKYLATED AMINE, AND A HALOGENATED HYDROCARBON

Francis H. Thomas, Flossmoor, Hugh M. Headrick, Homewood, and Edmund L. Schulz, Palos Heights, Ill., assignors to The Sherwin-Williams Company, Cleveland, Ohio, a corporation of Ohio
No Drawing. Filed Feb. 3, 1966, Ser. No. 524,839
U.S. Cl. 260—28
Int. Cl. C08g 51/50; C08g 51/52

Intumescent coatings containing a resinous condensation product of a phosphate ether polyol and a melamine compound, an alkylated amine, a halogenated hydrocarbon, and a solvent.

14 Claims

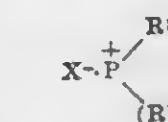
3,422,047

FLAME RETARDANT COMPOSITIONS FOR PLASTICS

Joseph Frederick Cannelongo, Piscataway, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed Jan. 19, 1966, Ser. No. 521,526
U.S. Cl. 260—28.5
Int. Cl. C08f 29/02; C08f 45/54; C09k 3/28

This invention relates to flame-retarded compositions comprising a thermoplastic polymer containing a flame-retarding amount of a synergistic combination of a chlorinated hydrocarbon material and a compound having the formula

(I)



wherein R represents an alkyl (C_1-C_8) radical, a cyanoalkyl (C_1-C_8) radical, an hydroxyalkyl (C_1-C_8) radical,

an aryl (C_6-C_{10}) radical or an aralkyl (C_7-C_{11}) radical and R^1 represents an alkenyl (C_2-C_8) radical, an imidoazoylalkyl (C_1-C_8) radical, a carboxyalkyl (C_1-C_8) radical, a dialkylaminoalkyl (C_2-C_8) radical, a carboxyalkenyl (C_2-C_8) radical, a carboalkoxyalkyl (C_2-C_8), a carboalkoxyalkenyl (C_2-C_8) radical, an alkyl (C_1-C_8) radical, a cyanoalkyl (C_1-C_8) radical, an hydroxyalkyl (C_1-C_8) radical or an aralkyl (C_7-C_{11}) radical and X represents chlorine, bromine or iodine.

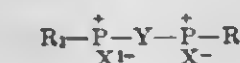
3,422,048

FLAME RETARDANT COMPOSITIONS FOR PLASTICS

Joseph Frederick Cannelongo, Piscataway, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed Jan. 19, 1966, Ser. No. 521,548
U.S. Cl. 260—28.5
Int. Cl. C08f 29/02; C09k 3/28

This invention relates to flame-retarded compositions comprising a thermoplastic polymer containing a flame-retarding amount of a synergistic combination of a chlorinated hydrocarbon material and a compound having the formula

(1)



wherein R represents an aryl (C_6-C_{10}) radical, an aralkyl (C_7-C_{11}) radical, an alkyl (C_1-C_8) radical or a cyano or hydroxy substituted alkyl (C_1-C_8) radical, Y represents an alkylene (C_2-C_{10}) radical, an alkylenearylenealkylene radical (C_6-C_{10}), an unsaturated alkylene (C_2-C_{10}) radical or an oxyalkylene (C_2-C_{10}) radical and X^1 and X^2 each individually represent chlorine, bromine or iodine.

3,422,049

PROCESS OF PREPARING FINELY DIVIDED THERMOPLASTIC RESINS

Dorothee M. McClain, Cincinnati, Ohio, assignor to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Continuation-in-part of application Ser. No. 160,733, Dec. 20, 1961. This application May 25, 1964, Ser. No. 370,006
U.S. Cl. 260—29.6
Int. Cl. C08f 47/02

A process for preparing finely divided thermoplastic resins such as polyethylene which comprises vigorously agitating molten resin in admixture with water and in the presence of a block copolymer of ethylene oxide and propylene oxide to produce a fine dispersion, and then cooling the resulting dispersion to a temperature below the melting point of the resin. The recovered finely divided thermoplastic resins are characterized by a narrow particle size distribution and substantially spherical shapes.

14 Claims

3,422,050

COPOLYMERS OF CONJUGATED DIOLEFINS AND PARTIAL ESTERS OF UNSATURATED POLYBASIC ACIDS

Robert R. Brown and George F. Schmidt, Dover, Del., assignors to Standard Brands Chemical Industries, Inc., Dover, Del., a corporation of Delaware
No Drawing. Filed July 22, 1964, Ser. No. 384,536
U.S. Cl. 260—29.7
Int. Cl. C08d 7/00; C08f 15/40; C08f 47/12

1. An impregnating composition characterized by enhanced adhesiveness and fiber-bonding properties, comprising a stable latex consisting essentially of an aqueous dispersion of a copolymer prepared by emulsion polymerization in an aqueous acid medium of a monomeric mixture containing about 20 to about 84.5 percent by weight of butadiene-1,3, from about 0.5 to about 20 percent by weight of monomethyl itaconate, and a balance

6 Claims

of from about 10 to about 75 percent by weight of at least one monoolefinic monomer copolymerizable with said butadiene and selected from the group consisting of nitriles, styrenes and lower molecular weight alcohol esters of acrylic or alpha-substituted acrylic acids; the monomeric mixture containing at least about 50 percent by weight of said butadiene when the monoolefinic monomer is a nitrile.

3,422,051

PROCESS FOR SUPPRESSING MOLECULAR JUMP IN THE PREPARATION OF SULFUR-VULCANIZABLE ELASTOMERS

Paul G. Carpenter, Baton Rouge, La., assignor to Copolymer Rubber & Chemical Corporation, a corporation of Louisiana

No Drawing. Filed June 10, 1966, Ser. No. 556,550
U.S. Cl. 260—33.6 11 Claims
Int. Cl. C08f 15/40; C08f 19/00; C08f 1/88

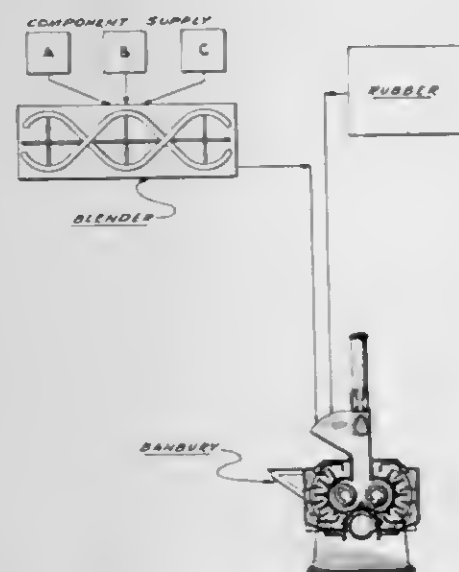
Sulfur vulcanizable elastomers are prepared by interpolymerizing monomeric mixture containing ethylene, at least one alpha monoolefin containing 3–16 carbon atoms and a polyene in solution in an organic solvent in the presence of an active Ziegler polymerization catalyst, followed by deactivating the catalyst and recovering the elastomer from the organic solvent solution. The elastomer is subject to molecular jump during the catalyst deactivation step, the molecular jump is suppressed by admixing a petroleum-based rubbery polymer extender oil with the organic solvent solution of the elastomer containing the active Ziegler catalyst prior to the catalyst deactivation step.

3,422,052

PREPARATION OF RUBBER COMPOSITIONS

Selwyn R. Mather, Elmhurst, Ill., assignor to The Richardson Company, Melrose Park, Ill., a corporation of Ohio

Filed Dec. 27, 1966, Ser. No. 605,001
U.S. Cl. 260—33.6 3 Claims
Int. Cl. C08d 11/00



A method of producing uniform rubber compositions based on a vulcanizable rubber, sulfur, a filler of small particle size, and a non-aromatic oil by blending the components with the exception of rubber at ambient temperatures without appreciable work input, and completing the mixing by adding the rubber to the blend in an in-place, shearing and working operation at elevated tem-

peratures to achieve the uniformity and consistency of the mix.

3,422,053

PAVING COMPOSITIONS

Albert J. Henderson, Coraopolis, James R. Patterson, Carnegie, and Raymond A. Hahn, Pittsburgh, Pa., assignors to Neville Chemical Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Oct. 5, 1964, Ser. No. 401,682
U.S. Cl. 260—33.6 4 Claims
Int. Cl. C08f 31/04; E01c 7/26

A light colored, synthetic resinous binder useful in paving compositions comprises a polymeric hydrocarbon resin which is substantially free of components boiling below about 400° C., has an iodine number between about 50 and 90 mgs. and a Ring and Ball softening point between about 40° and about 250° C., said resin comprising between about 10% and about 35% polymerized cyclopentadiene units and at least about 50% polymerized unsaturated C₈–C₁₀ aromatic hydrocarbons based on total resin. An inert mineral oil may be included in the composition as needed to impart to the total binder composition a softening point of between about 40° and 120° C. and a penetration value between about 60 and 300. Because of its particular chemical composition, the binder can be maintained in a melted condition over extended periods without gelation, remains fluid at temperatures below about 325° F. and yet is capable of producing satisfactory heat resistant and oil resistant, light-colored pavements. By including a suitable pigment in the composition an attractively colored pavement can be produced for paving areas such as driveways or for color-coding complex highway interchanges, etc.

3,422,054

SEALANTS FOR STRUCTURAL MEMBERS

Peter B. Kelly, Austin, Tex., assignor to Jefferson Chemical Company, Inc., Houston, Tex., a corporation of Delaware

No Drawing. Filed Oct. 12, 1964, Ser. No. 403,362
U.S. Cl. 260—37 3 Claims
Int. Cl. C08g 41/00; C08g 22/14

A polyurethane sealant having improved surface qualities is obtained when an aromatic isocyanate is reacted with a polyether polyol, containing from about 10 to about 60 mol percent of primary hydroxyl groups, made up of a mixture of a minor amount of a polyoxypropylene polyether triol and a major amount of a polyoxypropylene diol where the polyurethane includes about 30 to about 60 wt. percent of a filler which is from 15 to about 60 wt. percent calcium oxide.

3,422,055

POLYOLEFIN COMPOSITIONS

Daniel Edwin Maloney, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 105,857, Apr. 27, 1961. This application Mar. 17, 1965, Ser. No. 440,616

U.S. Cl. 260—41 8 Claims
Int. Cl. C08f 29/12

Polyolefins such as polyethylene, polypropylene, and ethylene copolymers are blended with a polar copolymer of ethylene. The polyolefins must comprise at least 50% by weight of the blend. Ethylene vinyl acetate is a preferred polar copolymer.

3,422,056

PROCESS OF PREPARING ISOTACTIC POLYPROPYLENE AND CARBON BLACK MIXTURES

Edwin B. Carton, Newtonville, Mass., assignor, by mesne assignments, to Polymer Dispersions, Inc., New York, N.Y., a corporation of Ohio

No Drawing. Filed July 14, 1965, Ser. No. 472,034
U.S. Cl. 260—41 11 Claims
Int. Cl. C08f 45/08; C08f 3/10

Novel isotactic polypropylene and carbon black mixtures and a process for their preparation comprising mixing sufficient carbon black and isotactic polypropylene at temperatures above about 550° F. sufficient to provide a masterbatch containing at least 20% carbon black and



reducing the masterbatch at conventional temperatures to between about 0.1% and 35% carbon black by mixing therewith additional isotactic polypropylene.

3,422,057

ABLATIVE ANTENNA WINDOW COMPOSITIONS

Donald L. Schmidt, Dayton, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force

No Drawing. Filed Jan. 24, 1967, Ser. No. 612,056
U.S. Cl. 260—41 5 Claims
Int. Cl. C08f 45/10; C08f 45/02; H01g 1/42

A composition comprising boron nitride fibers embedded in a resin matrix can be molded to form an article which exhibits good ablativity properties, does not char, and has good electromagnetic transmission from low to high temperatures, and when degrading at high temperatures. The composition comprises about 60–95 percent resin, preferably a polyfluorocarbon polymer. Additional powdered or fibrous fillers can be added—boron nitride, quartz, silica, alumina, zirconia, magnesia, beryllia, glass, aluminum silicate, titania, barium titanate, calcium titanate, or strontium titanate. The article is useful as an antenna window in high speed aeronautical and aerospace vehicles subject to aerodynamic heating during passage through the atmosphere.

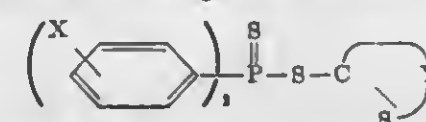
3,422,058

HETEROCYCLIC PHOSPHORUS COMPOUNDS AS STABILIZERS FOR POLY-ALPHA-OLEFINS

Carl C. Greco, Bronx, N.Y., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware
No Drawing. Original application Oct. 23, 1965, Ser. No. 504,244. Divided and this application Dec. 5, 1967, Ser. No. 703,502

U.S. Cl. 260—45.8 3 Claims
Int. Cl. C08f 45/60; C07f 9/16

Poly- α -olefin compositions having improved light stability. The compositions comprise an α -olefin polymer formed by the polymerization of an α -mono-olefinic aliphatic hydrocarbon having from 2 to 10 carbon atoms and a stabilizing quantity of a novel heterocyclic diphenylphosphinodithioate of the general formula:



wherein X is a substituent selected from the group consisting of hydrogen, lower alkyl, lower alkoxy and a halogen; and Y represents the atoms necessary to complete a heterocyclic ring selected from the class consisting of thiazole, thiazoline, thiazolidine, and benzothiazole wherein each ring may be substituted with one or more substituents selected from the group consisting of lower alkyl, lower alkoxy, and halogen.

3,422,059

STABILIZED POLYOLEFINS

George Wright Taylor and Derek Harold Wood, Harrogate, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Mar. 28, 1966, Ser. No. 537,690
Claims priority, application Great Britain, May 3, 1965, 18,516/65

U.S. Cl. 260—45.85 9 Claims
Int. Cl. C08f 45/58; C08f 29/02; C07c 69/76

1. A stabilized poly- α -olefin composition comprising the poly- α -olefin and, as a stabilizer therefor, an antioxidant diol dialkanoate of the formula:



wherein R¹, R², R³ and R⁴ are selected from the group consisting of hydrogen and lower alkyl, n is 2 or 3, x and y have the value 0, 1, 2 or 3 and A is derived from a diol selected from the group consisting of an alkane diol and monothiodialkanol.

3,422,060

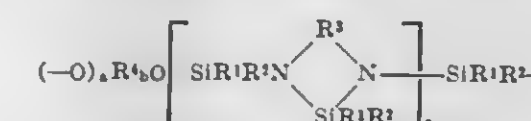
SILICON-, NITROGEN- AND OXYGEN-CONTAINING HIGH TEMPERATURE RESISTANT POLYMERS AND PROCESS

Walter Fink, Zurich, Switzerland, assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

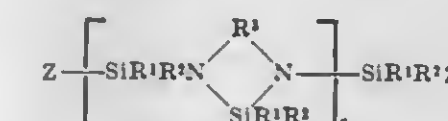
No Drawing. Filed Feb. 6, 1967, Ser. No. 613,996
Claims priority, application Switzerland, Feb. 14, 1966, 2,117/66

U.S. Cl. 260—46.5 20 Claims
Int. Cl. C08g 31/30; C07f 7/02

Silicon-, nitrogen- and oxygen-containing high temperature resistant polymers consisting of repeating units of the formula



and process for making by reacting compounds of the formula



where Z is an amino group or a halogen atom, with a compound of the formula R⁴(OH)_d or an alkali salt thereof when Z is a halogen and d is at least 2.

3,422,061

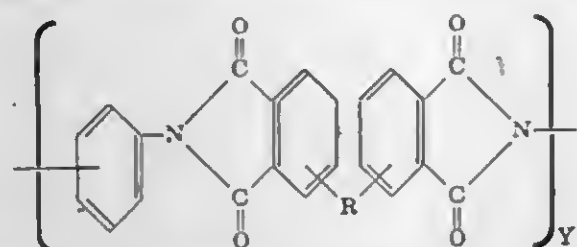
COALESCEABLE POLYIMIDE POWDERS FROM A POLYCARBOCYLIC AROMATIC DIANHYDRIDE AND PHENYLENE DIAMINE

Walter George Gall, Shellbourne, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

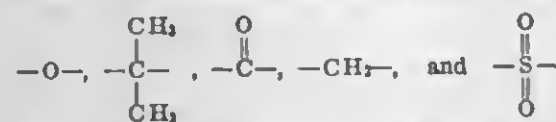
No Drawing. Filed Oct. 18, 1963, Ser. No. 317,121
U.S. Cl. 260—47 11 Claims
Int. Cl. C08g 20/32

1. A coalesceable powder having a surface area of at least 0.1 square meter per gram consisting essentially of

a polyimide consisting essentially of repeating units of the structure:



wherein —R— is selected from the group consisting of:



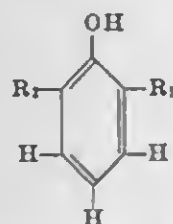
wherein the bonds to the rings which are shown between two carbon atoms are attached to a carbon atom selected from the two carbon atoms adjacent the point where the bond is indicated, and Y is an integer corresponding to an inherent viscosity of at least 0.1 as measured from a 0.5 weight percent solution of the polyimide in 100 percent sulfuric acid at 35° C.

3,422,062

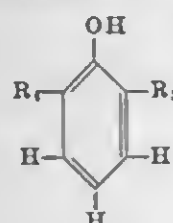
COPOLYMERS OF ALKENYL PHENOL

Charles L. Segal, Los Angeles, and Phillip D. Faurate, Canoga Park, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware
No Drawing. Filed Nov. 29, 1963, Ser. No. 327,048
U.S. Cl. 260—47 4 Claims
Int. Cl. C08g 33/10

Solid, phenylene oxide copolymers of a phenol of the general formula



wherein R₁ is an alkenyl group and R₂ is hydrogen or alkyl and a different phenol of the general formula



wherein R₃ and R₄ are hydrogen or alkyl.

These copolymers are useful as electrical insulation, structural laminates, and protective coatings.

3,422,063

EPOXIDE RESIN FROM EPICHLOROHYDRIN AND A MIXTURE OF BISPHENOLS

Oliver A. Barton, Florham Park, and Walter W. Littell, Mount Tabor, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed Aug. 3, 1964, Ser. No. 387,153
U.S. Cl. 260—47 10 Claims
Int. Cl. C08g 30/4; C08g 30/14

1. A liquid epoxide resin having an epoxide equivalent between about 200 and about 260 and obtained by heating a mixture of 1,4-bis(p-hydroxycumyl)-benzene, 2,2-bis(p-hydroxyphenyl)-propane, and epichlorohydrin, about 1/2–2 mols of 2,2-bis(p-hydroxyphenyl)-propane being present per mol of 1,4-bis(p-hydroxycumyl)-benzene and about 5–20 mols of epichlorohydrin being present per mol of dihydric phenol at a temperature of from about 50° C. to about 150° C. in the presence of a sufficient amount of alkali to neutralize the HCl produced during the reaction.

3,422,064
AROMATIC POLYIMIDE PREPARATION
Walter George Gall, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Jan. 27, 1965, Ser. No. 428,564
U.S. Cl. 260—47 6 Claims
Int. Cl. C08g 20/32

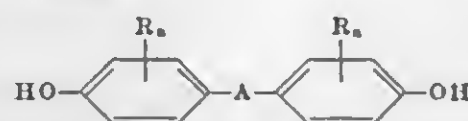
Polyimides are formed directly from an aromatic dianhydride and an aromatic amine by reacting the dianhydride and the diamine at high temperature ranging from 190° C. to 300° C. A molding powder is formed.

3,422,065

HIGH MOLECULAR WEIGHT POLYCARBONATES

Claus Wulff, Krefeld, Hermann Schnell, Krefeld-Uerdingen, and Ludwig Bottenbruch, Krefeld-Bockum, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Oct. 19, 1965, Ser. No. 498,150
Claims priority, application Germany, Oct. 27, 1964, F 44,321/64 9 Claims
U.S. Cl. 260—47
Int. Cl. C08g 17/23

A high molecular weight polycarbonate prepared from the reaction of a carbonic acid derivative and a compound having the formula



wherein A is a cyclododecylene radical and R is selected from the group consisting of alkyl, aryl, cycloalkyl, alkoxy and halogen and n is an integer equal to 0 to 4.

3,422,066

POLYURETHANE FIBERS

J. W. Britain, New Martinsville, W. Va., assignor to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware
No Drawing. Filed Oct. 23, 1965, Ser. No. 504,129
U.S. Cl. 260—47 3 Claims
Int. Cl. C08g 22/10; C08g 22/14

Thread forming polyurethane polymers based on a hydroxyl polyester having a molecular weight of at least about 600 which has been prepared from at least 2 saturated aliphatic glycols having 2 primary hydroxyl groups and from 2 to 6 carbon atoms and an aliphatic dicarboxylic acid having from about 2 to 10 carbon atoms and certain aromatic diisocyanates which are chain-extended with a mixture of an aliphatic glycol having 2 to 10 carbon atoms and bis-(beta-hydroxy ethyl)-hydroquinone ether, para-xylylene glycol or bis-(beta-hydroxy ethyl)resorcinol ether in such amounts that from 10 to 30% by weight of the groups in the polyurethane polymer resulting from the chain-extender are derived from the primary straight chain aliphatic glycol and the balance are derived from the other chain-extender. The polyurethane polymers combine high heat distortion temperature with high melt strength and high tensile strength.

3,422,067

NOVEL PHENOLIC RESINS EMPLOYING BIS(p-HYDROXYCUMYL BENZENE)

Oliver A. Barton, Florham Park, and Tibor G. Pasztal, Verona, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Jan. 3, 1966, Ser. No. 517,985
U.S. Cl. 260—51 3 Claims
Int. Cl. C08g 5/10

1. A fusible phenolic resin which is the reaction product of formaldehyde with a phenolic component containing at least 50 mol percent of a bisphenol selected

from the group consisting of 1,4-bis(p-hydroxycumyl)benzene and 1,3-bis(p-hydroxycumyl)benzene.

3,422,068

METHOD OF PRODUCING AN ORTHO-DIRECTED PHENOLIC RESIN BY CONDENSING PHENOL AND HCHO IN THE PRESENCE OF A BIVALENT METAL ION AND THEN ADDING RESORCINOL, AND THE RESULTANT PRODUCT

Roland E. Krelblch, Harlan G. Freeman, and Gene F. Baxter, Seattle, Wash., and Karl F. Kumli, Chico, Calif., assignors to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington
No Drawing. Filed Feb. 25, 1966, Ser. No. 528,772
U.S. Cl. 260—52 7 Claims
Int. Cl. C08g 5/10

A process of manufacturing ortho-directed, phenol-formaldehyde resins modified with resorcinol or other polyhydroxy aromatic compounds which have a relatively long shelf life and relatively short cure time by condensing phenol and formaldehyde to near completion under reflux conditions in the presence of bivalent metal ion catalyst, adding resorcinol or other polyhydroxy aromatic compounds to the reaction product of phenol and formaldehyde, and continuing heating of the mixture under reflux condition until the reaction is substantially complete. The molecular ratio of phenol to formaldehyde is between 0.55 to 1.2 moles formaldehyde per mole of phenol and the molecular ratio of resorcinol or other polyhydroxy aromatic compound to phenol ranges between 0.2 to 0.8 moles.

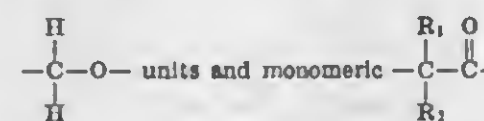
The final copolymer has a predominantly linear backbone of ortho-directed phenol-formaldehyde modified by resorcinol or other polyhydroxy aromatic compound forming methylene bridges cross-linking molecules to adjacent molecules to provide an infusible final product.

3,422,069

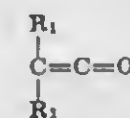
FORMALDEHYDE/KETENE COPOLYMERS

Giulio Natta, Gianfranco Pregaglia, and Giorgio Mazzanti, Milan, Marco Binaghi, Varese, Giancarlo Pozzi and Nino Oddo, Milan, and Valentino Zamboni, Varese, Italy, assignors to Montecatini Edison S.p.A. Milan, Italy
Continuation-in-part of application Ser. No. 265,584, Mar. 11, 1963. This application Aug. 8, 1966, Ser. No. 588,228
U.S. Cl. 260—64 15 Claims
Int. Cl. C08g 1/18

High molecular weight linear formaldehyde/ketene copolymers, the macromolecules of which consist of monomeric



units, at least a portion of these two monomeric units being non-alternating, R₁ and R₂ being selected from the group consisting of alkyl radicals containing from about 1 to 6 carbon atoms, cycloalkyl radicals and phenyl radicals. Process for preparing these copolymers comprising reacting anhydrous formaldehyde with a ketene of the formula



wherein R₁ and R₂ are as above defined, in an anhydrous inert solvent selected from the group consisting of aliphatic hydrocarbons, cycloaliphatic hydrocarbons, aromatic hydrocarbons and ethers, at a temperature of from about -100° C. to +70° C., in the presence of a Lewis base catalyst.

3,422,070 PROCESS OF PRODUCING POLYOXYMETHYLENES

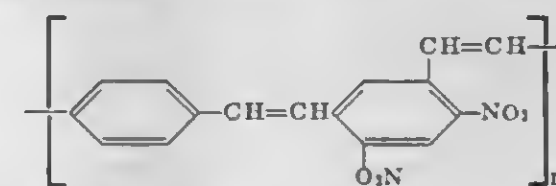
Shinichi Ishida and Hiroshi Ohama, Tokyo, and Koichi Matsumoto, Kawagoe-shi, Japan, assignors to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan, a corporation of Japan
No Drawing. Filed Dec. 23, 1964, Ser. No. 420,791
Claims priority, application Japan, Dec. 23, 1963, 38/68,980; Dec. 24, 1963, 38/69,215; Feb. 18, 1964, 39/8,334 11 Claims
U.S. Cl. 260—67
Int. Cl. C08g 1/02; C08g 1/28

A method of producing high molecular weight polyoxymethylene in which a solid low molecular weight polyoxymethylene is washed with an organic solvent which is hygroscopic and has dehydrating properties. The washed solid polyoxymethylene is then decomposed to form formaldehyde which in turn is polymerized to produce the desired high molecular weight polyoxymethylene.

3,422,071 POLYXYLYLIDENES

David W. Thomson, Mount Vernon, Iowa, assignor to the United States of America as represented by the Secretary of the Air Force
No Drawing. Filed May 12, 1965, Ser. No. 455,348
U.S. Cl. 260—67 2 Claims
Int. Cl. C08g 13/00

Polyxylylidene polymers, which are useful as thermally stable resins at temperatures of 500° C. and above, of the structural formula



where n is 10 and higher.

3,422,072

POLYMERIZATION OF ALDEHYDES IN THE PRESENCE OF ANHYDROUS POLAR SOLVENTS AND ALKALI METAL ALKOXIDE CATALYSTS

Stanley Robert Sandler, Springfield, and Edward Charles Leonard, Jenkintown, Pa., assignors to The Borden Company, New York, N.Y., a corporation of New Jersey
No Drawing. Continuation-in-part of application Ser. No. 513,091, Dec. 10, 1965. This application Jan. 26, 1966, Ser. No. 523,045
U.S. Cl. 260—67 5 Claims
Int. Cl. C08g 1/20; C08g 1/06; C08g 1/08

This invention relates to the polymerization of aldehydes into polymers containing hydroxyl groups in the repeating unit. The process comprises reacting an aldehyde at a reduced temperature of up to about 15° C. in the presence of an alkali metal alkoxide as the polymerization catalyst and a polar solvent as the reaction medium.

3,422,073

POLYOXYMETHYLENIC COPOLYMERS FROM TRIOXANE AND CYCLIC FORMAL

Gianfranco Pregaglia and Giancarlo Pozzi, Milan, and Paolo Roffia, Mantova, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy
No Drawing. Filed Apr. 4, 1966, Ser. No. 539,653
Claims priority, application Italy, Apr. 7, 1965, 7,663/65 13 Claims
U.S. Cl. 260—67
Int. Cl. C08g 1/16

Copolymers of trioxane and the cyclic formal 3,5,8-trioxabicyclo-[4,4,0]-decane, having good thermal stability, are obtained by copolymerizing a mixture of the mono-

mers in contact with Lewis acid type catalysts containing fluorine or chlorine atoms. The copolymers consist mainly of oxymethylene sequences separated by cycloalkylene units containing oxygen in the ring. Terpolymers are contemplated in which the monomer units are derived from such monomers capable of copolymerizing with trioxane as ethylene oxide, dioxolane, 2,4-dimethyldioxolane, and so on.

3,422,074

METHOD FOR THE PRODUCTION OF TRIOXANE COPOLYMER CONTAINING NITROGEN

Shinichi Ishida and Shizuko Saito, Tokyo, Japan, assignors to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan, a corporation of Japan
No Drawing. Filed Jan. 21, 1965, Ser. No. 427,115
Claims priority, application Japan, Jan. 23, 1964, 39/2,907

U.S. Cl. 260—67.5 17 Claims
Int. Cl. C08g 1/18; C08g 9/24

A process for the improvement of polyoxymethylene and also for the production of a polyoxymethylene copolymer containing a small amount of carboxylic acid derivative group containing nitrogen which comprises copolymerizing trioxane with an unsaturated dibasic aliphatic derivative of maleic and itaconic acids containing nitrogen by the action of ionizing radiation or a catalyst.

3,422,075

POLYMERS MODIFIED WITH A MONO-SULFONYL ISOCYANATE

Lloyd D. Taylor, Everett, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
No Drawing. Filed July 1, 1966, Ser. No. 562,081
U.S. Cl. 260—77.5 8 Claims
Int. Cl. C08b 15/06; C08f 27/10

The disclosure relates to acidic polymers prepared by reacting a hydroxy or amino-containing polymer with a monosulfonyl isocyanate. The polymers are soluble in alkaline solution, are resistant to hydrolysis, and are useful as film-forming materials, coatings, thickening agents, alkali-soluble detergent-resistant wax materials and as replacements for carboxy-functional resinous materials.

3,422,076

REACTION PRODUCT OF ALKYLATED HEXAMETHYLOLMELAMINES AND POLYANHYDRIDES

John Christos Petropoulos, Norwalk, and Jerry Norman Koral, Stamford, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed Aug. 12, 1965, Ser. No. 479,304
U.S. Cl. 260—78.4 4 Claims
Int. Cl. C08g 9/36

A process for the production of a product which is soluble in a mixture of xylene and Cellosolve acetate and comprises alkylated methylolmelamine units linked together by anhydride units and the products, per se, are discussed.

3,422,077

PRODUCTION OF HIGH RANKED BLOCKED POLYSULFIDE POLYMERS

Eugene R. Bertozzi, Yardley, Pa., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
No Drawing. Continuation of application 620,559, Mar. 3, 1967, which is a continuation of application Ser. No. 302,724, Aug. 16, 1963. This application Aug. 16, 1967, Ser. No. 661,128
U.S. Cl. 260—63 9 Claims
Int. Cl. C08g 25/00

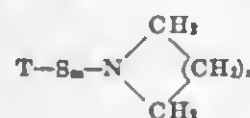
This disclosure relates to polysulfide polymers of high sulfur rank which have—SSH terminal groups which are blocked by carbonyl compounds.

3,422,078

POLYMETHYLENIMINETHIOTHIAZOLES AND RUBBER VULCANIZATION

John J. D'Amico, Dunbar, W. Va., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Jan. 7, 1966, Ser. No. 519,297
U.S. Cl. 260—79.5 12 Claims
Int. Cl. C08d 13/28; C08c 11/54; C07f 99/10

Products of the formula



where T is a benzothiazolyl radical, m is 1 or 2, and n is 5 or 6 which accelerate the vulcanization of rubber.

3,422,079

COORDINATION COMPLEXES OF VINYLPHOSPHINE OXIDES AND METAL SALTS, AND POLYMERS THEREOF

Frank J. Welch, Charleston, and Herbert J. Paxton, Jr., Elkview, W. Va., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Oct. 30, 1963, Ser. No. 319,992
U.S. Cl. 260—80 23 Claims
Int. Cl. C07f 9/50; C07f 9/40; C08f 3/84

1. A coordination complex represented by the formula



wherein M is a metal selected from the group consisting of the metals present in Groups I-B, II-B, III-A, III-B, IV-A, IV-B, V-A, V-B, VI-B, VII-B, and VIII of the Periodic Table, and those metals of Group II-A of the Periodic Table having an atomic weight below 25; A is a member selected from the group consisting of acetate and monovalent inorganic anions; R is a monovalent hydrocarbon radical having from 1 to 20 carbon atoms; m is an integer having a value equal to the valence of metal M; and X is an integer having a value equal to the coordination number of metal salt MA_m.

3,422,080

ALFIN CATALYST COPOLYMERIZATION OF BUTENE-2 WITH BUTADIENE AND ISOPRENE

Edward A. Hedman, Harrison, N.Y., and Bruce W. Hubbard, Jr., Oak Park, Ill., assignors to The Richardson Company, Melrose Park, Ill., a corporation of Ohio
No Drawing. Continuation of application Ser. No. 796,771, Mar. 3, 1959. This application Apr. 8, 1966, Ser. No. 539,851

U.S. Cl. 260—85.3 20 Claims
Int. Cl. C08d 1/14; C08d 3/06; C08d 3/10

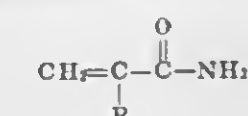
1. A relatively high molecular weight elastomer consisting essentially of the copolymerization product of butene-2 with a conjugated unsaturated diolefin selected from the class consisting of butadiene-1,3 and isoprene having a minimum dilute solution viscosity of between about 3–6 wherein said copolymerization product is formed by reaction of said diolefin and said butene-2 in the presence of an Alfin catalyst selected from the class consisting of: (1) a mixture of an alkali metal alkenyl, alkoxide and halide, and (2) a mixture of an alkali metal benzyl, alkoxide and halide and wherein said butene-2 comprises a maximum of about fifty percent by weight of said copolymerization product.

3,422,081

PROCESS FOR PREPARING STEREOREGULAR ACRYLAMIDE POLYMERS WITH AN ALKALI METAL ALKOXIDE AND POLYVALENT METAL SALT CATALYST

Herman Wexler, Chicago, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
No Drawing. Filed Nov. 15, 1965, Ser. No. 507,652
U.S. Cl. 260—89.7 11 Claims
Int. Cl. C08f 3/90, 1/70

Linear, highly crystalline stereoregular polyamides are prepared by polymerizing an ethylenically unsaturated amide having the formula



wherein R is an alkyl group of 1 to 2 carbon atoms, in the presence of a catalytic system composed of an alkali metal alkoxide and the salt of a polyvalent metal, such as copper, manganese, aluminum, iron, cobalt, nickel, chromium, vanadium, titanium and zinc.

3,422,082

POLYMERIZATION OF VINYL CHLORIDE

Edwin J. Vandenberg, Wilmington, Del., assignor to Hercules Incorporated, a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 579,139, Apr. 19, 1956. This application July 30, 1956, Ser. No. 600,715
U.S. Cl. 260—92.8 15 Claims
Int. Cl. C08f 3/30

Crystalline polyvinyl chloride prepared in the presence of a catalyst system comprising a metal compound and an organometallic compound.

3,422,083

CARBAZOYL PEPTIDES

Hans-Jürgen E. Hess, Groton, Conn., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware
No Drawing. Original application July 1, 1963, Ser. No. 292,160, now Patent No. 3,330,857, dated July 11, 1967. Divided and this application Jan. 5, 1967, Ser. No. 632,838

U.S. Cl. 260—112.5 2 Claims
Int. Cl. A61k 17/00; A61k 27/00

Novel biologically active polypeptides wherein at least one α(-methylidene group is replaced by a nitrogen atom, particularly preferred examples being based on bovine and equine angiotensin II, bovine oxytocin, bradykinin and bovine vasopressin as the parent polypeptides.

3,422,084

REACTIVE WATER-SOLUBLE CUPRIFEROUS DISAZO DYES

Guenther Auerbach and Lukas Schneider, Basel, and Walter Wehrli, Riehen, Basel, Switzerland, assignors to Sandoz Ltd. (also known as Sandoz A.G.), Basel, Switzerland
No Drawing. Filed Feb. 15, 1966, Ser. No. 527,510
Claims priority, application Switzerland, Feb. 19, 1965, 2,336/65

U.S. Cl. 260—146 11 Claims
Int. Cl. C09b 45/28; C09b 33/08

Dicopperized reactive disazo dyes bearing at least 5 water-solubilizing groups and wherein a 3-sulfonaphthyl nucleus has azo substituents in each of the 2- and 5-positions, at least one of said substituents being a 2-naphthylazo, at most one of said substituents being a phenylazo and one of said substituents being bound through an amino bridge to a reactive radical, are well-suited to the dyeing of leather and to the dyeing or padding of fibers of natural or regenerated cellulose to obtain products which

are stable to resin finishes and are fast to light, washing, water, perspiration, rubbing and alkali.

3,422,085

RECOVERY AND PURIFICATION OF MICROBIAL POLYSACCHARIDES

James W. Gill and Peter G. Lim, Wilmington, Del., assignors to Hercules Incorporated, Wilmington, Del., a corporation of Delaware
No Drawing. Filed July 29, 1966, Ser. No. 568,744
U.S. Cl. 260—209 5 Claims
Int. Cl. C08b 19/00

A process is provided for the recovery and purification of microbial polysaccharides in one operation from their fermentation broths by agitating the fermentation broths in the presence of a polyethoxylated quaternary ammonium compound. This precipitates the polysaccharide complexed with the polyethoxylated quaternary ammonium compound and leaves behind the spent microbial cells. The microbial polysaccharide may be separated from the complex by well known conventional techniques, at least one of which is disclosed.

3,422,086

RUTIN ALKYL SULPHONATES

Maurice Claude Ernest Carron, Levallois-Perret, and Alexandra F. Jullien, born Jandot, Paris, France, assignors to Societe Anonyme des Laboratoires Robert et Caniere, Paris, France, a corporation of France
No Drawing. Filed Aug. 9, 1965, Ser. No. 478,472
Claims priority, application France, Aug. 12, 1964, 984,996; Oct. 26, 1964, 992,657

U.S. Cl. 260—210 3 Claims
Int. Cl. A61k 25/00; C08b 25/00

Monosulfofropyl ether of rutin is prepared by reacting the sodium salt of rutin with propane sulfone in equimolecular proportions in an inert polar solvent, preferably dimethylformamide, at a temperature of from 70–80° C. The purified product, rutin sodium O-monopropyl-sulfonate, is insoluble in alcohol and ether, but is soluble in dimethylformamide and somewhat soluble (10% w./v.) in water, has similar pharmacological properties as rutin.

3,422,087

PROCESS FOR FORMING CATIONIC POLY-SACCHARIDE ETHERS AND PRODUCT

George V. Caesar, Harbor Beach, Mich., assignor to Philip D. Caesar, Princeton, N.J.
No Drawing. Continuation-in-part of application Ser. No. 213,057, July 27, 1962. This application Mar. 8, 1965, Ser. No. 438,034
U.S. Cl. 260—233.3 15 Claims
Int. Cl. C08b 19/06

Cationic starch ethers are prepared by reacting the starch in granule form with a quaternary ammonium salt of a tertiary amino alkylene oxide.

3,422,088

PHOSPHOROUS OXYHALIDE CROSS-LINKED HYDROXYPROPYL STARCH DERIVATIVE

John V. Tuschhoff, Gene L. Kessinger, and Cleo E. Hanson, Macon, Ill., assignors to A. E. Staley Manufacturing Company, Decatur, Ill., a corporation of Delaware
No Drawing. Filed Aug. 2, 1965, Ser. No. 476,663
U.S. Cl. 260—233.3 3 Claims
Int. Cl. A23l 1/14; C08b 19/00

A phosphorous oxyhalide cross-linked hydroxypropyl cereal starch having a hydroxypropyl D.S. of 0.10 to 0.30 and pH6.5 salt CIV viscosity of about 60 to 100 grams centimeter after 10 minutes and 80 to 150 grams centimeter after 40 minutes suitable for the preparation of thin-thick starch pastes which attain their full viscosity after cooking under pressure.

3,422,089

PROCESS FOR THE MANUFACTURE OF CROSS-LINKED GRANULAR STARCH PRODUCTS

Eric M. van Patten, Tinley Park, and Eugene L. Powell, Chicago, Ill., assignors to American Maize Products Company, a corporation of Maine

No Drawing. Filed Nov. 1, 1965, Ser. No. 505,969
U.S. Cl. 260—233.3 9 Claims
Int. Cl. C08b 25/02; A23 1/04

The invention provides a process for the manufacture of modified starch products having exceptional thickening power at room temperatures in which a starch slurry is treated with a reactive chloride in the presence of a small amount of orthophosphate salts of an alkali metal.

3,422,090

PROCESS OF PRODUCING ESTERS FROM PLANTS OF THE GENUS VALERIANA

Peter Willibrord Thies and Walter Kucaba, Hannover, and Siegfried Funke, Hannover-Kirchrode, Germany, assignors to Kali-Chemie Aktiengesellschaft, Hannover, Germany, a corporation of Germany

No Drawing. Filed Jan. 23, 1964, Ser. No. 339,581
Claims priority, application Germany, Jan. 26, 1963, K 48,792

U.S. Cl. 260—236.5 13 Claims
Int. Cl. C07g 17/00

The process of obtaining the sedative and spasmolytic esters from roots and rhizomes of plants of the genus Valeriana, which comprises extracting comminuted roots and rhizomes of a plant of the genus Valeriana at a temperature below 30° C. with a lipophilic solvent in the presence of an aliphatic carboxylic acid within a pH range of about 3 to about 7. The purified oil obtained from such a process.

3,422,091

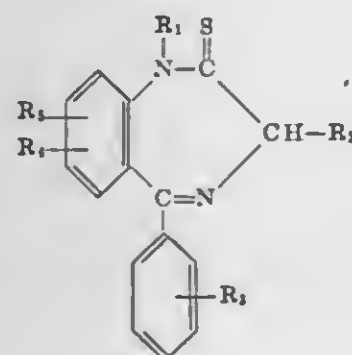
5-PHENYL-3H-1,4-BENZODIAZEPINE-2(1H)-THIONE AND DERIVATIVES THEREOF

Giles Allan Archer, Essex Fells, and Leo Henryk Sternbach, Upper Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 204,061, June 21, 1962. This application July 10, 1962, Ser. No. 208,951

U.S. Cl. 260—239 12 Claims
Int. Cl. C07d 87/54

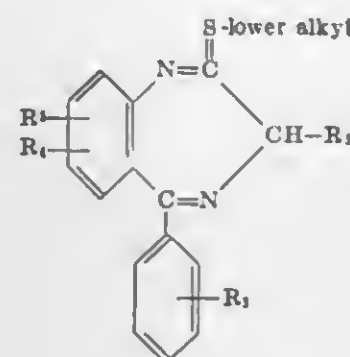
1. A compound selected from the group consisting of compounds of the formula:



and their pharmaceutically acceptable acid addition salts; where R₁ is selected from the group consisting of hy-

drogen, lower alkyl and lower alkenyl; R₂ is selected from the group consisting of hydrogen and lower alkyl; and R₃, R₄ and R₅ are each selected from the group consisting of hydrogen, halogen, trifluoromethyl, lower alkyl, lower alkylthio, lower alkyl-sulfinyl, lower alkyl-sulfonyl, cyano, amino, lower alkanoyl-amino, nitro, di-lower alkylamino, and lower alkoxy.

3. A compound of the formula:



wherein R₂ is selected from the group consisting of hydrogen and lower alkyl; and R₃, R₄ and R₅ are each selected from the group consisting of hydrogen, halogen, trifluoromethyl, lower alkyl, lower alkylthio, lower alkyl-sulfinyl, lower alkyl-sulfonyl, cyano, amino, lower alkanoyl-amino, nitro, di-lower alkylamino, and lower alkoxy.

3,422,092

2-CARBAMOYL-2-AZABICYCLO[2.2.2]OCTANES, AND 3-CARBAMOYL-3-AZABICYCLO[3.2.2]NONANES

Robert B. Moffett, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Feb. 18, 1966, Ser. No. 528,370
U.S. Cl. 260—239 3 Claims
Int. Cl. C07d 57/00; C07d 27/28; C07d 41/00

Novel 2-carbamoyl-2-azabicyclo[2.2.2]octanes and 3-carbamoyl-3-azabicyclo[3.2.2]nonanes (useful as central nervous system stimulants and enzyme inhibitors; novel intermediate lower-alkyl 2-azabicyclo[2.2.2]octane-2-carboxylates and lower-alkyl 3-azabicyclo[3.2.2]nonane-3-carboxylates useful as sedatives and diuretic agents; and processes for the preparation thereof.

3,422,093

DERIVATIVES OF EPSILON-CAPROLACTAM

Herbert K. Reimschuessel, Morristown, and John V. Pascale, Parsippany, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed Sept. 13, 1965, Ser. No. 486,636
U.S. Cl. 260—239.3 9 Claims
Int. Cl. C07d 41/06; C08g 20/12

This invention relates to novel compounds which include beta-(carboxymethyl) caprolactam and ester derivatives thereof. Additionally, this invention relates to novel intermediates formed in the preparation of the above compounds, such intermediates including beta-(dicarboxymethyl) caprolactam and esters and salts thereof. The compounds of this invention are useful in the preparation of linear, high molecular weight polyamides.

3,422,094

STEROID CYCLIC SULFONES AND PROCESS OF REGENERATING KETONES

Sol J. Saum, Albany, and Robert L. Clarke, Bethlehem, N.Y., assignors to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 11, 1966, Ser. No. 585,760
U.S. Cl. 260—239.5 9 Claims
Int. Cl. C07b 3/00; C07c 169/10

The tetra-S-oxide derivative of a lower-alkane α,β -dithiol ketal of a ketone is subjected to alkaline aerobic conditions to regenerate the ketone. The process is particularly applicable to the steroid field. Steroid cyclic sulfones having antibacterial and antifungal activity are described.

3,422,095

N¹- AND/OR N⁴-(LOWER ALKOXYACETYL)SULFANILAMIDES

Harry Allen Albrecht, Nutley, and John Thomas Platl, Rutherford, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 591,979, Nov. 4, 1966. This application Dec. 20, 1966, Ser. No. 603,119

U.S. Cl. 260—239.9 26 Claims
Int. Cl. C07d 85/46; A61k 27/00

Anti-bacterial N¹- and/or N⁴-(lower alkoxyacetyl)-N¹-(substituted isoxazolyl)sulfanilamides, prepared by reacting the corresponding unacylated N¹-substituted isoxazolyl sulfanilamides with a lower alkoxyacetic acid, are described.

3,422,096

SPIRO[ESTRENE/ANDROSTENE-17,2'-OXETANE]-3-ONE AND INTERMEDIATES

Edward A. Brown, Willmette, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Aug. 8, 1967, Ser. No. 659,002
U.S. Cl. 260—239.55 1 Claim
Int. Cl. A61k 17/06; A01n 9/28

Preparation of the captioned compounds, such as spiro [estr-4-ene-17,2'-oxetane]-3-one, and their valuable pharmacological properties, including anti-estrogenic and anti-algal activities and the capacity to reverse the renal electrolyte effects of desoxycorticosterone acetate, are disclosed.

3,422,097

6,6-ETHYLENE SPIROLACTONES

James F. Kerwin, Broomall, Pa., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Aug. 27, 1965, Ser. No. 483,312
U.S. Cl. 260—239.57 3 Claims
Int. Cl. C07c 173/00

6,6-ethylenespirolactones are prepared by treatment of a 3-methoxyandrost-3,5-diene spirolactone with the Vilsmeier reagent and then hydrolysis, reduction of the corresponding 6-formyl group, dehydration, and then reaction with dimethyl sulfoxonium methylide. 19-nor compounds are prepared via a 6-acetoxyethylandrost-3,5-diene spirolactone. The products possess anabolic and androgenic activity.

3,422,098

SULFANILAMIDO-PYRIMIDINES

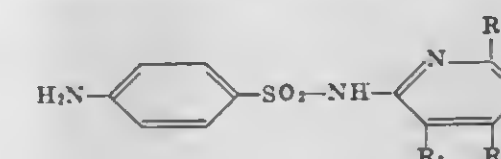
Paul Schmidt, Therwil, Ernst Schweizer and Kurt Eichenberger, Basel, and Max Wilhelm, Allschwil, Switzerland, assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 328,052, Dec. 4, 1963. This application Mar. 10, 1964, Ser. No. 350,662

Claims priority, application Switzerland, Dec. 14, 1962, 14,734/62; Feb. 26, 1963, 2,447/63; Mar. 13, 1963, 3,183/63; Oct. 25, 1963, 13,134/63; Jan. 10, 1964, 252/64

U.S. Cl. 260—239.75 14 Claims
Int. Cl. A61k 25/00; C07d 51/44

The invention relates to 6-(para-aminobenzenesulfonamido)-pyrimidines of the formula



in which one of the radicals R₁ and R₂ represents a lower alkoxy-lower alkyl group and the other a hydrogen atom, a halogen atom, a lower alkyl group, a lower alkoxy group, a lower alkoxy-lower alkyl group or a lower alkoxy-lower alkoxy group and R₃ represents a lower alkyl radical, a lower alkoxy radical, a halogen atom or, preferably, a hydrogen atom, and their metal salts; also included are the N₁-acyl derivatives of these compounds. In addition, the invention includes intermediates for the 6-(para-aminobenzenesulfonamido)-pyrimidines, which latter compounds are useful as antibacterials.

3,422,099

7-[(α -HYDROXY-(2' OR 3'-THIENYL)-ACETAMIDO)] CEPHALOSPORANIC ACIDS AND RELATED SALTS AND DERIVATIVES

Leonard B. Crast, Jr., North Syracuse, N.Y., assignor to Bristol-Myers Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 18, 1966, Ser. No. 528,399
U.S. Cl. 260—243 7 Claims
Int. Cl. A61k 21/00; C07d 93/08

New synthetic compounds which relate to 7- α -hydroxy (2'- or 3'-thienyl) acetamido acids. These compounds are useful as antibacterial agents.

3,422,100

S-SUBSTITUTED-THIOACETAMIDO-CEPHALOSPORINS

Leonard Bruce Crast, Jr., North Syracuse, N.Y., assignor to Bristol-Myers Company, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 607,378, Jan. 5, 1967. This application May 2, 1967, Ser. No. 635,361

U.S. Cl. 260—243 5 Claims
Int. Cl. A61k 21/00

This invention relates to certain 7-[(α -(substituted-thio)-acetamido)]-cephalosporanic acids characterized by a basic nitrogen in its α -substituted side chain, and to the process for the preparation thereof. A typical example would be the reaction of 7-aminocephalosporanic acid with α -bromoacetyl bromide to produce 7-(α -bromoacetamido)-cephalosporanic acid which is further reacted with 2-mercaptopyridine to produce 7-[(2-pyridylthio)-acetamido]-cephalosporanic acid.

3,422,101

TETRAHYDROTHIENOBENZOTHAZINES

John R. Carson, Norristown, Pa., assignor to McNeil Laboratories, Incorporated, a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 500,182, Oct. 21, 1965. This application May 5, 1967, Ser. No. 636,271

U.S. Cl. 260—243

Int. Cl. A61k 25/00

17 Claims

The compounds are of the class of tetrahydrothienobenzothiazines, useful for their valuable pharmacological properties, such as anticholinergic activity, antihistaminic activity and ability to produce ataxia as a measure of central nervous system depressant activity.

3,422,102

OMEGA TERTIARY AMINO-1-METHYL ALKYL-4-PHENYL-4-TETRAHYDROPYRAN-4-CARBOXYLATES

Henri Morren, Forest-Brussels, Belgium, assignor to UCB (Union Chimique-Chemische Bedrijven) Saint-Gilles-lez, Brussels, Belgium

No Drawing. Continuation of application 400,914, Oct. 1, 1964. This application Apr. 27, 1967, Ser. No. 634,389

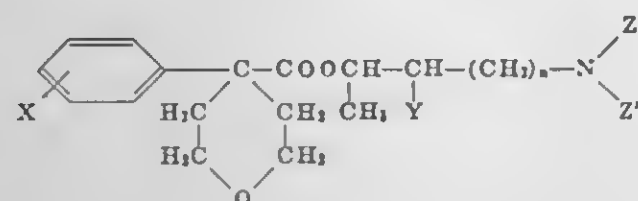
Claims priority, application Great Britain, Oct. 4, 1963, 39,208/63

U.S. Cl. 260—247.2

Int. Cl. C07d 99/04; C07d 5/04

5 Claims

A compound selected from the group consisting of:
(a) The esters of secondary amino-alcohols of the formula:



in which X is selected from the group consisting of hydrogen, chlorine, lower alkyl and lower alkoxy, Y is selected from the group consisting of hydrogen and methyl, Z and Z' taken separately each represents a member selected from the group consisting of hydrogen and lower alkyl and taken together with the adjacent nitrogen atom represent a member selected from the group consisting of morpholino and piperidino, and n is an integer of from 0 to 4; and

(b) The acid addition salts thereof. The esters of this invention have marked antitussive activity.

3,422,103

7(AMINOPHENYLACETAMIDO) CEPHALOSPORANIC ACIDS

Wilfred Frank Wall, Chalfont St. Peter, Michael Fatherley, Slough, and Brian Boothroyd, Beaconsfield, England, assignors to Glaxo Laboratories Limited, Greenford, England, a British company

No Drawing. Continuation of application Ser. No. 596,004, Nov. 21, 1966, which is a continuation of application Ser. No. 293,581, July 5, 1963. This application Aug. 11, 1967, Ser. No. 660,141

Claims priority, application Great Britain, July 20, 1962, 28,039/62

U.S. Cl. 260—243

Int. Cl. C07d 99/24; A61k 21/00

4 Claims

Aminophenylacetamido cephalosporanic acids and a process for their production via N-tritylated intermediates are disclosed.

3,422,104

9,10-DIHYDRO-11-AMINO-ALKYLENE-9,10-ETHANOANTHRACENES

Herbert Schröter, Reinach, and Daniel A. Prins, Oberwil, Switzerland, assignors to Gelgy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 20, 1964, Ser. No. 405,273

U.S. Cl. 260—247.1

Int. Cl. A61k 25/00; C07d 31/00

24 Claims

The compounds are of the class of 9,10-dihydro-9,10-ethanoanthracene, substituted in 11-position by a straight or branched chain alkylene of 1 to 5 carbon atoms both of which are substituted by amino, substituted amino, polymethyleneimino, morpholino, or piperazino. The compounds are useful spasmolytic, antidepressant and antiemetic agents. Illustrative embodiments are 11-dimethylaminomethyl-9,10-dihydro-9,10-ethanoanthracene, 11-morpholinomethyl-9,10-dihydro-9,10-ethanoanthracene, 4-chloro-11-methylaminomethyl-9,10-dihydro-9,10-ethanoanthracene, and 4-(9',10'-dihydro-9',10'-ethanoanthracene-11'-methyl)piperazine-(1)-ethanol.

3,422,105

8-ALDEHYDO-1(2H)PHTHALAZINONE HYDRAZONES INTERMEDIATES AND PROCESS

Karl J. Doebel, Ossining, and John E. Francis, Pleasantville, N.Y., assignors to Gelgy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware

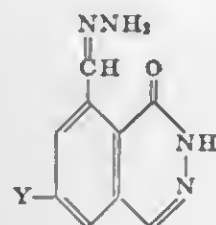
No Drawing. Continuation-in-part of application Ser. No. 445,762, Apr. 5, 1965. This application Apr. 1, 1966, Ser. No. 539,294

U.S. Cl. 260—250

Int. Cl. C07d 51/06; C07d 5/06

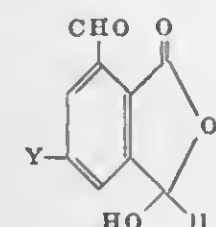
4 Claims

1. A hydrazone of the formula:



wherein Y is hydrogen, chloro, bromo or alkoxy of from 1 to 6 carbon atoms.

3. A process for preparing a hydrazone of claim 1 which comprises heating a compound of the formula:



wherein Y is hydrogen, chloro, bromo or alkoxy of 1 to 6 carbon atoms, with

(a) at least two equimolar amounts of aqueous hydrazone hydrate of from about 20 to about 85 percent by weight concentration for from about 15 minutes to about 3 hours; or

(b) at least two equimolar amounts of alcoholic hydrazone hydrate of from about 20 to about 100 percent by weight concentration for from about 15 minutes to about 18 hours, until formation of said hydrazone is substantially complete, and recovering said hydrazone.

3,422,106

AMINOETHERS DERIVED FROM 9,10-ETHANO-9,10-DIHYDRO-9-ANTHROL AND THEIR SALTS AND PROCESS FOR PREPARATION THEREOF

Jacques Robert Boissier, Paris, and Roger Ratouis, Saint Cloud, France, assignors to Societe anonyme dite: Societe Industrielle Pour la Fabrication des Antibiotiques (S.I.F.A.) Paris, France, a French company

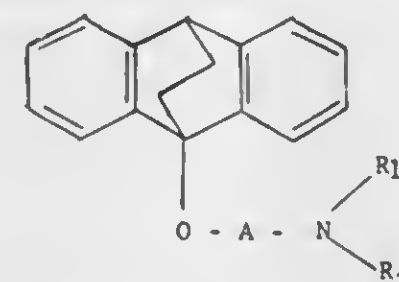
No Drawing. Filed Apr. 28, 1966, Ser. No. 545,836
Claims priority, application France, May 19, 1965, 17,620; July 13, 1965, 24,526; Feb. 18, 1966, 50,219

U.S. Cl. 260—253

Int. Cl. A61k 27/00

11 Claims

Amino ethers of the formula:



wherein A=an alkylene group having from 2 to 6 carbon atoms, and R1 and R2=H, lower alkyl, hydroxyalkyl or forming with N a heterocyclic radical such as piperidyl, piperazinyl, pyrrolidinyl, morpholinyl, said heterocyclic radical being eventually substituted by an alkyl or hydroxyalkyl, and pharmaceutically acceptable acid addition and quaternary ammonium salts thereof.

These compounds are useful as drugs, especially as antihistaminics, antianaphylactics, local anesthetics, diuretics, antiemetics and antitussives.

3,422,107

CERTAIN OXOALKYLDIMETHYLBXANTHINES AND A PROCESS FOR THE PREPARATION THEREOF

Werner Mohler, Wiesbaden-Biebrich, and Mario Reiser, Kurt Pependiker, and Heinz-Georg von Schuh, Wiesbaden, Germany, assignors to Chemische Werke Albert, Wiesbaden-Biebrich, Germany, a corporation of Germany

No Drawing. Filed Aug. 30, 1965, Ser. No. 483,803
Claims priority, application Germany, Sept. 5, 1964, C 33,811, C 33,812; July 2, 1965, C 36,289; July 10, 1965, C 36,362; July 24, 1965, C 36,493

U.S. Cl. 260—256

Int. Cl. C07d 57/40; A61k 25/00

3 Claims

1. A process for the preparation of a (5'-oxohexyl)-dimethylxanthine by reacting a 1,3-dihalopropane which has a halogen atomic weight of at least 35 with ethyl acetate in the presence of alcohol of at least 90% concentration and in the presence of at least 2 mols of potassium carbonate at a temperature in the range from 60 to 110° C. to yield 2-methyl-3-carbethoxy-dihydropyran, and further reacting this compound with two mols of a hydrogen halide to form the 1-haloheptanone derivative and then reacting said haloheptanone derivative with an alkali metal salt selected from the group consisting of theobromine or theophylline.

3,422,108

PREPARATION OF SUBSTITUTED-2,4-DIOXOHEXAHYDROPYRIMIDINES

Phillip Adams, Murray Hill, and Benedict Juliano, Elizabeth, N.J., assignors to Millmaster Chemical Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 389,460, Aug. 13, 1964. This application Jan. 15, 1968, Ser. No. 697,606

U.S. Cl. 260—260

Int. Cl. C07d 51/36

7 Claims

Substituted-2,4 dioxohexahydropyrimidines are prepared by reacting a carbamic acid ester with a beta amino

ester in the presence of a Lewis acid catalyst at a temperature in the range of about 70 to 200° C. Thus, 1-benzyl-3-cyclohexyl-2,4-dioxohexahydropyrimidine is prepared by the reaction of methyl-beta-benzylaminopropionate and methyl N-cyclohexyl carbamate utilizing dibutyl tin oxide as the catalyst.

3,422,109

PRODUCTION OF TETRAIMINOPIPERAZINE

Leland J. Beckham, Chesterfield County, Va., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed Mar. 30, 1966, Ser. No. 538,832

U.S. Cl. 260—268

Int. Cl. C07d 51/66

4 Claims

A process for production of lead cyanamide, subsequent pyrolysis to cyanogen and reaction of the cyanogen with ammonia to produce tetra imino piperazine is described.

3,422,110

ERGOT ALKALOIDS METHYLATED IN THE 10a'-POSITION

Paul Stadler, Biel-Benken, Basel-Land, and Franz Troxler and Albert Hofmann, Bottmingen, Switzerland, assignors to Sandoz Ltd. (also known as Sandoz A.G.), Basel, Switzerland

No Drawing. Filed June 29, 1966, Ser. No. 561,343

Claims priority, application Switzerland, July 7, 1965, 9,533/65; May 13, 1966, 6,943/66

U.S. Cl. 260—268

Int. Cl. C07d 99/04

6 Claims

The compounds are ergot alkaloids methylated in the 10a' position. The compounds are useful in the treatment of migraine. Processes for the production of the compounds are also described.

3,422,111

NAPHTHOXIDINE DYESTUFFS AND PROCESS FOR MAKING SAME

Hans Bosshard, Basel, and Werner Bossard, Riehen, Switzerland, assignors to J. R. Geigy A.G., Basel, Switzerland

No Drawing. Filed Aug. 6, 1964, Ser. No. 387,995
Claims priority, application Switzerland, Aug. 8, 1963, 9,830/63

U.S. Cl. 260—270

Int. Cl. C09b 13/00

7 Claims

Naphthoxidine dyes of Formula III (see specification infra) which are valuable for dyeing polymeric and copolymeric acrylonitrile fibers, are prepared by reacting a naphthoxidine of Formula I (see specification infra) in the presence of chlorine or bromine with a heterocyclic-aromatic (e.g. pyridine, quinoline or isoquinoline) nitrogen base.

3,422,112

INDOLYL VINDOLINES

Marvin Gorman and Edmund C. Kornfeld, Indianapolis, Ind., assignors to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

No Drawing. Continuation-in-part of application Ser. No. 376,258, June 18, 1964. This application Jan. 22, 1968, Ser. No. 699,327

U.S. Cl. 260—287

Int. Cl. C07d 27/30; C07d 27/32

4 Claims

Dimeric alkaloid-like substances, useful as anti-viral agents, are produced by reacting indoles with vindoline or its relatives.

3,422,113

3-ARYL-7-TRIAZOLYL CARBOSTYRIL

Wolf-Dieter Wirth, Cologne-Stammheim, Hans Knupfer, Bergisch Neukirchen, and Carl-Wolfgang Schellhammer, Opladen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
 No Drawing. Filed Nov. 15, 1965, Ser. No. 507,693
 Claims priority, application Germany, Nov. 28, 1964, F 44,567
 U.S. Cl. 260—288 9 Claims
 Int. Cl. C07d 57/00; C08k 1/75
 Brightening compositions containing 3-phenyl-7-aryl-triazolyl-carbostyrils.

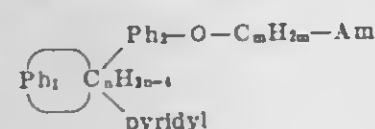
ERRATUM

For Class 260—294.7 see:
 Patent No. 3,422,451

3,422,114

BASIC ETHERS OF DIHYDRONAPHTHYL-PHENOLS

Charles Ferdinand Huebner, Chatham, and William Laszlo Bencze, New Providence, N.J., assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware
 No Drawing. Continuation-in-part of application Ser. No. 232,889, Oct. 24, 1962. This application Sept. 21, 1965, Ser. No. 489,042
 U.S. Cl. 260—296 5 Claims
 Int. Cl. C07c 93/14; C07d 31/42; C07d 49/14
 Compounds of the formula

Ph₁=a 1,2-phenylenePh₂=a phenylene

n=4-7

m=2-7

Am=an amino group

and salts thereof exhibit estrogenic and antifertility effects.

3,422,115

PROCESS FOR PRODUCING 5-METHYLISOXAZOLE

Harry Allen Albrecht, Nutley, and John Thomas Platl, Rutherford, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
 No Drawing. Filed Feb. 14, 1966, Ser. No. 527,080
 U.S. Cl. 260—307 5 Claims
 Int. Cl. C07d 85/22

A process for preparing 5-methylisoxazole by reacting an alkali metal hydroxymethyleneacetone with a hydroxylamine acid salt in the absence of added acid is described. 5-Methyl-isoxazole is a useful intermediate for the preparation of N¹-(5-methyl-3-isoxazolyl)sulfanilamide, a known antibacterial agent.

3,422,116

PHthalimidomethyl PROPIOLACTONES

August Henry Frazer, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
 No Drawing. Filed June 2, 1965, Ser. No. 460,864
 U.S. Cl. 260—326 3 Claims
 Int. Cl. C07d 99/04; C08g 17/02

2-(N-phthalimidomethyl)-2-methyl-3-propiolactone and 2,2-bis (N-phthalimidomethyl)-3-propiolactone are disclosed which are used in the preparation of fiber-forming copolyesters of 2,2-disubstituted propiolactones. Fibers

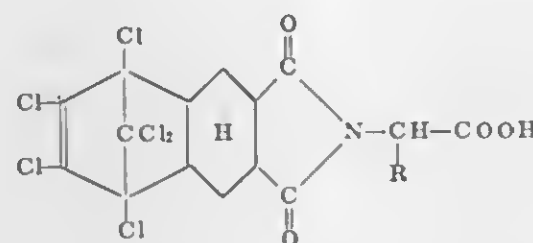
thereof exhibit, after treatment with alcoholic hydrazine solution, excellent affinity for acid dyes.

3,422,117

5,8-METHANOBENZ(6)ISOINDOLINE-2-ACETIC ACID COMPOUNDS

Carleton W. Roberts, Midland, and Gale D. Travis, Shepherd, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
 No Drawing. Filed Dec. 23, 1966, Ser. No. 604,154
 U.S. Cl. 260—326 3 Claims
 Int. Cl. A611 13/00

The present invention is directed to a 5,8-methanobenz-(f)isoindoline-2-acetic acid compound of the following formula



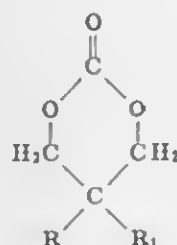
wherein R represents (p-hydroxybenzyl) or (2-(methylthio)ethyl). The products of the present invention are useful as agents to control the growth of plants, especially bacteria and fungi.

3,422,118

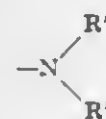
CYANOALKYLATED CYCLIC CARBONATES

Fritz Hostettler and Eugene F. Cox, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York
 No Drawing. Filed Nov. 20, 1963, Ser. No. 325,140
 U.S. Cl. 260—340.2 8 Claims
 Int. Cl. C07d 13/06; C08g 17/13

1. A compound of the formula



wherein R is of the group consisting of alkyl, alkoxy-methyl, alkenyloxymethyl, alkanoyloxymethyl, alkenoyloxymethyl, nitro, 2-cyanoethoxymethyl, 2-cyano-1-alkylethoxymethyl, and the unit



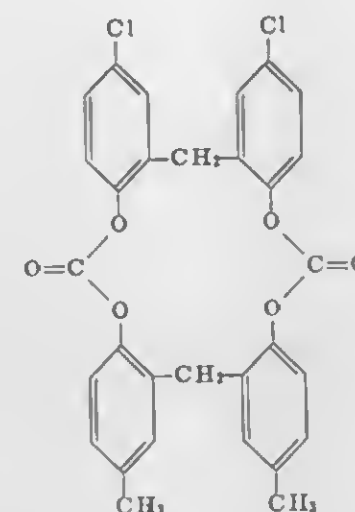
each R' being of the group consisting of 2-cyanoethyl, 2-cyano-1-alkylethyl, and alkyl; wherein R₁ is of the group consisting of 2-cyanoethoxymethyl, 2-cyano-1-alkylethoxymethyl, bis(2-cyanoethyl)amino, and bis(2-cyano-1-alkylethyl)amino.

3,422,119

CYCLIC AROMATIC CARBONATE DIMERS

Robert J. Prochaska, Stockbridge, Mass., assignor to General Electric Company, a corporation of New York
 No Drawing. Filed June 3, 1963, Ser. No. 284,810
 U.S. Cl. 260—340.2 1 Claim
 Int. Cl. C07d 19/00

1. An unsymmetrical cyclic dimeric carbonate having the structure

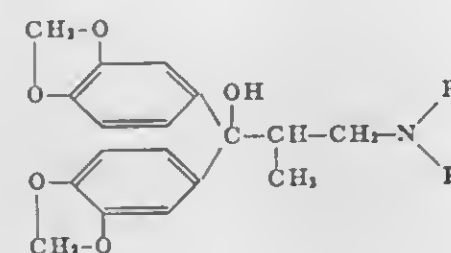


3,422,120

1,1 - BIS(3,4 - METHYLENEDIOXYPHENYL)-2-METHYL-3-(TERT-AMINO)PROPANOLS AND DERIVATIVES THEREOF

Robert Bruce Moffett, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
 No Drawing. Filed May 10, 1966, Ser. No. 548,877
 U.S. Cl. 260—340.5 2 Claims
 Int. Cl. C07d 13/10

1. A compound of the formula



wherein R and R₁ taken separately are alkyl having from 1 to 4 carbon atoms, inclusive, and taken together with —N— constitute a saturated heterocyclic amino radical selected from the group consisting of pyrrolidino, piperidino, morpholino and N-methyl-piperazino, and the acid addition salts thereof.

3,422,121

PROCESS FOR THE PREPARATION OF 13-LOWER ALKYL-GONA-4,8(14),9-TRIENE-3,17-DIONE

David Taub, Metuchen, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
 No Drawing. Filed Aug. 13, 1965, Ser. No. 479,602
 U.S. Cl. 260—397.3 2 Claims
 Int. Cl. C07c 167/04; A61k 17/06

The invention disclosed herein is concerned generally with novel processes for the preparation of steroid compounds. More particularly, it relates to a novel process

for producing 13-lower alkyl-4,8(14),9-gonatriene-3,17-dione steroids, valuable as intermediates useful in the preparation of compounds having utility as orally and parenterally active progestational agents, starting with 2-methyl-5-oxo-4H-5,6,7,8-tetrahydro-chromene. In this process the said starting compound is reacted with a vinyl magnesium halide to form 2-methyl-5-vinyl-5-hydroxy-4H-5,6,7,8-tetrahydro-chromene which is then reacted with a 2-lower alkylcyclopentane-1,3-dione to produce 3-methyl-13-lower alkyl-8,14-seco-4-oxagona-2,5(10),9(11)-triene-14,17-dione; the latter compound is treated with a strong acid thereby closing the C-ring to produce 3-methyl-13-lower alkyl-4-oxagona-2,5(10),8,14-tetraene-17-one which upon reaction with an aqueous solution of an organic acid is converted by the opening of the A-ring to 13-lower alkyl-4,5-secogona-8,14-diene-3,5,17-trione; the last named compound is then reacted with an alkali metal alkoxide to close the A-ring and form the desired 13-lower alkyl-gona-4,8(14),9-triene-3,17-dione which, upon chloroethynylation, is converted to the highly active progestational agent, 13-lower alkyl-17α-chloroethynyl-17β-hydroxy-gona-4,8(14),9-triene-3-one.

3,422,122

6 HALO-9β,10α-STERIODS

Engbert Harmen Reerink, Pieter Westerhof, and Hendrik Frederik Louis Scholer, Weesp, Netherlands, assignors to North American Phillips Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 399,374, Sept. 25, 1964, which is a continuation-in-part of application Ser. No. 201,824, June 12, 1962. This application Oct. 7, 1966, Ser. No. 585,720

Claims priority, application Great Britain, June 29, 1964, 26,744/64

U.S. Cl. 260—397.3 6 Claims
 Int. Cl. C07c 169/36

6 halo-9β,10α-steroids of the pregnane series. Examples are 6-fluoro-17α-hydroxy-9β,10α-pregna-4,6-diene-3,20-dione 17-acetate, 3-ethoxy-6-fluoro-9β,10α-pregna-3,5-dien-20-one and 6-bromo-9β,10α-pregna-4,6-diene-3,20-dione. These compounds are progestationally active and in general are uterotrophic and antiuterotropic.

3,422,123

PROCESS FOR PREPARING 16α-ALKYL-17-BROMOPREGNANES

Hans Relmann, Wayne, and Emanuel B. Hershberg, West Orange, N.J., assignors to Schering Corporation, Bloomfield, N.J., a corporation of New Jersey

No Drawing. Filed Jan. 18, 1966, Ser. No. 521,429

U.S. Cl. 260—397.4 7 Claims
 Int. Cl. C07c 169/34

Described is an improved, one-vessel process for the conversion of a 16-dihydro-20-keto-pregnane to a 16α-alkyl-17α-bromo-20-keto-pregnane (known compounds valuable as intermediates) which comprises adding an approximately equimolar quantity of an alkyl magnesium halide to a 16-dehydro-20-keto-pregnane, then adding bromine to the thereby formed 16α-lower alkyl-20-magnesium halide enolate in situ in a ratio of about one mole bromine per mole of said 16-dehydro-20-keto-pregnane.

By this process one can prepare 16α-alkyl-17α-bromo-20-keto-pregnanes of high purity in excellent yields from a 16-dehydro-20-keto-pregnane in one operation without having to isolate the 20-enolate intermediate or having to reform protective groups prior to bromination, and advantageously, with bromination occurring only at C-17 even with other unsaturations present in the molecule.

3,422,124

TWO STAGE POLYMERIZATION OF UNSATURATED FATTY ACIDS

John Edward Milks, Stamford, and Natalie Hetman Conroy, New Canaan, Conn., assignors to Arizona Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 405,846, Oct. 22, 1964. This application Dec. 12, 1967, Ser. No. 689,794

U.S. Cl. 260—407
Int. Cl. C09f 7/06

6 Claims

A polymerization reaction in two stages is provided which comprises: first, polymerizing monomeric higher fatty acids employing an anhydrous acid menstruum at a temperature ranging from 180° C. to 260° C., separating the resultant polymeric acids from the reaction mixture to recover a monomeric fraction and, second, polymerizing at a temperature between 220° C. and 260° C., the said monomeric fraction with acid-treated mineral clay in an aqueous environment so as to obtain a ratio of dimer to trimer acid of at least 4.5 to 1, respectively.

3,422,125

ORGANOMETALLIC DERIVATIVES OF ARSENIC AND ANTIMONY

Howard Bernard Silver, Hinchley Wood, Surrey, and Raymond Thompson, Esher, Surrey, England, assignors to United States Borax & Chemical Corporation, Los Angeles, Calif.

No Drawing. Filed Feb. 1, 1966, Ser. No. 523,977
Claims priority, application Great Britain, Feb. 11, 1965, 6,001/65

U.S. Cl. 260—414
Int. Cl. C11c 1/00; C09k 3/28

13 Claims

Organometallic compounds of the formula $M(ODX)_3$ where M is arsenic or antimony, D is a divalent metal such as cobalt, zinc, calcium, magnesium, lead or cadmium and X is a carboxylate radical. The compounds are especially useful as flame-proofing agents.

3,422,126

PREPARATION OF TITANIUM ALKYLORTHOPHOSPHATES

Carl Robert Bauer, Elkton, Md., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 19, 1965, Ser. No. 441,320
U.S. Cl. 260—429.5
Int. Cl. C07f 7/00; C07f 9/06

5 Claims

Titanium tetra (mono- and dialkylorthophosphate) are prepared by reacting one mole of tetra- C_1-C_8 alkyl titanate with four moles of mixed mono- and di- C_8-C_{18} alkyl acid phosphates at about atmospheric pressure and 15–150° C.

3,422,127

ORGANOTIN ALICYCLIC ESTERS

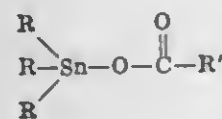
Richard H. Fish, Anaheim, Calif., assignor to United States Borax & Chemical Corporation, Los Angeles, Calif., a corporation of Nevada

No Drawing. Continuation-in-part of application Ser. No. 507,663, Nov. 15, 1965. This application Aug. 11, 1966, Ser. No. 571,688

U.S. Cl. 260—429.7
Int. Cl. A01n 9/24

15 Claims

Organotin alicyclic esters of the formula



are provided where R is alkyl, aralkyl or aryl and R' is an alicyclic group. The compounds can be prepared by reaction of an alicyclic carboxylic acid with the corresponding organotin hydride, organotin oxide or organotin hydroxide. They are useful as herbicides, insecticides, fungicides and as polymer additives.

3,422,128

 π -ALLYL NICKEL COMPOUNDS AND THEIR PREPARATION

Günther Wilke, Mulheim (Ruhr), Germany, assignor to Studiengesellschaft Kohle m.b.H., Mulheim (Ruhr), Germany, a corporation

No Drawing. Filed Aug. 6, 1964, Ser. No. 388,000

Claims priority, application Germany, Aug. 10, 1963, St 20,975

U.S. Cl. 260—439

11 Claims

Int. Cl. C08f 1/32; C07f 15/04; C07f 15/00

Production of π allyl nickel compounds by the reaction of a nickel olefinic hydrocarbon compound with allyl halides and products produced thereof. The compounds have utility as oligomerization and polymerization catalysts.

3,422,129

PREPARATION OF LITHIOFERROCENES

Harold Rosenberg, Dayton, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force

No Drawing. Filed Aug. 31, 1966, Ser. No. 576,778

U.S. Cl. 260—439
Int. Cl. C07f 15/02

2 Claims

A new method for preparing relatively pure mono- and di-lithioferrocene comprising the steps of converting monochloromercuriferrocene and 1,1'-dichloromercuriferrocene to the corresponding monobromoferrocene and 1,1'-dibromoferrocene, respectively, with N-bromosuccinimide and thereafter reacting the resulting bromoferrocenes with n-butyllithium to form monolithium ferrocene and 1,1'-dilithioferrocene, respectively. The resulting compounds are useful as reactive intermediates in preparing other ferrocene compounds such as polymers.

3,422,130

(PERFLUOROARYL)FERROCENES AND THE SYNTHESIS THEREOF

Harold Rosenberg, Dayton, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force

No Drawing. Filed Aug. 31, 1966, Ser. No. 576,783

U.S. Cl. 260—439
Int. Cl. C08f 35/00

9 Claims

New (perfluoroaryl)ferrocene monomers and polymers may be prepared by reacting ferrocenyllithium compounds with hexafluorobenzene in a tetrahydrofuran-alkane solution. The compounds thus prepared are useful as coatings and films because of their resistance to oxidation and radiation degradation.

3,422,131

FLUOROALKOXYALKYL SILANES

Allen G. Pittman, El Cerrito, and William L. Wasley, Berkeley, Calif., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Feb. 10, 1966, Ser. No. 526,348

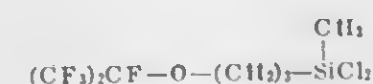
U.S. Cl. 260—448.2

8 Claims

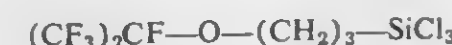
Int. Cl. C09k 3/18; D06c 27/100

A fluoroisopropyl allyl (or vinyl) ether, which contains a fluorine atom on the alpha carbon atom of the isopropyl

group, is reacted with a silane containing H directly bonded to the Si atom whereby to achieve chemical addition. Typically, heptafluoroisopropyl allyl ether is reacted with methylchlorosilane to produce



or with trichlorosilane to produce



The silane derivatives are useful, in both monomeric or polymeric form, for imparting a high degree of water- and oil-repellency to fibrous substances, e.g., fabrics made from natural or synthetic fibers. Typically, the monomeric silane derivative is subjected to hydrolytic polymerization and the resulting polysiloxane, dissolved in an inert solvent, is applied to a fabric. The treated fabric is then air-dried and cured in an oven, 150° C., for about ½ hour.

3,422,132

PREPARATION OF PRIMARY α -AMINONITRILES

Julius Fuchs, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 15, 1966, Ser. No. 534,406

U.S. Cl. 260—464
Int. Cl. C07c 121/00; C07b 29/00

3 Claims

Primary α -aminonitriles are prepared by reacting hydrogen cyanide with a N-chloroimine at a molar ratio of hydrogen cyanide to N-chloroimine of at least 3:1, optionally in the presence of an inert solvent. The primary α -aminonitrile hydrochloride produced is separated from the reaction mixture and then reacted with a base to obtain the free primary α -aminonitrile.

3,422,133

CYANOMETHYLIDENE-ANILINE DYE FOR TEXTILE FIBERS

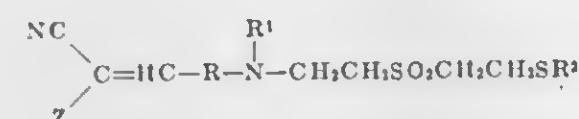
John I. Dale III and Max A. Weaver, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Oct. 22, 1965, Ser. No. 502,325

U.S. Cl. 260—465
Int. Cl. C09b 23/00

7 Claims

Cyanomethylidene-aniline compounds having the general formula



wherein R is phenylene, R¹ and R² each is alkyl or phenyl, and Z is cyano, —COO-alkyl, or —CONH₂ which are useful as dyes for hydrophobic fibers.

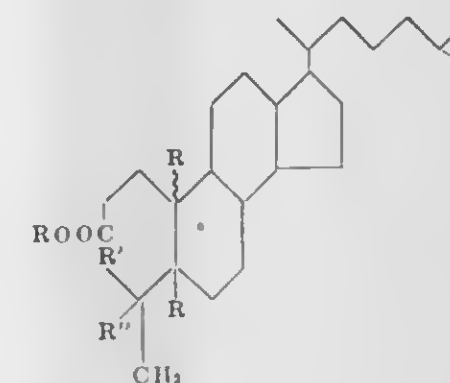
858 O.G.—20

3,422,134
STERIODS

Gerald W. Krakower, Elizabeth, Josef Fried, Princeton, and David Walter Rosenthal, New Brunswick, N.J., assignors, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 13, 1963, Ser. No. 308,627
U.S. Cl. 260—468
Int. Cl. C07c 69/74; C07c 61/00; C07c 169/60

10 Claims

1. Cholestane steroid of the formula



3,422,137
METHANEHYDROXYDIPHOSPHONIC ACIDS AND SALTS USEFUL IN DETERGENT COMPOSITIONS
 Oscar T. Quimby, Cincinnati, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
 No Drawing. Filed Dec. 28, 1965, Ser. No. 517,073
 U.S. Cl. 260—502.4 10 Claims
 Int. Cl. C07f 9/38

A class of diphosphonate compounds which are methylenehydroxydiphosphonic acid and alkali metal and ammonium salts thereof. The acid is prepared by reacting phosgene and an alkali metal dialkyl phosphite, and water washing and hydrolyzing the reaction product.

3,422,138
PROCESS FOR THE MANUFACTURE OF DETERGENT SULFONATES
 Suzana Holzman, Kiryat Tivon, and Ben-Zion Milwidsky, Haifa, Israel, assignors to Dablia Kibbutz Hashomer Hazair, Kvutza Poalim Le'Hityashvut Shitufit Be'Era-von Mugbal, Dablia, Israel, a corporation of Israel
 No Drawing. Filed Aug. 5, 1966, Ser. No. 570,410
 Claims priority, application Israel, Apr. 18, 1966, 25,559 10 Claims

U.S. Cl. 260—513 10 Claims
 Int. Cl. C07c 143/10; C07c 143/68
 Hydroxyalkane sulfonates for use in detergents are prepared by sulfonating an olefin with SO₂ in a reaction system comprising the olefin in mixture with an alcohol having a low rate of evaporation at the reaction temperature, which is about 80° C., and saponifying the resultant product.

3,422,139
ACRYLAMIDO-N-GLYCOLIC ACID AND METHYLOL DERIVATIVE
 Pierre Talet, Alfortville, Val-de-Marne, and Robert Behar, Paris, France, assignors to Nobel-Bozel, Paris, France, a joint-stock company of France
 No Drawing. Filed June 8, 1965, Ser. No. 462,449
 Claims priority, application France, June 9, 1964, 977,606 2 Claims

U.S. Cl. 260—534 2 Claims
 Int. Cl. C07 103/10; D21h 3/12
 As new industrial products suitable for use in the finishing of paper and textiles in the preparation of herbicides, and in the manufacture of polymers as reticulation agents, acrylamido-N-glycolic acid and N-methylol-acrylamido-N-glycolic acid.

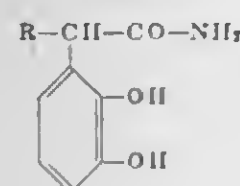
ERRATUM

For Class 260—544 see:
 Patent No. 3,422,452

3,422,140
2,3-DIHYDROXYPHENYLALKANAMIDES
 Hans Rudolf Corrodi, Molndal, and Per Arvid Emil Carlsson, Goteborg, Sweden, assignors to Aktiebolaget Hassle, Apotekare Paul Nordstroms Fabriker, Goteborg, Sweden, a corporation of Sweden
 No Drawing. Continuation of application Ser. No. 370,056, May 25, 1964, which is a continuation-in-part of application Ser. No. 251,019, Jan. 14, 1963. This application Feb. 13, 1967, Ser. No. 615,840
 Claims priority, application Sweden, Jan. 17, 1962, 467/62; Jan. 23, 1964, 798/64 7 Claims

U.S. Cl. 260—559 7 Claims
 Int. Cl. C07c 103/26

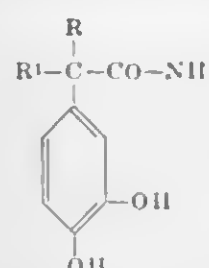
The amides have the formula:



the group R being an alkyl or alkoxy group containing at most 4 carbon atoms. The amides inhibit the enzymatic hydroxylation of aromatic L-amino acids. They are used in the treatment of mentally deficient patients and diseases of circulation, especially hypertension. They may be prepared by reacting the corresponding free acids or an amide forming derivative thereof with ammonia; the nuclear hydroxy groups may be protected during such reaction.

3,422,141
3,4-DIHYDROXYPHENYLALKANAMIDES
 Hans Rudolf Corrodi, Molndal, and Per Arvid Emil Carlsson, Goteborg, Sweden, assignors to Aktiebolaget Hassle, Apotekare Paul Nordstroms Fabriker, Goteborg, Sweden, a corporation of Sweden
 No Drawing. Continuation of application Ser. No. 312,361, Sept. 30, 1963, which is a continuation-in-part of application Ser. No. 251,019, Jan. 14, 1963. This application Mar. 23, 1967, Ser. No. 625,557
 Claims priority, application Sweden, Jan. 17, 1962, 467/62; Oct. 18, 1962, 11,155/62 9 Claims

U.S. Cl. 260—559 9 Claims
 Int. Cl. C07c 103/26
 The present invention discloses compounds having the following formula:



in which R is selected from the class consisting of hydrogen, lower alkyl, and alkoxy of at most 2 carbon atoms, and R¹ is selected from the class consisting of hydrogen and alkyl of at most 2 carbon atoms.

This application also discloses a method for producing such compounds by subjecting intermediate compounds to amidation reaction with the compound selected from the class consisting of ammonia and salts thereof, and thereafter converting any ether or ester groups directly attached to the benzene nucleus into the corresponding phenolic hydroxy groups. The application also discloses pharmaceutical compositions containing such compounds and the use of such compounds in inhibiting the action of certain enzymes which decompose adrenalin.

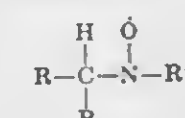
3,422,142
IMINES AND PRODUCTION THEREOF
 Ernest A. Zuech, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
 No Drawing. Filed Jan. 29, 1965, Ser. No. 429,117
 U.S. Cl. 260—566 9 Claims
 Int. Cl. C07b 29/00; C07c 119/00

Imines are converted to higher molecular weight imines by reaction with a butadiene in the presence of an alkali metal amide. The initial imine must have at least one alpha hydrogen. The new imine will contain at least one 2-butenyl group in place of an alpha hydrogen in the original imine.

3,422,143
α,α',α'',α'''-TETRAMETHYL-p-XYLYLENEDIAMINE
 Charles G. Bottomley, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
 No Drawing. Filed Nov. 16, 1964, Ser. No. 411,605
 U.S. Cl. 260—570.8 2 Claims
 Int. Cl. C07c 87/28; C07c 161/04; C07c 15/00
 α,α'-diamino-α,α',α'',α'''-tetraalkylmethylarylenes which are useful in the preparation of polyamides.

3,422,144
STABLE FREE RADICAL NITROXIDES
 Arthur Kentaro Hoffmann, New Canaan, Conn., and Ernestine Gelblum Abraham, Cumberland, Md., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
 No Drawing. Filed Apr. 27, 1965, Ser. No. 451,316
 U.S. Cl. 260—570 6 Claims
 Int. Cl. C07c 135/02

1. Nitroxides of the formula



wherein R is selected from the group consisting of tertiary alkyl, aryl, alkaryl, haloaryl, carboxyaryl, alkoxyaryl, alkylthioaryl, pyridyl and dialkylaminoaryl, and R' is tertiary alkyl.

3,422,145
PRODUCTION OF ALPHA, OMEGA-DIAMINES
 Walter E. Steinmetz, Shreveport, La., assignor to El Paso Products Company, a corporation of Texas
 Filed Sept. 3, 1965, Ser. No. 484,801 15 Claims
 U.S. Cl. 260—585 15 Claims
 Int. Cl. C07c 85/04

Process for the preparation of alpha, omega-alkylene-diamines useful as intermediates in the production of nylon which comprises the sequential steps of (1) pyrolyzing an allylic halide in the presence of an olefin at a temperature of about 400° to 750° C. for a time sufficient to effect substantial condensation thereof whereby said allylic halide is converted to its corresponding diallylic derivative; (2) hydrohalogenating the diallylic derivative by catalytic reaction with hydrogen bromide at a temperature of about -80° to 35° C. to obtain the corresponding alpha, omega-dibromoalkane and (3) subjecting said alpha, omega-dibromoalkane to ammonolysis by reaction with a molar excess of ammonia in a ratio of about 10:1 to 180:1 at a temperature of about 16° to 100° C. to obtain the corresponding alpha, omega-alkylene-diamine.

3,422,146
PROCESS FOR THE DEHYDROGENATION OF CYCLOHEXANOL
 Franz Defoor, Strombeek-Bever, Belgium, assignor to Institut Francais du Petrole des Carburants et Lubrifiants, Rueil-Malmaison, Hauts-de-Seine, France
 No Drawing. Filed Sept. 30, 1966, Ser. No. 583,451
 Claims priority, application France, Sept. 30, 1965, 33,359 5 Claims
 U.S. Cl. 260—586 5 Claims
 Int. Cl. C07c 43/30

In the liquid phase dehydrogenation of cyclohexanol to cyclohexanone, the improvement of starting the reaction with a mixture of cyclohexanol and cyclohexanone having a first weight ratio of cyclohexanone/cyclohexanol plus cyclohexanol of above 0.6 to about 0.99, preferably 0.65-0.90 for at least the first ten minutes, preferably from 1 to 10 hours, and then continuing the reaction by lowering said weight ratio to lower than 0.6, preferably to about 0.3-0.55.

3,422,147
PREPARATION OF 1-OXO-1,2,3,4-TETRAHYDRO-NAPHTHALENE AND 1-HYDROXY-1,2,3,4-TETRAHYDRO-NAPHTHALENE
 Donald M. Fenton, Anaheim, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
 No Drawing. Filed Jan. 11, 1968, Ser. No. 696,986
 U.S. Cl. 260—590 7 Claims
 Int. Cl. C07c 45/02

The invention relates to the preparation of 1-oxo-1,2,3,4-tetrahydronaphthalene or derivatives thereof by

oxidation of 1,2,3,4-tetrahydronaphthalene or derivatives in the presence of a catalyst comprising a complex of a Group VIII noble metal with a biphilic ligand from the group consisting of organic phosphines, organic arsines and organic stibines.

3,422,148
PROCESS FOR THE CONTINUOUS MANUFACTURE OF METHYL ISOPROPENYL KETONE IN THE LIQUID PHASE
 Johannes Wöllner, Kapellen, Kreis Moers, and Friedrich Engelhardt, Homberg (Lower Rhine), Germany, assignors to Rheinpreussen Aktiengesellschaft für Bergbau und Chemie, Homberg (Lower Rhine), Germany, a corporation of Germany
 No Drawing. Filed Feb. 26, 1964, Ser. No. 347,997
 Claims priority, application Germany, Mar. 2, 1963, R 34,583 9 Claims

U.S. Cl. 260—593 9 Claims
 Int. Cl. C07c 45/00; C07c 49/20
 Single stage process for producing methyl isopropenyl ketone from methyl ethyl ketone by liquid phase contact of methyl ethyl ketone with aqueous formaldehyde in the presence of an acid cation exchanger, optionally using a fixed bed or suspension catalyst system and concomitantly a batch or continuous technique, e.g., at temperatures between about 50-180° C. and pressures between about 0.5-20 atmospheres excess pressure.

3,422,149
VINYL (TRIORGANO) PHOSPHONIUM HALIDES AND THE PREPARATION THEREOF
 Michael M. Raubut, Stamford, Conn., Grace B. Borowitz, Bethlehem, Pa., and Martin Graysan, Norwalk, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
 No Drawing. Continuation-in-part of application Ser. No. 256,125, Feb. 4, 1963. This application Mar. 8, 1966, Ser. No. 532,582 5 Claims
 U.S. Cl. 260—606.5 5 Claims
 Int. Cl. C09k 3/28; C07f 9/02

1. A method of preparing a vinylphosphonium salt of the formula



which comprises reactively contacting with a base a phosphonium salt of the formula



wherein, the above formulas, R¹, R² and R³ are each alkyl (C₁-C₂₆), substituted alkyl (C₁-C₁₆), cycloalkyl, aryl, or substituted aryl, said substituents for alkyl and aryl being alkoxy, halogen, or cyano, X is halogen or tetraphenyl borate, and Y is the residue of an esterifying agent.

3,422,150
PROCESS FOR THE PREPARATION OF α-DITHIOLS
 Bernard H. Pfugfelder, Artix, France, assignor to Ste Anonyme dite: Societe Nationale des Petroles d'Aquitaine, Courbevoie, France, a corporation of France
 No Drawing. Filed Dec. 15, 1965, Ser. No. 514,143
 Claims priority, application France, Dec. 23, 1964, 999,702 8 Claims

U.S. Cl. 260—609 8 Claims
 Int. Cl. C07c 149/06
 An α-dithiol is produced by introducing ethylene monothiocarbonate or an alkylated derivative thereof into an aqueous alkaline solution, saturated with H₂S, to effect exothermic reaction which results in the opening of the oxathiolane ring with formation of a basic double salt which is then acidified so as to produce the dithiol product.

3,422,151

COMPOUNDS OF THE VITAMIN A SERIES

Josef Ferdinand Arens, Hilversum, and Lambert Brandsma, Jutphaas, Netherlands, assignors to Organon Inc., West Orange, N.J., a corporation of New Jersey

No Drawing. Filed Apr. 1, 1965, Ser. No. 444,842
Claims priority, application Netherlands, Apr. 17, 1964, 6404175

U.S. Cl. 260—611

Int. Cl. C07c 41/06; C07c 43/18

4 Claims

New intermediates for the synthesis of vitamin A aldehyde are prepared by the addition of 1-lower alkoxy-3-methyl-hexa-1,3-dien-5-yne to beta-ionone according to a Grignard or Nef reaction, followed by partial reduction of the triple bond in the obtained addition product to a double bond. The resulting compounds are 1-alkoxy-7-hydroxy-3,7-dimethyl-9-(2',6',6'-trimethyl-cyclohex-1'-ene-1'-yl)-nona-1,3,5,8-tetraenes. Conversion of the intermediate with an acid results in the formation of vitamin A aldehyde. In this way the aldehyde is obtained in only three reaction steps starting from beta-ionone.

3,422,152

DIHALOGENATED ALKOXYDIPHENYL-
IODONIUM SALTS

Leonard Doub, Bloomfield Hills, Mich., assignor to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan

No Drawing. Filed Jan. 5, 1966, Ser. No. 518,791

U.S. Cl. 260—612

Int. Cl. C07c 25/00; C07c 43/28

7 Claims

Dihalogenated (lower alkoxy) diphenyliodonium salts, useful as anthelmintic and antibacterial agents, and their production by (a) reacting a (lower alkoxy) benzene with a haloiodosobenzene or a haloiodosobenzene diacetate in the presence of an acid, and (b) reacting a monohalogenated (lower alkoxy) diphenyliodonium halide with chlorine or bromine.

3,422,153

NOVEL ARYL-SUBSTITUTED PROPENES
AND DERIVATIVES

Jack Mills and William Pfeifer, Indianapolis, Ind., assignors to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

No Drawing. Filed Mar. 9, 1966, Ser. No. 532,875

U.S. Cl. 260—612

Int. Cl. A61k 25/00

6 Claims

Novel aryl-substituted propenes and derivatives and methods for their preparation, said novel compounds useful in lowering serum cholesterol and triglyceride levels in animals.

3,422,154

PROCESS FOR PRODUCING DINITRO-
DIPHENYL ETHERS

Joseph Francis Laucius, Wilmington, Del., and Louis Spiegler, Woodbury, N.J., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation of applications Ser. No. 224,499, and Ser. No. 224,501, Sept. 18, 1962. This application June 16, 1966, Ser. No. 557,920

U.S. Cl. 260—612

Int. Cl. C07c 41/04

6 Claims

Process for producing dinitrodiphenyl ethers which comprises reacting certain halogeno-mononitrobenzenes and alkali-metal nitrophenolates in the presence of a selected organic sulfone medium at a temperature of 150°–250° C.

3,422,155

BICYCLO[3.3.0] OCTANONES

Rostylaw Dowbenko, Gibsonia, Pa., assignor to PPG Industries, Inc., Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Original application Apr. 16, 1964, Ser. No. 360,434, now Patent No. 3,305,346, dated Feb. 21, 1967. Divided and this application Mar. 11, 1966, Ser. No. 554,231

U.S. Cl. 260—648

Int. Cl. C07c 23/32; C05g 3/08

18 Claims

The following compounds have been prepared:



where A is —CX₃ or CX₂R, X being halogen and R being an alkyl radical; B being either halogen or alkyl. These compounds are formed by transannular addition of polyhaloalkanes to 1,5-cyclooctadiene. The compounds of the invention have inter alia utility bactericides, fungicides, nematocides, insecticides, miticides, plasticizers and flame retardants.

3,422,156

NUCLEAR METHYLATION OF PHENOLS

Matthias Thoma, Waldkraiburg, Upper Bavaria, Germany, assignor to Chemisches Werk Lowi, Inh. M. Thoma, Waldkraiburg, Upper Bavaria, Germany
No Drawing. Filed July 22, 1966, Ser. No. 567,044
Claims priority, application Germany, July 23, 1965, C 36,486

U.S. Cl. 260—621

Int. Cl. C07c 37/16

3 Claims

Phenol, alkylated phenols, and dihydroxybenzenes are methylated in the nucleus by reaction in an autoclave with methanol which contains aluminum methylate as catalyst; the water of reaction is continuously entrained with distilled off methanol and fresh methanol is added at the rate at which it is removed.

3,422,157

PROCESS FOR CONTINUOUS ALKYLATION OF
ARYLHYDROXIDES USING ION EXCHANGE
RESINS

Stephen Kaufman, East Brunswick, and Richard E. Nicolson, Martinsville, N.J., assignors to Union Carbide Corporation, a corporation of New York

Continuation of application Ser. No. 120,752, June 29, 1961. This application Apr. 18, 1966, Ser. No. 545,520
U.S. Cl. 260—624

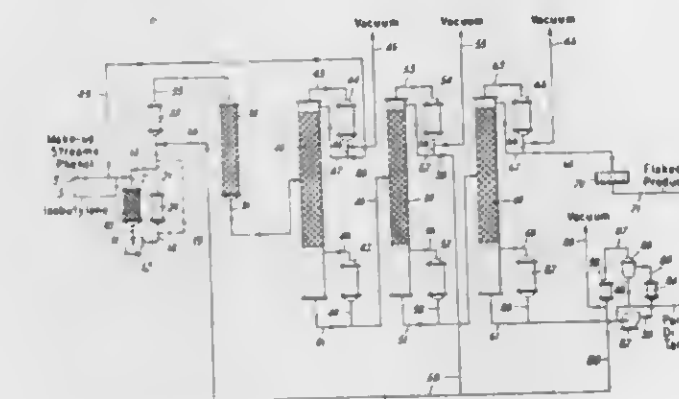
Int. Cl. C07b 27/00

8 Claims

1. Continuous process for the alkylation of phenols comprising the steps of

- (a) maintaining in a continuously recirculating reaction stream, a solvent-free liquefied mixture consisting essentially of phenol and a liquefied olefin having from 4 to 12 carbon atoms and a melting point of less than 150° C., at a temperature between 50° C. and 125° C., and in a molar ratio of from 0.5 to 10 moles of phenol per mole of olefin,
- (b) passing said mixture through a first reaction zone containing a stationary mass of substantially anhydrous cation exchanging resin containing strongly acidic exchanging groups in acid form and having a large surface, thereby alkylating only a portion of the phenol with at least a portion of said olefin,

- (c) and passing the resulting reaction mixture through a cooling zone to remove sufficient heat of reaction to keep the reaction temperature below 150° C.,
- (d) continuously feeding to said recirculating stream fresh phenol and olefin reactants in amounts such that the recirculation rate is from 2 to 50 times the reactants feed rate;
- (e) continuously withdrawing from said recirculating stream a portion thereof containing the alkylated phenol, said withdrawn portion being substantially equivalent to the volume of the feed, and



- (f) passing said withdrawn portion directly to a second reaction zone comprising a stationary mass of substantially anhydrous cation exchanging resin containing strongly acidic exchanging groups in acid form and having a large surface area while maintaining sufficient residence time in said second reaction zone to further react and convert the reaction stream to a higher concentration of the desired alkyl phenol;
- (g) distilling the effluent from said second reaction zone to remove unreacted phenol and reaction by-product isomers therefrom;
- (h) passing the reaction by-product isomers back to the reaction mass between said first and second reaction zones.

3,422,158

HALOGENATED SPIRO COMPOUNDS

David Knutson, Buffalo, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

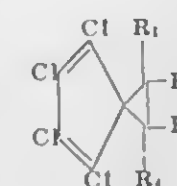
No Drawing. Continuation-in-part of application Ser. No. 310,144, Sept. 19, 1963. This application May 16, 1966, Ser. No. 550,183

U.S. Cl. 260—648

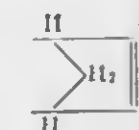
Int. Cl. A01m 9/20; A01m 9/36

4 Claims

I. A composition of the formula



wherein R₁, R₂, R₃ and R₄ are selected from the group consisting of hydrogen alkyl from 1 to about 26 carbon atoms and when R₂ and R₃ are taken together alkylene from 3 to about 10 carbon atoms, phenyl and

3,422,159
FLUORINATION OF UNSATURATED
COMPOUNDS

Bernard Sukornick, Morristown, and Christian A. Wamser, Berkeley Heights, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed June 23, 1966, Ser. No. 559,725

U.S. Cl. 260—648

Int. Cl. C07e 17/02; C01b 35/00; C07c 17/04

13 Claims

Complexes of the formula F₃NO·X; wherein X is BF₃, AsF₅ or SbF₅, are capable of fluorinating a variety of aliphatic and aromatic compounds containing double bonds. Such fluorination reactions are characterized generally by the absence of significant cleavage or dissociation of the products as occurs in fluorination reactions using strong fluorinating agents.

3,422,160

PROCESS FOR MANUFACTURING HALOMETHYL-
ATED ALKYL AROMATIC COMPOUNDS

Donald R. Napier, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 430,747, Feb. 5, 1965, now Patent No. 3,288,555. This application Oct. 18, 1965, Ser. No. 497,536

U.S. Cl. 260—651

Int. Cl. C07c 17/00; C07c 25/14

9 Claims

Polychloromethylated alkyl hydrocarbons are prepared by reacting one mole of an alkyl hydrocarbon with about 2.6 to about 6 moles of sulfuric acid and from about 2.1 to about 4 moles of a methyl halomethyl ether in which the halogen atoms are selected from the group consisting of chlorine and bromine.

3,422,161

UNSYMMETRICAL DIALKYL BENZENE
MIXTURES

Joe B. Lavigne, Oakland, and Mack F. Hughes, Albany, Calif., assignors to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed Sept. 16, 1966, Ser. No. 579,814

U.S. Cl. 260—668

Int. Cl. C07c 15/04

11 Claims

Unsymmetrical dialkylbenzene mixtures having an average molecular weight in the range 300–500 and in which the alkyl groups contain from 4 to 21 carbon atoms, and are dissimilar in that one is a branched chain, the other is a straight chain and for the mixture the average carbon atom content of the two types varies by at least 4.

3,422,162

PRODUCTION OF HEAVY ALKYLATE

Wilfred John Oldham, Polmont, Falkirk, and John Scott Orr, Dollar, Scotland, assignors, by mesne assignments, to Grange Chemicals Limited, London, England, a British company

No Drawing. Filed Aug. 1, 1966, Ser. No. 569,082

Claims priority, application Great Britain, Aug. 12, 1965, 34,634/65

U.S. Cl. 260—671

Int. Cl. C07c 3/52, 15/02

14 Claims

The production of heavy alkylate may be substantially increased by the process which comprises treating at least a part of a feedstock containing one or more olefins of 8 to 16 carbon atoms with liquid anhydrous hydrogen fluoride thereafter bringing the thus treated feedstock into contact with an aromatic compound containing at least one aromatic ring having no alkyl substituents in the presence of an alkylation catalyst, separating heavy alkylate from the resultant mixture and recovering the heavy alkylate.

3,422,163

RECOVERY OF AROMATICS FROM MULTIPLE HYDROCARBON STREAMS

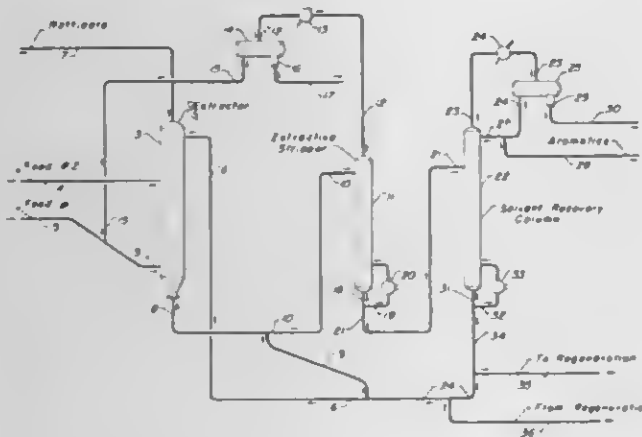
George F. Asselin, Mount Prospect, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Oct. 21, 1965, Ser. No. 499,972

U.S. Cl. 260—674

11 Claims

Int. Cl. C07c 7/10; C10g 21/00



Solvent extraction process to which plural feed hydrocarbon streams are charged. A first feed, comprising aromatics and paraffins, is introduced to a lower intermediate point in the height of a countercurrent solvent extraction column. A second feed, comprising aromatics and naphthenes, is introduced to a middle intermediate point of the extraction column. An aromatics-enriched solvent extract phase, withdrawn from the bottom of the extraction column, is subjected to extractive distillation to strip substantially all of the remaining non-aromatics therefrom.

3,422,164

ALKYLATION PROCESS EMPLOYING ACID TREATMENT OF THE ACID-OLEFIN ABSORPTION PRODUCT

Arthur R. Goldsby, Chappaqua, N.Y., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware

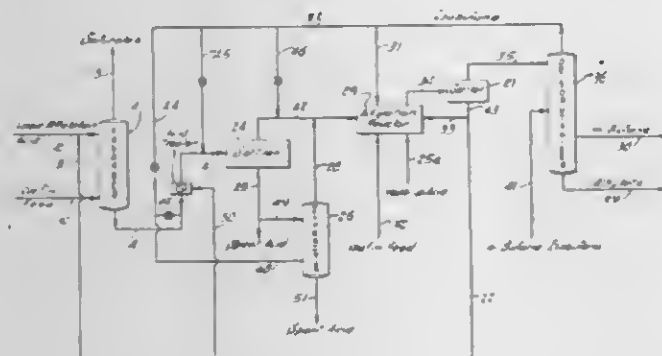
Continuation-in-part of applications Ser. No. 516,448, Dec. 27, 1965, and Ser. No. 510,904, Dec. 1, 1965.

This application Nov. 22, 1966, Ser. No. 596,253

U.S. Cl. 260—683.62

11 Claims

Int. Cl. C07c 3/54



A process for removing polymeric oil alkylation contaminants from used sulfuric acid alkylation catalyst wherein olefins are absorbed in the used acid in the presence of excess olefins with resulting conversion of free acid to dialkyl sulfate, the absorption product is treated with a small amount of strong sulfuric acid to react with any free polymeric oil alkylation contaminants, and the dialkyl sulfates are recovered from the acid treated absorption product, as by extraction with isobutane.

3,422,165

ISOCYANATE AND ISOTHIOCYANATE COMPOSITIONS AND POLYURETHANES THEREOF

Thomas K. Brotherton and John Smith, Jr., Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 8, 1964, Ser. No. 416,889

U.S. Cl. 260—859

33 Claims

Int. Cl. C08g 41/04; C08f 45/44, 45/48

A complex composition is produced and claimed which is a polymer/organic isocyanato compound complex. The complex is produced by the in situ free radical catalyzed polymerization of an ethylenically unsaturated monomer in the organic isocyanato compound. The complexes react with polyesters and/or polyethers having reactive hydrogen atoms to produce urethane polymers; they are also useful as adhesive, coatings and films.

3,422,166

TRIETHANOLAMINE SALTS OF MONO- AND DI-NONYL PHENOL (ETHOXYLATE) PHOSPHATE ACID ESTERS

Robert H. Davis, Pitman, N.J., assignor to Mobil Oil Corporation, a corporation of New York

No Drawing. Original application Mar. 20, 1964, Ser. No. 353,612, now Patent No. 3,310,489, dated Mar. 21, 1967. Divided and this application May 27, 1966, Ser. No. 553,281

U.S. Cl. 260—924

1 Claim

Int. Cl. C07g 9/08; C10m 1/86

Compositions, suitable for use as corrosion-inhibitors, are provided comprising the reaction product of triethanolamine and an ester selected from the group consisting of mono-esters having the formula



and di-esters having the formula



wherein R is a hydrocarbon group having at least 9 aliphatic carbon atoms and n is an integer from about 3 to about 30; the proportions of triethanolamine and ester being such that a neutral product is produced.

ERRATUM

For Class 260—930 see:
Patent No. 3,422,453

3,422,167

METHOD FOR PREPARING METAL OXIDE MICROSPHERES

Richard A. Bowmao, Oak Ridge, Tenn., and Roger L. Pilloton, Berkeley Heights, N.J., assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Jan. 31, 1968, Ser. No. 701,872

U.S. Cl. 264—5

5 Claims

Int. Cl. B22d 23/08; B29c 23/00

Metal oxide gel microspheres of alumina, zirconia, hafnia, europia, thoria, urania, plutonia, and mixtures thereof formed by jetting a corresponding metal oxide sol into a freezing medium, are frozen, subsequently dehydrated by vacuum distillation after removal of the freezing medium, and calcined into fired products.

3,422,168

PROCESS OF CASTING RESINOUS LENSES IN THERMOPLASTIC CAST REPLICAS

George H. Bowser, New Kensington, Pa., assignor to PPG Industries, Inc., a corporation of Pennsylvania

Filed Dec. 1, 1964, Ser. No. 415,055

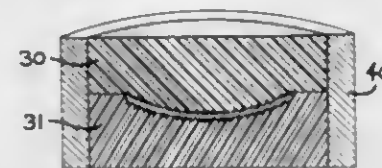
U.S. Cl. 264—1

9 Claims

Int. Cl. B29d 11/00

The present invention relates to a novel method for producing plastic optical and ophthalmic lenses. The

novel method of this invention is utilized to produce thermosetting resinous articles such as optical lenses by producing a replica mold from a master pattern of the article by casting a thermoplastic resinous material about the master pattern. A thermosetting resinous material may then be introduced into the replica mold and thereafter cured by heating the filled mold to a temperature



above the curing temperature of the thermosetting material but below the softening temperature of the thermoplastic mold. The novel method of this invention is particularly adapted for producing plastic lenses of a thermosetting resin comprising allyl diglycol carbonate. Thermoplastic mold materials which are found particularly useful are low molecular weight polyolefin resins such as polyethylene.

3,422,169

NITROCELLULOSE PRODUCT AND METHOD OF MANUFACTURE OF PROPELLANT GRAINS EMPLOYING SAME

Robert M. Brooks, Milltown, and William H. Gardner, Dover, N.J., assignors to Hercules Incorporated, a corporation of Delaware

No Drawing. Filed Apr. 1, 1959, Ser. No. 803,537

U.S. Cl. 264—3

2 Claims

Int. Cl. C06b 21/02; C06b 5/00

1. Smooth, hardened, densified and irregular nitrocellulose granules having a diversity of particle sizes all of which pass through a U.S. Standard Sieve No. 20, not more than about 15% by weight of which are coarser than a U.S. Standard Sieve No. 40, and not more than about 25% by weight of which pass through a U.S. Standard Sieve No. 100, and having a bulk density of at least about 40 pounds per cubic foot, dry basis, said granules having been prepared by contacting a slurry of fibrous nitrocellulose with agitation in a heated aqueous bath with an organic liquid solvent which has active solvent power for said nitrocellulose and which forms a minimum boiling azeotropic mixture with water, said solvent being present in an amount to soften and destroy the fibrous structure of the nitrocellulose without dissolution thereof, said bath being heated to at least the boiling point of the water-solvent azeotrope during the entire period of contact between said nitrocellulose and said solvent, thereafter removing substantially all of the solvent by distillation while continuing agitation to form smooth, hardened, densified and relatively coarse irregular particles of nitrocellulose having a bulk density of at least about 40 pounds per cubic foot, dry basis, and comminuting the resulting densified and relatively coarse irregular particles of nitrocellulose without substantial reduction of bulk density by wet grinding to produce densified comminuted irregular nitrocellulose particles having the aforestated particle size distribution, said densified comminuted irregular nitrocellulose particles being adapted for producing pourable casting slurries employed for manufacture of cast propellant grains by the slurry casting process.

3,422,171

PROCESS FOR PRODUCING FOAMED POLY-PROPYLENE MONOFILAMENT

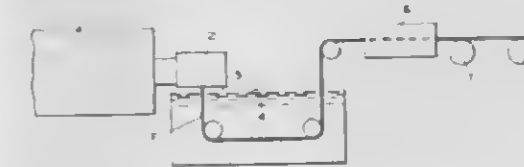
George C. Oppenlander, Embreeville, Pa., assignor to Hercules Incorporated, a corporation of Delaware

Filed July 7, 1965, Ser. No. 470,253

U.S. Cl. 264—51

2 Claims

Int. Cl. B29d 27/00; D01f 7/02



Fine denier (5–18 mils), foamed and oriented polypropylene monofilaments of low density (less than 0.6 g./cc.) and high strength (tenacity of at least 3.5 g./denier) are described. They are prepared by extruding a monofilament from a mixture of polypropylene and blowing agent and water quenching, at 10–80° C., the filament within 1/4 inch from the die, after which the filament is oriented by stretching.

3,422,172

PRODUCTION OF PLASTIC FOAM SHEET

Jan Dekker, Delft, Netherlands, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Mar. 16, 1966, Ser. No. 534,877

Claims priority, application Netherlands, Mar. 25, 1965, 6503780

U.S. Cl. 264—51

5 Claims

Int. Cl. B29d 27/00

In the extrusion of plates, webs, sheets or films of plastic foam through a slit film die, the extruded articles show objectionable corrugation. A simple method for removing

3,422,170

SLURRY CASTING MANUFACTURE OF NITROCELLULOSE PROPELLANT GRAINS

Robert M. Brooks, Milltown, and William H. Gardner, Dover, N.J., assignors to Hercules Incorporated, a corporation of Delaware

No Drawing. Filed Dec. 17, 1959, Ser. No. 860,091

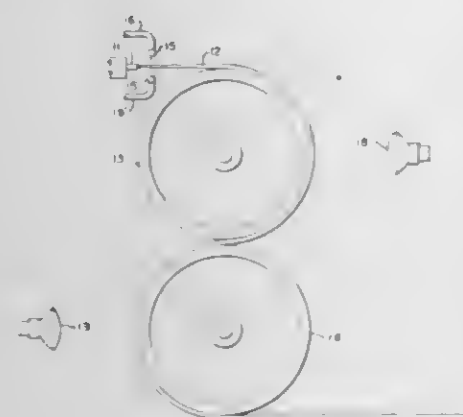
U.S. Cl. 264—3

14 Claims

Int. Cl. C06b 21/02; C06b 5/00

1. In the manufacture of cast propellant grains by the

such corrugation consists of successively stretching each of the surfaces of the extruded sheet or the like in a longitudinal direction by 4 to 20 percent while the opposite surface is not being stretched and while the surface

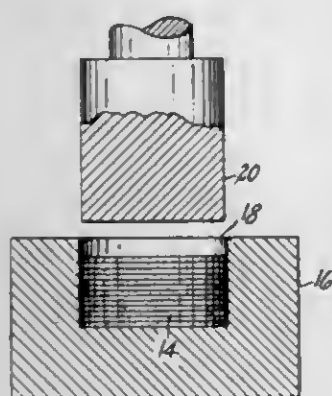


being stretched is in heat-softened condition. Suitable apparatus for carrying out the method consists in passing the sheets over a succession of stacked rolls while providing for sufficient heating to maintain the surfaces in heat-softened condition.

3,422,173

METHOD OF FABRICATING FERRITE BODIES
James W. Bergstrom, Troy, and Glenn E. Sutherland, Roseville, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 15, 1965, Ser. No. 507,777
U.S. Cl. 264-59
Int. Cl. C04b 35/26

4 Claims



A method of fabricating oriented hard ferrite bodies is disclosed. The ferrite crystals are mixed with a deformable wax binder to form a mixture which is rolled between rolls having different speeds to produce wax sheets containing oriented ferrite crystals therein. These sheets are then stacked to form a laminae stack of the desired thickness. Raw bodies of the desired shape are then cut from the laminae stack. The raw bodies are compacted in a heated die assembly to expel a major portion of the wax binder. The resultant raw bodies are pre-fired to remove the remaining portion of the wax binder and subsequently sintered at elevated temperatures to form a finished sintered oriented hard ferrite body.

3,422,174

METHOD AND APPARATUS FOR PRODUCING HOLLOW PLASTIC ARTICLES
Norbert Hagen, Am Siegburg 3, Kuppenheim, Murgtal, Germany
Filed Feb. 8, 1966, Ser. No. 525,875
Claims priority, application Germany, Feb. 9, 1965, H 55,102

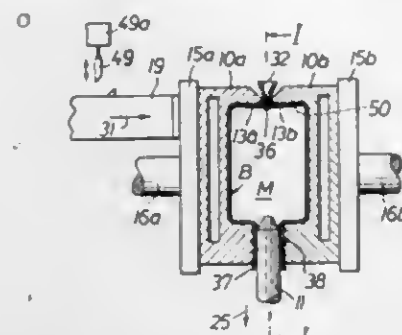
U.S. Cl. 264-69

31 Claims

Int. Cl. B29c 17/07; Q99c 17/12

A method of producing hollow plastic articles by blow molding in which a parison is introduced into a multi-section blow mold in such a manner that surplus material

of the parison is located outside the mold cavity, and in which after closing the mold and pinching the surplus material between the mold sections at least one sudden



hammer-like impact is imparted to the closed mold to thereby cause separation of the pinched surplus material from the remainder of the parison in the mold cavity; and an apparatus for carrying out the method.

3,422,175

METHOD FOR EXTRUDING SYNTHETIC THERMOPLASTIC SHEET MATERIAL

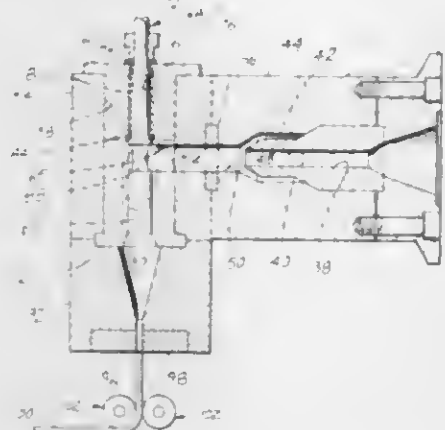
William P. Rowland, Southington, Conn., assignor to Rowland Products, Incorporated, Kensington, Conn., a corporation of Connecticut

Filed Oct. 23, 1965, Ser. No. 502,984

U.S. Cl. 264-75

Int. Cl. B29f 3/12

13 Claims



A plurality of streams of differentially colored fluid synthetic thermoplastic material are combined to provide a composite stream with differentially colored components. Agitation of at least one of the differentially colored components produces swirls thereof, and the swirled stream is extruded to provide sheet material having differentially colored swirls.

3,422,176

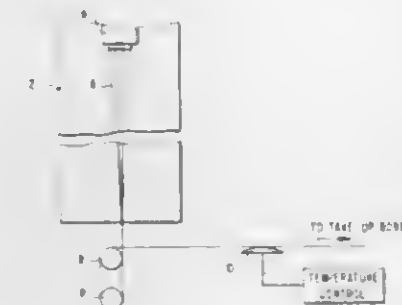
PROCESS FOR SPINNING FILAMENTS OF NONUNIFORM CROSS SECTION

Saunders E. Jamison, Summit, N.J., assignor to Celanese Corporation, a corporation of Delaware
Filed Oct. 14, 1965, Ser. No. 495,895

U.S. Cl. 264-167

Int. Cl. D01d 5/20

6 Claims



A method of forming filaments characterized by alternating regions of large and small diameter which comprises dry spinning a solution of cellulose ester con-

taining a plasticizer and solid solvent adsorbent particles and then passing the resultant filaments over a hot surface.

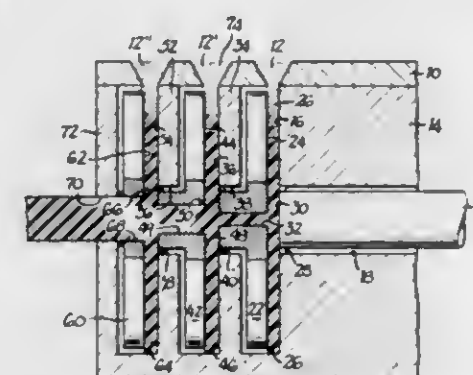
3,422,177

MELT ELASTIC EXTRUDER AND METHOD
Robert T. Wallace, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed Sept. 6, 1966, Ser. No. 577,519

U.S. Cl. 264-176

Int. Cl. B29b 3/02

9 Claims



1. A melt elastic extruder comprising a housing, a plurality of fixed plates in said housing, a plurality of rotatable plates in said housing, each of said rotatable plates being separated from each other by one of said fixed plates to define a melting channel between each pair of fixed plates and rotatable plates, means for feeding particulate thermoplastic material into each of said melting channels, a common rotatable shaft for said rotatable plates and coaxial therewith, said shaft extending coaxially through said fixed plates, said shaft having an axial hollow bore and a plurality of radial bores in open communication with said axial bore, each of said radial bores being in open communication with a melting channel, means for rotating said shaft and an opening in said housing coaxial with said axial bore.

3,422,178

CONTINUOUS POLYMER CASTING MACHINE AND PROCESS

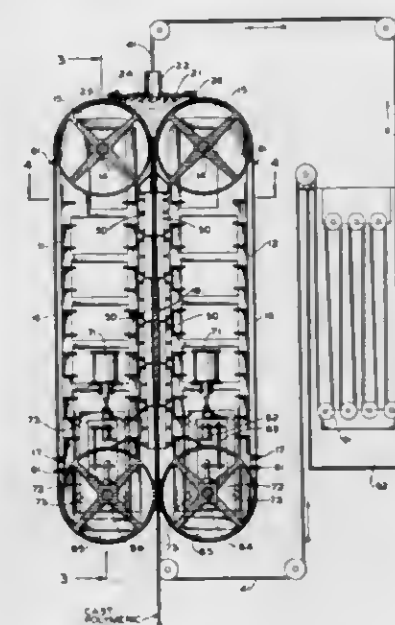
Bernhard T. Junker, Creve Coeur, and Ross M. Hedrick, St. Louis, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed Oct. 12, 1965, Ser. No. 495,284

U.S. Cl. 264-216

Int. Cl. B29d 7/14

18 Claims



Machinery for casting polymeric sheets comprising two endless belts positioned to form opposing surfaces of a mold for a portion of their length, means for driving the

belts and restraining means for holding the belts in a position suitable for molding polymerizing material into polymeric sheets. Also described is a process for continuously casting the polymeric sheets or film comprising casting a liquid monomeric feed into a mold cavity, the faces of which mold cavity are moving, positioning restraining means for the faces of said mold to provide a mold cavity contoured to accommodate the expansion and contraction of the feed as it moves through the mold cavity, and withdrawing a solid polymerized article from the exit of the mold cavity.

3,422,179

METHOD OF MAKING THERMOPLASTIC WELDING FITTING

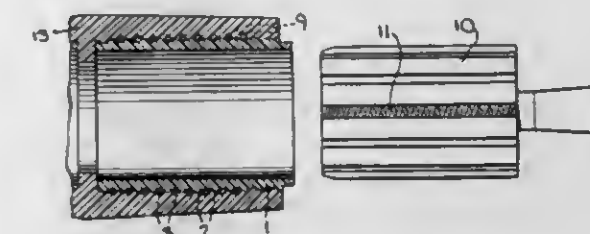
Hans Bauer, Neu-Ulm, and Helmut Holzer, Ulm, Germany, assignors to Sud-West-Chemie G.m.b.H., Neu-Ulm, Germany, a corporation of Germany
Continuation-in-part of application Ser. No. 242,340, Nov. 2, 1962. This application Nov. 16, 1966, Ser. No. 594,948

Claims priority, application Germany, Feb. 17, 1958, S 56,991

U.S. Cl. 264-272

Int. Cl. B29c 7/00; B29g 3/00

5 Claims



1. A method for manufacturing a thermoplastic welding fitting sleeve provided with an electrically conductive heating element attached at its inner wall comprising (a) winding and attaching a bifilar heating element in the screw-threads of a thin-walled carrier tube of thermoplastic material having screw-threads on its outer surface wherein said element is laid, (b) positioning said carrier tube and element over a core of an injection mold, (c) injection molding a sleeve of thermoplastic material around said carrier tube and element whereby said element is attached in the sleeve at the interface of the sleeve and the outer carrier tube wall and the sleeve is detachably united with the tube, the thermoplastic material of said carrier tube essentially having a softening point lower than the softening point of the thermoplastic material of said sleeve, (d) heating said carrier tube to a temperature below the softening point of said sleeve, but sufficiently high enough to soften said carrier tube to permit it to be removed from said element and sleeve, and (e) removing said tube from said element and sleeve, without displacing or detaching said element from its position in said sleeve.

3,422,180

SOLVENT TIPPING OF POLYETHYLENE TEREPHTHALATE FILAMENTS

Doyce B. Hanson, John E. Hansen, and Nolan D. Boyer, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 21, 1965, Ser. No. 500,211

U.S. Cl. 264-341

Int. Cl. D01f 7/06; A46d 1/04

1 Claim

Preparation of tipped bristles of polyethylene terephthalate, by repeatedly dipping and withdrawing a bundle of the bristles from a solvent for polyethylene terephtha-

late. The preferred solvent is 40% tetrachloroethane and 60% phenol. The preferred temperature for this solvent is 50 to 70° C.

3,422,181

METHOD FOR HEAT SETTING OF STRETCH ORIENTED POLYGLYCOLIC ACID FILAMENT
Lester Daniel Chirgwin, Jr., Stamford, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed May 23, 1966, Ser. No. 551,947
U.S. Cl. 264—345 3 Claims
Int. Cl. B29c 25/00; D06c 9/00

Melt spun polyglycolic acid filament after stretch orientation is dry heat set at a relative humidity not greater than about 20% at between 50° C. and 190° C. for between 5 hours and 5 minutes respectively. Sutures having improved implant strength retention are prepared from the heat treated filament.

3,422,182

METHOD OF TREATING AN ANIMAL HAVING DEMODECTIC MANGE
William A. Knapp, Jr., Topeka, Kans., assignor to Norden Laboratories, Inc., Lincoln, Nebr., a corporation of Delaware
No Drawing. Continuation of application Ser. No. 225,158, Sept. 20, 1962. This application Oct. 30, 1964, Ser. No. 407,910

U.S. Cl. 424—10 8 Claims
Int. Cl. A61k 25/00; A61k 27/00; A61d 7/00
1. A method of treating a dog having demodectic mange, comprising

orally introducing into the alimentary tract of the dog afflicted with demodectic mange a zinc salt in an amount effective to treat the disease and capable of absorption and usable in the metabolism of the afflicted dog.

3,422,183

ULTRA-VIOLET IRRADIATED SILVER FLUORIDE COMPOSITIONS AND BIOCIDES USES THEREOF
Hal J. Ellison, Chicago, Ill., assignor to Silaco Chemical Company, Chicago, Ill., a corporation of Illinois
No Drawing. Original application Mar. 22, 1961, Ser. No. 97,429, now Patent No. 3,230,137, dated Jan. 18, 1966. Divided and this application Dec. 27, 1965, Ser. No. 517,190
U.S. Cl. 424—28 11 Claims
Int. Cl. A61k 27/02; A61k 27/06; A01n 11/00

Bioicide compositions comprising ultra-violet irradiated silver fluoride solutions containing colloidal silver resulting from the irradiation and kept in dispersion by a protective colloid, e.g., casein or gelatin, and biocide uses thereof in slime control, against pathogens or other microbes in food or beverage containers or processing equipment, as an ingredient of wood preservatives, as a bactericide in paints, as a biocide in synthetic polymer films, as a sterilant in bandages, and biocide-like uses in other areas.

3,422,184

CHEWABLE PRODUCT FOR CLEANING THE TEETH

Michael Ira Goldman, Somerset, and Alexander Wayne Bouchal, Westfield, N.J., assignors to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 22, 1965, Ser. No. 502,576
U.S. Cl. 424—48 3 Claims
Int. Cl. A61k 9/00; A61k 5/00

Chewable product for cleaning the teeth containing gelatin, gum acacia and glycerine. The product is a unitary chewable mass of cohesive, resilient, edible material which is soluble in saliva, which is non-adherent to the teeth and which gives a rubbery resistance during chewing. It slowly

dissolves and breaks into small particles under the influence of saliva and chewing.

3,422,185

NAIL ENAMEL COMPOSITION CONTAINING QUATERNARY AMMONIUM CATION MODIFIED MONTMORILLONITE CLAYS
Alexander M. Kuritzkes, 35 Observatory Drive, Croton-on-Hudson, N.Y. 10520

No Drawing. Continuation-in-part of applications Ser. No. 355,952, Mar. 30, 1964, and Ser. No. 666,993, Sept. 11, 1967. This application June 10, 1968, Ser. No. 735,527

U.S. Cl. 424—61 11 Claims
Int. Cl. A61k 7/04
Nail enamel composition having suspended therein a nacreous pigment and from 0.4 to 6.0% by weight of a quaternary ammonium cation-modified montmorillonite clay suspending agent.

3,422,186

METHODS FOR THE REMOVAL OF CERUMEN AND THE METHODS FOR THE TREATMENT OF EAR DISEASE

Ernest J. Sasmor, Yonkers, N.Y., assignor to The Purdue Frederick Company, Yonkers, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 384,786, July 23, 1964, which is a continuation-in-part of Ser. No. 214,803, Aug. 6, 1962. This application Apr. 5, 1967, Ser. No. 628,562

U.S. Cl. 424—79 9 Claims
Int. Cl. A61k 25/00

Pharmaceutical cerumenolytic and aural therapeutic preparations comprising ethylene oxide-polyoxypropylene-glycol condensate, a water-miscible viscous vehicle, as for example, propyleneglycol, glycerin, or polyoxyethylene-glycol, which may contain in addition, pharmacologically active therapeutic substances, as for example, hydrocortisone, an antibiotic or an analgesic agent and which may be used as a therapeutic agent in removing cerumen or treating ear disease in humans and animals.

3,422,187

INFLUENZA VACCINES AND PROCESS FOR THEIR MANUFACTURE

Kurt Herzberg, Frankfurt am Main, Germany, assignor to Behringwerke Aktiengesellschaft, Marburg an der Lahn, Germany, a corporation of Germany

No Drawing. Filed Apr. 16, 1965, Ser. No. 448,855
Claims priority, application Germany, Apr. 23, 1964, B 76,450

U.S. Cl. 424—89 6 Claims
Int. Cl. A61k 23/02; C12k 5/00

A method for making influenza vaccine from the allantoic liquid of incubated hens' eggs using viruses priorly stabilized against modification of their pathogenicity to the epithelia of the mammalian respiratory tract on passage through hens' eggs. The viruses are priorly stabilized by repeated cultivation in mammalian pulmonary tissue.

3,422,188

TISSUE CULTURE HOG CHOLERA VACCINE
Victor Jack Cabasso, Pearl River, N.Y., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Aug. 17, 1965, Ser. No. 480,517
U.S. Cl. 424—89 2 Claims
Int. Cl. A61k 23/02

1. A process of producing an improved hog cholera vaccine which comprises serially passing standard 385-passage rabbit modified hog cholera vaccine virus in swine kidney tissue monolayers for at least 5 further passages.

3,422,189

METHOD AND COMPOSITIONS FOR THE TREATMENT OF GASTRO-INTESTINAL DISORDERS
Joseph Alfred Rider, Mill Valley, Calif., assignor to Moraine Products, Owosso, Mich., a corporation of Michigan

No Drawing. Filed Jan. 2, 1959, Ser. No. 784,466
U.S. Cl. 424—127 6 Claims
Int. Cl. A61k 25/00

Flatulency symptoms are alleviated by a method comprising the administration of compositions which contain an organopolysiloxane and a finely divided silica or a silica aerogel.

3,422,190

AROMATIC ISONITRILE PEST CONTROLLING AGENTS

Ivar Ugi and Uwe Fetzner, Leverkusen, and Gunter Unterstenhofer, Opladen, Wolfgang Behrenz, Wuppertal-Elberfeld, Paul-Ernst Frohberger, Burscheid, and Hans Schelpflug, Leverkusen, Germany, assignors to Farnefabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

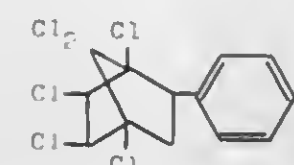
No Drawing. Filed Dec. 3, 1963, Ser. No. 327,824
Claims priority, application Germany, Dec. 17, 1962, F 38,570

U.S. Cl. 424—226 15 Claims
Int. Cl. A01n 9/20

1. A method for combating pests which comprises contacting said pests with a pesticidal amount of a compound of the formula



wherein A is a member selected from the group consisting of a p-chlorophenoxy-m-chloro-phenyl, p-azobenzo-o-methyl-phenyl, p-cyclohexyl-o-methyl-phenyl, o,p-dimethyl-o-nitro-phenyl, naphthyl,



and



A being connected to the nitrogen atom from a ring carbon atom.

3,422,191

COMPOSITIONS AND METHODS FOR TRANQUILIZATION EMPLOYING SALTS OF N-MORPHOLINE ETHANOL

Alfred Halpern, Great Neck, N.Y., assignor to Synergistics, Inc., New York, N.Y., a corporation
No Drawing. Original application Jan. 21, 1965, Ser. No. 427,164, now Patent No. 3,274,055, dated Sept. 20, 1966. Divided and this application Mar. 28, 1966, Ser. No. 537,633

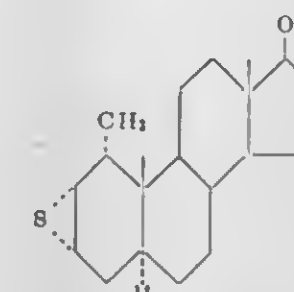
U.S. Cl. 424—232 18 Claims
Int. Cl. A61k 21/00; C07d 87/32

This invention concerns pharmaceutical compositions of salts of N-morpholine ethanol and their use as tranquilizers.

3,422,192

1-LOWER ALKYL - 2,3 - EPITHIO-5 α -ANDROSTAN-17 β -OLS AND THEIR 17-LOWER ALKANOATES
Taichira Komeno, Osaka, Japan, assignor to Shionogi & Co., Ltd., Osaka, Japan

No Drawing. Filed Feb. 17, 1966, Ser. No. 528,098
U.S. Cl. 424—241 4 Claims
Int. Cl. A61k 17/00; 25/00; C07c 173/00
2,3-epithio-steroids of the formula



wherein R is H or alkanoyl, possess potent myotropic and androgenic activities with a favorable myotropic/androgenic ratio and also potent specific anti-estrogenic activity, and are useful as anabolic and antiestrogenic agents with low side effect, and also for the treatment of mastopathy and gynecomastia.

3,422,193

17-MONO ESTERS OF CORTICOIDS

Elliot L. Shapiro, Cedar Grove, Elliott J. Collins, Mendham, and Lawrence E. Fincklenor, Wayne, N.J., assignors to Schering Corporation, Bloomfield, N.J., a corporation of New Jersey

No Drawing. Filed Aug. 11, 1966, Ser. No. 571,721
U.S. Cl. 424—243 9 Claims
Int. Cl. A61k 25/00; C07c 169/36

This invention relates to novel 16 α -methyl-6 α (X),9 α ,11 β -dichloro-1,4-pregnadiene - 17 α ,21-diol-3,20-dione 17-lower alkanates wherein X is a member selected from the group consisting of hydrogen, fluoro, chloro and methyl; and to methods for preparing and using said compounds in corticoid antiinflammatory therapy.

3,422,194

THE TREATMENT OF DEPRESSION WITH IMIDAZO[1,2-b]-AS-TRIAZINES AND COMPOSITIONS THEREOF

Bernard Loev, Broomall, Pa., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Aug. 15, 1967, Ser. No. 660,598
U.S. Cl. 424—249 7 Claims
Int. Cl. C07d 55/00; A61k 25/00

1,5 - dihydro-2,6 - diphenylimidazo[1,2-b]-as-triazines are prepared either by reaction of a phenylglyoxal and aminoguanidine to give an aminophenyltriazine, further reaction with a phenacyl bromide, and reduction with borohydride; or directly by reaction of phenacyl bromide, aminoguanidine, and hydrogen bromide; and subsequent ring-closure in base. The products are antidepressants.

3,422,195

ANTIHISTAMINIC AND MOTION SICKNESS PREVENTING COMPOSITIONS

Gerrit Alberda, Amsterdam, Netherlands, assignor, by mesne assignments, to A C F (Amsterdam Chemie Farmacie) N.V., Amsterdam, Netherlands, a limited-liability company of the Netherlands

No Drawing. Filed Sept. 22, 1964, Ser. No. 398,441
Claims priority, application Netherlands, Sept. 27, 1963, 298,472; Sept. 14, 1964, 6410669

U.S. Cl. 424—250 3 Claims
Int. Cl. A61k 25/00; C07d 51/00

1. Antihistaminic and motion sickness preventing com-

position containing, as its essential active ingredients, a first compound selected from the group consisting of cinarizine and its physiologically acceptable acid addition salts, in combination with a second compound selected from the group consisting of cyclizine, chlorcyclizine and their physiologically acceptable acid addition salts, the by weight ratio of said first compound to said second compound being in the range from 1:1 to 1:2.

3,422,196

UTILIZING 1 - (3,5 - DIHYDROXYPHENYL)-1-HYDROXY - 2 - ISOPROPYLAMINOETHANE AND SALTS THEREOF IN THE TREATMENT OF BRONCHIAL SPASMS

Otto Thoma and Karl Zeile, Ingelheim am Rhein, Germany, assignors to Boehringer Ingelheim G.m.b.H., ABW CDA Ingelheim am Rhein, Germany, a corporation of Germany

No Drawing. Original application Feb. 3, 1964, Ser. No. 342,290, now Patent No. 3,341,594, dated Sept. 12, 1967. Divided and this application July 19, 1967, Ser. No. 654,350

Claims priority, application Germany, Nov. 30, 1962, B 56,662

U.S. Cl. 424-266
Int. Cl. A61k 25/00

3 Claims

The composition contains 1-(3,5-dihydroxyphenyl)-1-hydroxy-2-isopropylaminoethane or a nontoxic acid addition salt thereof as a bronchospasmodic ingredient.

3,422,197

PROCESS OF KILLING FUNGI, BACTERIA OR NEMATODES

Kenneth R. Molt, Cincinnati, and Ingenuin Hechenbleikner, Kenwood, Ohio, assignors to Carlisle Chemical Works, Inc., Reading, Ohio, a corporation of Ohio

No Drawing. Original application Nov. 30, 1964, Ser. No. 414,847, now Patent No. 3,311,649, dated Mar. 28, 1967. Divided and this application Sept. 17, 1965, Ser. No. 505,210

U.S. Cl. 424-288
Int. Cl. A01m 9/00; A61 13/00

15 Claims

Fungi, bacteria, nematodes and undesired plants are killed by applying thereto a compound having the formula $R_7R_8R_9SnR_{10}R_{11}R_{12}$ where $R_7, R_8, R_9, R_{10}, R_{11}$ and R_{12} are selected from the group consisting of alkyl, aryl, aralkyl and alkenyl.

3,422,198

N-METHYL 3-METHYL-5-ETHYL PHENYL CARBAMATE AS AN INSECTICIDE

Peter John Brooker, Saffron Walden, Essex, John Gillon, Cambridge, and Geoffrey Tattersall Newbold and David Thomas Sagers, Saffron Walden, Essex, England, assignors to Fisons Pest Control Limited, Harston, Cambridgeshire, England, a British company

No Drawing. Continuation of application Ser. No. 252,558, Jan. 21, 1963. This application Jan. 11, 1967, Ser. No. 608,951

Claims priority, application Great Britain, Jan. 22, 1962, 2,205/62

U.S. Cl. 424-300
Int. Cl. A01n 9/20

1 Claim

N-methyl-3-methyl-5-ethyl phenyl carbamate is a highly

active aphicide and insecticide. It is effective inter alia in combating the common house-fly (*Musca domestica*).

3,422,199

ACARICIDAL COMPOSITION CONTAINING N-SUBSTITUTED AND UNSUBSTITUTED ALKYL AND ALKENYL - 2-DIMETHYLAMINO-BENZHYDRYL-CARBAMATES

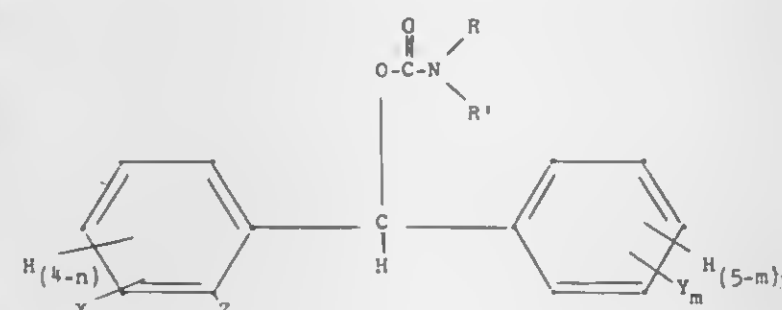
Sidney B. Richter and David P. Mayer, Chicago, Ill., assignors to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois

No Drawing. Continuation-in-part of application Ser. No. 634,830, May 1, 1967. This application May 23, 1967, Ser. No. 640,495

U.S. Cl. 424-300
Int. Cl. A01n 9/20

12 Claims

An acaricidal composition comprising an inert carrier and, in a quantity toxic to acarids, the compound of the formula



wherein R is selected from the group consisting of substituted and unsubstituted alkyl and alkenyl; R' is selected from the group consisting of hydrogen and substituted and unsubstituted alkyl and alkenyl; Z is dialkylamino; each X and Y is independently selected from the group consisting of dialkylamino, alkyl, alkenyl, halogen, nitro, alkoxy and alkylthio; n is an integer from 0 to 2; and m is an integer from 0 to 3. A method for the control of acarids which comprises applying to said acarids the aforescribed composition in a quantity toxic to said acarids.

3,422,200

CONTROL OF COCCIDIOSIS IN POULTRY

Edward F. Rogers, Middletown, and Robert L. Clark, Woodbridge, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Oct. 30, 1964, Ser. No. 407,887

U.S. Cl. 424-310
Int. Cl. A61k 25/00

1 Claim

Anticoccidial compositions comprising as the essential active ingredient a 2-chloro-, nitro-, or loweralkyl-4-amino benzoic acid or a loweralkyl ester or an alkali metal or an alkaline earth metal salt thereof are found to be effective in the control of coccidiosis in poultry. Effective anticoccidial response is achieved by incorporating the coccidiostat in the feed or drinking water of the birds.

3,422,201

BENZENESULFONYLCARBODIIMIDES AS ANTI-DIABETIC AGENTS

Adnan A. R. Sayigh, North Haven, and Henri Ulrich, Northford, Conn., and John B. Wright, Kalamazoo Township, Kalamazoo County, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Original application Jan. 2, 1964, Ser. No. 335,414. Divided and this application Oct. 3, 1966, Ser. No. 583,994

U.S. Cl. 424-321
Int. Cl. A61k 25/00

2 Claims

Oral anti-diabetic compositions containing about 15 to 500 milligrams of a benzenesulfonylcarbodiimide together with a pharmaceutically acceptable carrier.

3,422,202

INSECTICIDAL AND FUNGICIDAL USE OF N-ARYL DITHIOOXAMIDES

John F. Olin, Ballwin, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Original application Feb. 3, 1964, Ser. No. 342,247, now Patent No. 3,318,675, dated May 9, 1967. Divided and this application Feb. 20, 1967, Ser. No. 617,080

U.S. Cl. 424-328
Int. Cl. A01m 9/12

12 Claims

N-aryl dithiooxamides are useful as pesticides, specifically as insecticides and fungicides.

3,422,203

TREATMENT OF DEPRESSION WITH DIPHENYL PROP-2-ENYLAMINE DERIVATIVES

Roy Frederick Maisey, Macclesfield, England, assignor to Geistlich, Ed. Sohne AG fur Chemische Industrie, a Swiss body corporate

No Drawing. Filed Feb. 13, 1967, Ser. No. 615,327. Claims priority, application Great Britain, Feb. 24, 1966, 8,166/66; June 13, 1966, 26,275/66; Oct. 14, 1966, 46,072/66

U.S. Cl. 424-330

2 Claims

Int. Cl. A61k 25/00; C08b 25/00

Pharmaceutical compositions, for example, tablets, containing a diphenylprop-2-enylamine derivative, for example, N,N-dimethyl-3,3-diphenylprop-2-enylamine hydrochloride. Useful as antidepressants.

3,422,204

COSMETIC COMPOSITION CONTAINING LANOLIN AND HEXADECYL ALCOHOL

Walter W. Edman, New York, N.Y., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Nov. 13, 1963, Ser. No. 323,229

U.S. Cl. 424-361

6 Claims

Int. Cl. A61k 7/00

1. A composition of matter consisting essentially of a clean homogeneous solution of saturated branched hexadecyl alcohol having a freezing point of -60° F. and a boiling range at 50 millimeter pressure of 195° to 205° C. with 0.1 to 5 wt. percent of lanolin based on said alcohol dissolved therein.

ELECTRICAL

3,422,205

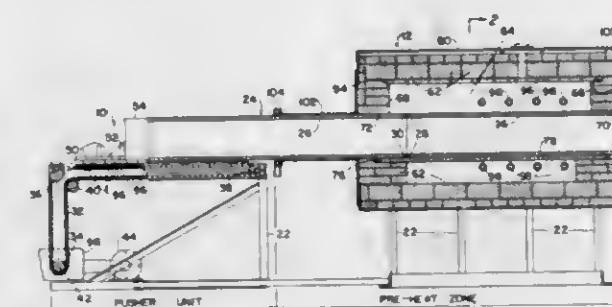
ELECTRIC FURNACE HAVING REPLACEABLE LINER TUBE SECTIONS

Anthony M. Pisano and John K. Barnard, Youngstown, N.Y., assignors to The Carborundum Company, Niagara Falls, N.Y., a corporation of Delaware

Filed Sept. 29, 1966, Ser. No. 582,866

U.S. Cl. 13-20
Int. Cl. H05b 3/62

11 Claims



A horizontal tube electric furnace having a replaceable graphite liner tube formed of a series of hollow, open ended, liner tube sections which are detachably joined together. The liner tube carries work containing receptacles which are moved relative to said liner tube. Means are provided for advancing the liner tube sections axially through the furnace, either intermittently or continuously, with used sections being removed from the rear end of the composite liner tube while new sections are added to the forward end of said liner tube.

3,422,206

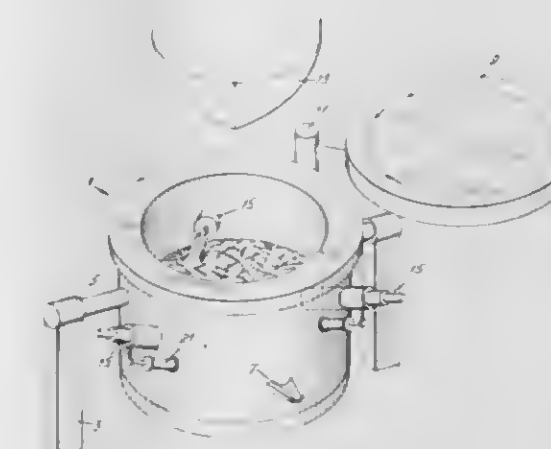
METHOD AND APPARATUS FOR MELTING METAL IN AN ELECTRIC FURNACE

Allen J. Baker and Frank S. Death, Tonawanda, Richard C. Myers and Walter B. Farnsworth, Williamsville, N.Y., assignors to Union Carbide Corporation, a corporation of New York

Filed Apr. 7, 1965, Ser. No. 446,368

U.S. Cl. 13-34
Int. Cl. H05b 31/00

8 Claims



An improved method and apparatus for melting material in an electric furnace by establishing a directionally stable arc from an arc device mounted in the side walls of the furnace so as to minimize excessive heat losses to arc devices depending from the furnace roof.

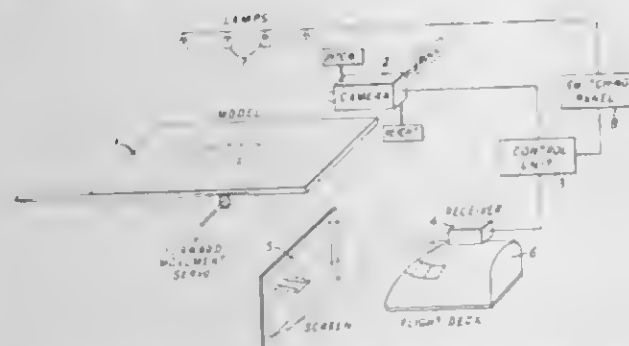
3,422,207

VISUAL FLIGHT TRAINING APPARATUS
Maurice Shirley Flower, Forest Row, Sussex, England,
and Roy Alfred George Gasson, Tilgate, Crawley,
Sussex, England, assignors to Communications Patents
Limited

Filed Feb. 10, 1964, Ser. No. 343,773
Claims priority, application Great Britain, Mar. 8, 1963,
9,229/63

U.S. Cl. 35—10.2
Int. Cl. G09 1/00

9 Claims



Control apparatus for use in visual flight training apparatus, of the kind in which a television camera is used to view a model and a scene is provided to the trainee crew by a television receiver fed with a video signal from the television camera, whereby effects corresponding to the presence of a layer of cloud or of flying into or out of a layer of cloud may be simulated. The control apparatus includes two servos, one of which controls the level of the video signal fed to the receiver and the other, the level of a grey signal fed to the receiver.

The levels of the signals are varied according to the simulated height of the aircraft with respect to a preset height of cloud base, in a manner to provide a visual display of the scene represented by the model when flying below the cloud base, a uniform grade response when flying above the cloud base and a response of varying brightness when the aircraft is entering or merging from the layer of cloud.

ERRATUM

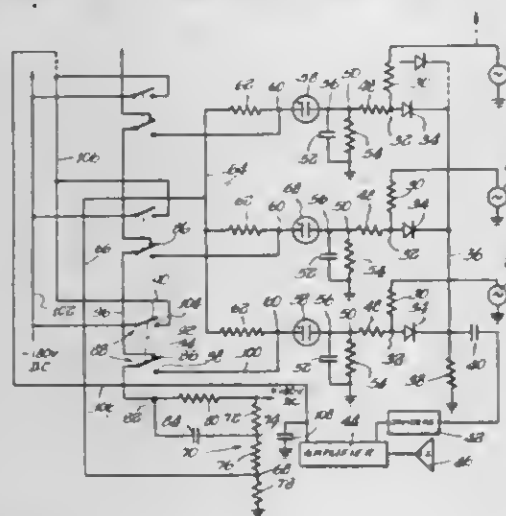
For Class 84—1.1 see:
Patent No. 3,422,454

3,422,208

ELECTRONIC LATCHING PEDAL
Robert D. Barry, North Tonawanda, N.Y., assignor to
The Wurliitzer Company, Chicago, Ill., a corporation
of Ohio

Filed Aug. 30, 1965, Ser. No. 483,632
U.S. Cl. 84—1.01
Int. Cl. G10h 1/00; G10h 1/02; G10f 1/00

18 Claims



A monophonic organ pedal switching circuit wherein each note is switched through a diode which is normally

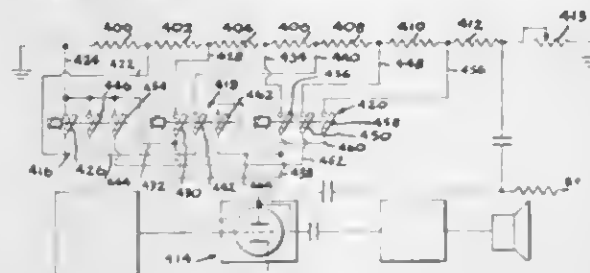
off. A plurality of neon bulbs, one for each note, is included. When any pedal switch is closed by depression of the pedal, positive voltage is applied to the corresponding neon bulb, causing it to fire, and biasing the corresponding diode for conduction. Simultaneously, a negative pulse is applied to all other neon bulbs to insure that any bulb which remains in firing condition is cut off. Upon release of a pedal and opening of the corresponding switch, a lesser voltage remains applied to all of the neon bulbs which is sufficient to maintain in firing condition the one bulb that has most recently been fired, but which is not sufficient to fire or ignite any other neon bulb, whereby the last note played can be sustained.

3,422,209

ELECTRONIC ORGAN HAVING PERFORATED ROLL CONTROLLED PLAYING MECHANISM
Alan B. Welsh and Roger T. West, Jasper, Ind., assignors
to Jasper Electronic Mfg. Corp., Jasper, Ind., a corporation
of Indiana

Filed June 7, 1965, Ser. No. 461,940
U.S. Cl. 84—1.03
Int. Cl. G01F 1/00

22 Claims



Player type electronic organ having a perforated player roll controlled playing mechanism recessed into the top of the organ case. The playing of the pedal notes of the organ, the organ volume, and the speed of movement of the player roll are all under the control of the player roll by perforations provided therein for that purpose.

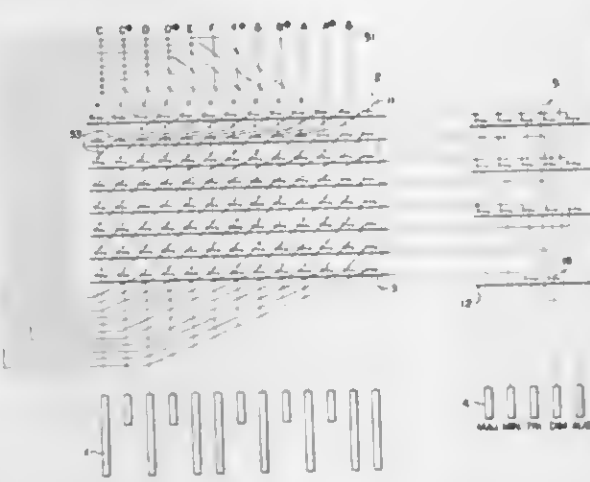
3,422,210

CHORD SELECTING DEVICE IN ELECTRONIC ORGANS

Choshi Enya, Hamamatsu-shi, and Michihiro Hiraoka, Tokyo-to, Japan, assignors to Nihon Gakki Seizo Kabushiki Kaisha, Hamamatsu-shi, Shizuoka-ken, Japan, a joint-stock company of Japan
Continuation-in-part of application Ser. No. 223,147, Sept. 12, 1962, which is a continuation-in-part of application Ser. No. 54,134, Sept. 6, 1960. This application June 24, 1965, Ser. No. 466,695

Claims priority, application Japan, Dec. 24, 1959,
34/40,104
U.S. Cl. 84—1.24
Int. Cl. G10h 1/02, 3/06

3 Claims



A chord electronic organ has two kinds of selector means in the chord section of the organ: a chord key selector and a chord type selector, the former being foot

operated pedals and the latter being finger operated buttons. Any particular chord is selected both by the key selector and the type selector in combination. When the pedal of G and the button of 7th are pressed, the tones of G, B, D and F come out to constitute the chord of G₇. When a pedal is pressed, the bass tone of that pedal comes out only while the pedal is kept pressed, but the chord key is kept selected even after the pedal is released until another pedal is next pressed down.

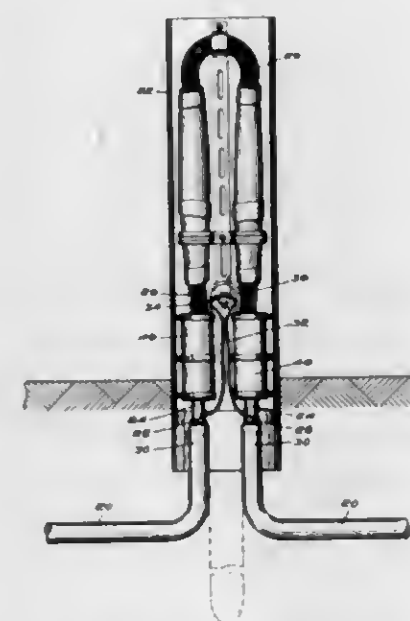
3,422,211

APPARATUS FOR ESTABLISHING A FLUID-TIGHT BYPASS

William C. Brisse, Laconia, and René C. Vincent, Gilman-ton Iron Works, N.H., assignors to Laconia Metal Products, Inc., Laconia, N.H., a corporation of New Hampshire

Filed Jan. 5, 1967, Ser. No. 607,574
U.S. Cl. 174—22
Int. Cl. H02g 15/24; H02g 9/00

2 Claims



Apparatus for establishing a fluid-tight bypass between two internally pressurized non-continuous electrical cable sections to permit access to the exposed conductors therebetween without cable pressure loss. A flanged bypass tube is placed against the exposed conductors, an impermeable envelope is wrapped from the cable jacket over and past the bypass flange, a layer of moldable, non-setting packing compound is packed over the envelope sealing it to the cable jacket and plugging the envelope end, and an enclosure is resiliently constricted around to produce continuous pressure on the packing compound layer. The bypass tube extends through an aperture in the enclosure and connects with a similar tube extending from the other cable section.

3,422,212

HOUSING STRUCTURE FOR ELECTRICAL DEVICE ADAPTED FOR CRIMP CONNECTION TO CIRCUITS

Richard C. Clark, Orange, Calif., assignor to International Rectifier Corporation, El Segundo, Calif., a corporation of California

Filed Aug. 3, 1967, Ser. No. 658,203
U.S. Cl. 174—52
Int. Cl. H05k 5/00

2 Claims



A housing construction for an electrical device, such as a diode, comprising two identical conductive tubes which are spaced from one another with their opposite

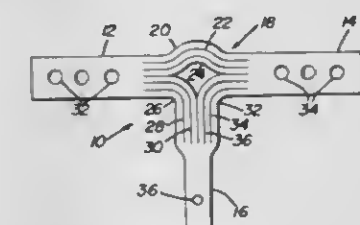
3,422,213

CONNECTOR STRIPS

James E. Webb, Administrator of the National Aeronautics and Space Administration with respect to an invention of Charles R. Peek, Medford Lake, N.J., and Lewis E. Boodley, Morrisville, Pa.

Filed Apr. 21, 1966, Ser. No. 545,535
U.S. Cl. 174—72
Int. Cl. H02g 3/00

6 Claims



Thin, electrically conductive connector strips for electrically and mechanically coupling a plurality of electrical elements, such as solar cells, are constructed such that the various sections thereof are joined by stress relieved areas. With particular application to the interconnection of solar cells in the formation of an array, the connectors have the ability to accommodate repeated expansion and contraction cycles and, at the same time, still maintain maximum electrical output from the array.

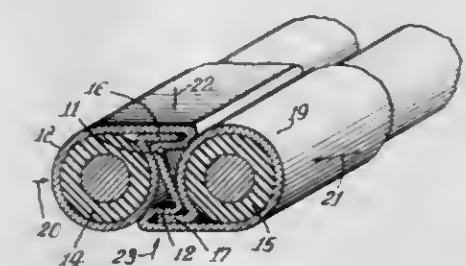
3,422,214

MULTICONDUCTOR CABLE AND METHOD OF FORMING THE SAME

William D. Kelly, 12 Blodgett St.,
Clarendon Hills, Ill. 60514

Filed Mar. 14, 1968, Ser. No. 713,098
U.S. Cl. 174—103
Int. Cl. H01b 7/18

3 Claims



A multiconductor cable and method of forming the same. The cable comprises one or more insulated wires encased in a metal sheath, the forming operation being accomplished by providing a pair of spaced parallel wires on a strip of sheet metal which is provided with lines of weakness between the wires, and then bending and folding the sheet metal so as to completely encase the wires and locking the sheet metal in encasing position.

3,422,215

INSULATED CABLE

Karl R. Humes, Lima, Ohio, assignor to Westinghouse Electric Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 16, 1967, Ser. No. 616,610
U.S. Cl. 174—120
Int. Cl. H01b 7/00; H01b 13/08; H01b 13/26

2 Claims

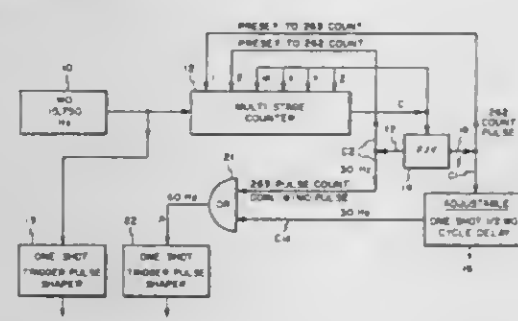
An electrical conductor is insulated with an inner resinous fluorinated resin layer that is strippable from the

means for applying the output of said master oscillator to said counting means for sequentially advancing said counting means in response to each cycle of said output frequency,

a bistable multivibrator for providing a first bistable output pulse and a second bistable output pulse in alternate succession in response to successive first output pulses,

said first bistable output pulse being provided in response to a first output pulse occurring in response to a predetermined count provided by said counting means,

said second bistable output pulse being provided in response to a first output pulse occurring in response to said predetermined count plus one provided by said counting means,



means responsive to said first output pulse and said first bistable output pulse for presetting said counting means for providing the next occurring first output pulse in response to counting said predetermined number plus one, of the cycles of the master oscillator,

means responsive to said first output pulse and said second bistable output pulse for presetting said counting means for providing the next first output pulse in response to said predetermined number of the cycles of the master oscillator,

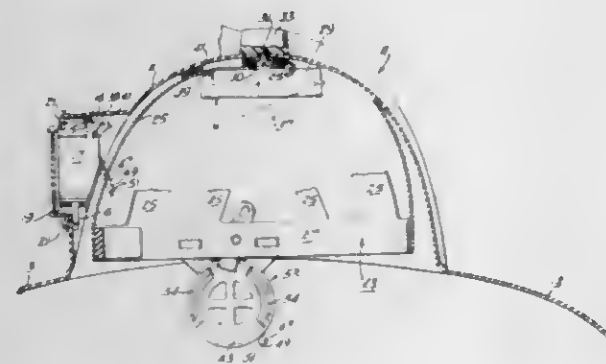
an OR gate for passing said first bistable output pulse and said second bistable output pulse when received, and

means disposed between said OR gate and said multivibrator for delaying application of said first bistable output pulse to said OR gate for a time substantially equal to one-half a cycle of said master oscillator.

3,422,224

HAT WITH VOICE AMPLIFYING SYSTEM
William W. Curran, North New Hyde Park, N.Y., assignor to Benton & Bowles, Inc., New York, N.Y., a corporation of New York
Filed Apr. 2, 1965, Ser. No. 445,046
U.S. Cl. 179-1
Int. Cl. H04m 1/00; H04m 1/05

1 Claim



A self-contained voice amplifying system which is worn by the operator as an integral part of a hat for amplifying

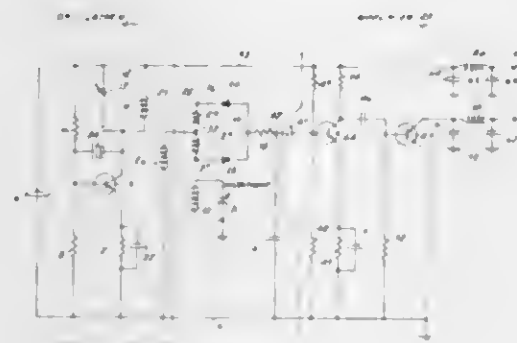
his voice and extending the range thereof, and which permits him to move about freely.

3,422,225 LOW NOISE CIRCUIT ARRANGEMENT FOR CAPACITIVE TRANSDUCER

Hans-Joachim Giese, Isernagen über Hannover, Germany, assignor to Sennheiser Electronic, Bissendorf, Hannover, Germany
Filed Apr. 23, 1965, Ser. No. 450,694
Claims priority, application Germany, Aug. 1, 1964, S 92,430/64

U.S. Cl. 179-1
Int. Cl. H04m 1/18; H04m 1/19; H03f 3/38

8 Claims



The output voltage of a crystal controlled transistor oscillator is inductively coupled to a circuit comprising an inductor and two diodes series-connected across said inductor. The inductor is also coupled to the capacitive transducer, the capacitive transducer-inductor circuit having a resonant frequency equal to the oscillator frequency when no sound impinges upon the capacitive transducer. The phase angle between the oscillator output voltage induced in the inductor and the voltage across the inductor determines the conductivity of the diodes. A capacitor is charged from the common point of said diodes, the charging of said capacitor thus taking place at a frequency corresponding to the oscillator frequency and with a current amplitude corresponding to the phase angle. The transistor amplifier is provided to amplify the voltage across the capacitor. Negative feedback circuit coupled between the output of the transistor amplifier and the inductor includes adjustable components for selectively providing a negative feedback independent of frequency and a negative feedback dependent on frequency. A voltage stabilizing circuit for stabilizing the oscillator output voltage is shown. A circuit permitting adjustment of the inductive coupling between the output voltage of the oscillator and the inductor is shown.

3,422,226 METHOD OF, AND EQUIPMENT FOR TIME-DIVIDED, ASYNCHRONOUS, ADDRESS-CODED TRANSMISSION OF INFORMATION IN MULTI-CHANNEL SYSTEMS

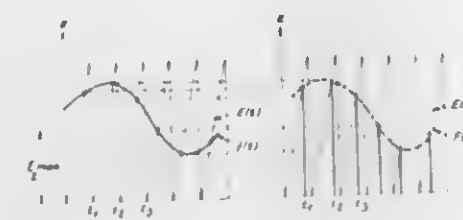
Ernö Ács, Budapest, Hungary, assignor to Tavkozlesi Kotato Intezet, Budapest, Hungary
Filed Mar. 11, 1965, Ser. No. 438,967
Claims priority, application Hungary, Mar. 11, 1964, TA-812

U.S. Cl. 179-15
Int. Cl. H04j 3/00; H04j 3/06; H03b 19/00

3 Claims

Method and apparatus for transmission of multi-channels of information where the address of the place of destination is represented by the value of an address code and the amplitude value of the input signal is defined by the time position of said address code within the sampling period. The appropriate address code is transmitted through the line when the instantaneous value of each input signal and a first comparing voltage are equal. At

the moment said address code is received at the respective output channel, the instantaneous value of a second comparing voltage is conducted to the respective de-



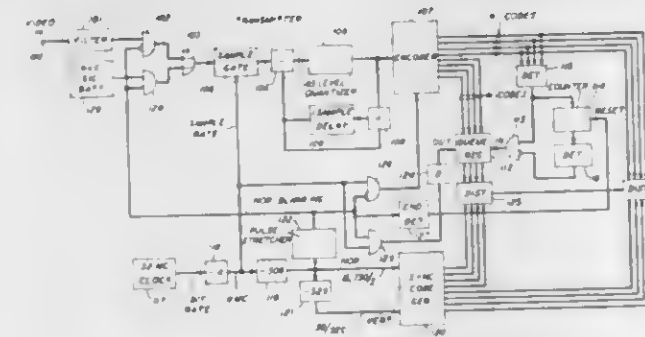
modulator. The two comparing voltages have identical, synchronous, monotonously increasing or decreasing functions with a period equal to the sampling period.

3,422,227 DUAL CODE DIFFERENTIAL ENCODING SCHEME FOR VIDEO SIGNALS

Earl F. Brown, Piscataway Township, Middlesex County, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 30, 1965, Ser. No. 491,528

U.S. Cl. 179-15.55
Int. Cl. H04b 1/66

15 Claims



A system for the transmission and reception of pulse coded video information at reduced bandwidth through the use of a dual coding scheme is disclosed. This system transmits small changes in video signals by means of differential encoding and transmits larger changes in the video signals by means of expanded codes transmitted during idle periods in the video signals.

3,422,228 COMMUNICATION SELECTORS HAVING MARKING CONTROL OF INDIVIDUAL OUTLETS

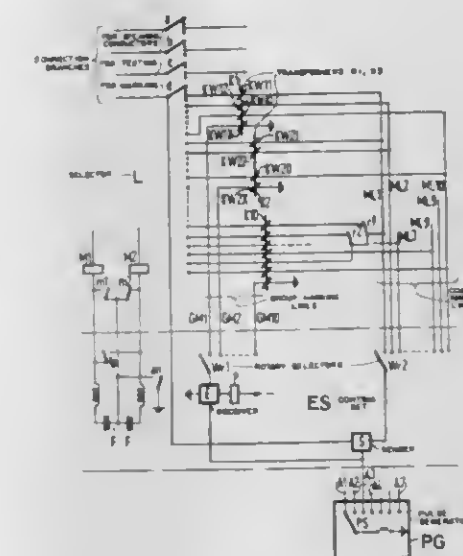
Georg Stolze and Jakob Mayridl, Munich, Germany, assignors to Siemens Aktiengesellschaft, Munich, Germany
Filed Aug. 31, 1965, Ser. No. 483,983
Claims priority, application Germany, Sept. 9, 1964, S 93,045

U.S. Cl. 179-18
Int. Cl. H04m 3/00

6 Claims

This invention relates to marking-controlled communication selectors, and more particularly to selectors (e.g. of the rotary or relay counting chain type) which are markable over a number of circuits which are small as compared with the number of positions of the selector. The invention is particularly characterized by the fact that the marking conductors provided for each step or position of the selector are subdivided into groups and that corresponding marking conductors of the different groups are joined into common marking lines (ML1-ML10), while the marking conductor assigned to each group (GM1-GM10) is connected to a secondary winding of a transformer (KWIX-KW10X) which is common

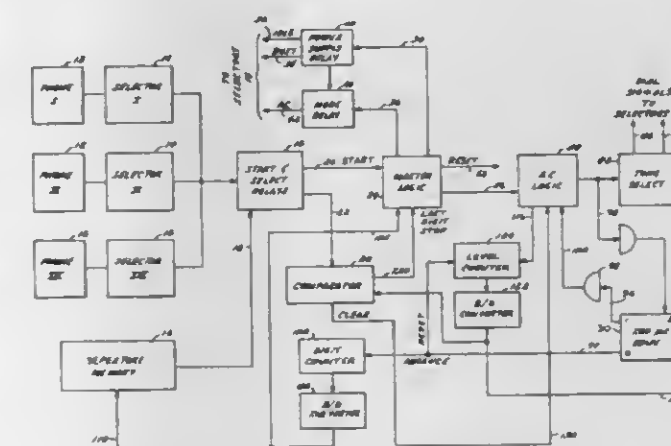
to the group. In addition, the said common marking lines (ML1-ML10) are connectable to a marking potential source (PG) over marking connection means (Wr2), and the secondary windings of each of the transformers are connected to marking receiving connection means (E). Alternatively, the marking lines (ML1-ML10) may be connected to marking receiving connection means (E) and the aforementioned secondary windings may be connected to the source of marking potential. In addition, the marking circuits are actuated successively by control of the selector.



The invention further contemplates that the marking lines (ML1-ML10) may be connectable over one marking connection means (Wr2) controlled by one digit of the calling number, while the marking receiving connection means (E) may be connectable over another marking connection means such as a device (Wr1) responsive to a second digit of the calling numbers.

**3,422,229
ELECTRONIC TRANSMITTING DEVICE**
Jacob Lightsey Wallace, Jr., Springfield, Va., assignor to The Susquehanna Corporation, a corporation of Delaware
Filed Oct. 24, 1965, Ser. No. 504,526
U.S. Cl. 179-90
Int. Cl. H04m 1/26

7 Claims



A repertory dialer for common use by a group of subscribers has an address card memory store. Logic circuitry provides four modes of call signalling: AC, DC pulse, a combination of AC and DC, and PBX outdialing by way of digit 9. The memory is encoded with specific information as to the mode desired and with

the called subscriber's number and area code. AC mode takes two forms, touch tone and multifrequency. Both use dual frequency tones per digit but the latter uses a higher range of frequencies. Better response for long distances.

3,422,230 MOUNTING STRUCTURE FOR ROTATING MAGNETIC HEADS

Shizuhiko Tanigawa, Moriguchi-shi, Yoshio Yabuno, Toyonaka-shi, Koji Nakamura, Osaka, Takuji Nakamura, Kadoma-shi, and Nobuyoshi Fujimori, Toyonaka-shi, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Kadoma-shi, Osaka, Japan, a corporation of Japan

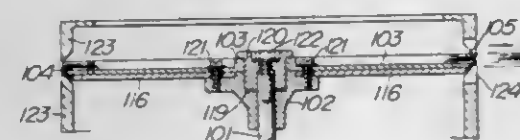
Filed June 18, 1965, Ser. No. 465,046

Claims priority, application Japan, June 23, 1964 (all utility models), 39/49,919, 39/49,920, 39/49,921; Nov. 16, 1964, 39/89,283; Feb. 24, 1965, 40/15,208; Feb. 25, 1965, 40/15,290; Mar. 12, 1965, 40/19,989, 40/19,990, 40/19,992; Apr. 13, 1965, 40/30,163

U.S. Cl. 179—100.2

Int. Cl. G11b 5/10

9 Claims



1. An apparatus for the magnetic recording and reproduction of wide-band signals comprising a magnetic tape, a tape guide member, rotary heads including magnetic transducers, said magnetic transducers being adapted to successively sweep across said magnetic tape in slanted relation with respect thereto, said tape guide member forming a partial cylindrical face having a central axis, a rotary head mounting base of substantially rectangular shape disposed in said tape guide member to extend to the periphery of said cylindrical face and having said rotary heads mounted on opposite ends thereof, a motor shaft for causing rotation of said head mounting base in a plane at a predetermined angle with respect to said central axis, a flange means disposed at the central portion of said head mounting base and securely fixed centrally thereof to said motor shaft in order to transmit the drive power from said motor shaft to said head mounting base, a central perforation provided at the center of rotation of said head mounting base, means for securing said head mounting base to said flange means with said central perforation of said head mounting base coaxially engaged with said motor shaft, and an access opening provided on that side of said tape guide member at which said magnetic tape does not make moving contact with said tape guide member so as to permit insertion and withdrawal of said head mounting base therethrough.

3,422,231 TELEPHONE HOOKSWITCH UNIT

Bum Suh Park, Glen Ellyn, Ill., assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware

Filed Nov. 22, 1965, Ser. No. 508,907

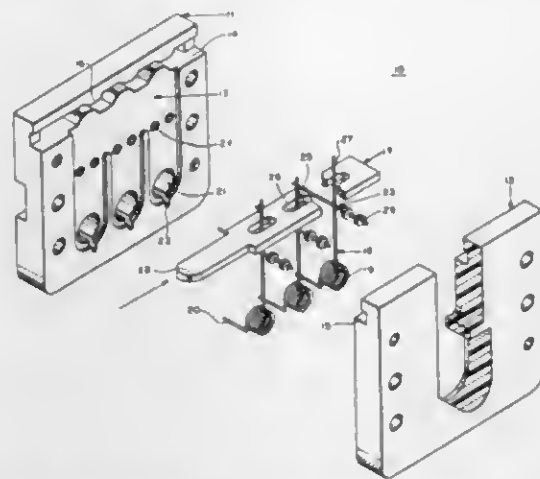
U.S. Cl. 179—165

Int. Cl. H04m 1/08; H01h 1/14

3 Claims

A telephone hookswitch unit consisting of a housing having an open-ended channel extending the full length thereof near one edge, with an actuating bar slidably mounted within the channel. Wire spring members having a helically shaped portion formed near one end thereof are enclosed within the housing, with the helically shaped portions positioned in chambers formed therein, and the other end of the wire spring members engaging the

actuating bar. Contact pins are mounted within the housing, adjacent and substantially perpendicular to the wire spring members, for co-operation therewith when the



actuating bar is moved. Movement of the other ends of the wire springs by the actuating bar also results in winding the helical portion, whereby the wound helical portion restores the actuating bar when it is released.

3,422,232 SPEECH PATTERN REARRANGING COMMUNICATION SYSTEM

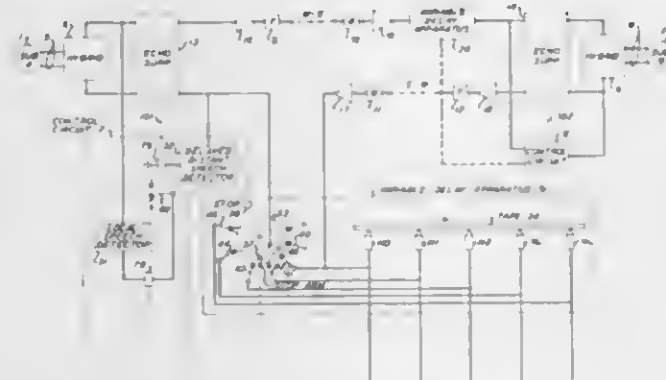
Paul T. Brady, Maplewood, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 8, 1964, Ser. No. 402,591

U.S. Cl. 179—170.8

Int. Cl. H04b 3/20

9 Claims



In a communication system having two oppositely-directed one-way transmission paths and at least one two-way transmission path connected to the two-way path, an echo suppressor is provided with an auxiliary circuit that delays potentially interrupting signals from the distant party to avoid the interruption. When the local party ceases talking, the accumulated delay in the received signal is then gradually eliminated by reducing the duration of noncommunicative intervals in the signal. The delay circuit illustratively comprises a movable magnetic tape and a plurality of reproducing heads, the outputs from which are electrically scanned or sampled in a step-wise sequence in one direction to accomplish the delay and in the opposite direction to eliminate the delay. The delay circuit could also be implemented completely with electronic circuitry.

3,422,233 TIME-INTERVAL SWITCHING DEVICE

George Hirsch, Tenafly, N.J. 07670
Continuation-in-part of application Ser. No. 534,920, Jan. 10, 1966. This application Dec. 30, 1966, Ser. No. 613,704

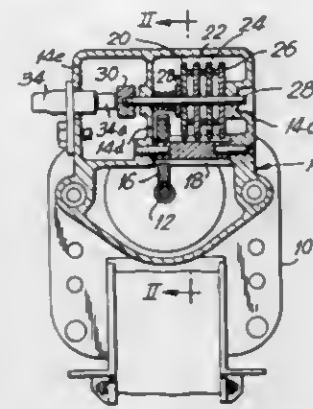
U.S. Cl. 200—38

Int. Cl. H01h 7/08; H01h 43/10

21 Claims

A cycle timing switch having a long "normal" interval such as hours and a short "operated" interval such as

minutes, having an operating mechanism comprising a group of cams that act on the switch collectively when the cams are in their unique "operate" relationship, the



cams being carried briefly into that relationship between long intervals by respective gears that are rotated at slightly different rates by a common drive.

3,422,234 DEVICE HAVING AUTOROTATION OF SOLID BODY

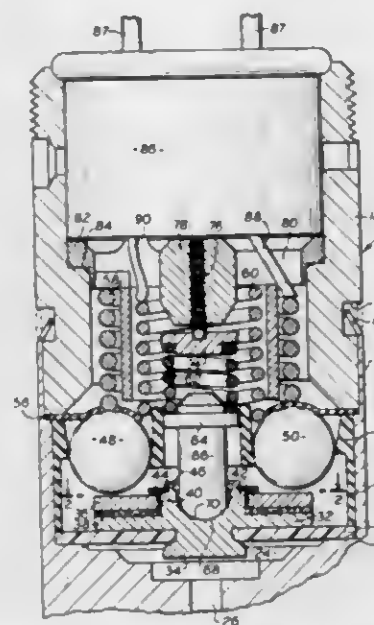
George Wintriss, Carversville, Pa., assignor to Industrial Controls, Inc., New York, N.Y., a corporation of New York

Filed Mar. 15, 1967, Ser. No. 623,252

U.S. Cl. 200—83

Int. Cl. H01h 35/40; H01h 3/00

11 Claims



This specification discloses a construction for obtaining automatic rotation of a solid body. An actuator moves the solid body toward and from points of contact which are in a plane at an acute angle to the direction of the stroke of the solid body, and the contacts are off center so that they cause a rocking of the solid body and a shifting of it into oblique positions. This shifting results in the generation of forces that have a tangential component which rotates the body through a small angle at the end of its stroke, thereby obtaining a wiping action at the contact points. The invention is disclosed as embodied in an electric switch, but it is not limited to such uses.

3,422,235 ARCING GRID CASE SUPPORT MEANS

William W. Camp, Lawrenceville, N.J., assignor to Heinemann Electric Company, Trenton, N.J., a corporation of New Jersey

Filed Jan. 28, 1966, Ser. No. 535,271

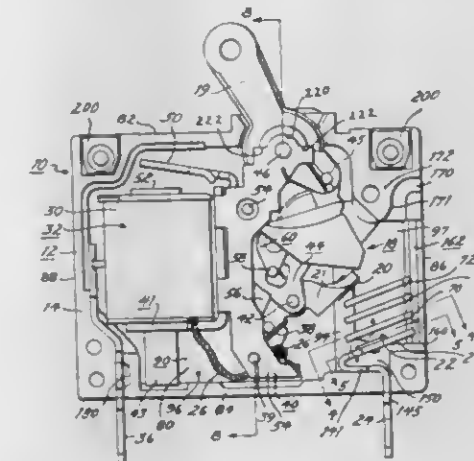
U.S. Cl. 200—147

Int. Cl. H01h 9/30; H01h 9/44; H01h 33/18

18 Claims

1. In a circuit breaker, the combination of an insulating case, stationary and movable contacts within said

case, a mechanism for moving said movable contact away from said stationary contact, said case being divided into two approximate half-cases, each half-case being formed by a side wall and integral peripheral walls, a conductor within said case carrying said stationary contact, a plurality of magnetizable grids stacked above said stationary contact, each grid having two legs and a base, said half-cases having first and second opposed walls defining side



slots completely open on two contiguous sides to receive and support portions of said legs, one of the half-cases having a third wall defining rear slots completely open on two contiguous sides, one of which faces the side slots, and partially closed on a third side, to receive and support a portion of said base, and the other half-case having a fourth wall overlying said third wall to restrain movement of said grids out of the rear slots.

ERRATUM

For Class 200—151 see:
Patent No. 3,422,455

3,422,236 APPLIANCE HAVING A ROTATABLE TWO- PART ACTUATOR CAPTIVATED BY A FRAME MEMBER

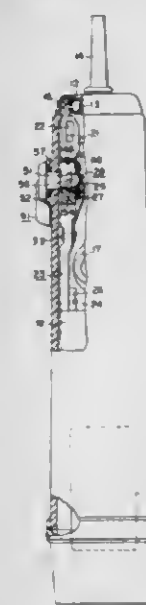
Paul J. Kircher, Mansfield, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 16, 1967, Ser. No. 616,573

U.S. Cl. 200—157

Int. Cl. H01h 9/06; H01h 13/08; H01h 21/10

7 Claims



A switch assembly for a power operated appliance. A frame member which supports mechanical drive mechanism within the casing of the appliance housing is provided with a keyhole-shaped aperture for receiving the shank portion of a switch actuator which shank portion is insertable through an aperture in the casing and through

the larger area of the keyhole-shaped aperture when aligned with the aperture in the casing. Further insertion of the frame member into the casing moves the shank portion, which is provided with an annular groove, into the smaller area of the keyhole-shaped aperture wherein the actuator is captivated.

3,422,237

HIGH SPEED SEQUENTIAL SWITCH

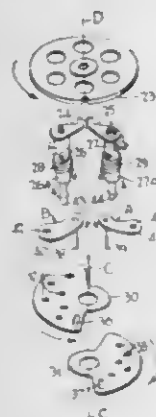
John F. Baker, Philadelphia, Pa., Harry G. Rodrigo, Medford, N.J., and Joseph A. Ryan, Upper Darby, Pa., assignors to the United States of America as represented by the Secretary of the Army

Filed Sept. 27, 1966, Ser. No. 583,135

U.S. Cl. 200—61.45

Int. Cl. H01b 35/02

6 Claims



5. An improved electrical sequential switch adapted to operate in space vehicles in flight and subject to axial and angular acceleration and angular velocity to a high degree, comprising in combination, two sets of insulated electrical contacts mounted in fixed relation to each other a pair of relatively light low-mass switching elements of thin insulating material one interposed between each set of said contacts, said switching elements having a common axis of rotation and contact openings for permitting said sets of contacts to engage and be connected through the respective element associated therewith when moved to the ON position, and the said axis of said switching elements being offset from the axis of spin of a space vehicle in which said switch is mounted to develop a component of force tending to move said switch elements from the OFF to the ON position, timing controlled means for locking said switch elements in the OFF position, and for sequentially releasing said elements to close first one and then the other of said sets of contacts in spaced sequential timed relation.

3,422,238

CIRCUIT BREAKER ENCLOSURE WITH EXTERNAL OPERATING HANDLE AND COMBINATION THEREOF WITH CIRCUIT BREAKER

Tadeusz J. Rys and Ronald H. Reed, Lexington, Ky., assignors to Square D Company, Park Ridge, Ill., a corporation of Michigan

Filed May 17, 1967, Ser. No. 639,147

U.S. Cl. 200—172

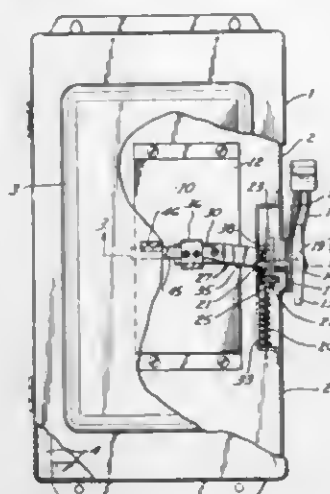
Int. Cl. H01h 3/02

7 Claims

The present improvement resides principally in a driving lost motion connecting means between a manually operable external operating handle which is movable to On and Off positions, selectively, and a settable circuit breaker handle which is moved by mechanism in the breaker to On and Off positions, respectively, with a snap action when the breaker handle is moved a predetermined distance toward a selected one of said positions, and which is moved from On position to an intermediate position upon tripping of the breaker.

The lost motion connecting means comprises a rocking bar connected to the breaker handle and rockable about a predetermined axis; a driving cam surface on the bar in eccentric relation to the axis of the bar; and a driving

pin swingable by the manually operable external operating handle about an axis parallel to and offset from the rocking axis of the bar. The pin and cam surfaces are spaced from their respective rocking axes so that the pin remains in driving engagement with the cam surface, and thereby moves the bar toward On position during prede-



termined movement of the external operating handle toward On position, so that the breaker handle snaps to On position and rocks the bar with it, whereupon the pin passes out of driving engagement with, and in spaced trailing relation to, the cam surface when the bar is moved by the breaker handle as the handle move to On position, and leaves the breaker handle and bar free to be moved from On position to an intermediate position by the breaker upon the tripping of the circuit breaker.

3,422,239

APPARATUS FOR TREATING ARTICLES WITH MICROWAVE ENERGY

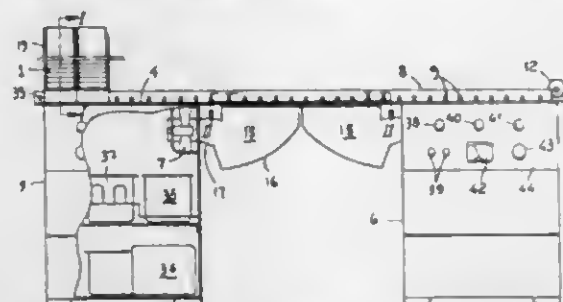
Göran Axel Runo Öjelid, Huskvarna, Sweden, assignor to Huskvarna Vapenfabriks Aktiebolag, Huskvarna, Sweden

Filed Sept. 9, 1965, Ser. No. 486,054

U.S. Cl. 219—10.55

Int. Cl. H05b 9/06; H05b 5/00

8 Claims



Apparatus for treating articles with microwave energy, particularly for producing hot food portions and including a microwave tunnel oven with a longitudinal slot in the tunnel bottom, means for conveying articles through the oven and a microwave generator, a waveguide and a reflector arranged below said conveying means and guiding microwave energy into the oven through said slot, with said tunnel being accommodated on a slab or base which carries on its underside the irradiation means.

3,422,240

MICROWAVE OVEN

William N. Parker, Lancaster, Pa., assignor to Radio Corporation of America, a corporation of Delaware

Filed Nov. 18, 1965, Ser. No. 508,535

U.S. Cl. 219—10.55

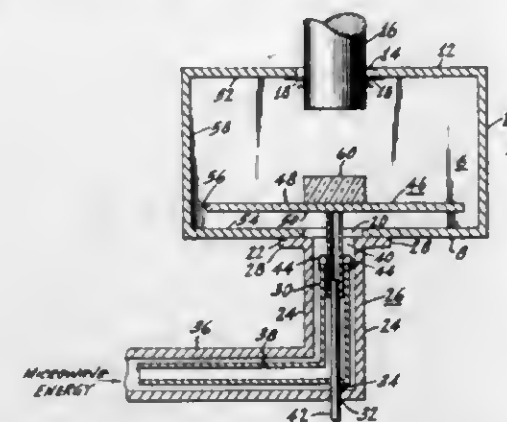
Int. Cl. H05b 9/00; H05b 9/06

8 Claims

Disclosed is a configuration for a microwave cavity wherein dielectric articles may be heated. The walls of the cavity are formed of an electrically conductive material which in turn provide a resonant chamber. Electrically conductive supporting means, insulated from the

walls of the cavity, are positioned therein. Means are provided for conductively coupling microwave energy to the walls of the cavity and to the conductive supporting

means and the other section having walls extending into the channels and a conductive liquid filling the channels to a level above the side walls to seal the housings against loss of radiant energy introduced into the housing.



means. The resulting electric field developed between the walls and the supporting means evenly heats the articles placed upon the latter.

3,422,241

WHEEL CONSTRUCTION FOR A BRUSHLESS WIRE PREHEATER

Robert L. Bellem, Scituate, R.I., assignor to Walco Electric Company, Providence, R.I., a corporation of Rhode Island

Filed May 3, 1966, Ser. No. 547,206

U.S. Cl. 219—10.61

Int. Cl. H05b 5/00; 9/06

7 Claims



A composite wheel for running a plurality of wires through a brushless wire preheater. A pair of wheels are mounted on an idler shaft, one wheel keyed to the shaft and the other wheel on a separate bearing in the shaft for relative rotation with the first wheel. Each wheel has a pair of grooves for handling a single wire. The relative rotation compensates for any uneven wear of the grooves.

3,422,242

HIGH FREQUENCY HEATING DEVICE

Etsutaro Miyata, Sakai-sbi, Osaka-fu, Japan, assignor to Hayakawa Denki Kogyo Kabushiki Kaisha, Osaka, Japan, a company of Japan

Filed Aug. 30, 1965, Ser. No. 483,584

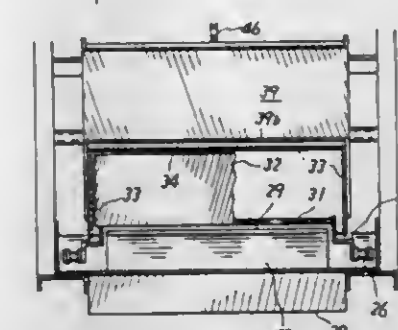
Claims priority, application Japan, Aug. 31, 1964, 39/49,744, 39/49,746, 39/49,747, 39/49,749, 39/49,750; Sept. 15, 1964, 39/52,941; Sept. 24, 1964, 39/54,974; Oct. 22, 1964, 39/60,201

U.S. Cl. 219—10.55

Int. Cl. H05b 9/00; G21d 1/00; G21d 3/00

7 Claims

A high frequency heating device having cooperating housing sections with one section having peripheral chan-



level above the side walls to seal the housings against loss of radiant energy introduced into the housing.

3,422,243

RESISTANCE WELDING CONTROL SYSTEM

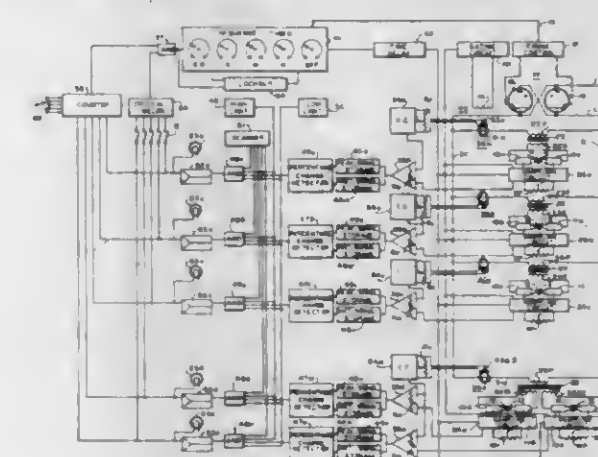
Charles F. Meyer, Wauwatosa, Wis., assignor to Square D Company, Park Ridge, Ill., a corporation of Michigan

Filed May 13, 1966, Ser. No. 549,833

U.S. Cl. 219—110

Int. Cl. B23k 11/00; B23k 11/24; B23k 9/10

9 Claims



Control circuitry for a resistance welding machine. Detecting means are coupled across each pair of a plurality of pairs of electrodes, to detect when a predetermined percentage difference in the sampling voltage has occurred and to generate an output signal which is representative of this change. The output signal from each detecting unit is counted and a signal is generated to switch the apparatus to a nonconducting state when the number of changes equals a predetermined number.

3,422,244

ELECTRIC BLANKET WITH A TEMPERATURE RESPONSIVE CONTROL CIRCUIT

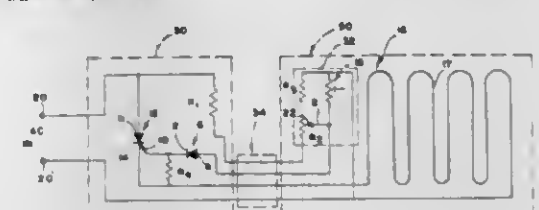
Peter Lauck III, Princeton, N.J., assignor of forty percent to Robert Holt Myers, Washington, D.C.

Filed May 10, 1965, Ser. No. 454,417

U.S. Cl. 219—212

Int. Cl. H05b 3/34

11 Claims



An electric blanket employing a silicon controlled rectifier to control the heating element of the electric blanket, and having means to select the temperature to which it is desired to heat the sleeping area associated with use of the electric blanket. Temperature sensitive means are utilized in the control circuit connected to the

silicon controlled rectifier, to control conduction of the silicon controlled rectifier and thereby the heating element current, to maintain the sleeping area temperature at the desired selected temperature. The blanket comprises a particular configuration to maximize temperature control sensitivity and blanket utility.

3,422,245

WELDING THERMOCOUPLES

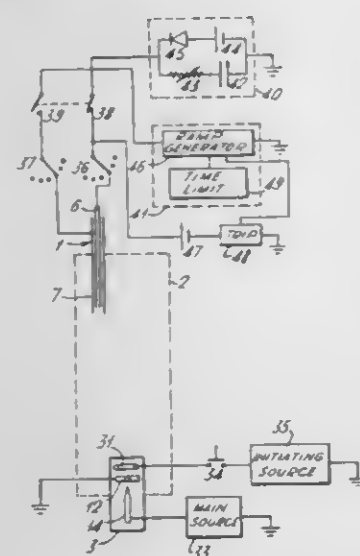
Arthur Downs and Clive Maclean, Wantage, England, assignors to United Kingdom Atomic Energy Authority, London, England

Filed Oct. 27, 1966, Ser. No. 589,954

Claims priority, application Great Britain, Nov. 4, 1965, 46,871/65

U.S. Cl. 219—121
Int. Cl. H05b 7/18

8 Claims



1. A method of sealing the end of a thermocouple cable having a tubular metal casing surrounding thermocouple wires, comprising subjecting the casing to a plasma arc welding process, applying a potential to at least one of the thermocouple wires to cause an electric current to flow in a loop including said wire and the plasma, and stopping the heating process when said current ceases to flow.

3,422,246

LASER CUTTING MACHINE TOOL

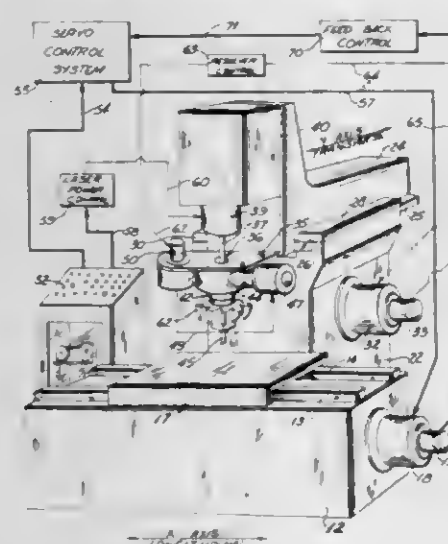
Theodore A. Wetzel, Brookfield, Wis., assignor to Kearney & Trecker Corporation, West Allis, Wis., a corporation of Wisconsin

Filed Aug. 18, 1965, Ser. No. 480,704

U.S. Cl. 219—121

Int. Cl. B23k 9/00; B23k 9/16

6 Claims



A laser machine is adapted to form metal by means of a laterally movable laser beam of predetermined rectangular shape. The machine comprises a base having a movable

table adapted to support a workpiece, and also having a relatively movable beam projecting cutting head. A metal cutting laser is carried by the cutting head in a position to project a collimated laser cutting beam in the direction of a workpiece supported by the movable table. A beam shaping apparatus is rotatably carried by the cutting head in axial alignment relative to the laser beam and above the worktable. To form the beam in selected rectangular shape, the rotatably positionable apparatus comprises an axially aligned beam enlarging lens system, a mask having a rectangular aperture adapted to pass a reduced portion of the enlarged beam, and a second lens system adapted to refocus the rectangular beam into an intense collimated beam of reduced rectangular cross section.

3,422,247

ELECTRICALLY HEATED SOLDERING APPARATUS

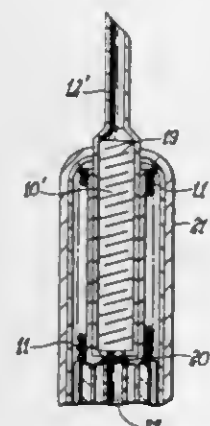
Alan L. Royston, 41 Glenburnie Road, Mitcham, Victoria, Australia, and Brian E. Royston, 11 Austin Crescent, Pascoe Vale, Victoria, Australia

Filed Mar. 21, 1966, Ser. No. 536,060

Claims priority, application Australia, Mar. 25, 1965, 56,802/65

U.S. Cl. 219—230
Int. Cl. H05b 3/42

2 Claims



A tool includes a heating chamber having a nozzle in communication therewith. An electric heating element is provided to heat nozzle and chamber. The tool may be used for soldering or desoldering. For soldering, a stream of gas under pressure is introduced into the chamber, heated therein and the heated gas discharged through the nozzle onto the joint to be soldered. For desoldering, suction is developed in the chamber, whereby the solder melted by the nozzle is sucked up through the nozzle into the chamber. A filter may be provided to prevent solder being drawn into the suction means. The nozzle, chamber and filter may be made as a unit detachable from the tool.

3,422,248

HYDRONIC-ELECTRIC HEATING SYSTEMS

Adrian A. Beaulieu, West Bridgewater, James L. McKenney, Norwell, James W. Megley, Milton, and Lawrence M. Munroe, Dover, Mass., assignors to Beaulieu-Munroe Corporation, Boston, Mass., a corporation of Massachusetts

Filed Oct. 19, 1965, Ser. No. 497,961

U.S. Cl. 219—281

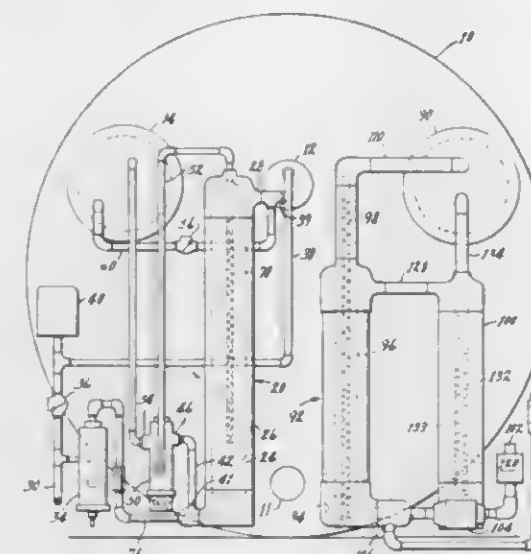
Int. Cl. H05b 1/00; 3/00; 7/18; 11/00; F24h 1/00

12 Claims

Apparatus for heating a structure and supplying process hot water by the use of electrical energy comprising a storage tank for accumulating and storing energy in the form of high temperature liquid and means for heating liquid in the tank electrically. The process hot water apparatus comprises a pilot coil, a primary coil and means

for selectively utilizing the pilot coil singularly and in combination with the primary coil. The structure heating

and which also provides for doubling the value of the holes counted for every other row. Prior to counting the number of holes actually punched, the value of the holes intended to be punched is transmitted into the second register and when the signals of the holes actually punched



apparatus comprises a coil and means for controlling the introduction of system water thereto.

3,422,249

SAFETY DEVICE FOR AN ELECTRIC HOT WATER BASEBOARD

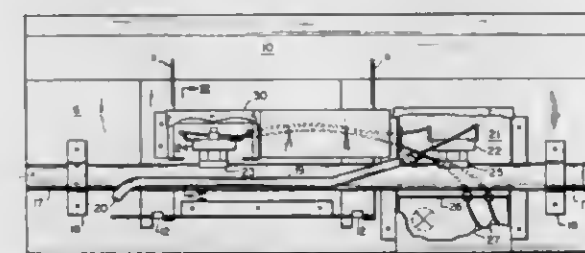
John S. Grossinger, Chicago, Ill., assignor to Crane Company, Chicago, Ill., a corporation of Illinois

Filed Apr. 13, 1965, Ser. No. 447,842

U.S. Cl. 219—341

Int. Cl. H05b 1/00; 3/02; 11/00; F24h 7/00

1 Claim



Safety arrangement for use in a hot water baseboard having a conduit and an electric heating means in heat exchange relation therewith. The safety arrangement comprising an automatic thermostatic switch mounted on the conduit downstream from the heating means and a manually reset thermostat mounted on the conduit adjacent the heating means. Said switch and said thermostat being connected in series with said heating means to interrupt current flow to said heating means upon sensing a predetermined temperature. The manually reset thermostat is mounted on a metal plate in direct contact with a portion of the conduit and the heating means.

3,422,250

WEIGHTED HOLE COUNT CHECK FOR PUNCH CARD EQUIPMENT

James O. Jones, Center Square, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

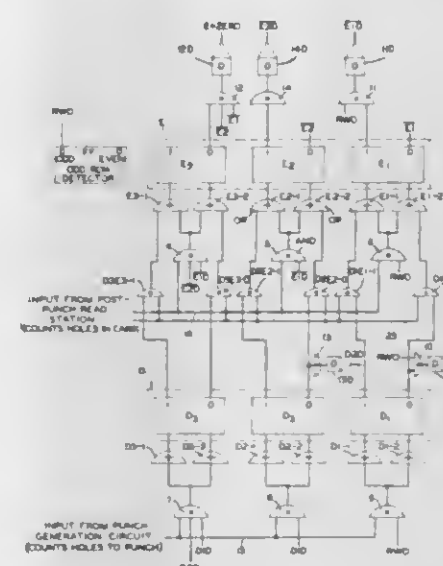
Filed Nov. 6, 1964, Ser. No. 409,422

U.S. Cl. 235—61.7

Int. Cl. G06k 1/00; G06k 1/04; G06f 11/00

4 Claims

The present device provides a first register-counter into which there is a signal transmitted for each hole to be punched in a row of a punched card. The number (value) of these holes to be punched is counted and the equipment is arranged to be doubled for every other row. The device also provides a second register-counter into which there is a signal transmitted for each hole actually punched



are received at the second register-counter, these signals or values are subtracted from the values present therein. Accordingly, when the second register is reduced to zero, the system recognizes that the number of holes actually punched is equal to the number of holes that should have been punched.

3,422,251

PAPER HANDLING APPARATUS FOR MACHINE READING SYSTEMS

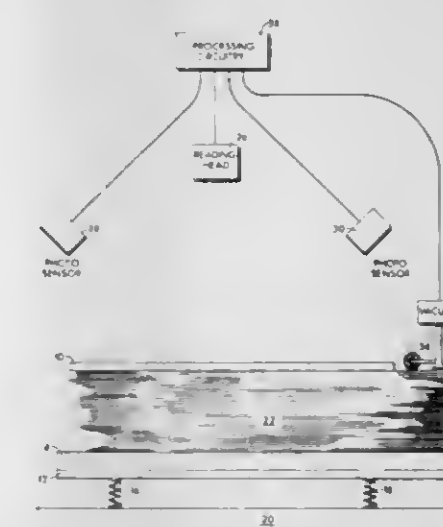
Stephen B. Gray, Cambridge, Mass., assignor to Sylvania Electric Products, Inc., a corporation of Delaware

Filed Jan. 25, 1965, Ser. No. 427,600

U.S. Cl. 235—61.11

Int. Cl. G06k 7/015

3 Claims



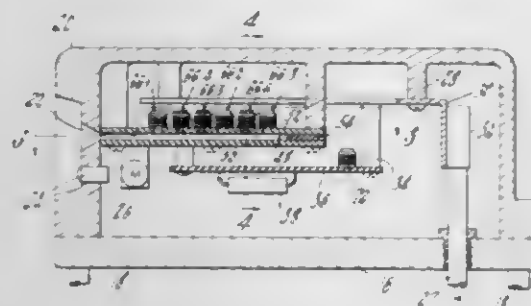
The apparatus employs a stationary transparent plate, positioned below an electro-optical reading head, and a movable plate being urged toward the stationary transparent plate by a biasing member. The sheets of paper to be read are positioned between the stationary and movable plates with one corner of each sheet being positioned against a set of orthogonal stop plates to thereby uniformly locate the sheets in prealignment with the electro-optical reading head. After each sheet is read, a combination of a friction wheel and vacuum remove it from beneath the transparent plate.

3,422,252

CONTROL SYSTEMS

Irving B. Cooper, Jr., Marblehead, Mass., assignor to Industrial Instrumentations, Inc., Marblehead, Mass., a corporation of Massachusetts

Filed Feb. 12, 1965, Ser. No. 432,133
U.S. Cl. 235—61.11 14 Claims
Int. Cl. G06k 7/00; G11b 5/00



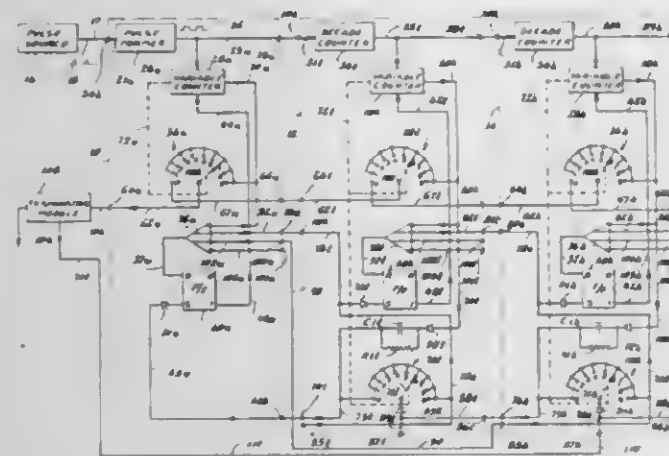
A card reader includes a card sensing area adapted to receive a card. Sensing transformers are disposed in a rectangular matrix along one wall of the sensing area. Each transformer includes two posts connected by a bridge member. A primary winding is disposed on one post and a secondary winding on the other post. A similar reference transformer is mounted outside the sensing area and has its primary winding connected in parallel with the primary windings of the sensing transformers and its secondary winding is connected in series opposition to the secondary windings of the sensing transformers. A 2½ volt 12 k.c.p.s. source energizes all the primary windings.

3,422,253

REVERSE COUNTING LOGIC SYSTEMS

Robert S. Lundin, Thomaston, Conn., assignor to General Time Corporation, New York, N.Y., a corporation of Delaware

Continuation-in-part of application Ser. No. 363,361, Apr. 29, 1964. This application May 10, 1965, Ser. No. 454,626
U.S. Cl. 235—92 16 Claims
Int. Cl. G06f 7/38; G06g 7/00



The present invention is a presettable counting system in which each stage except the first includes a fixed counter and a variable counter. In the first stage, the fixed counter is replaced by a pulse former. The stages are interconnected in such a manner that the most significant digit of the present number is counted first. This arrangement eliminates the need for control circuitry to disable the higher order fixed counters while lower order variable counters are counting.

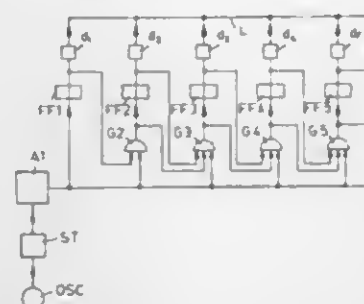
3,422,254

BINARY PULSE COUNTER HAVING MINIMIZED CUMULATIVE STAGE SWITCHING DELAY

Seth Johan Ronald Lundin, Vallingby, Sweden, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed May 14, 1965, Ser. No. 455,751
Claims priority, application Sweden, May 21, 1964, 6,182/64

U.S. Cl. 235—92 4 Claims
Int. Cl. G06f 7/38; G06g 7/00



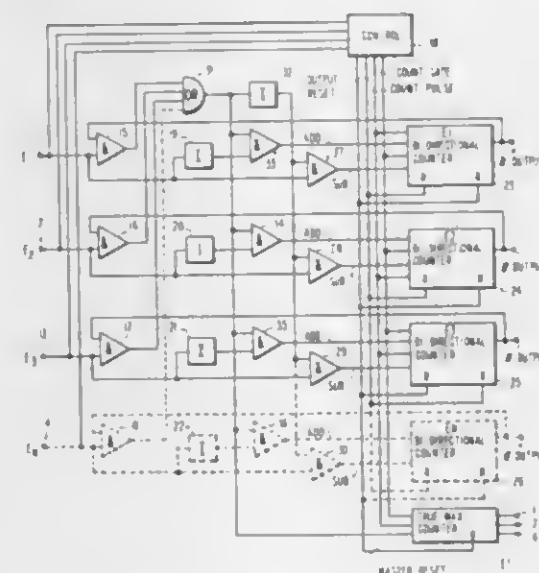
A binary pulse counter arrangement for reduced intra stage delay is provided with a plurality of AND gates each arranged in the input of each stage of the counter but the first. Each gate but the first is responsive to the output of the preceding gate, the preceding stage and the signal input. Each gate receives no more than three inputs, regardless of the number of states.

3,422,255

MAXIMUM OCCURRING EVENT DETERMINING APPARATUS

Davey L. Malaby, Rochester, Minn., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Sept. 29, 1965, Ser. No. 491,355
U.S. Cl. 235—92 10 Claims
Int. Cl. G06f 7/38; G06g 7/00



I. Maximum occurring event determining apparatus comprising:

a pair of selectively operable bidirectional counters each corresponding to a particular event; means connected to provide a pulse to said counters during the occurrence of an event; logic means operable in response to the occurrence of an event and the corresponding counter being in a zero condition for providing an additive control signal and operable in response to the occurrence of an event and the corresponding counter being in a non-zero condition for providing a subtractive control signal; and

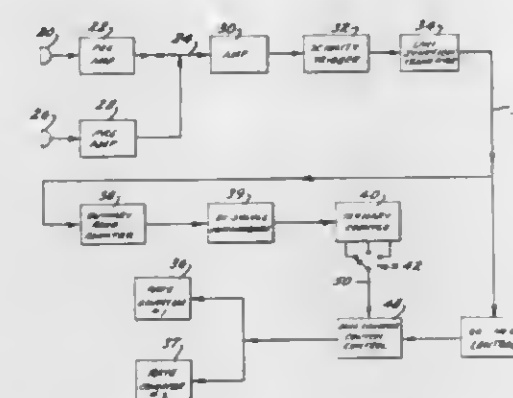
means connected to said logic means and said counters for applying said additive control signal to said counter corresponding to the non-occurring event and applying said subtractive control signal to said counter corresponding to the occurring event.

3,422,256

RATE OF FIRE COMPUTER

Peter V. Elyosins, Hartford, and Jerome W. Pikor, West Hartford, Conn., assignors to B & S Tool Company, Inc., Berlin, Conn.

Filed Oct. 24, 1965, Ser. No. 504,403
U.S. Cl. 235—92 14 Claims
Int. Cl. G06f 7/38; G06g 7/00



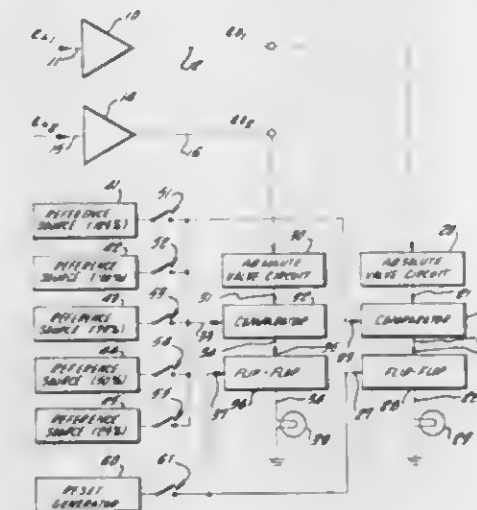
1. A rate counter for counting the rate of firing of shots comprising a meter having a clock driven pointer, a scale on the meter cooperating with the pointer, audio means for picking up the sounds of the shots, means responsive to the operation of said audio means and to the sound of the first shot being fired to initiate the movement of the pointer over the scale, and means responsive to the completion of a predetermined number of shots being picked up by said audio means for stopping the movement of the pointer.

3,422,257

ANALOG COMPUTING APPARATUS WITH SYSTEM SCALING INDICATOR

Albert S. Jackson, Seal Beach, Calif., assignor to Milgo Electronic Corporation, Miami, Fla., a corporation of Florida

Filed Feb. 17, 1966, Ser. No. 528,137
U.S. Cl. 235—193 5 Claims
Int. Cl. G06g 7/00; H03k 5/20



A system scaling indicator is provided for checking the magnitude scaling of selected components of an analog computer. An absolute value circuit is utilized to compare the absolute value of the amplitude of the output voltage of the computing component with a selected reference voltage representative of a predetermined percentage

of the rated output voltage of the computing components. A visual indicator, e.g. a lamp, is actuated when the output voltage of the computing component exceeds the selected reference voltage.

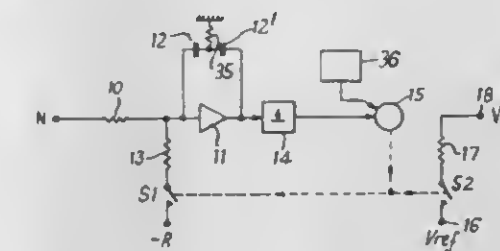
3,422,258

RATIO METER

Ian G. Charter, Sydney F. Miles, and Christopher E. G. Bailey, Farnborough, England, assignors to The Solartron Electronic Group Limited, Farnborough, England, a corporation of the United Kingdom

Filed Mar. 29, 1966, Ser. No. 538,400
Claims priority, application Great Britain, Apr. 2, 1965, 14,143/65

U.S. Cl. 235—196 9 Claims
Int. Cl. G06g 7/16



Analog computing circuits are disclosed for dividing, multiplying and/or extracting the square root; the circuits accepting an A.C. or D.C. input but always providing a D.C. output. Also disclosed is a particular application of the computing circuit to a ratio meter which is used in combination with magnetically-coupled transducers. Such application enables an output reading to be obtained which is independent of the excitation voltages in the transducers.

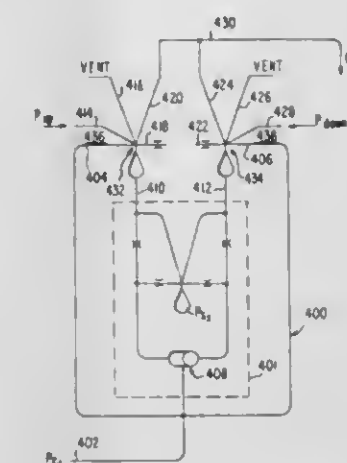
3,422,259

PILL-TYPE FLUIDIC DEVICES

Peter A. Freeman, Baltimore, Md., assignor to Martin-Marietta Corporation, New York, N.Y., a corporation of Maryland

Original application Oct. 22, 1965, Ser. No. 501,157, now Patent No. 3,362,633, dated Jan. 9, 1968. Divided and this application Aug. 24, 1967, Ser. No. 670,490

U.S. Cl. 235—201 15 Claims
Int. Cl. G06m 1/12; G06d 1/00



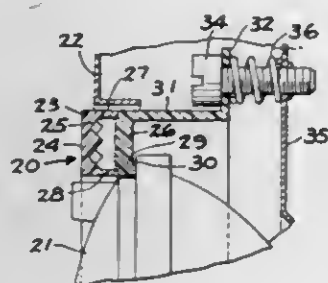
Fluidic binary counters use a pill sliding in a slot as a device for selecting the direction of flow of input counting pulses, along with a bistable fluidic element of either the Coanda type or composed of a number of pill-type logic elements. These binary counters may be provided with AND or NAND devices to form stages that, when cascaded, provide a reversibly binary counter.

3,422,260

HEADLAMP REFLECTOR FOR AUTOMOBILES
Peter Hedgewick, Windsor, Ontario, Canada, assignor to
Reflex Corporation of America, Troy, Mich., a corporation of Michigan

Filed May 6, 1966, Ser. No. 548,158

U.S. Cl. 240—41.55 15 Claims
Int. Cl. F21v 31/02; F21v 17/00



A reflector for use with the headlamp of an automobile. The reflector comprises a continuous ring of transparent material having an outer surface and an inner surface formed with a plurality of reflecting prisms and a second ring hermetically sealed to the first ring. The reflector further includes a general circumferential wall fixed to and extending generally axially from the second ring and having radial tabs thereon for mounting the ring on a vehicle.

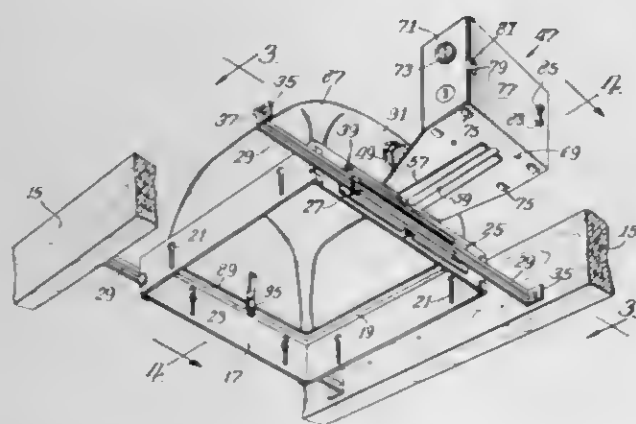
3,422,261

LIGHTING FIXTURE

William K. McGinty, Fort Atkinson, and Joseph J. Procknow, Jefferson, Wis., assignors to Thomas Industries Inc., Fort Atkinson, Wis., a corporation of Delaware

Filed Nov. 7, 1966, Ser. No. 592,468

U.S. Cl. 240—78 13 Claims
Int. Cl. F21v 21/02; F21v 21/04



A recessed lighting fixture including a frame, a soap-in reflector invertibly mountable on the frame, a splice box-socket assembly accessible through the fixture, and adjustable hangars. The adjustable hangars to secure the fixture between wall or ceiling joists in a manner to allow selective positioning of the fixture between the supporting joists.

3,422,262

HIGHWAY CROSSING SIGNAL CONTROL SYSTEM

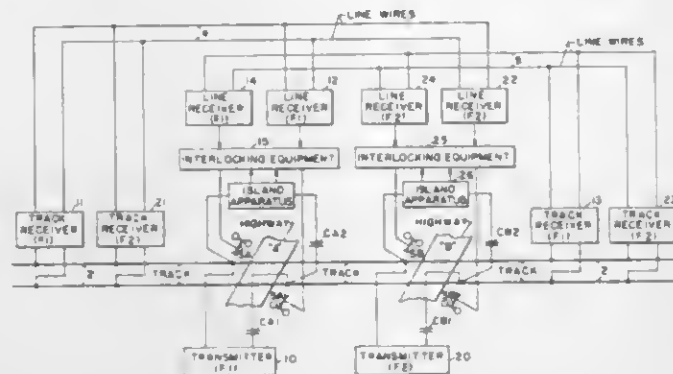
Lyle Brockman, Rochester, N.Y., assignor to General Signal Corporation, Rochester, N.Y., a corporation of New York

Filed Feb. 1, 1966, Ser. No. 524,297

U.S. Cl. 246—130 10 Claims
Int. Cl. B61l 1/02; B61l 1/12; B61l 25/00

This disclosure shows overlay high frequency track circuits controlling the crossing warning signals for a plurality of closely located highway level crossings. Both the

transmitters and receivers are located at the respective crossings and the frequencies are taken from the track at



the remote ends of the approach sections and returned over line wires to the respective receivers in a way to minimize the number of line wires required.

ERRATUM

For Class 250—41.3 see:
Patent No. 3,422,456

3,422,263

IONIZED AIR PRODUCING DEVICE

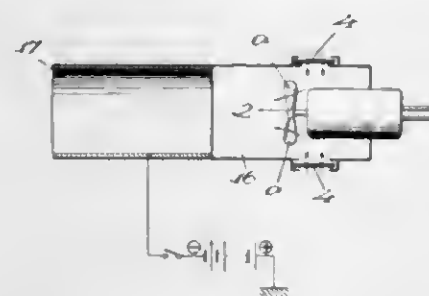
Jiro Asahina, 1402 Yamanouchi, Kamakura-Kanagawa

Prefecture, Japan

Filed Dec. 23, 1964, Ser. No. 420,644

Claims priority, application Japan, Dec. 30, 1963,
38/71,358, 38/71,359; May 15, 1964, 39/37,502;
Oct. 8, 1964, 39/57,058

U.S. Cl. 250—44 7 Claims
Int. Cl. G01n 21/26; G01n 23/12; G21h 5/00



A device for producing ionized air containing only negatively charged ions and mainly comprising passage means confining a stream of air passing therethrough, a radiation emitting body located in the passage means, and negatively charged screen means downstream of the radiation emitting body so that an air stream passing through the passage means is ionized by contact with the radiation emitting body and positive ions in the thus ionized air stream are caught by the screen means so that the air stream emanating from the passage means will contain only negatively charged ions.

3,422,264

DEVICE FOR PRODUCING STEREOSCOPIC RADIOGRAPHS

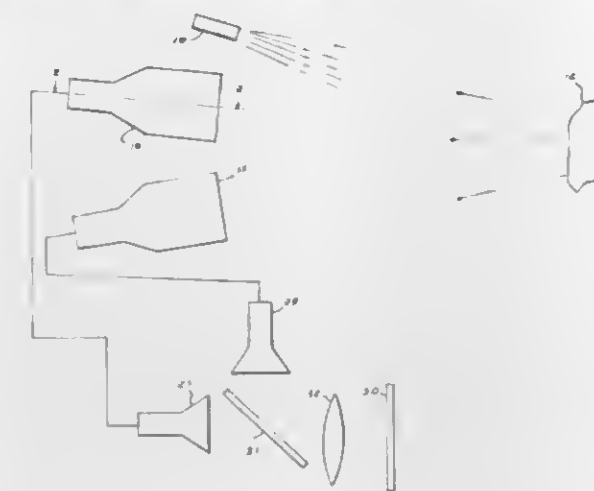
Eugene F. Martina, Palos Verdes Estates, Calif., assignor to the United States of America as represented by the Secretary of the Air Force

Filed Jan. 14, 1966, Ser. No. 521,250

U.S. Cl. 250—61 2 Claims
Int. Cl. G01n 23/04; H01j 37/22; H01j 39/32

The object for which a radiograph is desired is irradiated with neutrons from a neutron source which results in an isotropic emission of gamma rays from the object. A pair of pin hole cameras are located on the same side of the object as the neutron source to receive the returned gamma rays. Each of the pin hole cameras has

a phosphorescent screen therein which produces an image of the object. The image on each of the phosphorescent screens is imaged onto the input of an image intensifier tube with the outputs of the image intensifier tubes being



applied to the inputs of television camera tubes. The outputs of the camera tubes are supplied to a pair of display tubes with the outputs of the display tubes being combined on a display screen.

3,422,265

DETECTION OF PACKAGE CONTAMINANTS

Robert E. Bolasny, Broomfield, Colo., assignor, by mesne assignments, to Scientific Enterprises, Inc., Broomfield, Colo., a corporation of Colorado

No Drawing. Filed July 5, 1966, Ser. No. 562,542

U.S. Cl. 250—71 10 Claims
Int. Cl. G01n 21/16; G01n 21/00

The present disclosure relates to the clean room packaging of aerospace components in colored, preferably fluorescent, plastic film, in order to detect particle contamination resulting from abrasion between the packaged aerospace component and the packaging film.

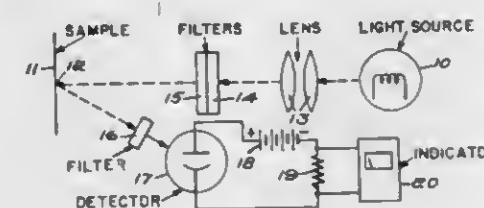
3,422,266

APPARATUS FOR EVALUATING THE EFFECTIVENESS OF CAMOUFLAGE AGAINST DETECTION BY INFRARED PHOTOGRAPHY

Alvin O. Ramsley, 15 Farm Road,
Sherborn, Mass. 01770

Filed Jan. 19, 1967, Ser. No. 610,734

U.S. Cl. 250—71 4 Claims
Int. Cl. G01n 21/00; G01n 21/16; G01n 23/00



A method of evaluating the effectiveness of the camouflage of a surface against detection by infrared photography and an instrument for determining the fluorescence of a surface in the infrared region of the spectrum comprising a source of energy in the visible range, a filter for removing infrared energy from the visible energy, means for supporting a sample to receive the filtered visible energy, a filter for removing visible energy from the energy emitted by the sample, a photoelectric tube circuit for detecting infrared energy emitted by the sample and converting it into an electronic signal, and means for measuring the magnitude of the electronic signal as an indication of the effectiveness of the camouflage of the surface against detection by infrared photography.

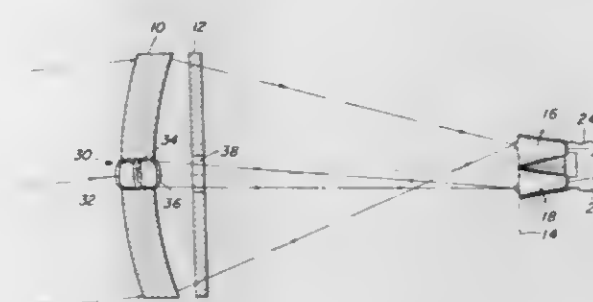
3,422,267

TWO-COLOR COMPENSATION MEANS FOR A RADIOMETRIC BALANCE SENSOR

Eli A. Kallet, Teaneck, N.J., and Daniel F. Stanfill III, Stamford, Conn., assignors to Barnes Engineering Company, Stamford, Conn., a corporation of Delaware

Filed July 29, 1965, Ser. No. 475,654

U.S. Cl. 250—83.3 2 Claims
Int. Cl. G01t 1/16; G01j 1/20; G02b 5/00



A balance type horizon sensor having at least one pair of radiation detectors having opposed fields of view which are connected in electrical opposition. Interfering radiation is projected on an opposed detector by sharing the system aperture with a small near-infrared lens which inverts the image of the interfering radiation when compared to the sensor's objective lens. Since the interfering radiation then appears on the opposed detectors, it is electrically cancelled.

3,422,268

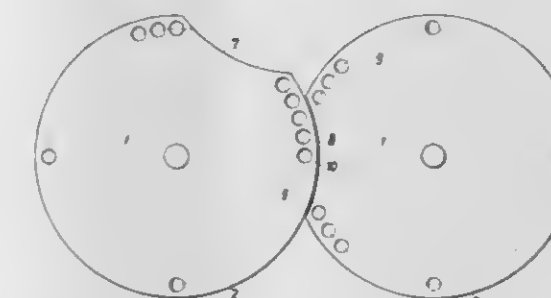
RADIATION DETECTING DEVICE

Karl-Heinz Meinig, 25 Graunstrasse,
Berlin, 65, Germany

Filed Dec. 29, 1965, Ser. No. 517,344

Claims priority, application Germany, Jan. 5, 1965,
M 63,692

U.S. Cl. 250—106 8 Claims
Int. Cl. G21h 5/00



A sample handling and radiation detecting device having horizontally moving sample cassette with vertical holes for receiving samples together with a sample transporter and means for guiding movement of the cassette to move the samples to a radiation detector having a crystal forming a part thereof.

3,422,269

RESONANT KERR EFFECT ELECTROMAGNETIC WAVE MODULATORS

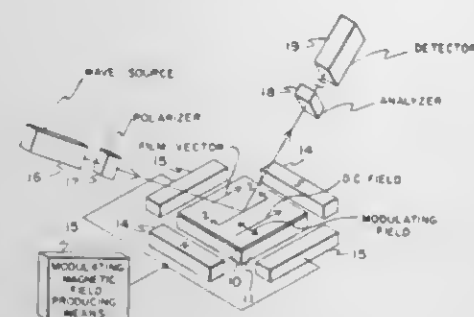
Di Chen, Hopkins, Minn., assignor to Honeywell Inc., a corporation of Delaware

Filed Apr. 10, 1964, Ser. No. 358,844

U.S. Cl. 250—199 3 Claims
Int. Cl. H04h 9/00; G02f 1/28; G02f 1/36

1. A modulator for continuously modulating electromagnetic waves comprising:
a substantial planar ferromagnetic film having a resultant ferromagnetic film vector substantially parallel to the plane of said film;

means for applying a unidirectional magnetic field to said film in a direction parallel to the plane of said film and said film vector to tune said film vector to a desired ferromagnetic resonant frequency; and



means for applying a modulating magnetic field to said film in a direction parallel to the plane of said film and perpendicular to said unidirectional magnetic field.

3,422,270

LOGIC AND LEARNING/RECOGNITION SYSTEMS USING BISTABLE OPTICAL LAMINAE

Stephen W. Moulton, Fort Washington, Pa., assignor to Philco-Ford Corporation, a corporation of Delaware
Filed Oct. 16, 1964, Ser. No. 404,369

U.S. Cl. 250-213

13 Claims

Int. Cl. H01j 31/50; H01j 39/12; H04q 9/00



Logic and learning/recognition systems using bistable optical laminae. The laminae consist of a voltage source connected across three transparent, conductive layers sandwiching a photoconductive layer and an electro-luminescent layer. The logic system uses two layers of bistable laminae sandwiching a mask layer. The learning/recognition system images randomly-occluded views of the unknown character on respective laminae of a first layer in which transmissivities of the masks have been adjusted in previous learning phase.

3,422,271

RADIATION SENSITIVE APPARATUS FOR THE PHOTOMETRIC ANALYSIS OF LIQUIDS

Hans Fuhrmann, Hamburg-Langhorn, Germany, assignor to Bran & Lütke, Hamburg, Germany
Filed Sept. 30, 1963, Ser. No. 312,719

Claims priority, application Germany, Oct. 1, 1962, F 37,932

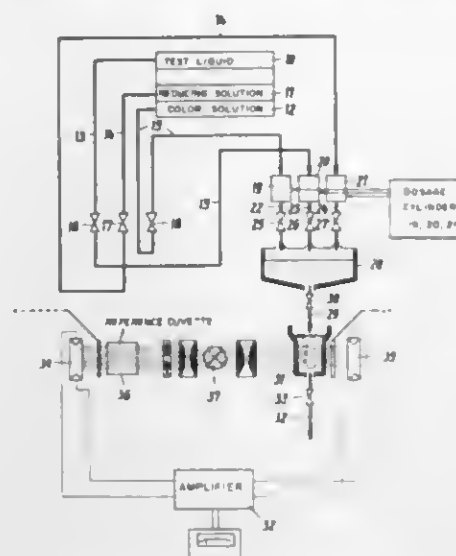
U.S. Cl. 250-218

2 Claims

Int. Cl. G01n 21/26; G01n 21/00; G01j 3/00

An automatic device for colorimetric or turbidimetric analysis, or both, in which a servo-balanced photoelectric bridge comprises two servo-controlled balance impedances which can be varied independently of each other, and at least one of which is capable of retaining its most recent setting while the other balances the bridge. A program control is provided for dispensing a zeroing fluid to a

cuvette positioned between one of the photocells of the bridge circuit and a light source for zeroing the device,



and for dispensing samples of fluid to be tested to the same cuvette for analysis.

3,422,272

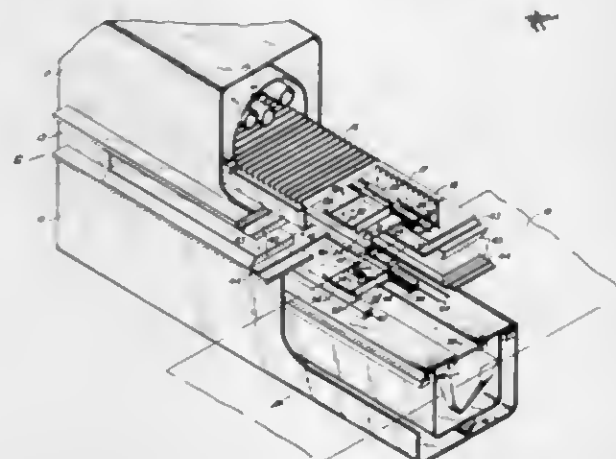
PINHOLE DETECTORS

Daniel R. Brosious, Bethlehem, and James K. Hollingshead, Hellertown, Pa., assignors to Bethlehem Steel Corporation, a corporation of Delaware
Filed June 2, 1965, Ser. No. 460,669

U.S. Cl. 250-219

8 Claims

Int. Cl. G01n 21/30; G01n 21/00; G01j 3/00



A C-shaped pinhole detector is provided with an upper and a lower light shield positioned adjacent each edge of a moving strip. The shields at each edge are adapted to be synchronously driven, in response to light impinging upon a light-sensitive device positioned on the lower shield, whereby a constant position is maintained between the shields and the edge of the strip. A flexible film of light-absorbing material is connected to each shield and blocks light from the source which extends outwardly of the shield. A plurality of photoluminescent louvers provides a source of secondary radiation which is utilized to actuate said light-sensitive means.

3,422,273

OPTICAL DEVICE

George A. Blernson, Concord, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Jan. 2, 1964, Ser. No. 335,015

U.S. Cl. 250-220

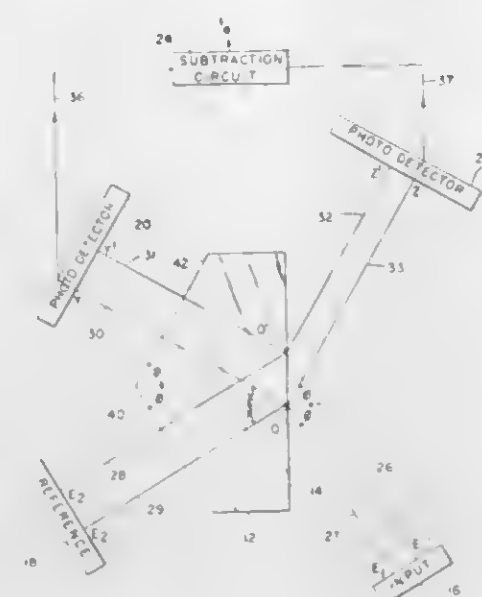
12 Claims

Int. Cl. H01j 39/12

An optical magic tee including a solid prism of specified index of refraction and having three plane faces oriented to receive and transmit incident light beams and

their reflections and refractions. A first light beam is directed externally of the prism to one plane face and a second light beam is directed internally of the prism to the same face, the angles of incidence being adjusted to cause the reflected wave of each incident beam to coin-

face of the stator of a dynamo-electric machine so as to form a circumferential channel surrounding and in com-



cide with the refracted wave of the other incident beam, these coincident waves being the output beams. An optical balanced mixer is provided by detecting each output beam and subtracting one from the other to produce an output signal representative of the product of the input beams.

3,422,274

RADIATION SENSITIVE APPARATUS FOR SENSING AND COUNTING

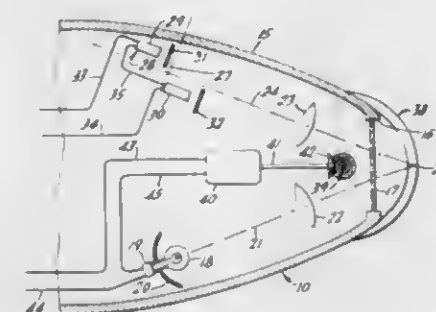
Edward M. Coan, % Emerge Associates, 331 Chester Ave., Moorestown, N.J. 08057

Filed June 1, 1964, Ser. No. 371,561

U.S. Cl. 250-224

11 Claims

Int. Cl. H01j 39/12



Sensing apparatus which includes means for focusing radiation at a nominal location from an object to be sensed, and detecting means along the path of focused radiation on opposite sides of the nominal location for detecting variations in radiation.

3,422,275

WATER TURBINES, PUMPS AND REVERSIBLE PUMP TURBINES

Michael Braikевич and Bruce Donald Arthur, Nether-ton, England, assignors to The English Electric Company Limited, London, England, a British company
Filed Oct. 19, 1965, Ser. No. 498,006

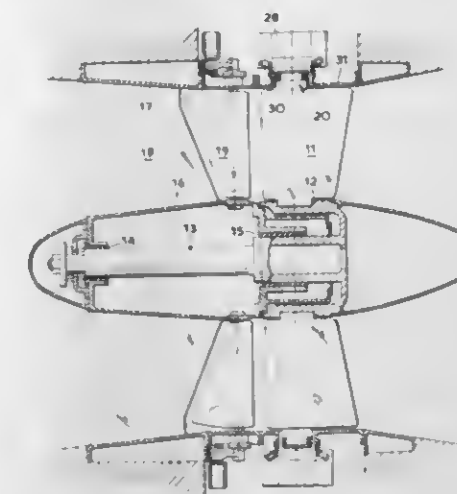
Claims priority, application Great Britain, Oct. 30, 1964, 44,385/64

U.S. Cl. 290-52

10 Claims

Int. Cl. H02p 9/04

A water turbine, pump, or reversible pump/turbine comprises two co-axial tubes having facing end flanges whose outer edges are sealed to the inner peripheral sur-



munication with the water tube in which channel the rotor of the dynamo-electric machine rotates.

3,422,276

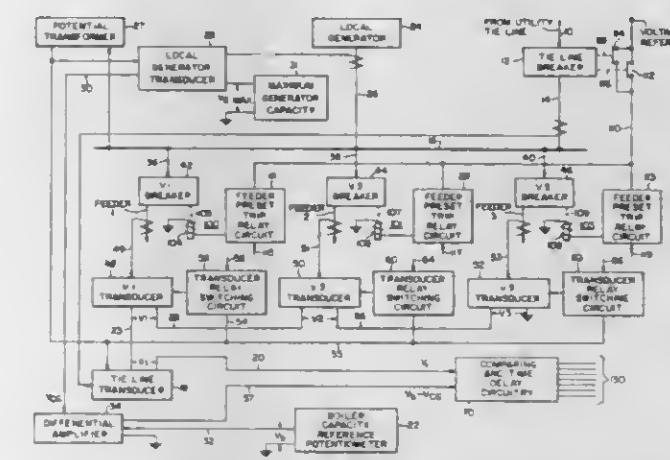
LOAD COMPUTING AND SHEDDING APPARATUS HAVING SELF-ADJUSTING BANDWIDTH

Robert J. Sullivan, Wayne, N.J., assignor to Westing-house Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 30, 1966, Ser. No. 562,014

U.S. Cl. 307-29

7 Claims

Int. Cl. H02j 1/10; H02j 3/00



1. In load computing and shedding apparatus for use in a local system receiving power from external and internal generating sources and operative to drop load circuits from the local system in case of external power interruption, the combination of:

external transducer means for providing external signals indicative of the power being supplied externally; capacity means for providing save signals indicative of the excess local power supplying capacity available in case of an external power interruption;

a load circuit transducer means adapted to provide load signals indicative of the power being supplied to each of a plurality of load circuits;

switch means associated with each of said load circuit transducer means selectively operative in response to sampling signals to permit said circuit transducer means to provide said load signals for the respective load circuit;

preset means for presetting which load circuits are to be shed in case of external power interruption in response to preset signals;

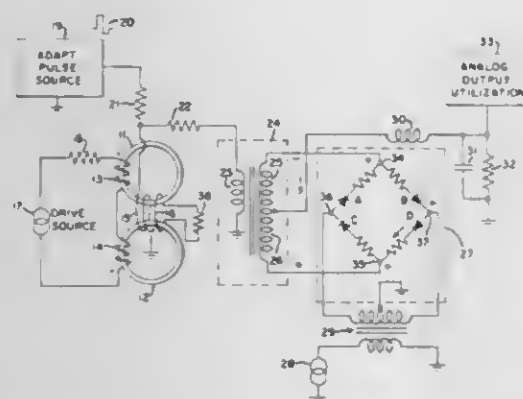
means for providing shed signals indicative of the difference between said external signals and the sum of selected of said load signals; and

control means for providing said sampling signals and said preset signals in response to said shed and said save signals so that enough load circuits are preset to be shed from the local system in case of external power interruption so as not to exceed the excess local power supplying capability.

3,422,277 MAGNETIC SECOND HARMONIC ANALOG DEVICE

David L. Greer, Manlius, N.Y., assignor to General Electric Company, a corporation of New York
Filed Sept. 10, 1965, Ser. No. 486,483
U.S. Cl. 307—88
Int. Cl. H01f 3/00; H03f 9/00, 11/00

9 Claims

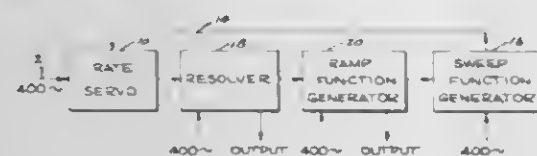


1. In combination, a saturable magnetic core structure having a hysteresis characteristic, alternating electrical excitation means for cycling said core structure over closed minor hysteresis loops for the production of substantial second harmonic content in the resulting rate of change of flux as a function of the remanent state of said core structure; stepping means coupled to said core structure for changing its remanent state by application of stepping pulses thereto; said stepping means including means for applying a composite stepping pulse having an initial portion of one polarity and a subsequent portion of opposing polarity and lesser magnitude; and analog output means for deriving an electrical quantity representative of the magnitude of the second harmonic component of said rate of change of flux.

3,422,278 SIGNAL GENERATOR

James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Leonard A. Del Casale and Bernhard Blutinger, San Diego, Calif.
Filed June 29, 1966, Ser. No. 562,934
U.S. Cl. 307—106
Int. Cl. H03k 3/00

9 Claims



1. A signal generator for providing a plurality of differently amplitude-modulated alternating current output signals, comprising:

- a rate servo; means for providing an alternating current input signal to drive said rate servo;
- a resolver mechanically connected to said rate servo for providing a sinusoidally amplitude-modulated output signal whose frequency of modulation is controlled by said rate servo;

a ramp function generator mechanically connected to said rate servo for providing an output signal modulated in accordance with a ramp function; and
a sweep function generator mechanically connected to said rate servo and electrically connected to said rate servo for causing said resolver to provide an output signal sinusoidally modulated in accordance with a modulation sweep function.

3,422,279 ELECTRICAL TIMING CIRCUIT

William G. Rowell, 18 Williams St., Canton, Mass. 02021
Filed Aug. 30, 1965, Ser. No. 483,470
U.S. Cl. 307—132
Int. Cl. H01h 47/00; 51/34

1 Claim

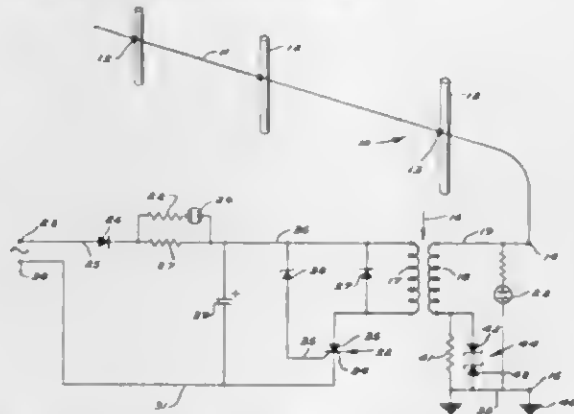


An electrical timing circuit for operating a relay through a repetitive switching sequence of predetermined duration. An alternating current power source remains connected across the circuit throughout the switching sequence.

3,422,280 FENCE CHARGER

Ellis W. Olson, Hopkins, Minn., assignor, by mesne assignments, to Introl Corporation, a corporation of Minnesota
Continuation-in-part of application Ser. No. 351,033, Mar. 11, 1964. This application Aug. 19, 1965, Ser. No. 483,016
U.S. Cl. 307—132
Int. Cl. H01h 47/00; 51/34; H02j

4 Claims



1. In combination with an electrical fence controller of the class to be operated from a source of alternating current potential and including a pair of input terminals adapted to be connected to a source of alternating current potential of relatively low magnitude means for periodically providing pulses of electrical energy of a relatively high potential across a pair of output terminals adapted to be connected intermediate a ground terminal and the conductive portion of an electric fence, a current limiting impedance means, having potential responsive current conductive means connected in parallel therewith, connected in series with said output terminals on a fence controller.

3,422,281 ELECTRIC POWER BYPASS SYSTEM AND CONNECTORS FOR RECONVERSION OF RURAL ELECTRIC SERVICE SYSTEMS

Otis D. Coston, 1716 Exeter Ave., Bessemer, Ala. 35020
Filed Dec. 2, 1966, Ser. No. 598,816
U.S. Cl. 307—147
Int. Cl. H01b 7/30; H01b 11/02; H01r 13/54

9 Claims

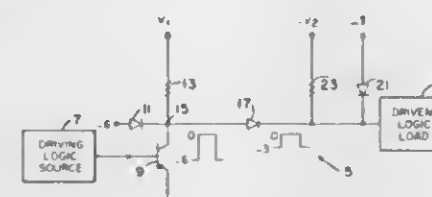


A portable, electric power bypass system for rebuilding existing power lines without interruption of service. The system is composed of prefabricated section of grounded surface cables which are serially joined by mating high voltage connectors. The mated connectors are received in conductive housings which prevent separation of connectors and which establish electrical connection between the grounded surface of the prefabricated sections to carry the ground through the system.

3,422,282 LEVEL CONVERSION CIRCUIT FOR INTERFACING LOGIC SYSTEMS

Irving F. Orrell, Jr., Whitinsville, Mass., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Aug. 24, 1965, Ser. No. 482,309
U.S. Cl. 307—203
Int. Cl. H03k 19/12; 19/8

6 Claims



A voltage level conversion circuit for interfacing logic systems which maintains the logic levels on both sides of the interface. A driving logic source controls the signal applied to a logic load, wherein the interfacing voltages are greater in magnitude on the driving side of the interface. Three diodes are used in conjunction with a transistor to maintain the voltage separation between the logic source and the logic load. Activation of the transistor by the logic source changes the biasing of two diodes which in turn changes the bias of the third diode to activate the load. De-activating the transistor returns the circuit to its previous state.

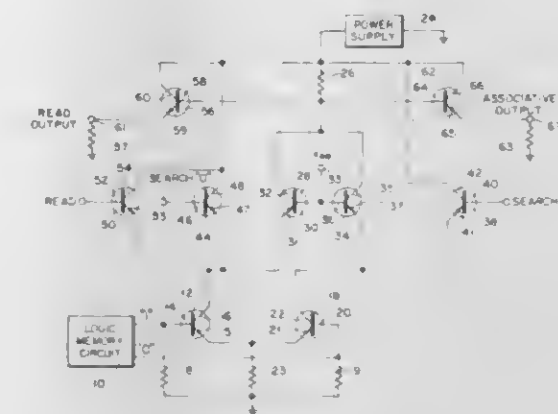
3,422,283 NORMAL AND ASSOCIATIVE READ OUT CIRCUIT FOR LOGIC MEMORY ELEMENTS

Donald E. Murray and Walter C. Seelbach, Scottsdale, Ariz., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed July 15, 1965, Ser. No. 472,177
U.S. Cl. 307—207
Int. Cl. H03k 19/08

8 Claims

1. A read out gate circuit for use with a memory circuit adapted to store first and second data signals one at a time, said read out gate circuit including in combination,

power supply means for providing a current, first and second current paths coupled to said power supply means, impedance means common to each of said first and second current paths, said first and second current paths further including first and second data switching means respectively coupled to the memory element, a given one of said first and second data switching means being responsive to the particular one of the first and second data signals stored in the memory circuit to become conductive whereby said current flows through the current path in-



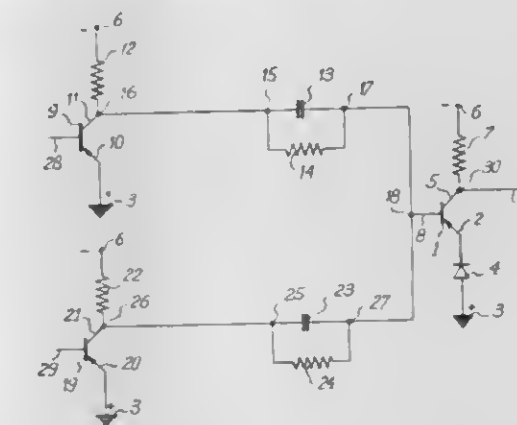
cluding said given data switching means and through said impedance means, bypass switching means coupled to at least one of said current paths and adapted to receive a read signal, said bypass switching means being responsive to said read signal to become conductive whereby a third current path bypassing said impedance means is provided, output means coupled to said impedance means and responsive to the magnitude of said flow of current through said impedance means to develop first and second output signals.

3,422,284 OR TYPE FAIL-SAFE LOGIC CIRCUIT

Gérard Martin, Villemomble, France, assignor to Societe Anonyme dite Compagnie des Freins et Signaux Westinghouse, Paris, France
Filed Jan. 5, 1965, Ser. No. 423,522
Claims priority, application France, Jan. 8, 1964, R.V. 959,625

1 Claim

U.S. Cl. 307—218
Int. Cl. H03k 19/22; H03k 19/30



And OR type fail-safe logic circuit producing an operating periodic output signal in relationship with at least one of at least two control periodic input signals, comprising a component such as a transistor whose output circuit supplies the operating periodic output signal and whose input circuit is connected in parallel to the output circuits of at least two control circuits, each of the control circuits comprising at least one resistor, and the input circuits of the control circuits being respectively connected to the sources generating the control periodic input signals.

3,422,285

PULSE PEAK TIME DETECTING CIRCUIT
Kenneth J. Schlichting, Sylmar, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Jan. 24, 1966, Ser. No. 522,717
U.S. Cl. 307—235
Int. Cl. H03k 5/20

5 Claims



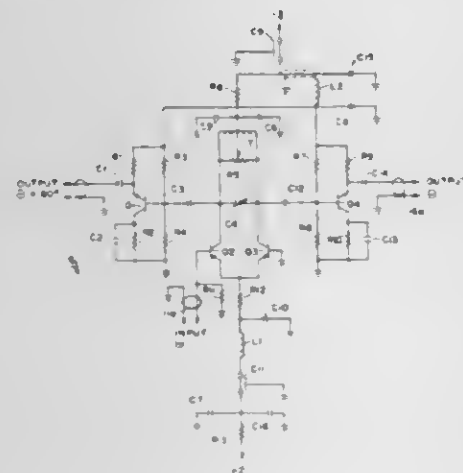
The disclosed pulse peak time detecting circuit includes a transistor connected in a common emitter configuration and a differentiator circuit directly connected to the base electrode of the transistor for differentiating an input pulse applied to a terminal of the differentiator circuit electrically remote from the base electrode of the transistor. The transistor is biased by means of a power supply and a series resistor and diode to maintain the transistor nonconductive of current until the output signal from the differentiator circuit reaches a predetermined level.

3,422,286

LIMITER, PHASE-SHIFTER CIRCUIT
Joseph N. Castelli, Plymouth, Mass., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army

Filed Aug. 26, 1966, Ser. No. 576,185
U.S. Cl. 307—237
Int. Cl. H03k 5/08

3 Claims



The invention includes a parallel tuned circuit having a terminal for each end thereof. First and second amplifiers are connected to these terminals and a sine wave of the frequency to which the tuned circuit is tuned is applied to one of the amplifiers. The outputs of the amplifiers, inasmuch as the amplifiers are connected to opposite ends of a tuned circuit, are phase-opposed to each other, or 180° phase-displaced from each other. The arrangement of the amplifiers and the minimum amplitude of the input sine wave is such that relatively large variations in said input amplitude cause small corresponding variations in the amplitudes of the outputs.

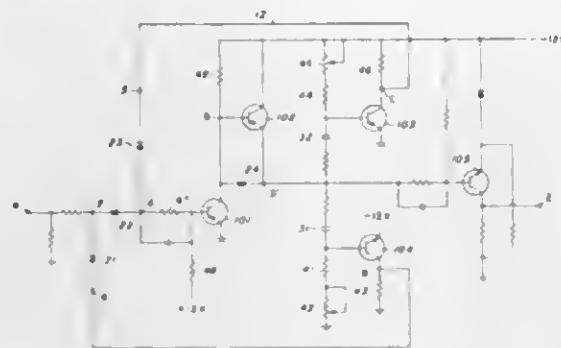
3,422,287

PULSE STRETCHING CIRCUIT FOR GENERATING PULSES OF MINIMUM WIDTH

Stephen E. Townsend, Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed July 8, 1965, Ser. No. 470,394
U.S. Cl. 307—267
Int. Cl. H03k 1/18

5 Claims



A pulse stretching circuit for generating pulses of minimum width. A two level signal is modified in order that transitions in the adjusted signal will not occur closer together than a predetermined interval.

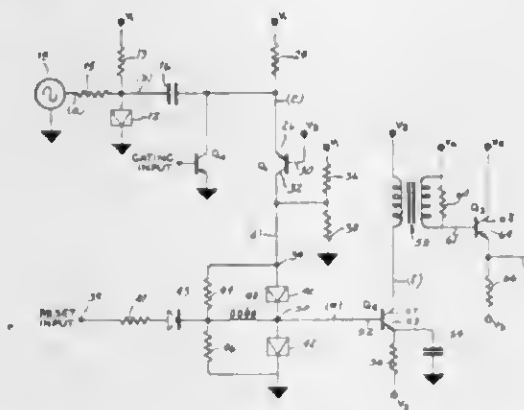
3,422,288

DRIVER CIRCUITRY FOR HIGH SPEED COUNTERS AND THE LIKE

Tat C. Lam, St. Louis, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed June 27, 1966, Ser. No. 560,546
U.S. Cl. 307—286
Int. Cl. H03k 3/315

5 Claims



A tunnel diode is connected to a signal source and triggered thereby to generate pulses having sharp leading and trailing edges. The pulses are applied to a differentiator circuit including a capacitor connected to the emitter electrode of a common base transistor. In this manner sharp, fast spikes are provided at the collector electrode of the common base transistor.

3,422,289

SEMICONDUCTOR BULK OSCILLATORS
Martin M. Atalla and Robert J. Archer, Portola Valley, Robert D. Hall, Los Altos, and Reinhard W. H. Engelmann, Palo Alto, Calif., assignors to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California

Filed Dec. 15, 1965, Ser. No. 514,008
U.S. Cl. 307—299
Int. Cl. H03k 3/26, 19/08, 23/08, 23/12

3 Claims



A homogeneous body of semiconductor material which exhibits bulk negative resistance is coupled to an external

circuit for operation as an oscillator in a mode which prevents the formation of high-field domains within the body.

3,422,290

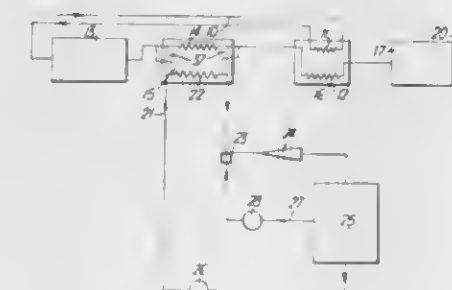
APPARATUS FOR GENERATING ELECTRICAL POWER

David Campbell Dryburgh, Littleover, Derby, England, assignor to Rolls-Royce Limited, Derby, England, a British company

Filed June 21, 1965, Ser. No. 465,512
Claims priority, application Great Britain, July 2, 1964, 27,459/64

13 Claims

U.S. Cl. 310—11
Int. Cl. H02k 45/00



Electrical power-generating apparatus comprising first and second power-generating fluid circulation systems which do not communicate with each other, and a heat exchanger having fluid paths therethrough which form respectively, parts of the first and second systems. The first system has a heater upstream of the heat exchanger and steam-raising plant downstream thereof; the second system comprises a closed cycle magneto-hydrodynamic (MHD) power plant. There is provided a change-over device periodically changing over the particular fluid paths in the heat exchanger which respectively communicate with the closed MHD plant and with the heater.

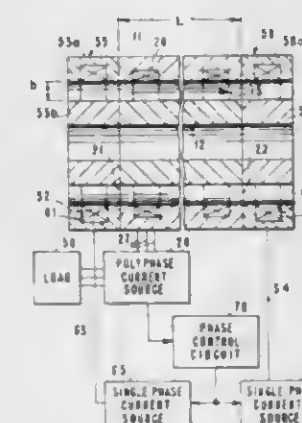
3,422,291

MAGNETOHYDRODYNAMIC INDUCTION MACHINE

James E. Webb, Administrator of the National Aeronautics and Space Administration with respect to an invention of David G. Elliott, La Crescenta, Calif.

Filed July 6, 1966, Ser. No. 563,650
U.S. Cl. 310—11
Int. Cl. H02k 45/00; G21d 7/02

10 Claims



1. In a magnetohydrodynamic induction machine of the type including means defining a channel of predetermined length, a conductive fluid, flowing through said channel along its longitudinal axis from the entry to the exit ends thereof, electric windings wound about said channel for developing a traveling wave magnetic field,

traveling at a selected wave velocity along the longitudinal axis of said channel, the improvement comprising: first and second pole means disposed at the entry and exit ends of said channel respectively, for providing a compensating magnetic field; and control means for controlling the relative amplitudes and phases of said traveling wave magnetic field and said compensating magnetic field whereby the magnetic flux linking each fluid element is a constant while the element flows through said channel at a velocity substantially equal to said wave velocity.

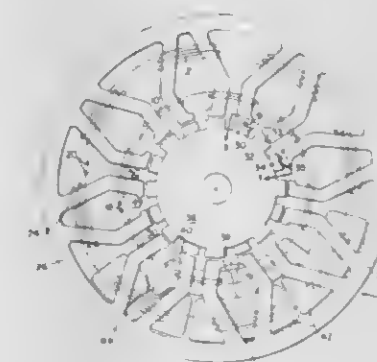
3,422,292

STATOR FOR AN ELECTROMAGNETIC TRANSDUCER

Robert G. McCoy and Robert J. Port, Whippany, N.J., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army

Filed Sept. 21, 1966, Ser. No. 581,111
U.S. Cl. 310—15
Int. Cl. H02k 33/00; H02k 35/00

3 Claims



1. An improved laminated stator for an electromagnetic transducer including a circular laminated stator core with a plurality of pairs of stator legs located radially inward; said stator legs being symmetrically arranged and of the same cross sectional area; the improvement comprising: each adjacent pair of said stator legs having innermost sections that are generally parallel and having a small eye therebetween; and an outermost section of each of said stator legs obliquely disposed with respect to an adjacent leg portion, leaving a small eye between alternate pairs, providing maximum area for primary and secondary windings, and minimizing the unusable area in the eyes of the windings; whereby said stator leg cross sectional area can be increased, providing a larger magnetic flux path with no loss of winding space, and said stator leg arrangement is such that legs of opposite polarity have the largest average separation, resulting in reduced magnetic flux leakage between stator legs of opposite polarity and improved electrical and winding efficiencies.

3,422,293

MOVING COIL ELECTRODYNAMIC EXCITER WITH COOLING MEANS

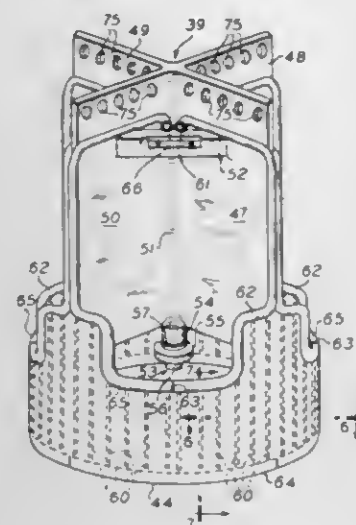
Galt B. Booth, Branford, Conn., assignor to Textron Electronics, Inc., Providence, R.I., a corporation of Delaware

Filed May 28, 1965, Ser. No. 459,569
U.S. Cl. 310—16
Int. Cl. H02k 9/00; H02k 33/00; H02k 35/00

2 Claims

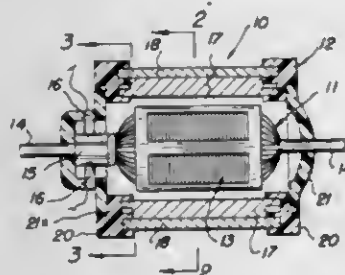
A single shorted turn armature is mounted for movement within an annular gap in a laminated double-ended iron core structure having field windings for establishing a unidirectional magnetic field across the gap. Stationary primary windings concentric with the armature induce driving current in the armature through transformer action. The shorted turn is in the form of a metal cylinder

at the end of a cruciform or spider-like supporting structure. The same basic principle is applied to a flat sheet



armature where the shorted turn lies in the plane of the sheet and the primary windings are located parallel thereto, all within a straight air gap.

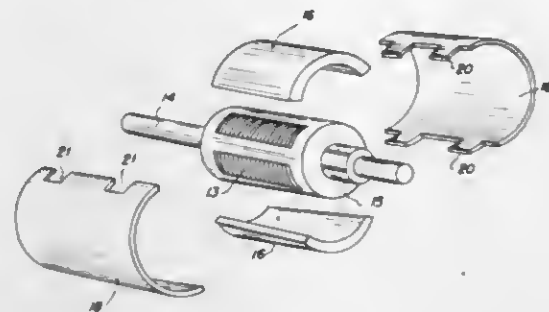
3,422,294
PERMANENT MAGNET STATOR FOR DYNAMO-ELECTRIC MACHINES AND METHOD OF ASSEMBLING THE SAME
Rollin J. Parker, Greenville, Mich., assignor to General Electric Company, a corporation of New York
Filed Sept. 1, 1966, Ser. No. 576,662
U.S. Cl. 310-42
Int. Cl. H02k 15/00; H02k 23/04; H02k 1/12
7 Claims



1. A stator for a dynamoelectric machine comprising an arcuately curved in cross-section permanent magnet having an outer curved face, an inner curved face adapted to be arranged adjacent the surface of a rotor, and opposite end portions aligned coplanar with said inner curved face;

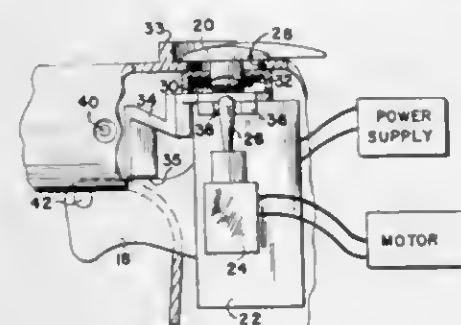
- a pair of end rings adapted to be arranged axially concentric with the axis of the rotor with the magnet arranged between the rings;
- a longitudinally split casing formed of a magnetically permeable material and formed of a size to encircle the magnet and rotor;
- each of said rings having an inner groove formed to receive an end portion of said magnet and an outer groove formed to receive an end portion of said casing, with the inner wall of the inner groove being accurately spaced relative to the axis of the rotor to form a positioning shoulder for accurately positioning the inner face of the magnet relative to the rotor for providing a predetermined, accurate air gap therebetween;
- the casing being radially inwardly movable within its grooves to tightly contact the magnet outer face and thereby force the magnet end portions radially inwardly and tightly against said positioning shoulders; and
- means for fixing the casing relative to the rings for fixing the magnet end portions against said positioning shoulders.

3,422,295
PERMANENT MAGNET STATOR WITH SPLIT CASING AND METHOD OF MAKING
Rollin J. Parker, Greenville, Mich., assignor to General Electric Company, a corporation of New York
Filed Sept. 1, 1966, Ser. No. 576,663
U.S. Cl. 310-42
Int. Cl. H02k 15/00
11 Claims



1. A dynamoelectric machine comprising:
a rotor and a stator;
said stator comprising a permanent magnet, arranged alongside said rotor and having an inner face spaced a short distance from the periphery of the rotor to form an air gap;
a casing surrounding the rotor and magnet and formed of a magnetically permeable material for providing a return path for magnetic flux;
said casing being longitudinally split, with the split being aligned with the neutral region of the magnet, which extends parallel to the rotor axis, with the outer surface of the magnet thereby bridging said longitudinal split and being in contact with the inner surface of the casing on both sides of the longitudinal split;
said outer casing being forcibly collapsible due to the split, to thereby move the magnet towards the rotor to preset the air gap;
and means for fixing the casing at the split against collapsing after the air gap is thereby preset.

3,422,296
INTERLOCK REVERSING SWITCH
Heinrich H. Frank, Amberst, Ohio, assignor to Emerson Electric Co., St. Louis, Mo., a corporation of Missouri
Filed Jan. 3, 1967, Ser. No. 606,773
U.S. Cl. 310-68
Int. Cl. H02k 11/00; H01h 9/20; H01h 33/46
11 Claims



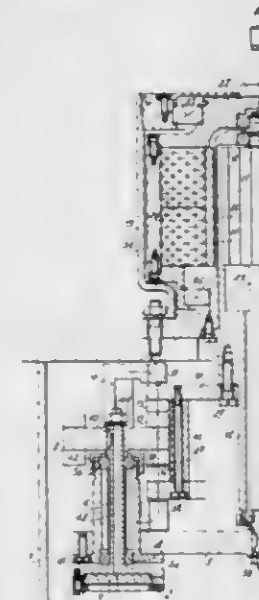
A switch mechanism is provided for a power drive where a reversible motor is disposed in a housing and a carrying handle extends in spaced relation above the housing. Inside the handle is a main switch that opens and closes the main circuit to the motor. The switch is operated by a trigger extending through and below the handle. Alongside the main switch is a reversing switch having a toggle lever for operating it. This switch is connected to the motor circuit to enable it to be reversed. Above and on the handle is a selector handle which operates a

selector member having a first part mechanically connected to the reversing switch. A second part of the selector member is disposed to cooperate with the trigger to prevent the trigger being operated when the selector is in a mid-position and to prevent the selector from being operated when the trigger is on and the motor operating.

3,422,297
DEVICE IMPARTING A PLANETARY MOTION TO MEMBERS ENCLOSED IN A CONTROLLED MEDIUM

Michel M. Cotton de Bennetot, Brest, Pierre J. Lostis, Bagnaux, and Jacques F. Simon, Paris, France, assignors to Centre National de la Recherche Scientifique, Paris, France

Filed Feb. 21, 1966, Ser. No. 528,922
Claims priority, application France, Feb. 23, 1965, 48,894; Feb. 9, 1966, 6,692
U.S. Cl. 310-80
Int. Cl. H02k 49/10; C23c 13/08
3 Claims

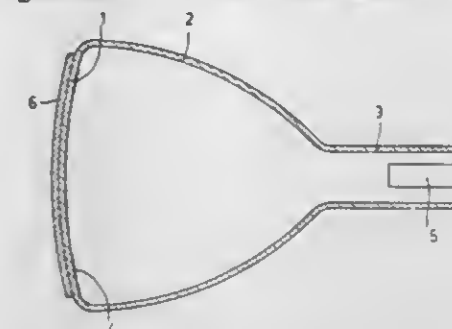


1. A device for imparting a planetary motion to at least one member supported within an enclosure containing a controlled medium, said device comprising, mounted within the said enclosure: a rotating shaft; a plate mounted on said rotating shaft; at least one bearing mounted at the periphery of said plate; an idle shaft journaled in said bearing; means for rigidly locking said member and said idle shaft together and a magnetic gearing including at least one annular magnetic gear concentrically mounted about said rotating shaft and a magnetic pinion mounted on said idle shaft and cooperating with said annular magnetic gear.

3,422,298
CATHODE RAY TUBE HAVING A NON-DISCOLORING X-RAY ABSORPTIVE DISPLAY WINDOW
Johannes De Gler, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 15, 1966, Ser. No. 534,309
Claims priority, application Netherlands, Apr. 1, 1965, 6504105
U.S. Cl. 313-64
Int. Cl. H01j 29/00, 31/00
7 Claims

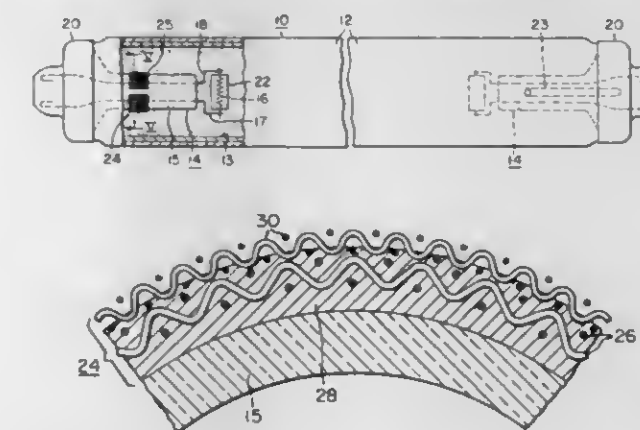
A cathode-ray tube having a display window on the inner side of which a luminescent screen is disposed which luminesces under the impact of an electron beam. The window comprises of a first portion adjacent the screen of poor electrical conductivity and containing a relatively small percentage of readily reducible compounds so that it will not discolor under impact of the electron beam while a second portion remote from the luminescent screen consists of a glass composition which contains

lead oxide and cerium oxide in amounts effective to absorb X-rays generated in the tube and transmitted



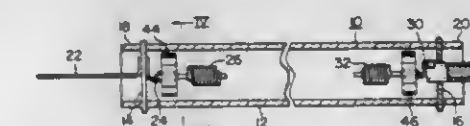
through the first portion without discoloring due to the X-rays being absorbed on the electron impact.

3,422,299
FLUORESCENT LAMP HAVING AN INTEGRAL MERCURY-VAPOR PRESSURE CONTROL ASSEMBLY WITH AMALGAM-FORMING METAL AND AMALGAM STABILIZING MEANS
Chalmers Morehead, Upper Montclair, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 3, 1966, Ser. No. 524,899
U.S. Cl. 313-174
Int. Cl. H01j 19/68; 19/70; 61/24; H01f 1/52
12 Claims



The mercury-vapor pressure within a fluorescent lamp or similar electric discharge device is regulated by an amalgam-forming material that is retained at a selected location on and in direct contact with one of the mount assemblies by an overlying foraminous structure formed by a pair of mesh members arranged in laminated relationship. The inner mesh member is embedded in the amalgam-forming material and the size of the openings in the mesh members and the wettability characteristics of the material from which the mesh members are fabricated are selected and correlated to maintain the amalgam at the desired location on the mount when the amalgam is in a fluid state.

3,422,300
CERAMIC ARC TUBE AND CLOSURE MEMBER CONSTRUCTION
William J. Knochel, West Orange, N.J., Francis C. M. Lin, New York, N.Y., and Hugh D. Fraser, West Caldwell, N.J., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 30, 1966, Ser. No. 562,017
U.S. Cl. 313-220
Int. Cl. H01j 17/16; H01j 1/53; H01j 61/30
8 Claims



A ceramic discharge device including a tubular elongated light transmissive ceramic envelope closed at each end by an end closure member carrying an internally di-

rected electrode and having spaced between each electrode and its adjacent closure member an arc interceptor comprising either a plurality of radially extending curved fins or struts or a plurality of radially extending curved fins to prevent an arc from striking past the opposite electrode to the opposite end closure member during starting of the lamp. The exhaust-and-fill tubulation of the lamp may also be filled with a metallic plug to reduce the open area and thereby reduce the internal volume behind the electrode.

3,422,301

LIQUID HOLLOW CATHODE LAMP

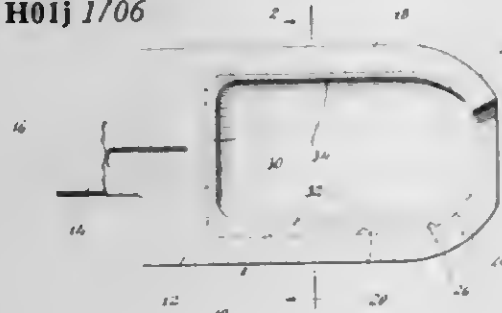
Carl R. Sebens, Stratford, and John W. Vollmer, Norwalk, Conn., assignors to The Perkin-Elmer Corporation, Norwalk, Conn., a corporation of New York

Filed June 24, 1966, Ser. No. 560,134

U.S. Cl. 313-311

Int. Cl. H01j 1/06

7 Claims



1. In a hollow cathode lamp of the type in which the hollow cathode comprises at least one particular metal for which spectral lines are desired, such lamps being especially adapted for use in atomic absorption spectroscopy, the improvement comprising:

said hollow cathode being of generally cup shape, with the walls defining its interior having generally in-turned wall portions adjacent to the open end thereof; a thin coating of said particular desired metal substantially covering the entire interior surface of said walls at least up to said in-turned end portions, said particular desired metal having a melting point below the normal operating temperature of said lamp, but having a boiling point substantially above said temperature and a relatively low vapor pressure thereat;

said in-turned end portions of said wall thereby inhibiting loss of the liquid metal coating during operation of said lamp;

whereby relatively high intensity radiation at the spectral emission-absorption lines of said particular desired metal is obtained.

3,422,302

LAMP LEAD WIRE TERMINAL

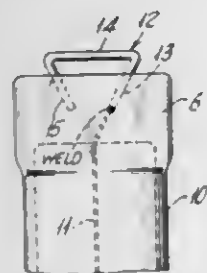
Walter E. Carpenter, Cedar Grove, and Lawrence Varick, Haledon, N.J., assignors to Wagner Electric Corporation, a corporation of Delaware

Filed Apr. 11, 1967, Ser. No. 630,080

U.S. Cl. 313-318

Int. Cl. H01j 5/48; 5/50

6 Claims



A reentrant wire terminal is positioned at the end of a glass tubular envelope. The end of the wire is bent so as

to form a strong conductive terminal which can fit into a simple socket arrangement. The wire is also formed so as to permit the molten glass to be pressed around all sides of both wire parts to make a symmetrical sealed end portion.

3,422,303

CONVERGENCE CIRCUIT FOR TELEVISION RECEIVERS

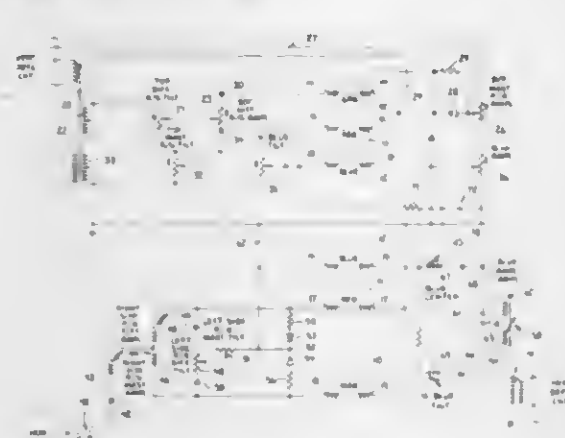
Jack R. Chipman, Fort Wayne, Ind., assignor to The Magnavox Company, Fort Wayne, Ind., a corporation of Indiana

Filed Nov. 12, 1965, Ser. No. 507,303

U.S. Cl. 315-13

Int. Cl. H01j 29/50; 31/00

15 Claims



A diode and capacitor, serving as a peak rectifier for horizontal flyback pulses, apply to blue beam vertical convergence coils a direct current proportional to dynamic convergence currents in blue beam horizontal convergence coils, establishing a magnetic flux of opposite polarity to the alternating current flux, providing a clamping effect.

3,422,304

LOGIC CONTROLLED DEFLECTION SYSTEM

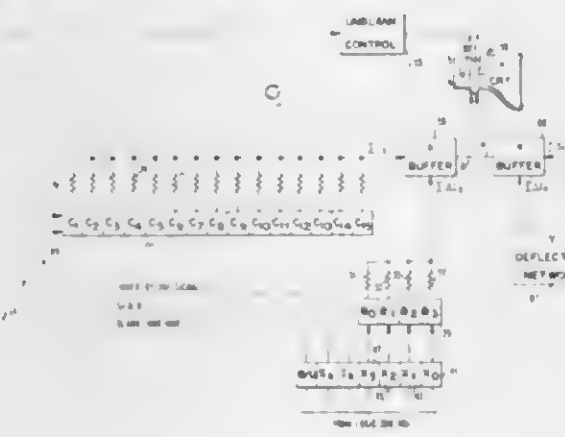
Robert A. Thorpe, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Sept. 15, 1967, Ser. No. 667,915

U.S. Cl. 315-18

Int. Cl. H01j 29/00; G08b 23/00

10 Claims



Apparatus for providing a high precision cathode ray tube display uses a hybrid digital deflection system, a decimal weighted system for the coarse or major deflection and a binary weighted system for the fine or minor deflection, the fine deflection providing uniform incremental steps between major deflection units. To correct for pin cushion distortion, the major deflection circuit is modified to provide deflection signals varying in amplitude as a function of beam position on the CRT face. A digital control circuit then adjusts the minor deflection increments to conform to a function of the status of the major deflection signal.

3,422,305

GEOMETRY AND FOCUS CORRECTING CIRCUIT

Carlo Infante, Portland, Oreg., assignor to Tektronix, Inc., Beaverton, Oreg., a corporation of Oregon

Filed Oct. 12, 1967, Ser. No. 674,887

U.S. Cl. 315-24

Int. Cl. H01j 29/56; H01j 29/58

9 Claims



and nonlinearity distortion. More particularly, uncorrected horizontal and vertical deflection signals V_x and V_y are applied to respective squaring circuits, squared, and summed in a summing network to produce a summed signal $p^2 = (V_x^2 + V_y^2)$. The $(V_x^2 + V_y^2)$ signal is applied to each of two multipliers together with respective inverted versions of the uncorrected deflection signals V_x and V_y whereby two signals $-V_x p^2$ and $-V_y p^2$ are produced by the multipliers. The $-V_x p^2$ and $-V_y p^2$ signals are added to the corresponding deflection signals V_x and V_y to produce corrected signals $V_{x1} = V_x(1 - ap^2)$ and $V_{y1} = V_y(1 - ap^2)$. The corrected signals V_{x1} and V_{y1} , when applied to the corresponding deflection amplifiers, cause deflection in the cathode ray tube free of pincushion and nonlinearity distortion.

3,422,307

ELECTRIC ARC DEVICE WITH A PHOTO-ELECTRIC STARTING ELECTRODE

Philippe Langer, Issy-les-Moulineaux, France, assignor to Commissariat a l'Energie Atomique, Paris, France

Filed Sept. 13, 1966, Ser. No. 579,083

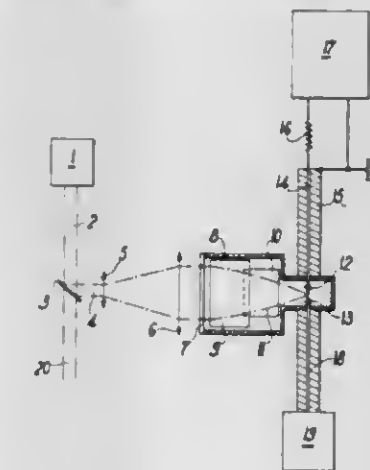
Claims priority, application France, Sept. 16, 1965,

31,565

U.S. Cl. 315-150

Int. Cl. H05b 37/02; H05b 39/04; H05b 41/36

1 Claim



A deflection circuit for a cathode ray tube develops correcting signals for application to the cathode ray tube's orthogonally related deflection means for the purpose of substantially reducing pincushion distortion in the resulting display. An electrical quantity proportional to the square of a first deflection signal is multiplied by a second deflection signal and the product is subtracted from such second deflection signal. Likewise, a correction signal proportional to the square of the second deflection signal is multiplied by the first deflection signal, and the product is subtracted from the first deflection signal. In the same circuit a quantity is developed which is proportional to the sum of the squares of the deflection signals for application to the cathode ray tube's focus electrode whereby cathode ray tube focus is properly maintained.

3,422,306

DISTORTION CORRECTION CIRCUITRY

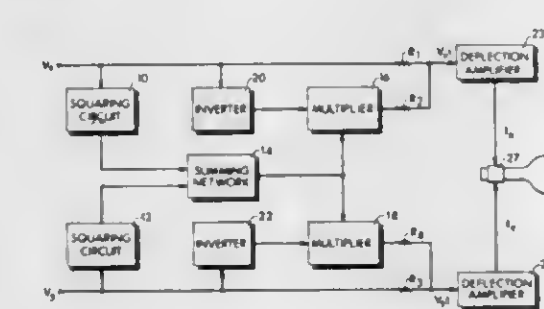
Stephen B. Gray, Newton, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed May 21, 1965, Ser. No. 457,555

U.S. Cl. 315-27

Int. Cl. H01j 29/76

3 Claims



A distortion correction circuit for eliminating distortion in a magnetically-deflected cathode ray tube. Uncorrected deflection signals are predistorted in an inverse manner to the distortion caused by the cathode ray tube to produce corrected deflected signals which, when applied to deflection amplifiers associated with the cathode ray tube, cause deflection in the cathode ray tube free of pincushion

An electric arc is struck across two electrodes in a vacuum enclosure by a laser. A photocathode in the wall of the enclosure generates an electron beam under the action of the laser which beam is directed between the electrodes to trigger the arc.

3,422,308

LIGHT INTENSIFIER CIRCUIT FOR FLASH PHOTOGRAPHY

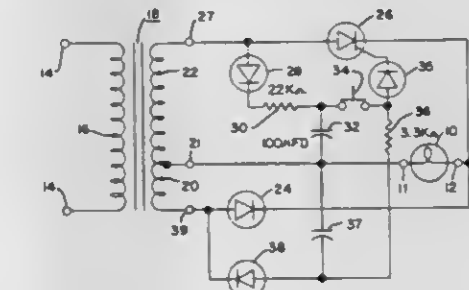
Bernard J. Sullivan, Rochester, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York

Filed July 14, 1966, Ser. No. 565,222

U.S. Cl. 315-172

Int. Cl. H05b 37/00; 39/00; 41/00

12 Claims



A light intensifier circuit includes a first circuit for continuously energizing a lamp from an alternating current power source for low intensity output and a second circuit for momentarily energizing the lamp for

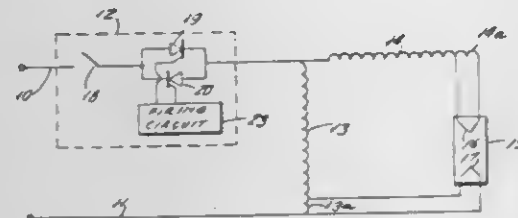
high intensity output with a rectified alternating signal for a duration of integral half cycles of the alternating current power.

3,422,309

FLUORESCENT LIGHT DIMMING SYSTEM

Joel S. Spira, Allentown, and Joseph Licata, Schneeksville, Pa., assignors to Lutron Electronics Company, Inc., Emmaus, Pa., a corporation of New York
Continuation-in-part of application Ser. No. 281,974, May 21, 1963. This application Sept. 21, 1966, Ser. No. 581,089
U.S. Cl. 315—194
Int. Cl. G05f 1/02

5 Claims



A fluorescent light dimmer for use in a two-wire system in which the dimmer has two leads connected in series with one wire of the two-wire system, while the ends of the two wires of the two-wire system are connected across the primary winding of a ballast. The ballast primary winding is connected in closed series relationship with a series ballast winding and a fluorescent tube. Each of the ballast windings have small winding sections connected to the cathode heaters of the fluorescent tube.

3,422,310

APPARATUS FOR CONTROLLING CURRENT TO LOAD INDEPENDENT OF LOAD CHARACTERISTICS

Don F. Widmayer, 10240 Hatherleigh Drive, Bethesda, Md. 20014
Filed June 14, 1965, Ser. No. 463,583
U.S. Cl. 315—291
Int. Cl. G05f 1/02; H05b 37/02; 39/04

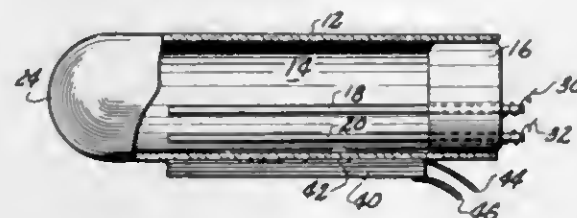
23 Claims



A voltage compliance current control system is provided for controlling current supply to a load over a wide dynamic range independent of the load characteristics. Pulsating direct current supplied to the load is controlled through a feedback sensing network responsive to current flow in the load circuit and a choke coil connected in series with the full-wave rectified AC input voltage acts as an energy storage current source. The system may be used to control the bank of lamps in a plant and cell growth arrangement and lights of different spectral characteristics may be controlled thereby to vary the quantity of light in any given spectral region.

3,422,311
ELECTROMECHANICAL TRANSDUCER
Robert B. Stanish, Chicago, Ill., assignor to Vibronics Research Co., Lombard, Ill., a corporation of Illinois
Continuation-in-part of application Ser. No. 193,520, May 9, 1962. This application Dec. 9, 1964, Ser. No. 417,108
U.S. Cl. 315—357
Int. Cl. H01j 15/04; H01j 1/02; H01j 1/88

14 Claims



A novel electromechanical transducer which utilizes two conductive elements, one of which is a cantilever mounted electrode within an envelope and the movement of the envelope relative to the electrode causes a variation in the electric current between the two conductive elements. Embodiments of the disclosure include an ionized gas within the envelope to provide the conductive path between the two conductive elements and the movement of the electrode is produced by movement of the envelope and resultant relative movement between the envelope and electrode due to inertia. A method for adjusting the frequency of the electrode is also disclosed in which material is removed from the electrode by passing a substantial and appropriate electric current there-through.

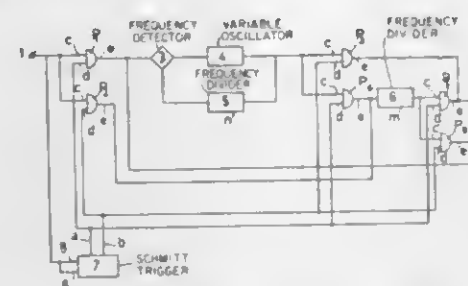
3,422,312

ELECTRONIC SWITCHING DEVICES

Scato Albarda, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 16, 1965, Ser. No. 487,681
Claims priority, application Netherlands, Sept. 18, 1964, 6410880

U.S. Cl. 317—6
Int. Cl. H03k 17/74; 21/00

6 Claims



A device for converting a primary signal into a secondary signal having a frequency in predetermined ratio to the primary signal, by providing an arrangement for multiplying and dividing the primary signal in accordance with the input frequency. For high frequencies, the sequence is to divide and then multiply, whereas for low frequencies it is multiplication and then division.

3,422,313

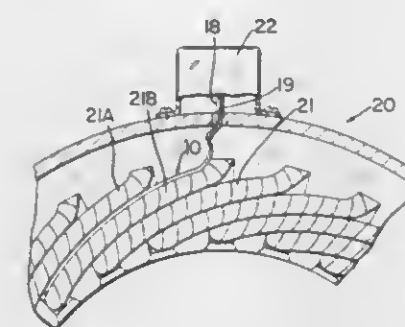
PROTECTION MEANS FOR SENSING AND PREVENTING AN OVERHEATED CONDITION OF ELECTRICAL COIL MEANS OR THE LIKE

Philip H. Snoberger, Orange, Conn., and William J. Russell, Malvern, Pa., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Jan. 19, 1966, Ser. No. 521,591
U.S. Cl. 317—13
Int. Cl. H02h 7/06; 7/08; 7/10

9 Claims

This disclosure relates to a temperature sensor for sensing an overheated condition of the electrical coils of an

electrical motor means or the like to terminate the operation of the motor means, the temperature sensor including a length of flexible wire encased in a flexible member that its disposed between the coil means of the electrical motor



to be flexed and compressed thereby without elongation of the encasing member so the resistance of the wire remains unchanged to accurately have the resistance thereof changed by the change in temperature of the coil means.

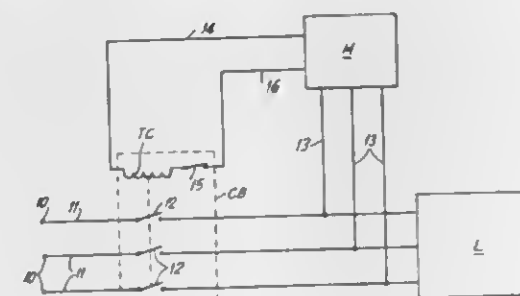
3,422,314

PROTECTIVE CIRCUIT

Raymond H. Legatt, Cherokee Drive, Moultrie, Ga. 31768

Filed May 25, 1966, Ser. No. 552,780
U.S. Cl. 317—19
Int. Cl. H02h 3/00; H02h 7/00; H02h 3/28

12 Claims



A protective monitor, operable to energize the trip coil of a circuit breaker to interrupt the supply of power from a source of polyphase A.C. power to a load responsive to variation of any phase voltage and variation of frequency, includes a silicon controlled rectifier in association with a condenser for energizing the trip coil of the circuit breaker. A unijunction transistor controls gating of the SCR. Over-voltage sensing means and under-voltage sensing means are connected to each phase of the load, the over-voltage sensing means responding to variations in an increasing direction from a preselected value of the load voltage in any phase, and independently of the load voltage in the other phases, to provide an output signal. The under-voltage sensing means responds to decreases from the preselected value of the load voltage in any phase, and independently of the load voltage in the other phases, to provide an output signal. Separate amplifiers are provided for the over-voltage sensing means and the under-voltage sensing means but commonly control conduction of the unijunction transistor. The monitor includes a saturated toroid having a core of square loop material, a primary or input winding connected to one phase of the load and a secondary or output winding. A full wave rectifier is connected across the secondary or output winding, and two separate amplifiers are connected to the output diagonal of the full wave rectifier. One amplifier provides an output signal responsive to a decrease in frequency and the other amplifier provides an output responsive to an increase in frequency and both amplifiers are connected to the unijunction transistor to trigger the same conductive to gate the SCR.

3,422,315
ELECTRICAL DECODING CIRCUITRY
Laurence B. Stein, Jr., Hingham, Mass., assignor to Sigma Instruments, Inc., Braintree, Mass., a corporation of Massachusetts
Filed May 19, 1966, Ser. No. 551,354
U.S. Cl. 317—22
Int. Cl. H02h 5/00; H02h 1/04; H01b 47/14

15 Claims



Electrical impulses, such as those representing fault current conditions in a transmission line, are decoded by circuitry including a group of paralleled charging-and-discharging switching networks which interact in a cascaded relationship. Cooperating timing provisions control automatic resetting of the circuitry when the coding of impulses is not proper to occasion output signalling by the cascaded networks.

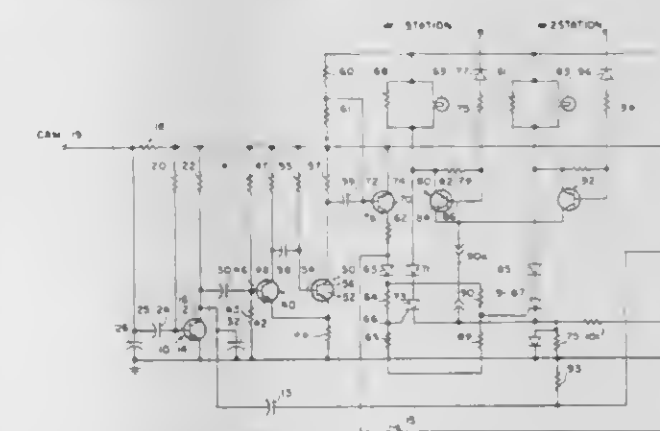
3,422,316

CONTROL APPARATUS FOR AUTOMATIC EQUIPMENT

Peter Arkel, Rome, N.Y., and Solomon S. Schnell, 225—20 Montone Ave., Jamaica, N.Y. 11413; said Arkel assignor to said Schnell
Filed May 12, 1966, Ser. No. 549,533

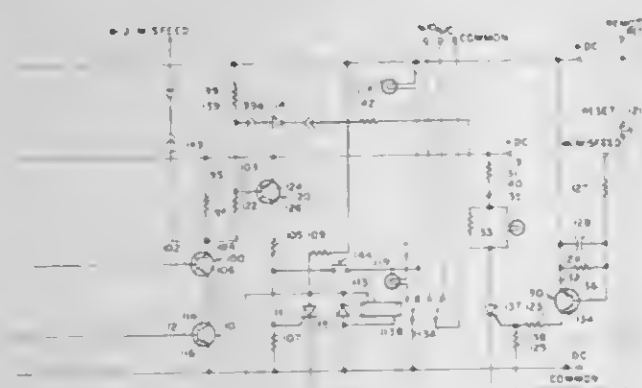
U.S. Cl. 317—33
Int. Cl. H02h 3/00; H02h 7/00

10 Claims



1. Apparatus for halting the running of a machine in response to an operational mishap wherein said machine comprises a plurality of stations where operations are performed on workpieces, and a circuit device which is capable of being in an activated and deactivated state, a given one of said states causing said machine to run, the other of said states preventing said machine from running, a proper operation on a workpiece at a station causing the producing of an electric potential, comprising continuously rotatable means for producing a first electric

signal during such cycle of rotation thereof, the time of said cycle being so chosen whereby all of said stations are traversed during said cycle, first means responsive to the application thereto of said first signal for producing an output for a chosen duration, delay means responsive to the application thereto of the output of said first means for producing a pulse output of a predetermined width, second means responsive to the application thereto of the output of said delay means for producing a pulse output having a leading edge delayed with respect to the leading edge of said delay means pulse output, a plurality of station gate controlled rectifiers each respectively associated with one of said stations, means applying said pulse output of said second means as a gating pulse to said gate controlled rectifiers to render said rectifiers conductive, a plurality of means respectively responsive to said proper operation at said stations for generating signals for cutting off the gate controlled rectifiers at each of said stations, means for differentiating the output of said first means and



applying the differentiating output as a first input to an AND gate means, means for applying the output of said station gate controlled rectifiers as a second input to said AND gate means, said AND gate means being enabled in response to the failure of production of said electric potential at a station in response to a mishap thereat, a mishap sensing means for applying the output of said AND gate means as a gating input to a mishap gate controlled rectifier, said last named gate controlled rectifier being rendered conductive when said AND gate means is enabled, contacts associated with said relay and in the circuit with said machine controlling circuit device, the switching of the state of said relay causing a corresponding switching of the position of said contacts to change said circuit device from said given one state to the other of its states to halt said machine.

3,422,317

THREE-PHASE BIMETAL OVERLOAD RELAY
Harold E. Whiting, 110 W. Krause Place, Bayside Village, Wis.; Walter C. Karch, 945 17th Ave., Grafton, Wis. 53024; and David B. McFadden, 822 Lincoln Blvd., Freeport, Ill. 61032

Filed Oct. 18, 1966, Ser. No. 587,471

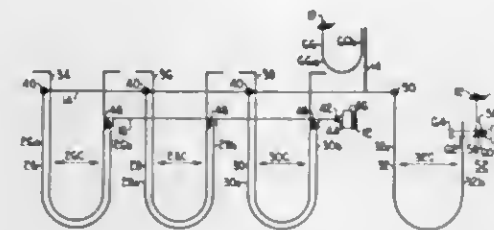
U.S. Cl. 317-46

13 Claims

Int. Cl. H02h 3/00; H02h 3/28; H01h 71/16

1. A thermally operated protective device for use in a plurality of circuits wherein N equals the number of circuits, comprising: a fixed stop, a pair of levers movable relative to the stop, a snap switch having an operator engaging a first of said pair of levers for actuating contacts of the switch when a predetermined force is applied to the operator by the first lever, N number of identical, heat-responsive, resilient U-shaped bimetal elements, each of said elements having a pair of ends that move in opposite directions when the element is heated and having a first of said pair of ends attached to a second of said

pair of levers and second of said pair of ends positioned to alternately engage the stop and the first lever and provide a force for moving the levers in opposite directions and the first lever in a direction for actuating the snap switch when the bimetal element is heated, N number of heating units each connected to be heated by current flow in one of the circuits and positioned to heat one of the bimetal elements, and means including a resilient element for resiliently opposing and absorbing movement of the



3,422,318

MULTISWITCH LOCK

Richard E. Moody, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Mar. 3, 1967, Ser. No. 620,496

U.S. Cl. 317-136

4 Claims

Int. Cl. H01h 47/00



3,422,319

BONDED COMPOSITE END PLUG SEAL FOR ELECTROLYTIC CAPACITORS

Wilfred H. Yeaman, Seabrook, Tex., assignor to General Electric Company, a corporation of New York

Filed Mar. 21, 1966, Ser. No. 536,043

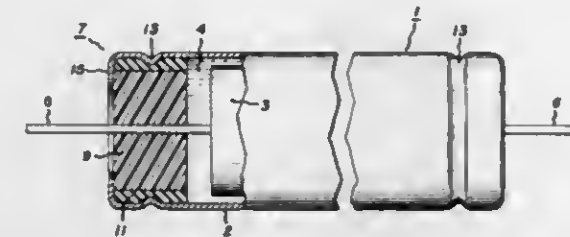
U.S. Cl. 317-230

5 Claims

Int. Cl. H01g 9/00

An electrolytic capacitor end plug seal is disclosed

which includes a central plug having an etch bonded layer or coating of an elastomer thereon which is engaged by



a crimped portion of the capacitor can. Teflon and Viton materials are also disclosed for the plug and layer.

3,422,320

SEALING TECHNIQUE FOR COMPOSITE FERROUS-COPPER BASE ALLOY CAPSULES FOR SEMICONDUCTOR DEVICES

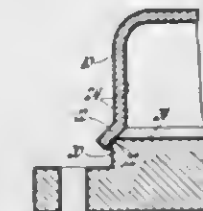
Larry R. Woodling, Kokomo, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Dec. 23, 1965, Ser. No. 515,947

U.S. Cl. 317-234

11 Claims

Int. Cl. H01l 3/00, 5/00



A composite ferrous-copper base alloy capsule for a semiconductor device is sealed in a pressure soldering operation which is performed under resistance welding conditions. In an example, solder is positioned in the interface between a steel capsule cover flange and a sharp corresponding circular projection of a copper capsule base. While pressure is applied electric current is passed between the steel and copper, fusing the solder, to bond the copper and steel together. In this manner a flanged, cup-shaped cover element can be simply, reliably and consistently bonded to a correspondingly circular sharp edge projecting from a copper base member to form a strong, gas-tight enclosure.

3,422,321

OXYGENATED SILICON NITRIDE SEMICONDUCTOR DEVICES AND SILANE METHOD FOR MAKING SAME

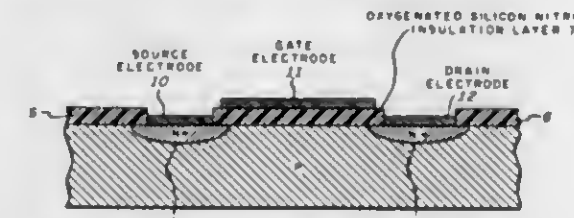
Nigel C. Tombs, Stow, Mass., assignor to Sperry Rand Corporation, a corporation of Delaware

Filed June 20, 1966, Ser. No. 558,803

U.S. Cl. 317-235

15 Claims

Int. Cl. H01l 11/00; H01l 3/00; H01l 7/00



A low temperature pyrolysis method utilizing silane, ammonia and nitrous oxide to deposit oxygenated silicon nitride on a semiconductor device. In one example, the oxygenated silicon nitride forms the gate insulating layer of an insulated gate field effect transistor.

3,422,322

DRIFT TRANSISTOR

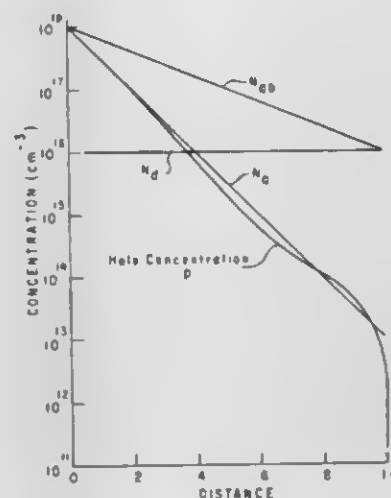
Robert W. Haisty, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Aug. 25, 1965, Ser. No. 482,441

U.S. Cl. 317-235

9 Claims

Int. Cl. H01l 11/00



A drift transistor wherein the concentration gradient across the base region decreases exponentially due to the combined gradients of shallow and deep impurities.

3,422,323

FIVE-LAYER LIGHT-ACTUATED SEMICONDUCTOR DEVICE HAVING BEVELLED SIDES

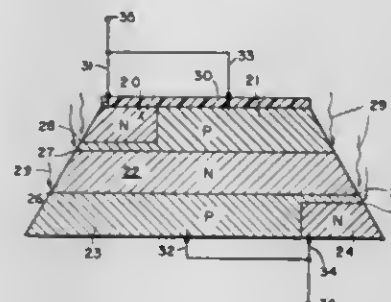
Peter J. Whoriskey, Winchester, Mass., assignor to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware

Filed Mar. 18, 1966, Ser. No. 535,455

U.S. Cl. 317-235

8 Claims

Int. Cl. H01l 11/00; 15/02



A five-layer photosensitive semiconductor diode is fabricated on a die having bevelled edges to expose the inter-layer junctions symmetrically to light directed toward the top of the die. The top of the die is covered with an opaque material. Contacts for the first and fourth diode layers and contacts for the second and fifth layers are connected so as to conduct full-wave current through the device when it is exposed to light. The fourth and fifth layers may be bonded to a heat sink.

3,422,324

PRESSURE VARIABLE CAPACITOR

James E. Webb, Administrator of the National Aeronautics and Space Administration with respect to an invention of Royal G. Harrison, Jr., La Canada, Calif.

Filed May 17, 1967, Ser. No. 640,460

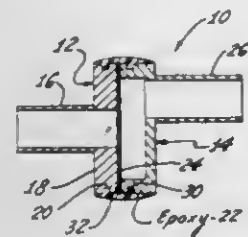
U.S. Cl. 317-246

7 Claims

Int. Cl. H03g 7/00

A pressure sensing apparatus providing a unique electrical capacitor assembly which may be incorporated into

a tank circuit of a telemetry oscillator for providing a wireless remote pressure sensing device, and the unique fabrication process therefor. The capacitor assembly includes two body members, one of which constitute a



capacitive plate, of the capacitor. A beryllium copper diaphragm, which is the other capacitive plate, is securely attached between the two body members and the body members are firmly sealed to each other by means of an epoxy potting material.

3,422,325

DEVICE FOR DRIVING A MOVABLE PART WITH PRECISE CONTROL OVER ITS DISPLACEMENT DURING MOVEMENT

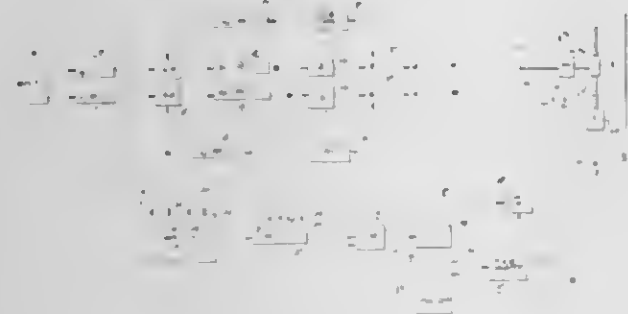
Heinz Joseph Gerber, West Hartford, and David Jopson Logan, Glastonbury, Conn., assignors to The Gerber Scientific Instrument Company, South Windsor, Conn., a corporation of Connecticut

Filed Mar. 10, 1964, Ser. No. 350,864

U.S. Cl. 318—18

20 Claims

Int. Cl. H02p 1/54; H02p 5/46; H02p 7/68



A device for moving a movable part such as the pen of an X-Y plotter includes a displacement error correcting system for precisely controlling the displacement of the part throughout its movement between two selected end points so that the part may be made to closely follow a desired line or path of movement. The error correcting system includes a high horsepower motor for supplying the main driving effort and a small horsepower, high response correcting motor connected to the main drive motor through a mechanical differential and responsive to displacement error signals. In the case of a part movable along two coordinate axes the device may be operated such that correction of displacement errors is accomplished by only one correcting motor influencing the motion along only one axis.

3,422,326

PULSE WIDTH MODULATED SERVO AMPLIFIER

Harold V. White and Herbert R. McCarley, Huntsville, Ala., assignors to the United States of America as represented by the Secretary of the Army

Filed Sept. 7, 1965, Ser. No. 485,655

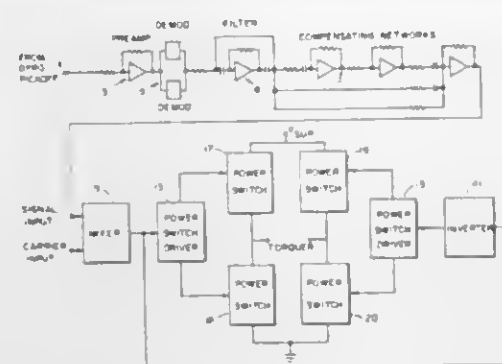
U.S. Cl. 318—18

2 Claims

Int. Cl. G05b; H02p 5/46, 7/68, 7/74

A device wherein a signal from a gyro pickoff is modulated with a triangular wave to provide a modulated

square wave. Proper phase relationships of the square wave through an inverter and power switches to a power



bridge provides a bi-directional load current control of a torque connected to the power bridge output.

3,422,327

MULTIPLE CHANNEL FAIL FUNCTIONAL SYSTEM FOR DISCRETELY DISCONNECTING MALFUNCTIONING SUB-SYSTEMS

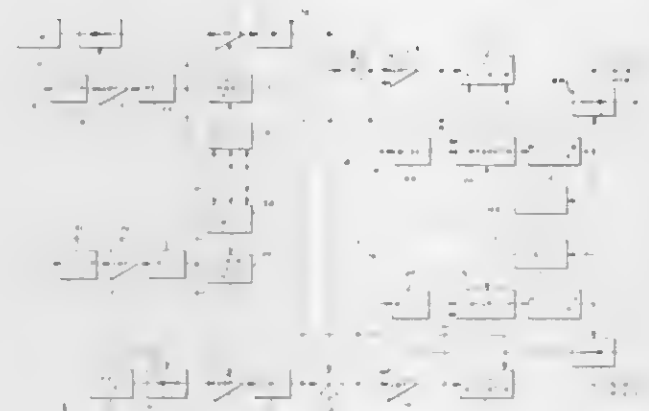
John S. McBrayer, Phoenix, Paul E. Pearson, Jr., Scottsdale, and Robert W. Robinson, Phoenix, Ariz., assignors to Sperry Rand Corporation, a corporation of Delaware

Filed Sept. 17, 1965, Ser. No. 488,110

U.S. Cl. 318—18

7 Claims

Int. Cl. G05b 7/68; H02p 7/74



A multiple channel fail functional system which provides fail functional operation of the system by monitoring each of the sub-systems in such a way that in the event of malfunction, only the affected sub-system is disconnected and the other variable gain elements of the system have their gains modified in order that the system continues to operate in essentially its normal manner.

ERRATUM

For Class 318—28 see:
Patent No. 3,422,457

3,422,328

VALVE OPERATOR CONTROL HAVING ELECTRICAL SWITCHING CIRCUITRY

Clifford E. Anderson, Houston, Tex., and David W. Brown, Wayland, Mass., assignors to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey

Filed Sept. 29, 1965, Ser. No. 491,279

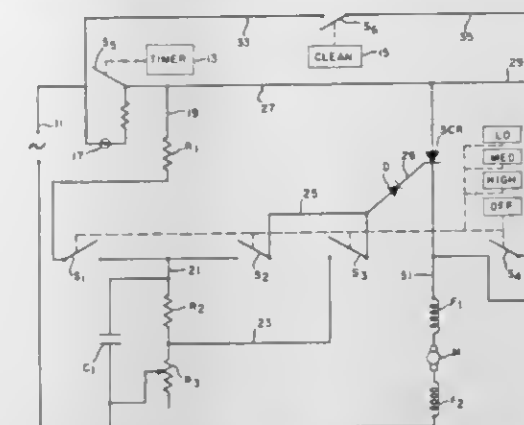
U.S. Cl. 318—103

7 Claims

Int. Cl. H02p 1/54

A valve operator control mechanism for one or more submerged electrically energized valve operators each having an electric motor for energization thereof. Each motor

circuit is physically connected but normally electrically disconnected from a common power circuit and is responsive to a signal applied to solid state control circuitry for



the motor by half-wave control, and a circuit for bypassing the rectifier and diode so as to provide a direct running of the motor at high speeds.

3,422,331

MOTOR SPEED CONTROL SYSTEMS

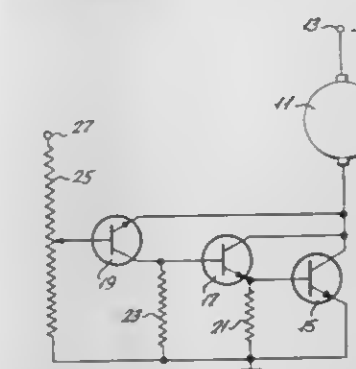
Robert W. Kearns, Detroit, Mich., assignor, by mesne assignments, to Tann Company, Detroit, Mich., a partnership of Michigan

Filed Mar. 7, 1966, Ser. No. 532,180

U.S. Cl. 318—331

23 Claims

Int. Cl. H02p 5/00; H02k 27/20



This specification discloses motor speed control circuits in which a signal representing the armature voltage or signals representing both the armature voltage and the armature current are fed back to an amplifier to regulate the speed of the motor. The amplifier comprises the three stages of amplification, each of which is in the form of a transistor the last transistor being connected in series with the armature of the motor. The speed at which the motor operates is controllable by means of a potentiometer which also feeds a signal to the input of the amplifier.

3,422,332

FULL-WAVE INDUCTIVE LOAD CONTROL

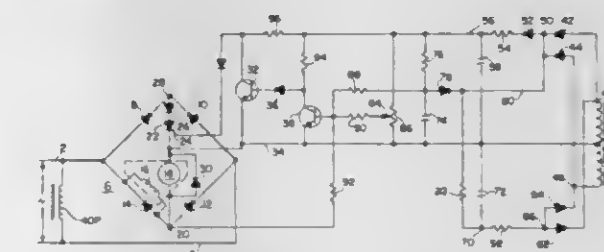
Edward H. Dinger and Willie L. McNair, Waynesboro, Va., assignors to General Electric Company, a corporation of New York

Filed Apr. 18, 1966, Ser. No. 543,395

U.S. Cl. 318—331

15 Claims

Int. Cl. H02p 5/00



A circuit for controlling full wave power to a motor so that motor speed is unaffected by load current at the beginning of each half cycle. Controlled rectifiers which

each motor to become electrically connected to the power circuit for operation of a selected one or more of the valve operators.

3,422,329

SYSTEM FOR CONTROLLING REMOTELY LOCATED ELECTRICALLY ENERGIZED POWER OPERATOR DEVICES

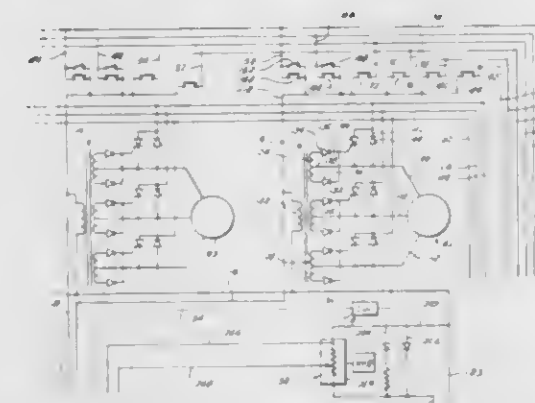
Clifford E. Anderson, Houston, Tex., and Ellis M. Zacharias, Jr., Ridgewood, N.J., assignors to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey

Filed Oct. 19, 1965, Ser. No. 497,931

U.S. Cl. 318—103

9 Claims

Int. Cl. H02p 1/54; H02j 9/00



An electrically energized system for the selective control of a plurality of remotely located mechanical devices such as valve operators and the like. The system provides for selective control of an operational sequence for a particular one of a plurality of mechanical devices and also provides for automatic operation of the mechanical devices either singly or plurally in response to predetermined conditions such as excessive pressure, insufficient pressure and the like. The system also provides for maintenance of the status of the mechanical devices and for continuous monitoring of the devices through an auxiliary battery power supply in the event of failure of the primary power supply source.

3,422,330

MULTI-SPEED CONTROL SYSTEM FOR ELECTRIC MOTORS

Roy L. Swanke, Newington, Conn., assignor to Dynamics Corporation of America, New York, N.Y., a corporation of New York

Filed Nov. 16, 1965, Ser. No. 508,118

U.S. Cl. 318—305

6 Claims

Int. Cl. H02p 5/00; H02p 5/12; H02k 27/20

A speed control system for electric motors including a manual switching means, a silicon controlled rectifier

regulate the speed are prevented from firing until a selected phase angle in each half cycle of rectified voltage is reached.

3,422,333

ARRANGEMENT FOR SENSING REQUIRED SPEEDS OF A CENTRIFUGE

Brian Walter Lovegrove, Crawley, England, assignor to MSE Holdings Limited, Crawley, England, a British company

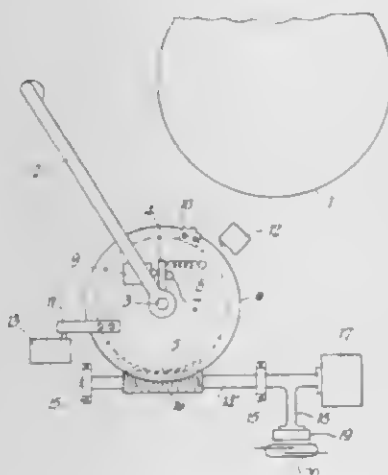
Filed Mar. 18, 1966, Ser. No. 535,548

Claims priority, application Great Britain, Nov. 11, 1965, 47,995/65

U.S. Cl. 318—333

Int. Cl. H02p 5/00

16 Claims



1. A centrifuge apparatus capable of operating with different rotors and having an arrangement for sensing the required maximum speed of operation of the rotor of the centrifuge, such a rotor having means providing a surface the position of which in relation to the axis of rotation of the rotor characterises the required maximum speed of operation, the arrangement comprising: a sensing member displaceable from a first position whereat said member is spaced from said surface of a rotor to a contact position in contact with said surface; a first rotatably mounted member; first coupling means coupling said sensing member and said first member for simultaneous proportional movement; a second rotatably mounted member; second coupling means coupling said first and second members for simultaneous rotation with said second member rotating at a greater angular velocity than said first member; pulse generating means having an actuating part carried by said second member for producing during movement of the sensing arm a series of pulses the number of which pulses in said series is related to the distance moved by said sensing member from one of said first position and said contact position to the other; means responsive to said pulses to adopt a condition characterising said distance and thus said required maximum speed; and an overspeed protection circuit controlled by said means responsive to said pulses for preventing operation of a rotor at a speed greater than the sensed maximum speed.

3,422,334

DRIVE CONTROL FOR A D.C. MOTOR

Walfried Jastrzemski, 77 Indian Grove, Toronto 3, Ontario, Canada

Filed Aug. 16, 1965, Ser. No. 479,737

Claims priority, application Germany, Aug. 17, 1964, J 26,412

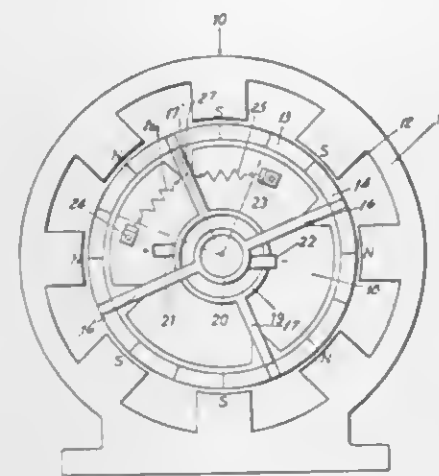
U.S. Cl. 318—439

Int. Cl. H02k 13/00; H01r 39/46

4 Claims

The individual windings of the stator are energized via a stationary commutator and spring-biased brush arms to give a stator pole of like polarity facing an aligned rotor pole, the stator poles exceeding the rotor poles in number by an integral multiple of the number of rotor poles;

the immediately forward stator pole having a polarity opposite to that of the aligned poles, the immediately rearward stator pole having a polarity equal to that of the



aligned poles. The brush arms are rotated by a variable speed motor for control purposes, but are limited in their rotation relative to the rotor by stops mounted on either side on the rotor.

3,422,335

PULSE WIPER CONTROL

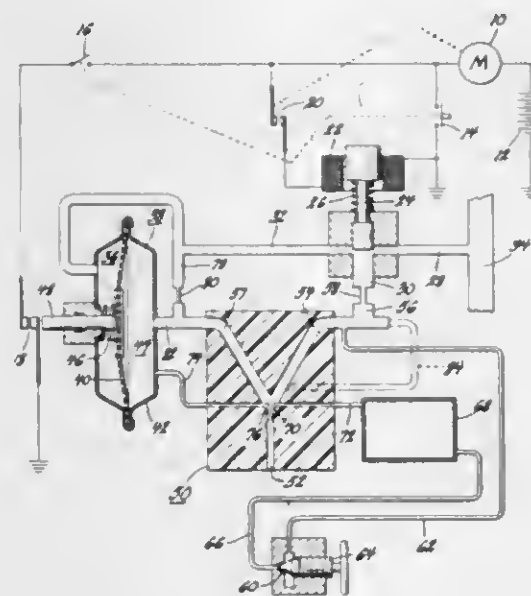
Keith H. Carpenter, Kettering, Ohio, and David L. Jones, Jr., Rochester, N.Y., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Dec. 27, 1965, Ser. No. 516,321

U.S. Cl. 318—443

Int. Cl. H02p 1/04, 5/00, 7/00

9 Claims



In a preferred form, this disclosure relates to pulse type windshield wiping system for wiping the windshield of a vehicle. The system includes an electric drive motor which is adapted to be intermittently energized for moving a windshield wiper across the windshield through one cycle of operation each time it is energized. The system further includes a switch means in an electric circuit with the motor for controlling energization and de-energization thereof, a fluid pressure responsive means for actuating and deactuating the switch means and a control means including a fluid amplifier for alternately directing a flow of fluid toward a vacuum source and the pressure responsive means at a predetermined cycling frequency whereby the switch means is intermittently actuated to intermittently energize the drive motor.

3,422,336

ELECTRIC ENERGY AMPLIFYING CIRCUIT ARRANGEMENTS

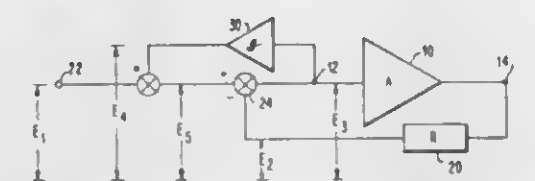
Carl Paul Hollstein, Jr., Campbell, Calif., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Oct. 24, 1965, Ser. No. 504,455

U.S. Cl. 330—9

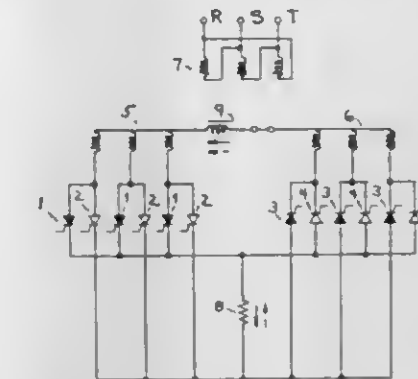
Int. Cl. H03f 1/02

15 Claims



A stable, amplifying circuit with an open loop gain approaching infinite obtains from a conventional feedback amplifier circuit and an auxiliary amplifier circuit or repeater interposed in the circuit for algebraically adding to the input voltage a correction voltage proportional to the difference between the feedback voltage and the input voltage to the amplifier circuit.

connected to the load, the rectifiers being so controlled as to send current in the desired direction through the load and a choke coil being connected into the converter circuit so that current always flows through it in the same direction



regardless of the direction of current flow through the load, the choke thus serving as a direct current smoothing choke, as a ring current choke and as a means for limiting steep voltage rises across the rectifying elements.

3,422,337

BATTERY DISCHARGE CONTROL

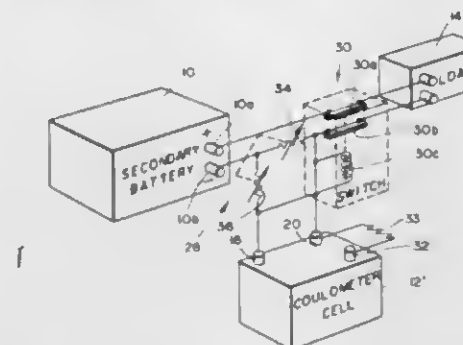
William N. Carson, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed May 19, 1966, Ser. No. 551,251

U.S. Cl. 320—14

Int. Cl. H02j 7/00; H02j 7/04; H02j 7/16

17 Claims



A sealed secondary battery is protected against cell reversal on discharge by a coulometer cell. The coulometer cell is set to reach a discharged state before any cell of the secondary battery. Upon reaching the discharged state an electrical potential develops across the terminals of the coulometer cell that may be used to sound an alarm or actuate a switch to terminate charge of the secondary battery. The coulometer is constructed of two cadmium electrodes and may incorporate an oxygen storage auxiliary electrode to aid in setting the number of coulombs that may be passed between the electrodes before the discharged state is reached.

3,422,339 ALTERNATOR WITH A BUILT-IN FULL WAVE RECTIFIER

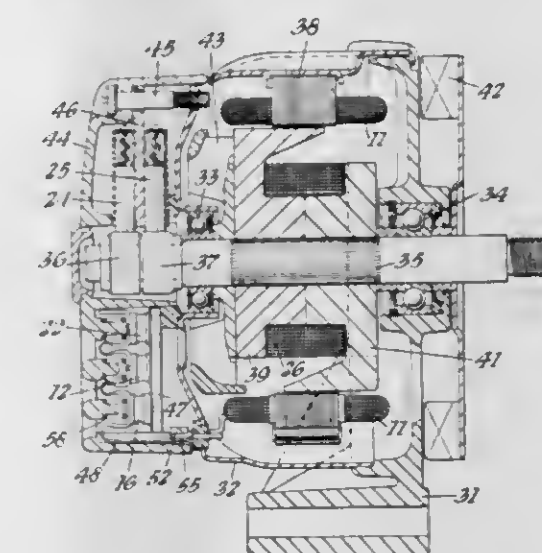
Alfred Dickens Baker, Solihull, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England, a British company

Filed July 25, 1966, Ser. No. 567,703

U.S. Cl. 321—8

Int. Cl. H02m 7/00; H02k 11/00

1 Claim



In an alternator with a built-in full wave rectifier, the rectifier consists of a plurality of diodes each having one face in facial contact with a printed circuit board which provides the output terminals from the alternator. The other face of the diode is in contact with a flexible conductor connected to a phase winding of the alternator, and springs act between the casing of the alternator and the flexible conductors to urge the diodes into engagement with the printed circuit board. The springs take up movement of the flexible conductors, which in turn take up movement of the diodes owing to their expansion.

3,422,338

REVERSIBLE CURRENT CONVERTER FOR SELECTIVE DIRECTION OF CURRENT FLOW THROUGH D.C. LOAD AND INCLUDING CHOKE COIL WITH UNIDIRECTIONAL CURRENT FLOW

Reinhard Philipps, Mannheim-Feudenheim, Germany, assignor to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company

Filed Sept. 16, 1966, Ser. No. 579,999

Claims priority, application Germany, Oct. 2, 1965, B 83,974

U.S. Cl. 321—5

Int. Cl. H02m 7/70; 7/78

6 Claims

A reversible current converter circuit for selectively supplying a load with D.C. current having one direction or the other through the load comprises a rectifier arrangement supplied from an alternating current source and con-

3,422,340 HIGH VOLTAGE RECTIFIER STACK ASSEMBLY HAVING CENTRALLY SUPPORTED CAPACITOR

John Richmond, Playa Del Rey, and Arnold Conn, Lawndale, Calif., assignors to International Rectifier Corporation, El Segundo, Calif., a corporation of California

Filed Apr. 26, 1967, Ser. No. 633,969

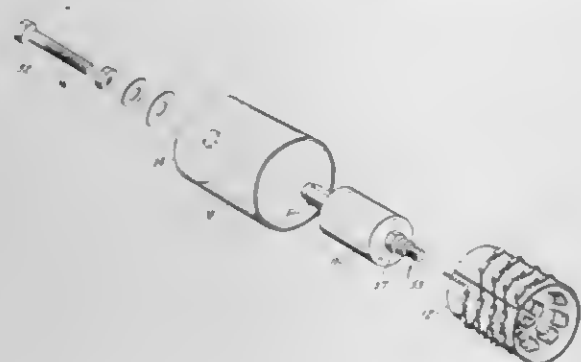
U.S. Cl. 321—11

Int. Cl. H02m 1/18

6 Claims

A high voltage stack comprised of series-connected rectifier elements, each having respective parallel-con-

nected resistors and capacitors, are mounted on a flat insulation sheet. This sheet is coiled into a cylinder and is mounted coaxially with a central main capacitor within an insulation cup. Mounting bolts connected to the central capacitor and passing through the bottom wall of the



cup serve as terminals for the device and as mechanical mounting means for mechanically and electrically connecting to adjacent cup assemblies whereby a plurality of such assemblies can be connected in series to obtain any desired voltage rating.

3,422,341

RECTIFYING APPARATUS FOR PRODUCING CONSTANT D.C. OUTPUT VOLTAGE

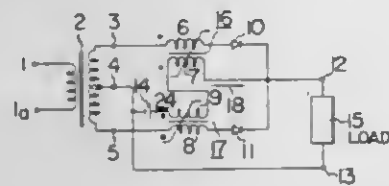
Toshio Kurimura, 2069-2, Kitami-machi, Setagaya-ku, Tokyo-to, Japan, and Kazuomi Yamamura, 12, 4-chome, Toyotomanaka, Nerima-ku, Tokyo-to, Japan
Filed June 14, 1966, Ser. No. 557,548

Claims priority, application Japan, June 18, 1965 40/36,001; Oct. 14, 1965, 40/62,655

U.S. Cl. 321-18

Int. Cl. H02m 1/08; 7/10

4 Claims



Rectifying apparatus for supplying a direct-current obtained from an alternating-current voltage source to a load comprises reactor-rectifier combinations controlled by control means for controlling said reactor-rectifier combinations to commutate the current flowing in the main windings of the reactors. The control means comprises at least one series connection of at least two auxiliary windings of the reactors and a direct voltage source and is adapted to apply to the series connections of the auxiliary windings of those reactor-rectifier combinations which are conductive in different periods of the alternating current voltage, a voltage which is a function of the difference between the direct reference voltage of the direct voltage source and the voltage appearing in operation at said output terminals so as to provide a stabilized direct current voltage across the load.

3,422,342

INVERTER CIRCUIT HAVING CONSTANT CURRENT AND VARIABLE INDUCTANCE

Stuart P. Jackson, Columbus, Ohio, assignor to The Solidstate Controls, Inc., a corporation of Ohio

Filed Aug. 16, 1965, Ser. No. 479,810

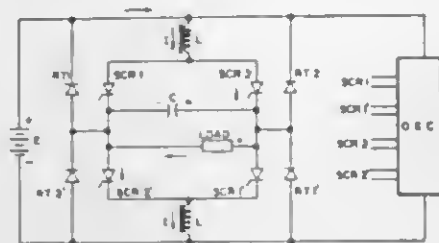
U.S. Cl. 321-45

Int. Cl. H02m 7/44, 7/60

6 Claims

This invention relates to a new and improved inverter circuit wherein the inductance is made non-linear to vary

as the square of the resistance. Particularly with large inductance at low values of load current and small in-



ductance at high current values, the maximum current varies less with load changes.

3,422,343

REACTIVE POWER COMPENSATION BY PHASE ANGLE CONTROL AND TAP CHANGER MEANS

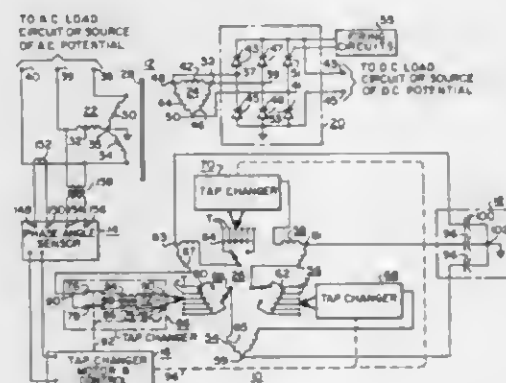
Theodore R. Specht, Sharon, Pa., and Glen W. Lake, Brookfield, Ohio, assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 21, 1966, Ser. No. 595,920

U.S. Cl. 323-43.5

Int. Cl. H02p 13/06

4 Claims



1. A reactive power compensation system for an electrical converter, comprising:
electrical transformer means including magnetic core means and first, second, and third winding portions disposed in inductive relation with said magnetic core means, said first winding portion being adapted for connection to an alternating current system, said second winding portion being adapted for connection to the electrical converter, said third winding portion having a plurality of tap connections thereon, capacitance means, said capacitance means being connected to said third winding portion, tap changer means, said tap changer means being connected to tap connections on said third winding portion, phase angle sensor means, said phase angle sensor means being connected to the first winding portion and to said tap changer means, said phase angle sensor means providing a unidirectional error signal when the phase angle between the voltage and current of said first winding portion deviates from a predetermined value, with the polarity of the unidirectional error signal indicating the direction of the deviation, said tap changer means being responsive to said error signal, changing tap connections and the effective turns of said third winding portions to provide a voltage across said capacitance means which will maintain the predetermined phase angle of said first winding portion as the load on said electrical transformer means changes.

3,422,344

QUANTUM OPTICAL DETECTION SYSTEMS WITH TWO ALKALI RESONANCE CELLS

Léon Malnar, Paris, France, assignor to CSF—Compagnie Generale de Telegraphie Sans Fil, a corporation of France

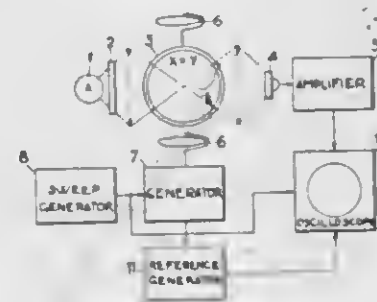
Filed Sept. 22, 1965, Ser. No. 489,253

Claims priority, application France, Oct. 2, 1964, 990,115

U.S. Cl. 324-5

Int. Cl. H01s; G01n 27/00; G01r 33/08

5 Claims



The invention relates to optical pumping systems and more particularly to an optical pumping magnetometer wherein a resonance cell is provided which contains two alkali elements. One of said elements is optically pumped by means of a suitable light source in order to align the atoms of said other elements by a spin exchange collision process; the Zeeman spectral lines of said other element are optically detected to supply a measurement of the magnetic field intensity which is not affected by the orientation of the magnetometer with respect to the magnetic field vector.

3,422,345

METHOD AND APPARATUS FOR MEASURING THE RATIO AND PHASE RELATION OF AN ELECTRIC FIELD TO A CORRELATED MAGNETIC FIELD

Louis Marcel Musé, Paris, France, assignor to Etablissement Public: Centre National de la Recherche Scientifique, Paris, France, a corporation of France

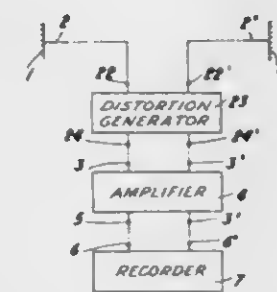
Filed Mar. 2, 1966, Ser. No. 531,240

Claims priority, application France, Mar. 5, 1965, 8,153

U.S. Cl. 324-1

Int. Cl. G01r 3/00

13 Claims



Improvements relating to the measuring of the ratio of telluric and magnetic fields which inherently exist in the earth, or of the ratio of two physical variables related in a manner similar to the relationship of telluric and magnetic fields. Two detecting and recording provisions are provided and a distortion generator is provided in at least one of the detecting and measuring provisions to provide essentially similar transfer functions in each of the detecting and recording provisions, whereby the outputs from both such provisions are simply related, for the easy determination of both phase and amplitude relationships between the detected variables.

3,422,346

EDDY CURRENT INSPECTION SYSTEM

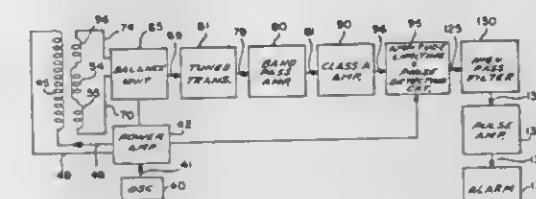
Herman J. Hammer, Cleveland, Ohio, assignor to Republic Steel Corporation, Cleveland, Ohio, a corporation of New Jersey

Filed Feb. 1, 1965, Ser. No. 429,595

U.S. Cl. 324-40

Int. Cl. G01r 33/14

17 Claims



1. An apparatus for determining the presence of flaws in workpieces, said apparatus comprising:
 - (a) a flaw pick-up unit arranged for movement relative to a workpiece to inspect the workpiece for flaws;
 - (b) energizing means for inducing a high frequency current signal in the workpiece so as to produce a high frequency carrier signal in the pick-up unit;
 - (c) an amplitude limiting and phase detecting circuit having a limiter input, a reference input, and an output;
 - (d) first circuit means connecting the output of the pick-up unit to the limiter input of the amplitude limiting and phase detecting circuit to provide a defect information carrier signal to the limiter input;
 - (e) second circuit means connecting the reference input to the energizing means to provide a reference signal to the reference input;
 - (f) at least one of said circuit means including phase shifting means for shifting the phase of the signals applied to said inputs;
 - (g) said amplitude limiting and phase detecting circuit being relatively unresponsive to changes in amplitude of the defect information carrier signal and being responsive to phase fluctuations of the carrier signal caused by defects in a workpiece to provide a defect signal at its output each time the carrier signal undergoes a predetermined phase fluctuation; and,
 - (h) adjustable voltage means connected to said energizing means and to said pick-up unit for providing said high frequency current signal to said pick-up unit at a predetermined phase and amplitude so as to assure that the carrier signal is provided continuously to the limiter input of the amplitude limiting and phase detecting circuit.

3,422,347

COMPARATOR CIRCUIT HAVING A HALL GENERATOR FOR MEASUREMENT OF D.C. MAGNETIC FIELDS

Clarence D. Cox, Bells Corner, Ottawa, Ontario, Canada, assignor to Canadian Patents and Development Limited, Ottawa, Ontario, Canada, a corporation of Canada

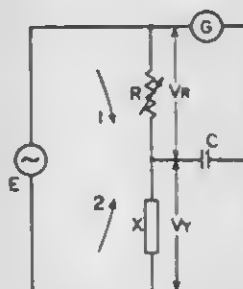
Filed Oct. 4, 1965, Ser. No. 492,652

Claims priority, application Canada, Oct. 6, 1964, 913,335/64

U.S. Cl. 324-45

Int. Cl. G01r 33/06

4 Claims



The present invention relates to an impedance comparator which may be used to determine the magnitude

of an unknown impedance or may be modified for use in conjunction with a Hall effect device for the measurement of D-C magnetic fields.

3,422,348 HIGH RESOLUTION FREQUENCY SPECTRUM ANALYZER

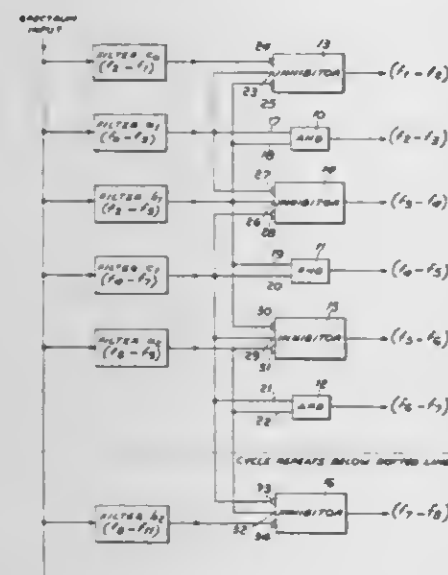
Frank S. Gutleber, Wayne, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland

Filed Oct. 12, 1965, Ser. No. 495,296

U.S. Cl. 324-77

Int. Cl. G01r 23/16; G01r 23/18

1 Claim



A plurality of narrow bandwidth filters each covering a different band of frequencies within the frequency spectrum of the input signal to be analyzed wherein the frequency bands of the filters overlapped by a predetermined amount. The input signal is coupled in parallel to the plurality of filters and logic circuitry is coupled to the output of the filters for unambiguously producing indicating signals representing frequencies in the incoming signal.

3,422,349 METHOD AND DEVICE FOR DIGITAL, MULTI- FACTOR WAVEFORM ANALYSIS OF VARIABLE STRESS

Takayuki Makino, Okazaki, Japan, assignor to Toyota Jidosha Kogyo Kabushiki Kaisha, Toyota-shi, Aichi-ken, Japan, a corporation of Japan

Filed June 9, 1966, Ser. No. 556,311

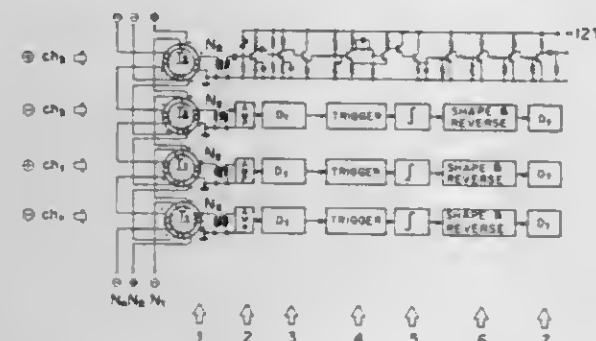
Claims priority, application Japan, June 9, 1965,

41/1,660, 40/34,566

U.S. Cl. 324-77

Int. Cl. G01r 23/16; G01r 27/02; H04m 1/24

9 Claims



1. The method of electrically analyzing a variable stress waveform obtained by a strain gauge sensor connected to a signal conversion device having different signal amplitude levels with its output connected to a polarity sensitive

and amplitude level setting circuit, the output of which is applied to a display device through a differentiation circuit, said method comprising the steps of:

- converting a variable stress waveform voltage from an analog waveform to a digital waveform with an envelope like said analog waveform;
- quantifying said signals converted according to the number of amplitude divisions in the signal conversion device;
- differentiating said signals converted from said variable stress waveform;
- limiting the amplitude of each of said differentiated signals to a set voltage and rejecting all signals having an amplitude less than set voltage;
- converting each of said differentiated signals having a magnitude of said set voltage to isolated pulse signals to provide signals having a width representative of a certain amplitude level;
- differentiating said isolated pulse signals to provide polarity sensitive direction signals;
- combining said isolated pulse signals and said differentiated pulse signals to provide driving voltages for a display and multi-factor analysis of said variable stress waveform.

3,422,350 WAVEGUIDE SECTION SLIDING WALL CARRY- ING DETECTOR PROBE

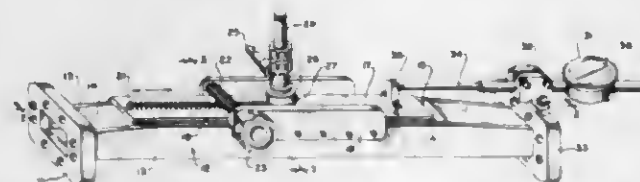
Harry J. Goonan, Brooklyn, N.Y., assignor to The Western Union Telegraph Company, New York, N.Y., a corporation of New York

Filed May 9, 1963, Ser. No. 279,251

U.S. Cl. 324-95

Int. Cl. G01r 23/04; 25/02; 27/02

1 Claim



A microwave measuring apparatus includes a waveguide section on which is a probe carriage. The carriage has a flat plate slidably fitted over an aperture in a side wall in the waveguide section. The side wall is longitudinally bowed with a flat outer side so there are no wave reflections at beveled edges of the aperture. A probe is carried by the slidable plate. A micrometer gauge contacts the plate to indicate position and adjustment of the plate along the waveguide.

3,422,351 HALL-EFFECT INSTRUMENT FOR MEASURING THE RMS VALUE OF AN A.C. SIGNAL

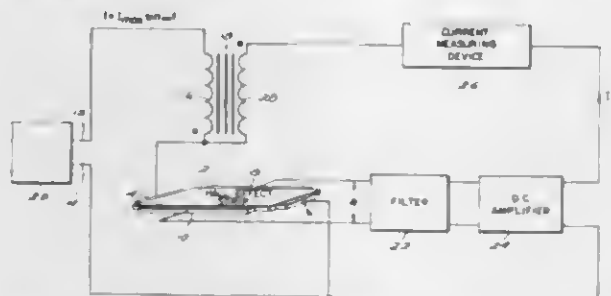
George E. Pihl, Abington, Mass., assignor to Miniature Electronic Components Corp., Holbrook, Mass., a corporation of Massachusetts

Filed Aug. 11, 1964, Ser. No. 388,756

U.S. Cl. 324-117

Int. Cl. G01r 33/00

21 Claims



A device embodying a Hall-effect strip for converting the true RMS value of an input A.C. electrical signal to an equivalent D.C. signal. The input A.C. signal to be

measured provides the control current for the Hall-effect strip and also is used to generate the control field, whereby the resulting Hall-effect voltage has a D.C. component proportional to the mean squared value of the input signal. This D.C. component is amplified and applied to a feedback loop that produces a Hall-effect voltage opposite in polarity to the D.C. component of the Hall voltage produced by the A.C. input signal, with the difference between the two constituting an error signal which can be made vanishingly small as the loop gain is increased. The current in the feedback loop provides a measure of the true RMS value of the A.C. input signal.

3,422,352 APPARATUS FOR MEASURING CURRENT FLOW

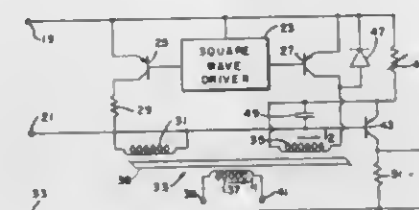
John Paulkovich, Rockville, Md., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Sept. 14, 1965, Ser. No. 487,341

U.S. Cl. 324-120

Int. Cl. G01r 19/26; G01r 33/00

11 Claims



Apparatus for the measurement of electric current which provides an accumulated output of the total current measured over a time interval, involving the use of a saturable core transformer in which errors due to the magnetizing currents in the output winding of the transformer are avoided by isolating the output with an energy storage device.

3,422,353 ELECTRIC METER HAVING DUAL SENSITIVITY PROVIDED BY PLURAL BIASING MEANS

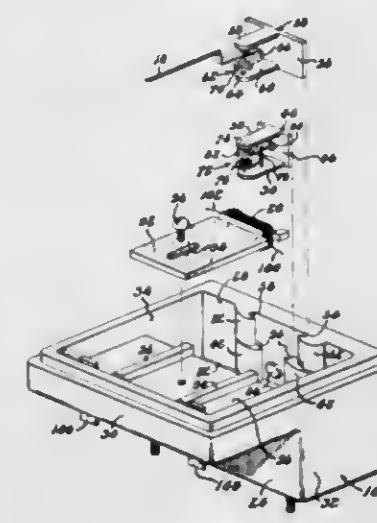
Albert P. Bartholomew, Jr., Allentown, Pa., assignor, by mesne assignments, to Electro-Mechanical Instrument Company, Inc., a corporation of Pennsylvania, organized Oct. 13, 1967

Filed Sept. 11, 1964, Ser. No. 395,960

U.S. Cl. 324-146

Int. Cl. G01r 1/20

13 Claims



The invention relates to an electric measuring instrument with different sensitivity ranges. The different ranges are effected by providing the permanent magnet meter rotor with plural successively acting biasing means. Such biasing means may take the form of permanent magnet and hairspring biasing arrangements.

3,422,354 TEST FIXTURE FOR PELLET-LIKE ELECTRICAL ELEMENTS

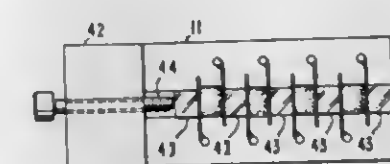
James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention by Anthony J. Nasuti, Hyde Park, Mass.

Filed Oct. 26, 1966, Ser. No. 590,146

U.S. Cl. 324-158

Int. Cl. G01r 11/02

1 Claim



An apparatus for simultaneously supporting a plurality of elements to be subjected to an electrical test. The apparatus includes a block having a channel therein and pairs of spring biased contact pins disposed perpendicular to the channel for receiving the elements to be tested. Insulators are positioned in the channel between each pair of contact pins, and a means is provided for applying compressive force to the contact pins, insulators and elements under test to insure adequate electrical contact.

3,422,355 PARAMETRIC FREQUENCY CONVERTER FOR TRANSMITTING ANTENNA

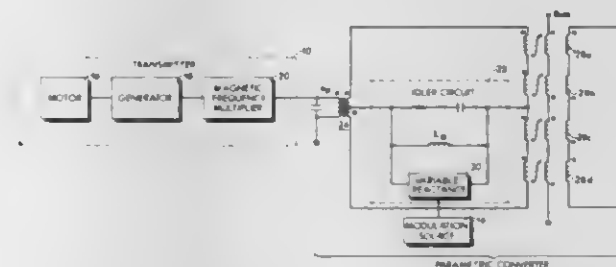
Paul R. Johannessen, Lexington, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed Apr. 22, 1965, Ser. No. 450,079

U.S. Cl. 325-145

Int. Cl. H04b 1/04; H03c 3/12

5 Claims



A parametric frequency control system employing a parametric converter having a pump circuit coupled in a balanced configuration to an idler circuit and a tuned signal circuit. A source of energy, supplied to the parametric converter at the pump frequency, is coupled simultaneously to the tuned circuit and the idler circuit causing each circuit to oscillate at a distinct frequency the sum of which equals the pump frequency. By the use of a suitable modulator source, the impedance of a variable reactance, contained within the idler circuit, is changed resulting in frequency modulation of the output idler frequency.

3,422,356 FEEDBACK COMPRESSOR CIRCUIT TO CONTROL MAXIMUM PERCENTAGE MODULATION

Rex E. Fritts, Hiawatha, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed June 3, 1965, Ser. No. 461,019

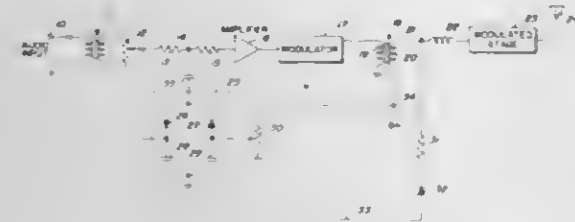
U.S. Cl. 325-159

Int. Cl. H04b 1/04

5 Claims

The invention describes a system for controlling the modulation of a radio transmitter. When modulating an R.F. signal a bias voltage is varied at an audio rate around

a fixed voltage. Because the percent modulation is proportional to the bias voltage excursion the percent modulation can be controlled by sampling the positive and negative half-cycles of the input and comparing the half-cycles to an adjustable reference voltage. By applying the results of the comparison to a compressor circuit the percent modulation can be limited to any value over a wide variation of input levels. The compressor circuit



consists of a pair of parallel connected, oppositely poled, diodes. One diode receives the output of the amplifier and the other diode receives an adjustable biasing voltage. The output of the compressor circuit is fed to the input of the amplifier so that the gain of the amplifier is controlled by the feedback through the compressor circuit. The feedback signal is controlled by varying the biasing voltage input to the compressor circuit.

3,422,357

FREQUENCY SHIFT DIVERSITY RECEIVER WITH OUTPUT DETERMINED BY MAJORITY OF INPUTS

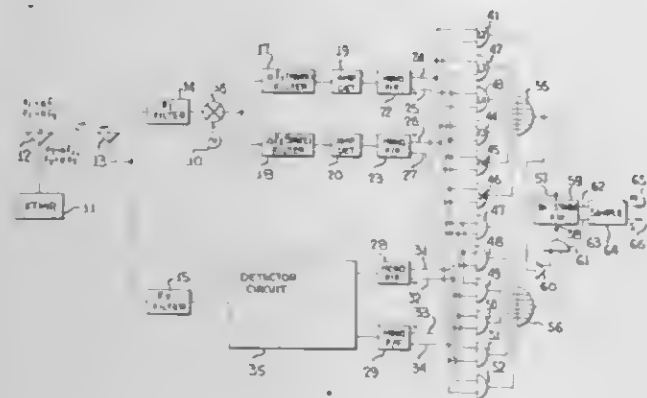
Sidney Browne, Falls Church, Va., assignor to Page Communications Engineers, Inc., Washington, D.C., a corporation of Delaware

Filed Sept. 9, 1964, Ser. No. 395,188

U.S. Cl. 325-320

Int. Cl. H04b 1/16

9 Claims



A multiple channel diversity receiver, each channel for processing a separate signal whose frequency is representative of one of a pair of levels of information, the transmitted signals being separated in frequency from one another to reduce the probability of simultaneous fading or interference at each signal frequency, each signal transmitted at any given instant of time containing the same information, in which each channel normally develops an output indication representative of the absence of incoming signal unless and until its respective signal frequency is detected. In the event of interference or fading at a particular signal frequency, an erroneous output indication is developed in the receiver channel for that frequency, but the decision as to the level of information transmitted is based upon agreement of output indications of a majority of the receiver channels, to substantially reduce error in the presence of fading or interference.

Should there be no majority agreement, the decision regarding the information level transmitted is based upon a predetermined selection of level in anticipation of such an exigency.

3,422,358

CIRCUIT BOARD MOUNTING ASSEMBLY FOR A RADIO OR THE LIKE

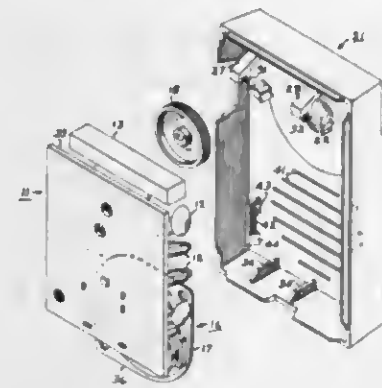
Charles J. Sabonis, Utica, N.Y., assignor to General Electric Company, a corporation of New York

Filed Jan. 3, 1966, Ser. No. 518,143

U.S. Cl. 325-353

Int. Cl. H04b 1/08; H05k 5/00

5 Claims



A circuit board assembly including a speaker affixed thereto, a cabinet including a slot receiving one edge of the circuit board and a flexible rib engaging the loudspeaker to retain the circuit board assembly in the cabinet.

3,422,359

DISTRIBUTOR CIRCUIT

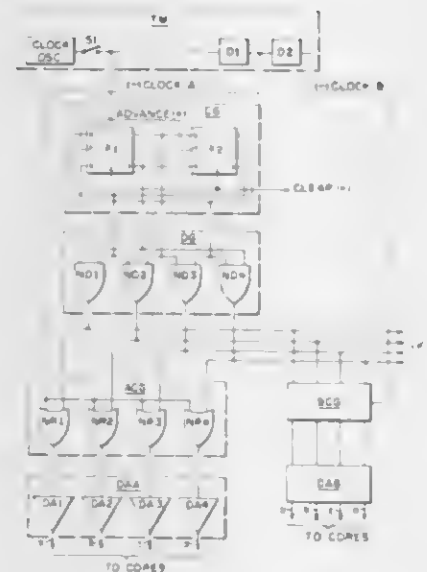
Frederick F. Ladd, Jr., Newbury, and Lynn W. Marsh, Jr., Marblehead, Mass., assignors, by mesne assignments, to Mohawk Data Sciences Corporation, East Herkimer, N.Y., a corporation of New York

Filed Aug. 11, 1965, Ser. No. 478,929

U.S. Cl. 328-62

Int. Cl. H03k 19/34; 19/36

5 Claims



Two sets of scan lines are sequentially pulsed by corresponding sets of two-input NOR circuits, each set of which is driven by a common clocking pulse and by outputs from a set of NAND circuits. There is one NAND for each NOR of a set and a corresponding NORs in the two sets are commoned to the same NAND. The NANDs are sequentially enabled by a clock-driven counting circuit which supplies a unique combination of outputs for each NAND.

3,422,360

ELECTRONIC COMMUTATOR EMPLOYING A SINGLE AMPLIFIER FOR A MULTITUDE OF DATA CHANNELS

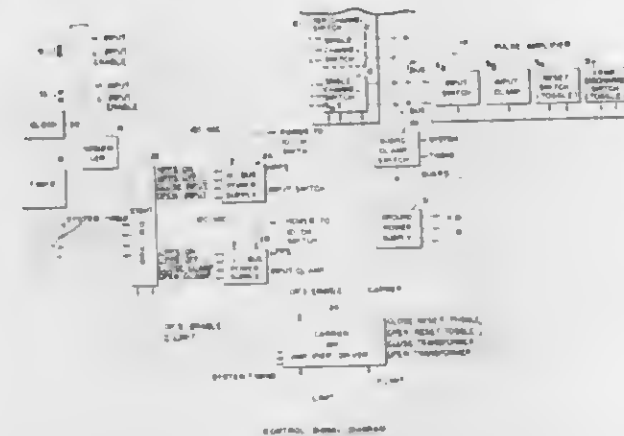
Taylor C. Fletcher and William E. Shoemaker, Fullerton, Calif., assignors to Beckman Instruments, Inc., a corporation of California

Filed Jan. 29, 1964, Ser. No. 340,930

U.S. Cl. 328-104

Int. Cl. H03k 17/02

8 Claims



An electronic commutator employing a single amplifier for a multitude of data channels employing a switching sequence permitting common mode and transferred charge to settle out.

3,422,361

ELECTRIC PULSE DETECTING CIRCUIT

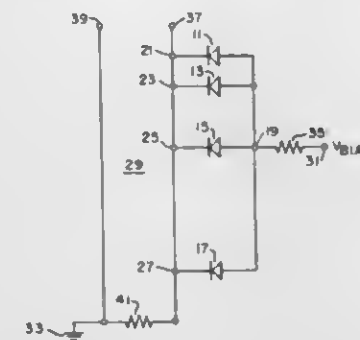
George E. Petts III, Annapolis, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 14, 1965, Ser. No. 425,587

U.S. Cl. 328-119

Int. Cl. H03k 5/20; H03k 1/00; H03k 3/04

4 Claims



An electric pulse detecting circuit utilizing a delay line having diodes connected therealong at spaced intervals. The diodes are normally forward biased. Reverse biasing input pulses are applied to one end of the delay line. An output pulse is produced for the duration of time that the input pulses reverse bias the diodes. The spacing of the diodes is made in accordance with the spaced sequence of input signals to be detected.

3,422,362

PHASE DETECTOR WITH LOW RIPPLE OUTPUT NEAR ZERO PHASE ANGLE

James L. West, Concord, Mass., assignor to Weston Instruments, Inc., Newark, N.J., a corporation of Delaware

Filed Mar. 17, 1967, Ser. No. 624,102

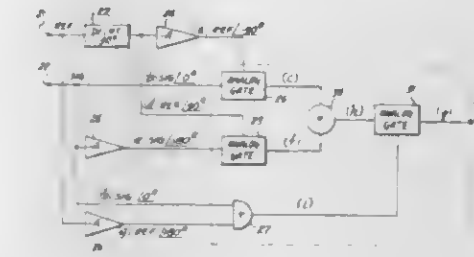
U.S. Cl. 328-134

Int. Cl. H03k 9/06; H03d 3/02; H03b 3/04

5 Claims

Two reference signals separated by 180° switch an unknown phase input signal and its inverse, the switched signals then being summed. The unknown is logically added to a third reference 90° from the first two and the

resulting signal gates the sum to provide an error signal which is zero when the unknown is in phase with the



reference and is unidirectional when there is a phase difference.

3,422,363

STAIRSTEP FUNCTION GENERATOR CIRCUIT

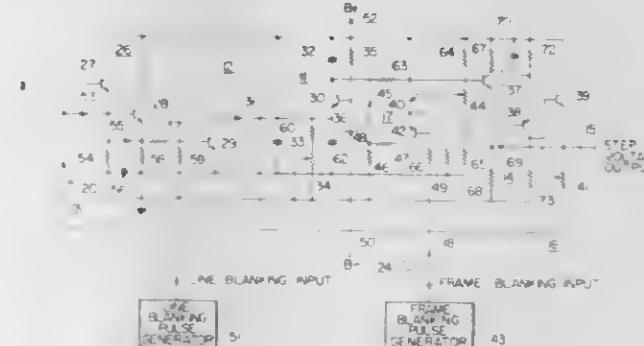
Richard H. Foote and John A. Holmquist, Fort Wayne, Ind., assignors to International Telephone and Telegraph Corporation, a corporation of Delaware

Filed Feb. 8, 1966, Ser. No. 525,905

U.S. Cl. 328-186

Int. Cl. H03k 4/00; H03k 4/02; H03k 3/00

7 Claims



A high precision stair-step function generator providing uniform and linear step voltages. A sawtooth wave form generator is provided including a capacitor and a constant current source for providing charging current. A gating circuit is provided for selectively energizing the constant current source during predetermined spaced intervals so as to generate a sawtooth wave form voltage across the capacitor. A buffer amplifier is coupled to the capacitor for amplifying the sawtooth wave form voltage and a feedback circuit is provided coupling the output of the amplifier to the constant current source for feeding back a portion of the stair-step output voltage to the constant current source so as to increase the charging current through the capacitor to compensate for capacitor leakage which occurs between the charging intervals. A discharging circuit is also provided for selectively discharging the capacitor so as to terminate the stair-step wave form voltage.

3,422,364

PULSE AMPLITUDE MODULATION TO PULSE WIDTH MODULATION CONVERTER

George Frederick Craven, John Stuart Heeks, and Alan David Woode, London, England, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed May 6, 1965, Ser. No. 453,666

Claims priority, application Great Britain, May 15, 1964, 20,313/64

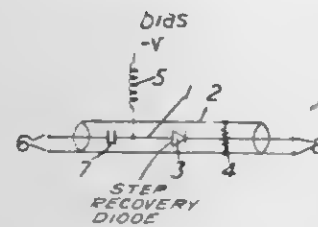
U.S. Cl. 329-106

Int. Cl. H03k 9/08; H03d 9/02; H03k 5/20

9 Claims

The converter described comprises a section of coaxial line in which the center conductor includes a step recovery diode coupled in series with a disc resistor connecting the center conductor to the outer conductor. An input pulse amplitude modulation signal causes forward current to flow in the diode. On termination of the input

signal, reverse current flows in the diode for a time proportional to the magnitude of forward current resulting



in an output pulse width modulation signal which is present across the resistor.

ERRATUM

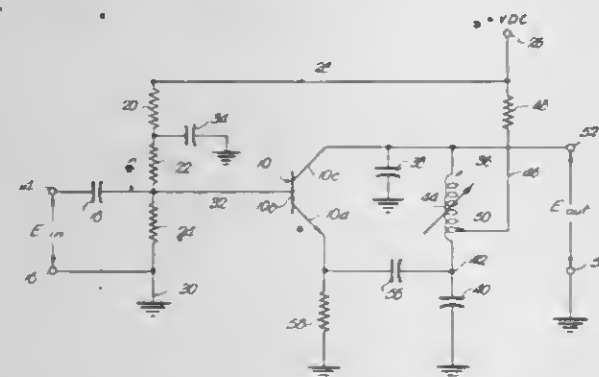
For Class 330—9 see:
Patent No. 3,422,336

3,422,365

STABILIZED TRANSISTOR AMPLIFIER
George W. Woster, Mission, Kans., assignor to Wilcox Electric Company, Inc., Kansas City, Mo., a corporation of Kansas

Filed May 28, 1965, Ser. No. 459,635
U.S. Cl. 330—28
Int. Cl. H03f 1/08; H03f 1/34

2 Claims



A tuned transistor amplifier stage in common emitter configuration is stabilized to prevent oscillation by returning a portion of the collector output to the emitter after a 180° phase shift. Ideally, the magnitude of the stabilizing signal should be equal to the internal collector to base feedback of the transistor in order to produce a condition where no net feedback exists between the output and input circuits of the stage.

3,422,366

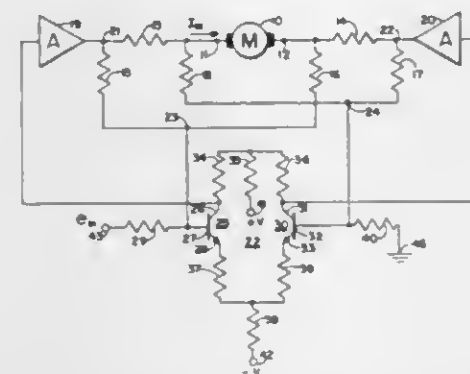
CONSTANT CURRENT DIFFERENTIAL AMPLIFIER WITH CURRENT SENSING AND FEEDBACK NETWORKS
Wesley C. Sewell, Clearwater, Fla., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed May 31, 1966, Ser. No. 553,942
U.S. Cl. 330—30
Int. Cl. H03f 3/68

7 Claims

1. A control circuit for driving a DC load with a current which is proportional to the voltage at the input of the circuit, said control circuit comprising:
first and second output terminals for connection to a DC load;
an input stage comprising a differential amplifier having first and second inputs, and first and second outputs, said first input being adapted to receive an input signal and said second input being connected through an impedance to a point of reference potential;

first and second substantially equal current sensing resistors each having first and second ends;
means connecting the first end of said first current sensing resistor to said first output of said differential amplifier and means connecting the second end of said first sensing resistor to said first output terminal;
means connecting the first end of said second current sensing resistor to said second output of said differential amplifier and means connecting the second end of said second sensing resistor to said second output terminal;



a first pair of closely matched precision feedback resistors, the two resistors of said first pair being connected together and to said first input of said differential amplifier at one end and being connected at their other ends respectively to said first end of said first current sensing resistor and to said second output terminal;
a second pair of closely matched precision feedback resistors, the two resistors of said second pair being connected together and to said second input of said differential amplifier at one end and being connected at their other ends respectively to said first end of said second current sensing resistor and to said first output terminal.

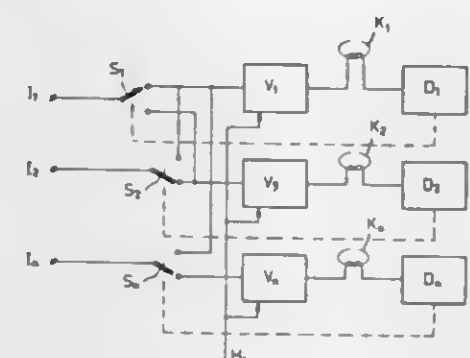
3,422,367

DEVICE FOR SIMULTANEOUSLY RECORDING AND/OR REPRODUCING DIFFERENT SIGNALS
Cornelis De Koning, Emmaslagel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed May 19, 1966, Ser. No. 551,327
Claims priority, application Netherlands, June 5, 1965, 6507233

U.S. Cl. 330—59
Int. Cl. H03f 17/00

6 Claims



A signal amplifier switching system for substituting an amplifier into a multi-amplifier multi-channel recording/reproducing device upon indication of a defective amplifier is constructed with a signal amplifier in each channel, one of the signal amplifiers in one of the channels being employed for time signals. Each of the amplifiers

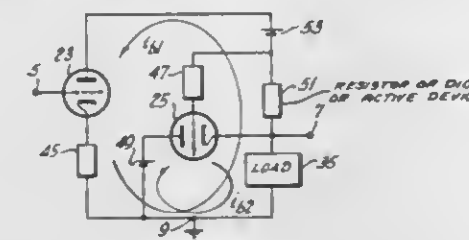
has a detector coupled to the output thereof and responds to the absence of an auxiliary signal, which is continuously applied to all of the amplifiers, for switching the amplifier signal channel associated with the channel containing an absent auxiliary signal into the time signal amplifier channel. A detector coupled to the time signal amplifier similarly responds to a breakdown in the time signal amplifier for switching the time signal channel into one of the other signal channels.

3,422,368

THREE-TERMINAL AMPLIFYING CIRCUIT
Loebe Julie, New York, N.Y., assignor to Julie Research Laboratories, Inc., New York, N.Y., a corporation of New York

Filed Nov. 22, 1965, Ser. No. 509,024
U.S. Cl. 330—118
Int. Cl. H03f 3/28; H01h 7/14

10 Claims



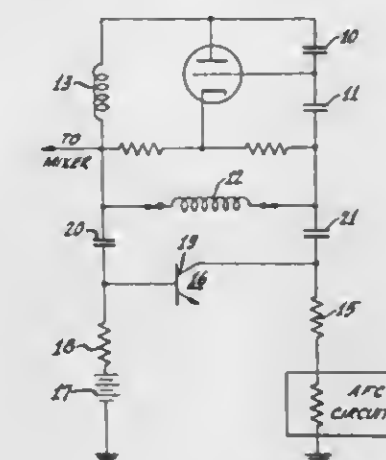
A three-terminal amplifying circuit includes first and second amplifying devices, such as triode tubes. The first amplifying device is in series with a voltage source, a control element and a load device. The second amplifying device is in series with the load device and a second voltage source. The specific circuit configuration provides a three-terminal amplifying circuit having low amplitude distortion, power loss and phase shift.

3,422,369

OSCILLATOR USING A TRANSISTOR AS VOLTAGE CONTROLLED CAPACITANCE
Thomas J. Campbell, Indianapolis, Ind., assignor to Radlo Corporation of America, a corporation of Delaware

Filed Mar. 1, 1967, Ser. No. 619,745
U.S. Cl. 331—36
Int. Cl. H03b 3/04; H03b 3/00

6 Claims



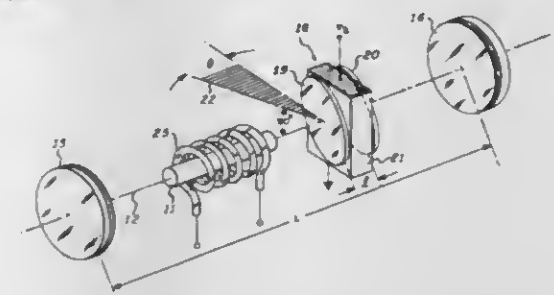
The base-to-collector junction of a transistor is used as a voltage variable capacitance device for automatic frequency control of oscillator circuits. The emitter electrode is left unconnected or is connected by a current limiting resistor to the collector electrode to increase the capacitance range of the base-to-collector junction, and to reduce the loading effect of the transistor on the oscillator circuit.

3,422,370

VARIABLE FREQUENCY LASER
Stuart A. Collins, Jr., Columbus, Ohio, assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware

Filed July 19, 1965, Ser. No. 473,005
U.S. Cl. 331—94.5
Int. Cl. H01s 3/10

4 Claims



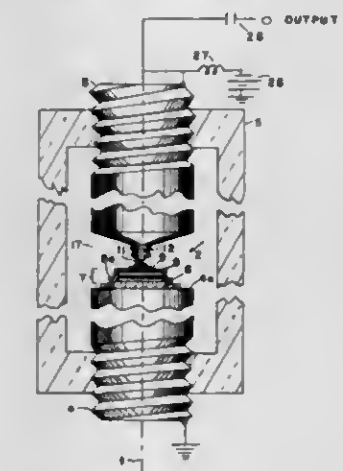
A variable frequency laser including a high Q electro-optic interferometer positioned in a low Q laser resonator, the reflectivity of the reflective surfaces forming the resonator being less than the reflectivity of the interferometer surfaces and proportioned in accordance with the optical length of the resonator to provide stimulated emission over a given continuous frequency range whereby the output frequency of the laser may be varied in a continuous manner by changing the voltage applied to the electro-optic interferometer.

3,422,371

THIN FILM PIEZOELECTRIC OSCILLATOR
Armand R. Polier, Nashua, N.H., and Terry F. Newkirk, Lynnfield, Mass., assignors to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware

Filed July 24, 1967, Ser. No. 655,461
U.S. Cl. 331—107
Int. Cl. H03b 5/36; H03b 7/06; H03b 5/32

13 Claims



A resonant device is provided by an epitaxial film of semiconductor material having substantial piezoelectric qualities bounded on opposite sides by interfaces with other materials or environment such that high frequency acoustic waves generated within the film by electric fields applied thereto experience sufficient reflection at the interfaces to resonate therebetween at an acoustic wave frequency determined by the thickness of said film and so the device exhibits electrical resonance.

3,422,372

STABLE SWEEP OSCILLATOR
Frank E. Post, Warminster, and William A. Power, Willow Grove, Pa., assignors to Weston Instruments, Inc., Newark, N.J., a corporation of Delaware

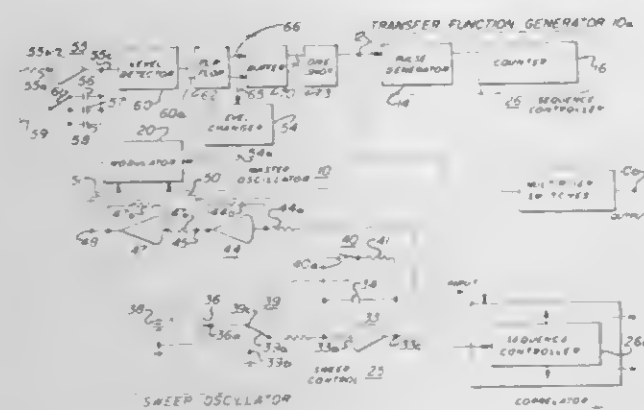
Filed Jan. 3, 1967, Ser. No. 607,045
U.S. Cl. 331—178
Int. Cl. H03b 3/00; H03k 3/26; H03k 1/10

12 Claims

An oscillator for producing a swept composite sine wave. A series of pulses is first generated in which the

pulse repetition frequency may be varied over a predetermined band of pulse frequencies. The rate of variation in the pulse frequency is determined by a generated

storage counters, followed by a further binary flip-flop. The final flip-flop stage responds to the output of the stair step counting chain and supplies a square wave signal



function which is used to modulate pulses applied as an input to an integrator. The series of pulses is applied to a transfer function generator to produce the swept composite waveform.

3,422,373

PULSE TRAIN MODULATOR FOR NUMERICAL CONTROL SYSTEMS

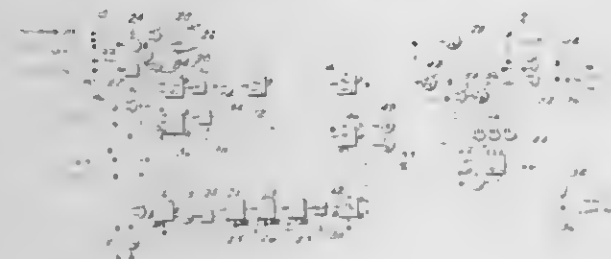
Harvey J. Rosener, Dayton, Ohio, assignor, by mesne assignments, to The Bunker-Ramo Corporation, Stamford, Conn., a corporation of Delaware

Filed Nov. 27, 1964, Ser. No. 414,092

U.S. Cl. 332-9

Int. Cl. H03k 7/00; H03k 1/00; H03k 3/04

10 Claims



A pulse train modulator for a numerical control system wherein out of phase A and B pulse trains are alternatively available as output pulses, the unmodulated output comprising a succession of A pulses or a succession of B pulses, the successive input pulses causing shifting of the output alternately from A pulses to B pulses, and from B pulses to A pulses, and with each positive input pulse resulting in an output pulse spacing between a pair of successive pulses of one half the unmodulated pulse repetition interval, and with a negative input pulse causing a spacing between a pair of output pulses of one and a half times the unmodulated pulse repetition interval.

3,422,374

PHASE MODULATOR FOR NUMERICAL CONTROL SYSTEMS

Harvey J. Rosener, Dayton, Ohio, assignor, by mesne assignments, to The Bunker-Ramo Corporation, Stamford, Conn., a corporation of Delaware

Continuation-in-part of application Ser. No. 414,092, Nov. 27, 1964. This application Oct. 21, 1965, Ser. No. 499,736

U.S. Cl. 332-9

Int. Cl. H03k 7/00

6 Claims

The illustrated embodiment shows a numerical control system wherein a modulated pulse train is generated by switching back and forth between two out of phase reference pulse trains in response to command pulses. The modulated pulse train is converted to a phase modulated signal by means of a frequency division chain including a binary flip-flop and three divide-by-five stair step energy

whose phase is modulated relative to a reference waveform, the reference waveform being generated by a reference frequency division chain of similar construction in response to one of the reference pulse trains.

3,422,375

MICROWAVE POWER DIVIDING NETWORK

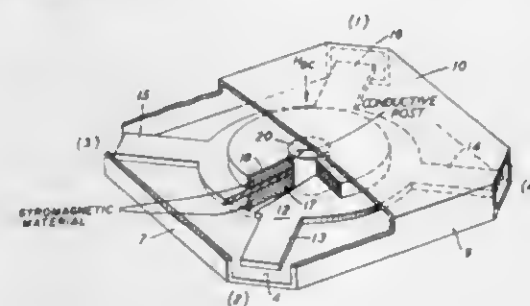
Masahiro Omori, Allentown, Pa., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, Berkeley Heights, N.J., a corporation of New York

Filed Feb. 24, 1967, Ser. No. 618,460

U.S. Cl. 333-1.1

Int. Cl. H01p 1/32

5 Claims



A coupling network that has power division properties enough like those of hybrid junctions and directional couplers to substitute therefor in integrated strip line microwave circuits. A four port strip line junction is loaded both with a polarized body of gyromagnetic material and a conductive body both proportioned so that a circularly polarized mode as well as a static mode can be equally supported at the same resonant frequency. Interaction of these modes at the several ports produces unusual coupling characteristics.

3,422,376

SCANNING DEVICE

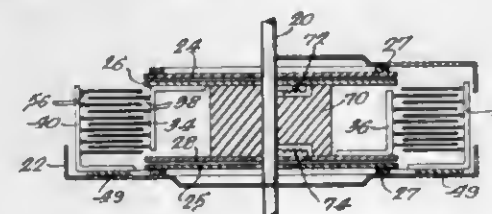
Wilford R. Schreier, Bensenville, Ill., assignor to Hammond Corporation, Chicago, Ill., a corporation of Delaware

Filed June 24, 1966, Ser. No. 560,212

U.S. Cl. 333-7

Int. Cl. H03h 5/00; H01p 5/12

3 Claims



A capacitive scanner of the type in which signal paths are established between fixed input plates and fixed output plates by a rotating scanner which is coupled capacitively

to the input and output plates and in which a high value leakage path is provided from the otherwise insulated rotor to ground to remove static electric charges from the rotor.

3,422,377

POWER DIVIDER

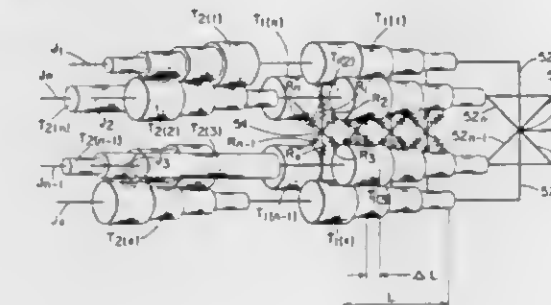
Bernard G. Vient, Burlington, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed Dec. 29, 1966, Ser. No. 605,823

U.S. Cl. 333-9

Int. Cl. H01p 5/12

4 Claims



A radio frequency power divider employing a plurality of two-conductor transmission lines with the like conductors of each transmission line joined together at one end to accommodate a common input terminal. One conductor of each of the two conductor transmission lines includes a multiple-sectioned impedance matching transformer. Resistive elements are connected to the transformer sections at intervals along their length.

3,422,378

COMPENSATING MEANS FOR MINIMIZING UNDESIRABLE VARIATIONS IN THE AMPLITUDE OF A REFLECTED WAVE

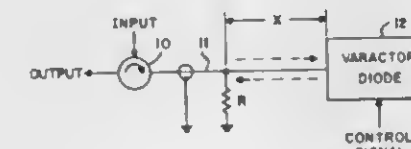
Richard La Rosa, South Hempstead, N.Y., assignor to Hazeltine Research, Inc., a corporation of Illinois

Filed Oct. 19, 1965, Ser. No. 497,889

U.S. Cl. 333-28

Int. Cl. H03h 5/00; 7/38

7 Claims



Disclosed is apparatus capable of compensating for variations in the amplitude of the output reflected wave signal of a varactor diode phase shifter, for example, caused by the variable loss characteristic of the varactor. Compensation is achieved by coupling a resistance in the transmission line feeding the varactor, at a point where a voltage or current null exists when the varactor loss is at a relative maximum. Other embodiments are covered.

3,422,379

HIGH-FREQUENCY TUNING DEVICE

Carl-Erik Granqvist, Lidings, Sweden, assignor to AGA Aktiebolag, Lidings, Sweden, a corporation of Sweden

Filed Oct. 25, 1965, Ser. No. 505,153

Claims priority, application Sweden, Nov. 23, 1964, 14,139/64

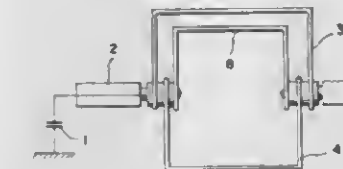
U.S. Cl. 333-82

Int. Cl. H01p 7/00; H01h 3/00

5 Claims

1. Tuning device for high frequencies, characterized in that it comprises in addition to a capacitor (1) a

plurality of conductors (3, 4, 8) in parallel, the characteristic impedance of which is changed during tuning through a variation of the distance of each conductor to a ground plane (5), the conductors being adapted to be brought



together when at the largest distance from the ground plane, whereby in said position their combined characteristic impedance is substantially the same as that of a single conductor.

3,422,380

TEMPERATURE COMPENSATED MULTIELEMENT WAVEGUIDE DEVICE HAVING SUSCEPTANCE ELEMENTS

Takaji Kuroda and Susumu Kitazume, Tokyo, Japan, assignors to Nippon Electric Company, Limited, Minato-ku, Tokyo-to, Japan, a corporation of Japan

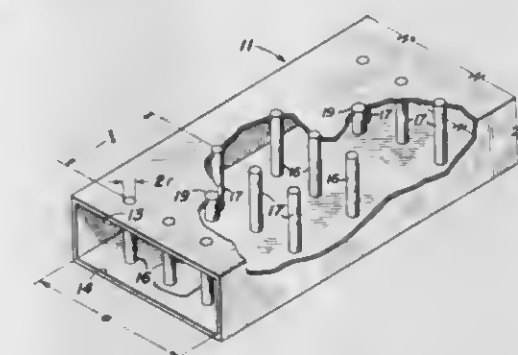
Filed Aug. 8, 1966, Ser. No. 570,865

Claims priority, application Japan, Aug. 11, 1965, 40/48,893

U.S. Cl. 333-83

Int. Cl. H01p 7/06

14 Claims



A rectangular waveguide cavity resonator having temperature compensation and including a plurality of susceptance elements disposed in spaced relation interiorly of the waveguide in a manner normal to the broad sides thereof and in a further manner to dispose certain susceptance elements along a longitudinal axis of the waveguide. An initial frequency characteristic provided in the resonator varied in response to ambient temperature changes. To compensate for such temperature changes, the waveguide is made of Invar and the susceptance elements are formed of approximately 95% silver to provide a predetermined ratio between the linear thermal expansion coefficient of the waveguide Invar and the linear thermal expansion coefficient of the susceptance element silver for maintaining the predetermined frequency characteristic substantially invariant with ambient temperature changes.

3,422,381

MULTI-POLE CIRCUIT BREAKER WITH COMMON TRIP BAR

Julius Toth, Beaver, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 16, 1966, Ser. No. 527,673

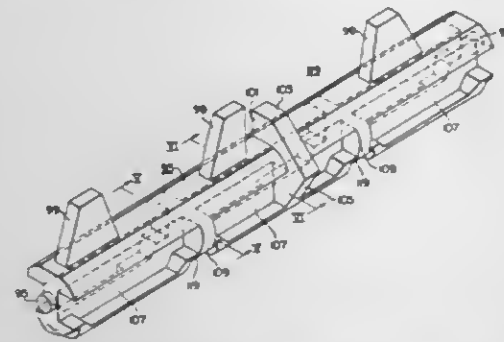
U.S. Cl. 335-9

Int. Cl. H01h 75/00; 77/00; 83/00

12 Claims

A multi-pole circuit breaker having a trip bar that is common to all of the poles and that is operable to trip the circuit breaker upon the occurrence of an overload

in any of the poles. The trip bar has a latch part with a latch surface thereon which latch part and latch surface



are of molded insulating material molded integral with said trip bar.

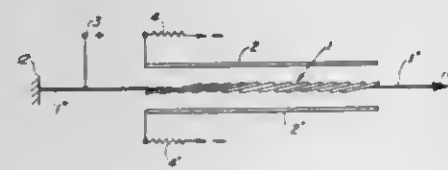
3,422,382

SNAP SWITCH WITH IMBRICATED SPRING
Reiner Oefner, Karl-Marx-Stadt, Germany, assignor to VEB Geratewerk Karl-Marx-Stadt, Karl-Marx-Stadt, Germany, a corporation of Germany

Filed Apr. 6, 1966, Ser. No. 540,562

U.S. Cl. 335-185
Int. Cl. H01h 3/00

12 Claims



Electric snap-action switch with at least one coil spring having imbricate turns which in an inoperative position are collapsed to overlap one another in a nearly coplanar relationship and which can be erected by a pull upon an end of the spring so as to snap into an operative position in which one or more of these turns close a circuit by mechanical action and/or by conductive contact with a coacting conductor offset by the spring axis.

3,422,383

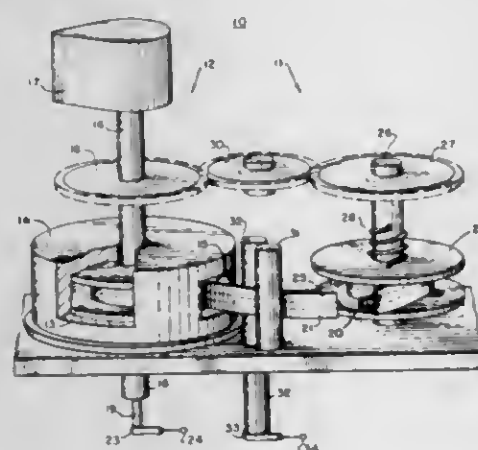
VARIABLE INDUCTOR

Dieter R. Lohrmann, Eatontown, N.J., assignor to the United States of America as represented by the Secretary of the Army

Filed Oct. 5, 1966, Ser. No. 584,616

U.S. Cl. 336-15
Int. Cl. H01f 21/04

1 Claim



A variable inductor comprising an electrically conductive ribbon, having an insulator mounted on one side, is wound on a pair of spools which are mounted for rotation in a common plane. A gear train drive rotates simultaneously the spools for transferring the ribbon from one spool to the other. The difference in rotation of the spools is accounted for by a spring which connects one

of the spools to the gear train drive. A first electrical terminal is connected to one end of the ribbon and the second terminal is a pair of rollers which embrace that portion of the ribbon which extends between the spools.

3,422,384

**ELECTROMECHANICAL REMOTELY CONTROL-
LABLE CIRCUIT BREAKER**

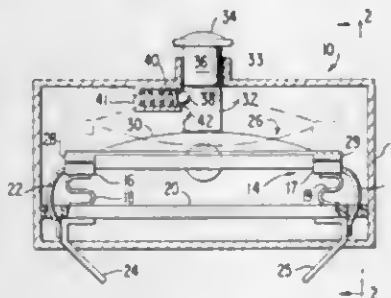
Robert W. Filcbak and Daniel L. Neill, Jackson, Mich., assignors to Aiken Industries, Inc., a corporation of Delaware

Filed July 18, 1966, Ser. No. 565,814

U.S. Cl. 337-37

Int. Cl. H01b 61/00; H01h 71/16; H01h 75/00

4 Claims



A circuit breaker having a thermally responsive contact blade cooperating with a substantially fixed contact assembly and a remotely controlled insulating barrier. Opening of the contacts occurs due to the reaction of the thermally responsive blade when heated by an overload current passing through the contact assembly. The insulating barrier is inserted between the open contact blade and contact assembly due to the force supplied by a light spring cooperating with the barrier. Closing of the contacts upon cooling of the contact blade is prevented until the insulation barrier is retracted from between the contacts. The barrier is retracted by energizing a solenoid, cooperating with the barrier, by a remotely controlled electrical switch.

3,422,385

**HERMETICALLY SEALED SWITCH WITH PRES-
SURE COMPENSATION MEANS**

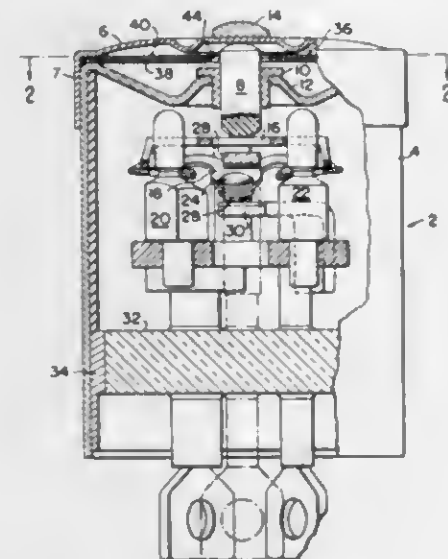
Edward G. Haderer, Plainville, Mass., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Oct. 14, 1965, Ser. No. 495,797

U.S. Cl. 337-348

Int. Cl. H01b 37/70; H01h 37/74; H01h 35/40

6 Claims



A hermetically sealed switch with pressure compensation means to offset pressure changes due to changes in ambient temperature. The thermally responsive means employs sheets of thermostatic metal either circular or rectangular in shape, mounted adjacent a flexible dia-

phragm with the low coefficient of expansion mounted toward the diaphragm to offset the force exerted by the diaphragm upon a drop in temperature. Compensation for rising temperature can be accomplished by prebiasing the thermostatic element against the diaphragm upon assembly.

3,422,386

**RESISTOR CIRCUIT NETWORK AND METHOD
OF MAKING**

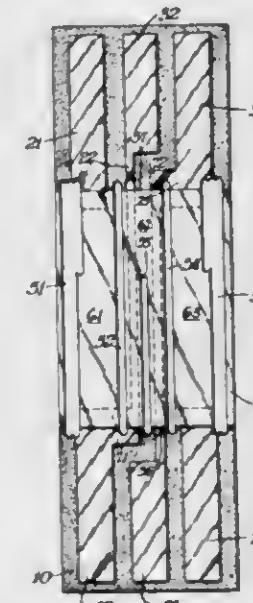
Walter Helgeland, Nashua, N.H., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts

Filed Oct. 6, 1966, Ser. No. 584,892

U.S. Cl. 338-309

Int. Cl. H01c 7/00

5 Claims



Network having plurality of resistors on an elongated support is symmetrically disposed so that it can be inserted in a circuit by merely orienting the axis of the support, regardless of whether the support is turned end for end. Radially symmetrical network terminals can be screened on and overlapped by resistive coating from which individual resistors can be machined as by electron beam. Further machining adjusts resistors to desired values.

3,422,387

**ELECTRIC CURRENT POWER-TAKE-OFF DEVICE
FOR ENCLOSED BUSWAY SYSTEMS**

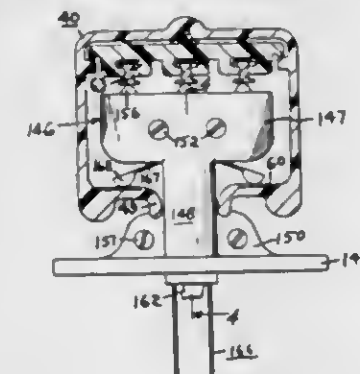
Donald G. Sprigings, Mystic, Conn., and Gerald E. Martin, Lynchburg, Va., assignors to H. K. Porter Company, Inc., Lynchburg, Va., a corporation of Delaware

Original application June 30, 1964, Ser. No. 379,137, now Patent No. 3,337,697, dated Aug. 22, 1967. Divided and this application Nov. 7, 1966, Ser. No. 592,386

U.S. Cl. 339-14

Int. Cl. H01r 3/06; H01r 9/16; H01r 33/12

4 Claims



This invention relates to a power-take-off device or plug for an enclosed busway system having conductor rails at the top of the enclosure, a continuous slot in the bottom of the enclosure and grounding strips on each side of the

slot. The plug has a head wider than the slot, a thickness narrower than the slot, a round stem of a diameter equal to the thickness of the head, an elongated base member on the stem and a web on each side of the stem extending from the base and joining the stem. The housing consisting of these parts is longitudinally split into identical halves bolted together. Cavities in the head mount contacts spring biased outwardly and conductors are connected thereto from a cable extending through the central bore of the stem. Slots on each side of and parallel to the bore in the stem house resilient ground contacts which extend out of the stem at its juncture with the head. Bent downwardly, the dished ends of the contacts abut the conductive ground strips in the bottom of the busway and urge the plug upwardly, further biasing the power contacts against the rails. The plug is inserted through the slot in the bottom of the busway and turned 90°, during which the ground contacts cam upward and inward over the bottom of the busway. Notches on the upper edges of the webs engage with formations on the busway to resist rotation of the plug once it is in its final position.

3,422,388

CIRCUIT SAFE CONNECTOR

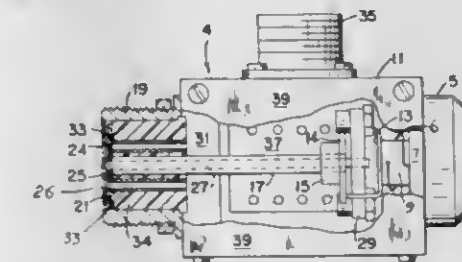
Donat A. A. Vincent and Robert A. Morrison, Los Angeles, Calif., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army

Filed Sept. 6, 1966, Ser. No. 577,543

U.S. Cl. 339-36

Int. Cl. H01r 13/44

3 Claims



A connector wherein a spring loaded solenoid moves a disk-like member into position to close off a female connector when the connector is energized. Connection thereto cannot be made until the connector is de-energized thereby causing the obstructing member to be rotated to an open position by the spring action of the solenoid.

3,422,389

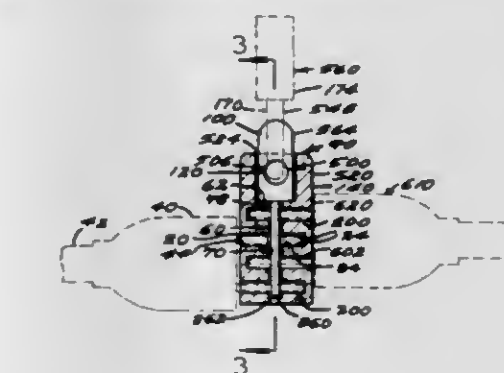
SAFETY PLUG BLOCK

James L. Husebo, 5132 Evans St., Omaha, Nebr. 68104
Continuation-in-part of application Ser. No. 530,443, Feb. 28, 1966. This application Aug. 1, 1966, Ser. No. 569,466

U.S. Cl. 339-37

Int. Cl. H01r 13/44; E05b 65/00; E05b 65/32

2 Claims

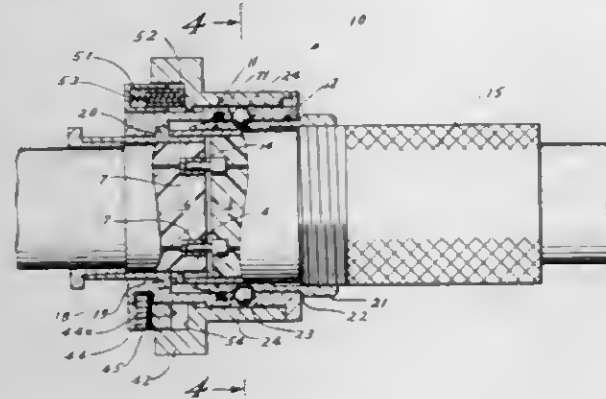


A plug block having prong recess means entering the plug block from each of two opposite sides whereby two electrical plugs disposed on opposite sides of the plug

block can have their prong means locked by the plug block simultaneously.

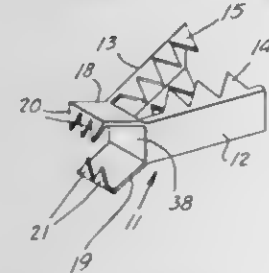
3,422,390 COUPLING DEVICE

Elton M. Tucker, La Porte, Tex., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Dec. 28, 1967, Ser. No. 694,247
U.S. Cl. 339-91
Int. Cl. H01r 13/54



A releasable coupling comprising a pair of telescopically engageable tubular shell members which are designed to receive and retain the mating ends of an electrical connector or other objects to be coupled. A plurality of locking balls are floatingly mounted in the wall of the outer shell member and are held captive by a locking sleeve assembled over the outer shell member. The sleeve is journaled for low-torque rotation on the outer shell and limited in rotary movement by mechanical stop means on the locking sleeve and outer shell member between a first unlock position wherein the balls are in registry with unlocking relief grooves in the inner wall of the locking sleeve and a second position wherein the balls are cammed radially inward by the locking sleeve. The locking balls in the locked position protrude into a locking groove in the external surface of the inner shell member when the shells are telescoped together, thereby preventing axial separation of the two shell members. The outer shell and the locking sleeve which is spring-biased against a radial end flange of the outer shell are provided with cooperable latching means when the sleeve is rotated to its locked position, thereby precluding accidental rotation of the locking sleeve to the unlocked position. Release is effected by longitudinal movement of the locking sleeve against the spring bias to release the cooperable latching means and then rotating to its unlocked position. A hermetic seal is provided between the shell members when they are in a coupled relationship.

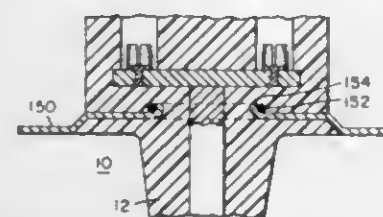
**3,422,391
DEVICE FOR SPLICING ELECTRICAL WIRES**
Warren D. Thomson, Dayton, Wash.
(1124 Benjamin Ave., Clarkston, Wash. 99403)
Filed Apr. 7, 1967, Ser. No. 629,257
U.S. Cl. 339-97
Int. Cl. H01r 11/20; A44b 21/00; H02b 3/00



A wire connector consisting of a cruciform body of bendable sheet metal bent to define two opposite pairs

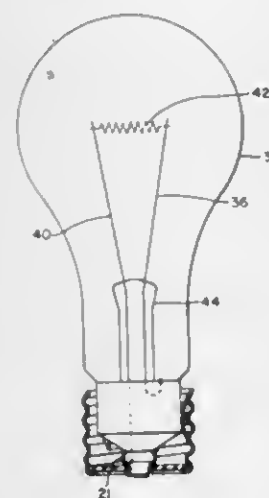
of opposing jaws. One pair of jaws has opposed inwardly-extending teeth at its transverse end edges. The other pair of jaws has opposed teeth extending inwardly from the side edges thereof.

**3,422,392
ELECTRICAL BUSHING ASSEMBLY**
Edmund E. Woods, Sharon, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 8, 1966, Ser. No. 556,208
U.S. Cl. 339-129
Int. Cl. H02b 1/02; H01r 7/02; H01r 13/54



An electrical bushing assembly having a cast body portion, an axially extending electrical conductor, and a metallic mounting flange. The metallic mounting flange has a portion circumferentially embedded in the body portion, with a resilient member disposed between the embedded portion of the flange and the cast body portion of the bushing.

**3,422,393
BASE AND LAMP ADAPTOR FOR "PUSH TO INSERT" LAMP BASE AND SOCKET COMBINATION**
Vernon L. Plagge, East Orange, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 16, 1967, Ser. No. 609,479
U.S. Cl. 339-169
Int. Cl. H01r 3/00

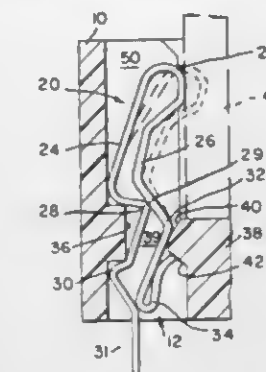


Electric lamp base and socket adaptor combination for rapid and simple lamp replacement. The socket adaptor screws into a standard socket and incorporates a female snap fastener and spring conductors for both electrical connection and mechanical support. The male portion of the snap fastener is affixed to the lamp base and is guided into connecting position by the spring conductors.

**3,422,394
ELECTRICAL CONNECTOR**
Jack E. Antes, Long Beach, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Aug. 24, 1965, Ser. No. 482,168
U.S. Cl. 339-176
Int. Cl. H01r 13/50; H01r 9/08

This is an electrical connector for circuit boards which comprises a plurality of contact members each retained

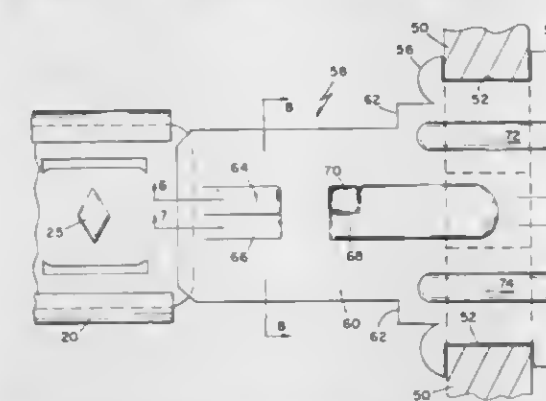
in a cavity in a connector plug. The contact members and cavities are of such a shape to enable the contact member



to be locked in the cavity against axial movement but with a looped contact portion free to move in a sliding contact with the circuit board.

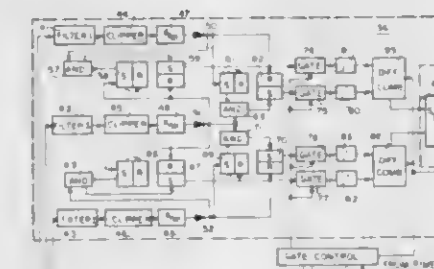
**3,422,395
EMBOSSSED MALE TAB FOR USE WITH QUICK CONNECT TERMINALS**

Harold Francis Fisher, West Newton, Mass., assignor to Ark-Les Switch Corporation, Watertown, Mass., a corporation of Massachusetts
Continuation-in-part of application Ser. No. 524,704, Feb. 3, 1966. This application Oct. 17, 1966, Ser. No. 587,212
U.S. Cl. 339-258
Int. Cl. H01r 13/24; H01r 11/08; H01r 3/00



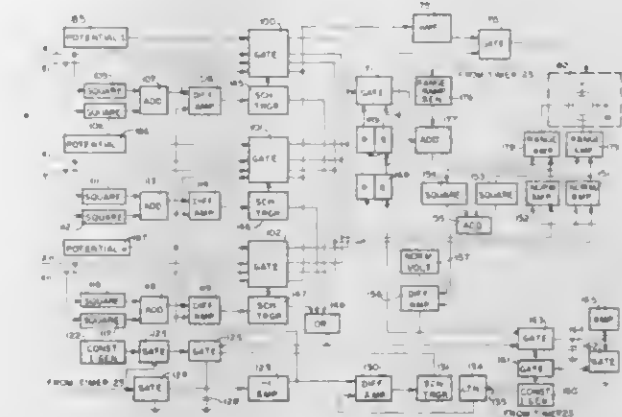
A universal, reversible male tab for use with any conventional female terminal. The tab includes a centrally embossed strip area located on each side of the tab tongue and plain strip area on each side of the embossed strip areas.

**3,422,396
TARGET INFORMATION DETERMINING SYSTEM**
Ernest A. Keller, Wilmette, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed June 26, 1967, Ser. No. 648,657
U.S. Cl. 340-3
Int. Cl. G01s 9/66



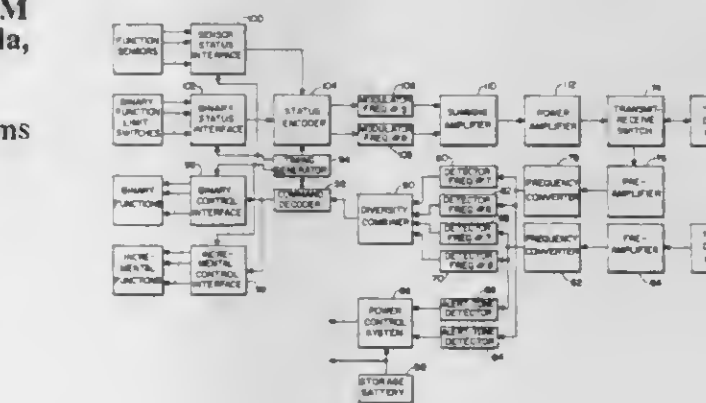
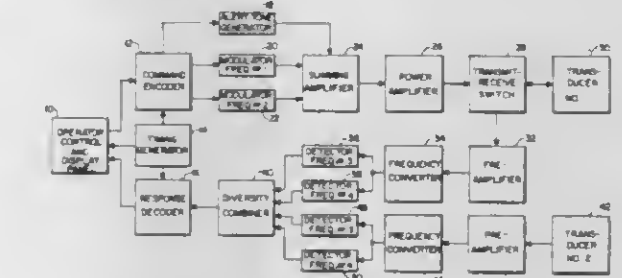
Echo signals are processed to determine the direction from which the echo signal is received. The time between

transmission of a signal and return of the echo is measured to determine the range to a target. Doppler frequency shifts are measured to determine the component of the relative motion of the target along a line between a reference position and the target. A plan position indicator dis-



play shows the relative location of the target by displaying the range and bearing of the target from the center of the indicator. A radial streak, originating at the target, indicates the direction of Doppler shift and the magnitude of the shift. The brightness of the target indicates the relative confidence in the indicated position of the target.

**3,422,397
CONTROL APPARATUS**
James A. Lagoe, Woodinville, Wash., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Jan. 29, 1968, Ser. No. 701,372
U.S. Cl. 340-5
Int. Cl. H04b 13/00



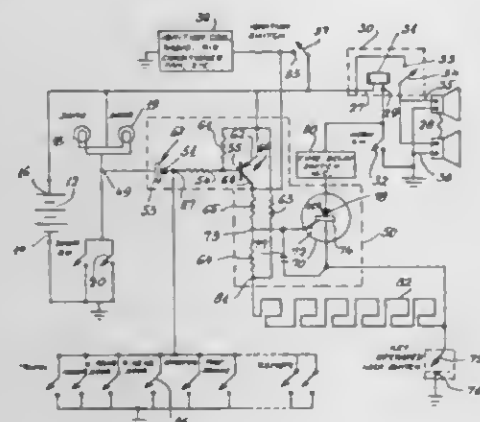
An underwater communication system utilizing space and frequency diversity along with coded signals to increase reliability between a control station and a plurality of remotely controlled stations. The control station and each controlled station are provided with ultrasonic transceivers. The transmitting units in the transceivers operate at two different frequencies to obtain said frequency diversity, and each receiving unit is provided with spaced transducers to obtain space diversity.

3,422,398 VEHICLE SOLID STATE ALARM SYSTEM

Norman S. Rubin, Bronx, N.Y.
(66 Dawn Drive, Churchville, Pa. 18966)
Filed Mar. 8, 1966, Ser. No. 532,600

U.S. Cl. 340—63
Int. Cl. G08b 13/00; B60r 25/00

10 Claims



1. An alarm system for a vehicle having a body with a plurality of movable closure members openable to the interior of said body, said system comprising in combination: a source of direct current; an electrically operable alarm device; a solid state gate controlled semiconductor triode rectifier having an anode, cathode and gating electrode; first circuit means connecting said current source, alarm device, anode and cathode in a first series circuit for activating said alarm device by current passing through the rectifier via the anode and cathode; said rectifier having a high internal electrical resistance so that the rectifier is normally in a nonconductive state unless a voltage of predetermined magnitude is applied at least momentarily between said gating electrode and cathode to reduce said electrical resistance to a low value, said low value of electrical resistance being then maintained so that electric current passes continuously through the rectifier between anode and cathode until the electric current is interrupted whereupon the high electrical resistance and nonconductive state of the rectifier are restored; a normally open switch arranged to be closed by an intruder entering the vehicle body; electrical resistance means, second circuit means connecting said direct current source, switch and resistance means in a second series circuit for establishing said voltage of predetermined magnitude across terminals of said resistance means when the switch is closed; and third circuit means connecting said cathode and gating electrode to the terminals respectively of said resistance means for applying said predetermined voltage between said gating electrode and cathode, whereby the rectifier is rendered conductive between the anode and cathode to activate the alarm device when said switch is closed, and whereby the solid state rectifier remains conductive and the alarm device remains activated even though the switch is thereafter opened.

3,422,399 SELECTION CIRCUIT FOR SIMULTANEOUSLY ENABLED NEGATIVE RESISTANCE DEVICES

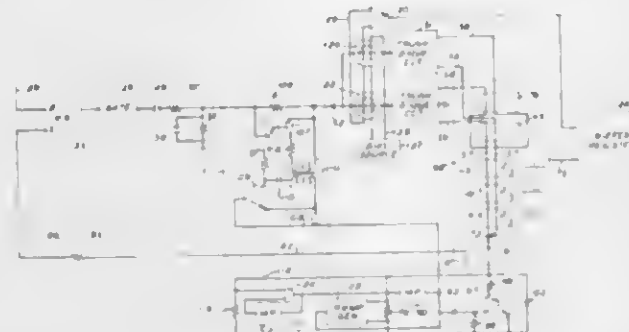
Arthur V. Haag and Dietrich Vedder, Columbus, Ohio,
assignors to Bell Telephone Laboratories, Incorporated,
New York, N.Y., a corporation of New York
Filed Aug. 23, 1965, Ser. No. 481,832

U.S. Cl. 340—147
Int. Cl. H04q 1/00; 3/00

16 Claims

11. In combination
a plurality of negative resistance devices each connected in an individual electric circuit and having predetermined breakdown voltage and sustaining current characteristics,
a common electric circuit to which all of said individual circuits are connected,

a source of enabling signals coupled to each of said devices for partially enabling said devices in response to each of such signals,
a plurality of electric circuits,
means coupling each of said plurality of electric circuits to a second terminal of a different one of said devices, said coupling means including a relay connected to be actuated by the occurrence of a predetermined signal condition on its corresponding circuit and to be deenergized upon the removal of such condition,



each of said individual circuits including two branch circuits coupled to said second terminal of the corresponding one of said negative resistance devices, each such branch circuit including a different resistor and a different capacitor connected in parallel, and said relay having a first set of contacts for opening a first one of said branch circuits in response to the actuation of said relay and a second set of contacts for opening the second one of said branch circuits in response to the de-energization of said relay, said relay also having additional contacts for disconnecting the resistance of a branch circuit that is otherwise connected to said device.

3,422,400 FERROELECTRIC STORAGE MEANS

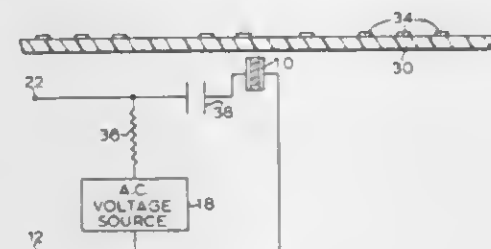
Guido C. Corijnen, Royal Oak, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Nov. 5, 1964, Ser. No. 409,238

U.S. Cl. 340—173.2

Int. Cl. G11b 9/02

7 Claims



1. A combination comprising:
storage means for storing information in the form of a pattern of electric energy at predetermined locations;
readout means for detecting the presence of said electric energy at any of said predetermined locations;
said readout means including a ferroelectric capacitor for changing one of its characteristics in the presence of said energy,
said readout means further including a sampling means for detecting impedance of said ferroelectric capacitor,
said sampling means comprising a source of alternating current having an amplitude insufficient by itself to saturate said ferroelectric capacitor, whereby said ferroelectric capacitor couples and decouples said alternating current to the output terminals of said readout means under the control of said pattern of elec-

trical energy which is capable of saturating said ferroelectric capacitor.

3,422,401 ELECTRIC DATA HANDLING APPARATUS

James Robert Lucking, Kilderslee, Stoke-on-Trent, England, assignor to English Electric Computers Limited, London, England, a British company

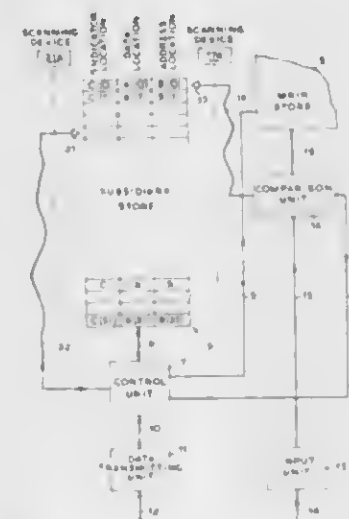
Filed Dec. 15, 1965, Ser. No. 513,953

Claims priority, application Great Britain, Dec. 17, 1964,

51,476/64

U.S. Cl. 340—172.5
Int. Cl. G11b 13/00

15 Claims



A main computer memory, a low-capacity and high-speed memory having a plurality of locations for storing a word of information, and address register for storing an address identifying that word, a bistable indicator, means for assessing a desired word as defined by an address supplied to the system from the low-capacity, high-speed memory or the main memory according to the word is or is not stored, means for setting the bistable indicator in any location when the word stored therein is assessed, displacement selection means having scanning means for scanning each location of the scratchpad memory in cyclic sequence until a given location is reached whose indicator is of a different state and means for setting the indicator of each scanned location to such different state, transfer means for reading the word in the location at which the scanning means cease scanning for leaving an empty location, and writing means for writing an assessed word together with its address into an empty location in the low-capacity, high-speed memory where the word is not already stored in the low-capacity, high-speed memory. The invention further relates to forms of a memory system including inhibit means responsive to "inhibit" information.

3,422,402 MEMORY SYSTEMS FOR USING STORAGE DEVICES CONTAINING DEFECTIVE BITS

Fred E. Sakalay, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Dec. 29, 1965, Ser. No. 517,264

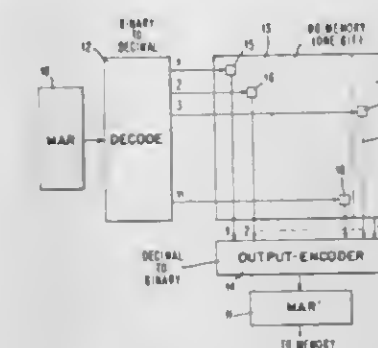
U.S. Cl. 340—172.5

Int. Cl. G11b 13/00

9 Claims

A memory control system wherein memory devices containing defective elements or components are arranged to operate reliably. The system includes a main memory for storing a plurality of multibit data and a first memory address register for selecting address locations in the main memory. There are further provided a second memory address register with extra substitute address locations connected to the main memory, a large read only memory device having extra capacity with extra

good address locations adapted to be substituted for address locations having defective bits, and an arrangement for directing an address with defective bits into a



substitute position of the read only memory device and out to the second memory address register in the extra substitute address locations for changed and corrected interrogation of the main memory.

3,422,403 DATA COMPRESSION SYSTEM

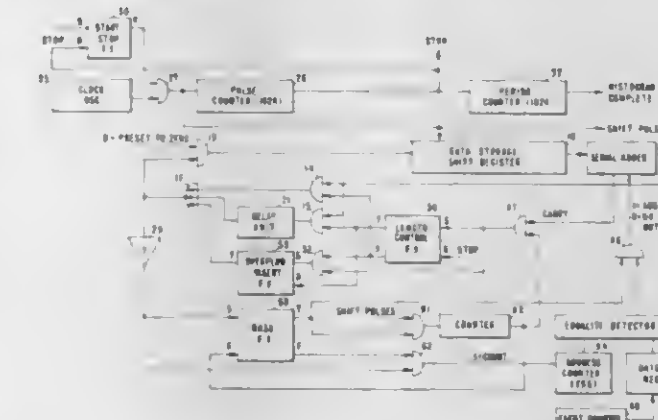
James E. Webb, Administrator of the National Aeronautics and Space Administration with respect to an invention of Irwin M. Jacobs, La Jolla, Leonard Kleinrock and Warren A. Lusbaugh, Los Angeles, and Willy Tveit, Tujunga, Calif.

Filed Dec. 7, 1966, Ser. No. 599,975

U.S. Cl. 340—172.5

Int. Cl. G11b 13/00

9 Claims



7. A system for storing data for use in plotting an N sample, K cell histogram, N representing sampling periods and each cell representing a particular number of events observed during each period, including zero event per period, comprising:

a memory of S storage bits, each having a "0" state and a "1" state;
first control means for setting at least the first (k-1)b bits of said S bits to said "0" state, b being the closest integer which is either greater or smaller than b₀, where

$$b_0 = \log_2 \left(\frac{N}{K-1} \right) + 0.47$$

each b bits defining a code word, each code word being associated with a different number of events observable in one sampling period;

second control means connected to said memory and responsive to a start-read signal at the end of each sampling period for reading out said code words, from said memory; and

third control means responsive at the end of a sampling period to the number of observed events during said sampling period and coupled to said memory for incrementing by one the numerical value represented by the code word associated with the number of events observed during said period, so that at the end of N periods the numerical value represented by each code word is the number of events observed during said period.

sampling periods, during each one a number of events equaling the number of events per period associated with the code word have been observed, the length of each code word as a function of the numerical value represented thereby being defined by

$$f(0)=f(1)=\dots=f(m-1)=b$$

$$f(m)=f(m+1)=\dots=f(2m-1)=b+1$$

$$f\left(\left[\frac{N}{m}\right]m\right)=\dots=f(N)=b+\left[\frac{N}{m}\right]$$

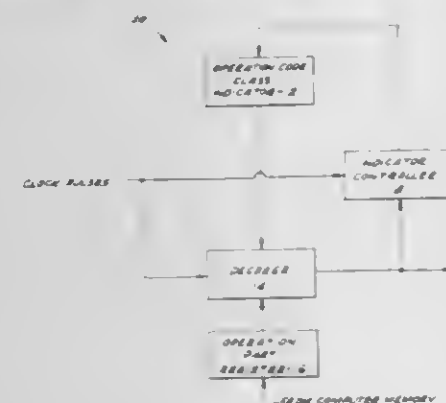
where $m=2^{b-1}$ and $[N/m]$ is the integer value of N/m .

3,422,404 APPARATUS AND METHOD FOR DECODING OPERATION CODES IN DIGITAL COMPUTERS

David E. Ferguson, 101 Ocean Ave., Apt. B-7,
Santa Monica, Calif. 90402

Filed Feb. 23, 1966, Ser. No. 529,360

U.S. Cl. 340-172.5 6 Claims
Int. Cl. G06f 7/00; G06f 7/02; H04I 3/00



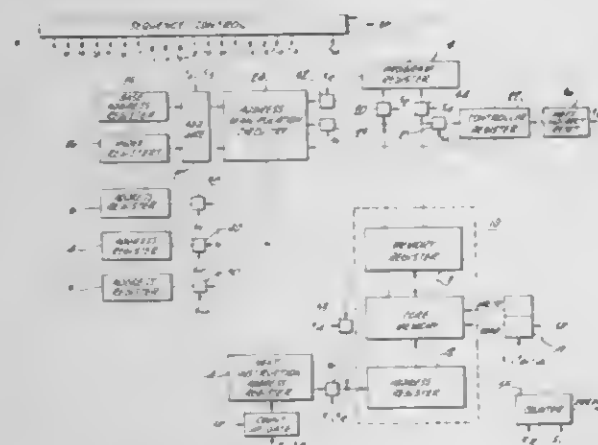
Apparatus and method for decoding operation codes in digital computers in which signal information indicative of different classes of operation codes is combined with a range of operation code words stored in the memory of the computer to produce output signals within the indicated class. Particular output signals cause the class indication to change so as to indicate another class of operation codes. The total number of output signals available is then greater than the stored range of operation code words.

3,422,405 DIGITAL COMPUTER HAVING AN INDIRECT FIELD LENGTH OPERATION

Roger E. Packard, Glendora, and Donald E. Knuth,
Sierra Madre, Calif., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Mar. 25, 1966, Ser. No. 537,362

U.S. Cl. 340-172.5 9 Claims
Int. Cl. G11b 13/00



A digital computer system in which data field lengths specified by program instructions may be altered during the fetch phase of operation without altering the instructions themselves.

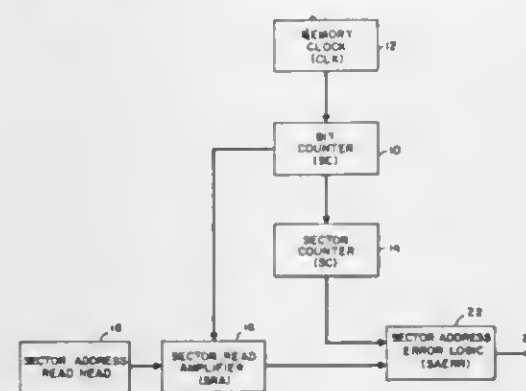
The length of data specified by an instruction is treated as a variable whenever a particular code is manifested by bits in the field length locations within the instruction. Means are provided to recognize this code and, other means, responsive to such recognition, obtain the true length of data from one of several memory locations within the computer. Other bits within the field length locations are utilized to specify the particular memory location.

3,422,406 INTERNAL ADDRESS GENERATING SYSTEM

Howard L. Stahle, Tujunga, Calif., assignor to General Precision, Inc., a corporation of Delaware

Filed May 23, 1966, Ser. No. 552,307

U.S. Cl. 340-172.5 5 Claims
Int. Cl. G11b 13/00



Logic circuitry for generating and recording the address to be used in a rotating memory. When recorded the circuitry is used to verify the address read and, if erroneous, will provide the address last acted upon, as well as indicating the occurrence of the error.

3,422,407 DEVICES UTILIZING A COBALT-VANADIUM-IRON MAGNETIC MATERIAL WHICH EXHIBITS A COMPOSITE HYSTERESIS LOOP

Harold L. B. Gould, Kinnelon, and Daniel H. Wenny,
Jr., Morris Township, Morris County, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 405,201,
Oct. 20, 1964. This application Apr. 21, 1965, Ser.
No. 449,788

U.S. Cl. 340-174 7 Claims
Int. Cl. G11b 5/00; H01f 1/02; H01f 7/02



1. Device comprising a ferromagnetic body comprising an alloy consisting essentially of 78 to 95 weight percent cobalt, 4.5 to 11 weight percent vanadium, remainder iron, produced by cold work so as to produce a thickness reduction of at least 90 percent based on the ratio:

$$\frac{t_1 - t_2}{t_1}$$

where t_1 and t_2 are a dimension of the body subject to reduction in the working operation, before and after working, respectively, followed by heat treatment at a temperature of from 150° C. to 800° C., said body exhibiting a composite hysteresis loop composed of components of a

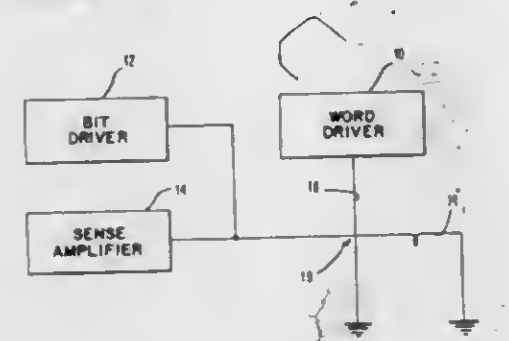
major and a minor loop, the said body having associated therewith at least one electrical current path so situated that passage of current through the said path results in a magnetic field within at least a portion of the said body and means for magnetically switching said minor loop independently of said major loop.

3,422,408 THIN FILM MEMORY DEVICE EMPLOYING UNIPOLAR BILEVEL WRITE-READ PULSES TO MINIMIZE CREEP

Alexander Turczyn, Philadelphia, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Sept. 1, 1964, Ser. No. 393,498

U.S. Cl. 340-174 5 Claims
Int. Cl. G11b 5/00



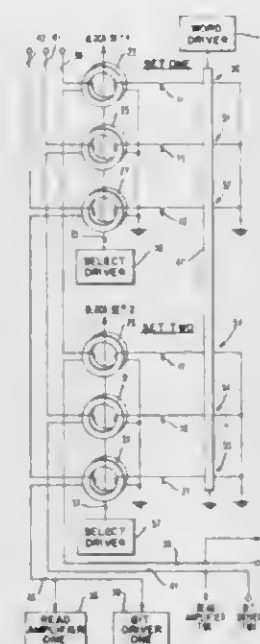
The invention relates to a technique for minimizing creep or magnetic domain wall motion in a continuously coated wire memory device. This is accomplished by energizing the drive line juxtaposed to the wire memory with a unipolar signal having a smaller amplitude during the write cycle than during the read cycle. This minimizes the possibility of exceeding the film's wall motion threshold.

3,422,409 MAGNETIC SWITCH FOR READING AND WRITING IN AN NDRO MEMORY

William J. Bartik, Jenkintown, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 20, 1964, Ser. No. 412,800

U.S. Cl. 340-174 7 Claims
Int. Cl. G11b 5/00



A magnetic core for each plated wire memory bit line acts as a bidirectional current switch to write information into the plated wire memory and a sensing

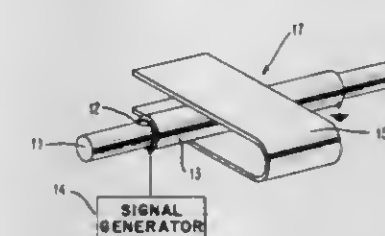
signal switch detects signals coming from the plated wire memory. These switching cores are grouped according to read-write groups and further grouped according to word groups. Each read-write group is made up of as many cores as there are word groups, being made up of a core from each of the different word groups.

3,422,410 PLATED WIRE MEMORY EMPLOYING A MAGNETICALLY SATURABLE SHIELD

William J. Bartik, Jenkintown, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed June 16, 1965, Ser. No. 464,283

U.S. Cl. 340-174 6 Claims
Int. Cl. G11b 5/00



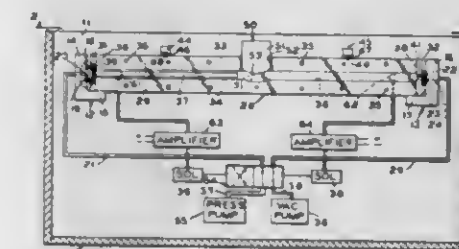
1. A thin film magnetic memory device comprising:
 - (a) a memory element of magnetizable thin film capable of storing data information;
 - (b) drive line means disposed adjacent said memory element to subject said memory element to a magnetic field in response to an electrical signal being passed along said drive line;
 - (c) magnetically-saturable, shield means disposed between said drive line means and said memory element to intercept said magnetic flux from said drive line when said shield is not magnetically saturated and to pass said magnetic flux from said drive line when said shield is magnetically saturated; and
 - (d) signal transfer means connected to said magnetically-saturable, eddy-current shield to pass an electrical signal therealong which generates a magnetic flux to saturate said shield when said flux from said drive line is to be passed through said shield alternatively to not pass said electrical signal thus leaving said shield unsaturated so that said flux from said drive line will be intercepted.

3,422,411 PNEUMATIC MOVEMENT OF DATA MEMBER

Joseph E. Smith, Jr., Birmingham, Mich., assignor to Ex-Cell-O Corporation, Detroit, Mich.

Filed July 21, 1965, Ser. No. 473,600

U.S. Cl. 340-174.1 18 Claims
Int. Cl. G11b 5/00



An interchangeable data storage cartridge for use with a data processing system which has an enclosed transfer chamber which houses a data storage card and is provided with an air pressure and an air vacuum system which can be automatically alternated between the ends

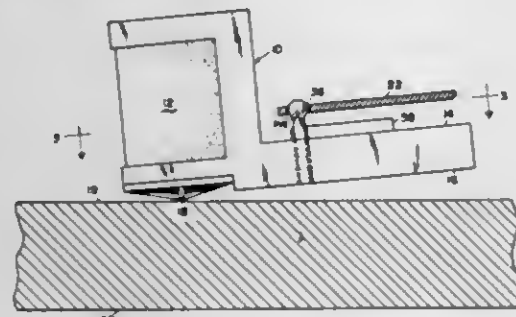
of the elongated chamber to reciprocate the data storage card back and forth in the chamber and placing it in functional contact with a data processing head.

3,422,412 SUPPORT ASSEMBLY FOR AN AIR BEARING MAGNETIC HEAD

Clarence R. Linsley, La Crescenta, Calif., assignor to General Precision Systems Inc., a corporation of Delaware

Filed Dec. 2, 1965, Ser. No. 511,156
U.S. Cl. 340-174.1
Int. Cl. G11b 5/00

6 Claims



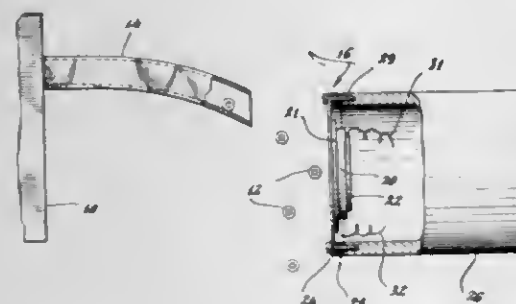
A mounting assembly for supporting a magnetic transducer on the laminar gaseous bearing created by a moving memory surface. A bifurcated biasing spring attached to a stationary member has holes in the tine ends which engage the equators of balls coupled to the top surface of the transducer bearing pad to provide a coupling which permits the transducer to assume any reasonable flying attitude without moving its position with relation to the moving surface. This spring, which acts to force the transducer toward the moving surface, is maintained at the equators of the coupling balls by a wedge connected to the top surface of the transducer bearing pad. The vertex of this wedge supports the spring at the equators of the balls and also provides a fixed pivot pin between the spring tines and the transducer.

3,422,413 PRODUCTION MONITORING APPARATUS

Harry L. Mason, Noroton, Conn., assignor, by mesne assignments, to Vogue Instrument Corporation, a corporation of New York

Filed Nov. 2, 1964, Ser. No. 408,264
U.S. Cl. 340-213
Int. Cl. G08b 21/00

5 Claims



1. Apparatus for monitoring automated production machinery producing a normal succession of articles, said apparatus comprising, in combination:

- a sensor disposed to detect said articles produced by said production machinery, such sensor
 - operating to produce a succession of pickup signals corresponding to the succession of article;
- a trigger circuit
 - operating to a first state in response to said pickup signals, and
 - operating to a second state in response to the absence of pickup signals;

(C) delay circuit means responsive to said pickup signals for

- providing a first time delay in the operation of said trigger circuit from its second state to its first state, and
 - providing a second time delay in the operation of said trigger circuit from its second state;
- (D) signal indicating means enabled by said trigger circuit when in its second state to provide a signal indication; and
- (E) a counter adapted to count production cycles of said machinery, said counter
- being enabled by said trigger circuit when in its first state to count machine production cycles thereby providing a count substantially corresponding to the number of articles produced.

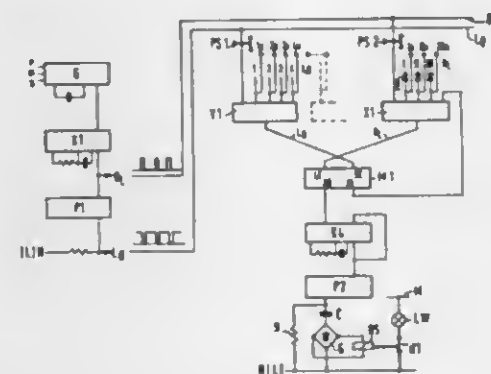
3,422,414 SYSTEM FOR CHECKING THE OPERATIONAL RELIABILITY OF LOGIC MODULES AND FINDING THE LOCALITY OF FAULTS

Hermann Margreiter, Erlangen, Germany, assignor to Siemens Aktiengesellschaft, Erlangen, Germany, a corporation of Germany

Filed July 8, 1965, Ser. No. 470,553
Claims priority, application Germany, July 10, 1964, S 91,979

U.S. Cl. 340-214
Int. Cl. G08b 29/00; H03k 5/18

3 Claims



1. With a control system having interlinked logic modules controlled by binary L- and O-signals, the combination of a supervisory system for continuously checking the operational reliability of modules and locating any occurring faults, comprising a pulse transmitter portion, a receiver portion and test circuit means, said modules to be checked having respective inputs connected to said transmitter portion to receive control signals therefrom, said transmitter portion having means for dividing the control signals into mutually complementary signal sequences in which the L-signal is constituted by an L₀-sequence, which is an L-signal with short periodic O-signal interruptions, and the O-signal by an O_L-sequence, which is an O-signal with short L-signal interruptions, said receiver portion comprising protective control means, an L₀-signal gate and an O_L-signal gate, said gates having inputs connected to said modules being checked to receive output signals therefrom, and said gates having respective outputs connected to said control means for causing protective operation thereof when said L₀-gate receives an L-signal or said O_L-gate receives an O-signal said test circuit means comprising O-signal and L-signal supply means, and selective test switch means for applying O-signals from said supply means to said respective module-connected inputs of said L₀-gate and applying L-signals from said supply means to said module-connected inputs of said O_L-gate, whereby upon response of said control means to fault the setting of said switch means at which such response ceases is indicative of the fault location.

3,422,415 PROXIMITY DETECTING APPARATUS

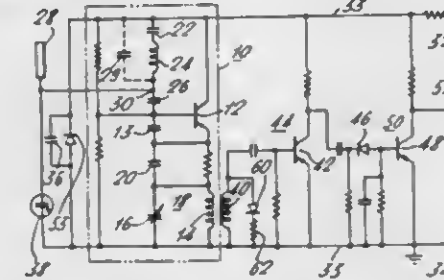
Masuo Ichimori, 15-18 Higashitanakase, Terado, Muko-machi, Otokuni-gun, Kyoto, Japan

Filed Dec. 20, 1965, Ser. No. 514,913

U.S. Cl. 340-258

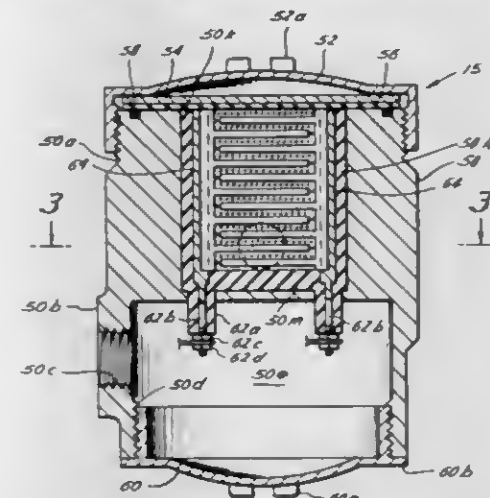
Int. Cl. G08b 13/22

4 Claims



A proximity detecting apparatus is disclosed which includes a capacitive probe connected to an improved transistor oscillator circuit of a modified Colpitts type. The improved circuit provides greater stability and accuracy of the switching frequency or capacitance change necessary to provide a proximity indication and which is characterized by being affected very little by changes in ambient temperature. It also includes an overvoltage protection feature.

include bearings and the like susceptible of failure and enstreaming metal particles in the oil, an improved embodiment directing oil flow preferably through a printed circuit grid means having several electrodes spaced adjacent



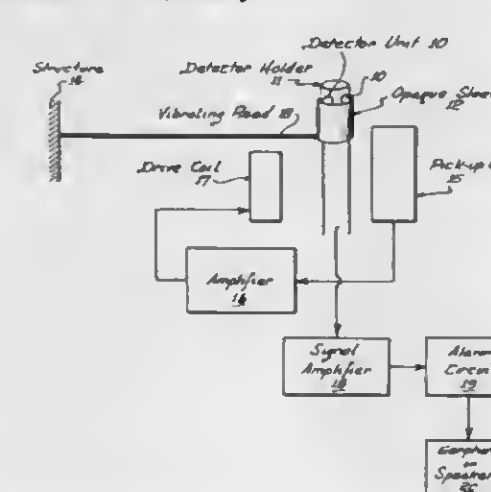
oil flow passages which are contacted by the particles in the oil to create an alarm signal, the apparatus incorporating removable grid means for service and for varying the sensitivity.

3,422,416 RADIANT ENERGY DETECTION SYSTEM USING RECIPROCATING MEANS SURROUNDING THE DETECTOR

Lloyd Gastineau, Claremont, Calif., assignor to General Dynamics Corporation, a corporation of Delaware

Filed Aug. 25, 1966, Ser. No. 575,076
U.S. Cl. 340-258
Int. Cl. G08b 13/00; H01j 3/14

5 Claims



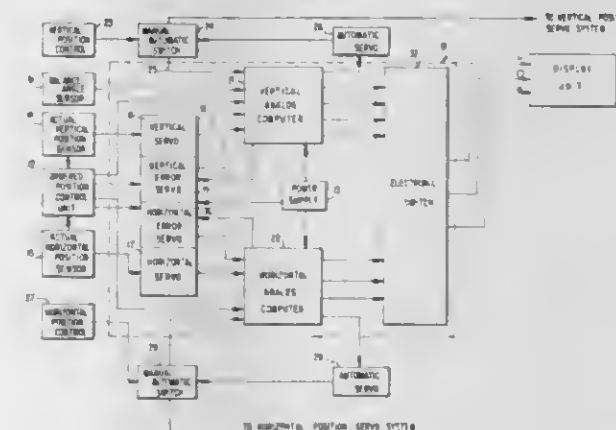
1. A radiant energy detection system adapted to provide an output signal when illuminated with radiation from any azimuth angle comprising: radiant energy detector means, a vibrating reed mounted on a support structure adjacent said detector means and carrying modulation means surrounding said detector means to alternately cover and uncover said detector means in reciprocating fashion, feedback circuit means adapted to vibrate said reed means at its mechanical resonant frequency, and circuit means adapted to utilize signals from said detector means.

3,422,418 NON-LINEAR QUICKENED MONITOR AND CONTROLLER

George R. Simoneau, Norwich, Conn., assignor to General Dynamics Corporation, New York, N.Y., a corporation of Delaware

Filed Sept. 17, 1964, Ser. No. 397,125
U.S. Cl. 340-324
Int. Cl. G08b 23/00; G08g 1/12

9 Claims



A control arrangement for positioning a dynamic system having controls settable by an operator for adjusting the position of said dynamic system is provided by means of a display presented to the operator showing the actual position, the ordered position, and the dynamic response of the dynamic system to the controls set by the operator.

3,422,419 GENERATION OF GRAPHIC ARTS IMAGES

Max V. Mathews, New Providence, and Henry S. McDonald, Murray Hill, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 19, 1965, Ser. No. 498,018
U.S. Cl. 340-324
Int. Cl. G08b 23/00; H01j 31/06; 31/58

14 Claims

The generation and display of graphic arts images on the face of a cathode ray device is simplified and improved by defining each image, within a large library of images, in terms of a number of individual elementary closed geometric patterns. Each elementary pattern, or a variation of it, is used as a building block in forming the images of the library. Instructions for each pattern, defining the manner of assembling patterns into a desired image

3,422,417 METAL BEARING FAILURE DETECTOR

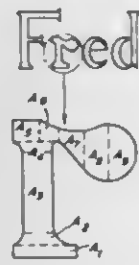
Charles B. Lowe, P.O. Box 705, Bridge City, Tex. 77611
Continuation-in-part of application Ser. No. 444,186, Mar. 31, 1965. This application Feb. 2, 1968, Ser. No. 702,730

U.S. Cl. 340-270
Int. Cl. G08b 21/00

9 Claims

For use with flowing lubrication oil from an engine or other rotary device wherein the lubricated components

and the necessary beam deflections, are stored and called to use in response to a signal which designates a desired image. Called instructions are converted to signals for



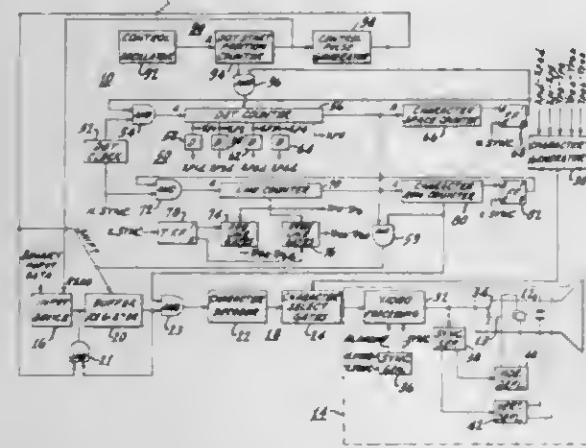
controlling the cathode ray device. Each completed frame display may be photographed, for example, for use in type set operations or the like.

3,422,420 DISPLAY SYSTEMS

Robert John Clark, Dorion, Quebec, Canada, assignor to Radio Corporation of America, a corporation of Delaware

Filed Mar. 23, 1966, Ser. No. 536,778

U.S. Cl. 340—324 3 Claims
Int. Cl. G08b 23/00



A display system that generates characters from digitally stored signals and displays the characters through use of a raster scanning pattern includes means for continuously moving the characters off the display device in one direction while continuously moving new characters onto the opposite side of the display device so that a continuously moving message is displayed.

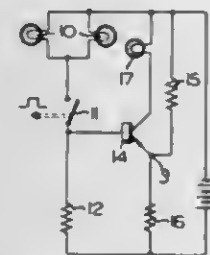
3,422,421 BLINKER TYPE SIGNAL SYSTEM WITH INDICATION OF DEFECTIVE BLINKER LAMP

Heinz Möller, Stuttgart, and Karl Schupp, Pforzheim, Germany, assignors to Robert Bosch G.m.b.H., Stuttgart, Germany

Filed Oct. 11, 1965, Ser. No. 494,562

Claims priority, application Germany, Oct. 9, 1964, B 78,857

U.S. Cl. 340—331 30 Claims
Int. Cl. G08b 5/38; H05b 41/00



An arrangement for determining the operability of the blinking type of lights in a motor vehicle. The blinking lights subjected to continuous test are connected in

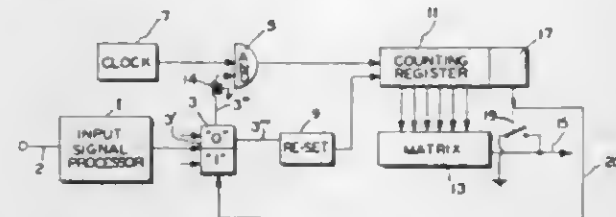
parallel and the parallel combination is, in turn, connected in series with a resistor. If one of the blinking lights becomes defective, the circuit through the defective lamp is opened and as a result the voltage drop across the resistor is modified. This change in voltage drop across the resistor is used to turn a control transistor on and off. The switching function of the transistor acts on an indicating lamp which will either light or not light depending upon the operational state of the blinking lights. By viewing the indicating lamp, the operator of the vehicle can immediately determine from the dashboard whether all blinking lights are operating satisfactorily.

3,422,422 METHOD OF AND APPARATUS FOR FREQUENCY DISPLAY

Richard W. Frank, Concord, and Gordon R. Partridge, Sudbury, Mass., assignors to General Radio Company, West Concord, Mass., a corporation of Massachusetts

Filed Nov. 5, 1964, Ser. No. 409,074

U.S. Cl. 340—347 12 Claims
Int. Cl. H04l 3/00; G06f 7/38; H03k 13/00



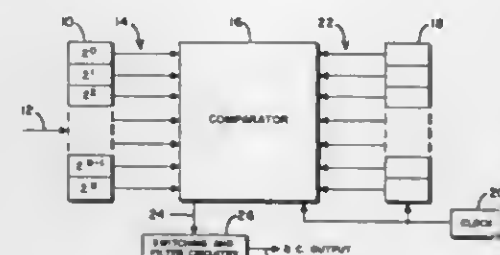
Frequency display apparatus having processing means for converting a signal comprising a plurality of successive cycles, each of duration less than approximately one-half second and thus too short to permit digital display, into a corresponding plurality of electric impulses separated by periods of less than approximately one-half second and having means including a flip-flop controlled by the processing means, a source of timed pulses, and an AND circuit for producing a number of timed electric pulses throughout an interval corresponding to the period between successive impulses. The number of timed pulses is counted and converted into an analog current or voltage for substantially instantaneous display during the next such interval. A pair of counting registers may be employed in association with a matrix to produce counting and displaying during each such interval, rather than alternate intervals. Noise immunity may be provided by a spill flip-flop associated with each counting register to terminate any output from the matrix.

3,422,423 DIGITAL-TO-ANALOG CONVERTER

Albert Z. Kaszynski, St. Paul, and Robert E. Phelps, White Bear, Minn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Jan. 4, 1965, Ser. No. 423,135

U.S. Cl. 340—347 2 Claims
Int. Cl. H03k 13/02



This invention relates to circuitry for converting information represented by digital signals into an analog representation, and more specifically to apparatus for

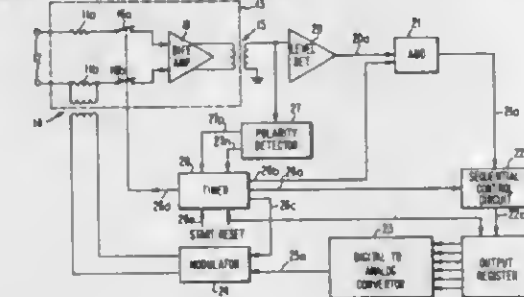
converting a digital number into a recirculating square wave pulse, said pulse having a duty cycle representing the analog equivalent of the digital number. The square wave pulse is further utilized to control low-pass filter circuitry for producing an analog signal representative of the digital number.

3,422,424

Joseph J. Belet, San Jose, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Jan. 8, 1965, Ser. No. 424,360

U.S. Cl. 340—347 7 Claims
Int. Cl. H04l 3/00; H03k 13/00



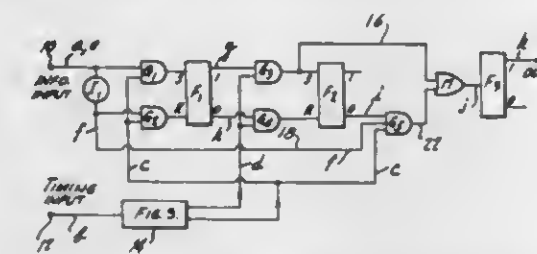
A system for converting analog voltages to digital voltages. A modulated reference voltage is transmitted to a floating analog voltage input section. The modulated reference signal is added to the analog input signal and the resulting sum is sampled. The sampled sum is transmitted to a level detector which is not located in said floating section. The output of the level detector changes the value stored in a register which in turn changes the value of the reference voltage. This proceeds until said sum equals zero or changes polarity at which time the number in said register represents the digital value of the analog input signal.

3,422,425 CONVERSION FROM NRZ CODE TO SELF-CLOCKING CODE

John A. Vallee, Juno Beach, Fla., assignor to Radio Corporation of America, a corporation of Delaware

Filed June 29, 1965, Ser. No. 467,931

U.S. Cl. 340—347 5 Claims
Int. Cl. H04l 3/00; H03k 1/00, 13/00



1. A code converter utilizing a non-return-to-zero information input signal, an accompanying first timing pulse wave of pulses occurring within bit cells of the input signal and a second timing pulse wave of pulses occurring at the boundaries of bit cells of the input signal, comprising

means enabled by said first timing pulse wave to translate said input signal to a delayed input signal.

a triggerable flip-flop,

means enabled by said second timing pulse wave and said delayed input signal to apply a trigger pulse to said triggerable flip-flop,

means enabled by said second timing pulse wave to translate said delayed input signal to an additionally delayed input signal, and

means enabled by said first timing pulse wave, said input signal and said additionally delayed input signal to apply a trigger pulse to said triggerable flip-flop,

whereby the output of said triggerable flip-flop is a self-clocking information signal in which there is a transition to represent a "1" and a transition at the boundary between two successive "0's."

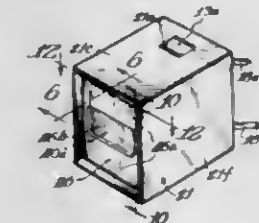
3,422,426

ELECTROMAGNETIC SIGNAL DEVICE HAVING MOVABLE PERMANENT MAGNET

James R. Bailey, Chicago, and Robert J. Bokosky, Park Ridge, Ill., assignors to Switchcraft, Inc., Chicago, Ill., a corporation of Illinois

Filed Apr. 10, 1967, Ser. No. 629,772

U.S. Cl. 340—373 11 Claims
Int. Cl. G08b 5/00; G08b 5/22; H01f 7/02



An electromagnetic signal device primarily for annunciator use has an E-shaped soft iron core with a magnetizing coil about the center leg. The E has substantial depth in a plane normal to the E. A movable flat permanent magnet attached to a signal flag is disposed so that it can cooperate magnetically with the center leg and one or the other of the end legs of the E core. The permanent magnet is guided for movement transversely across the tips of the E. Upon coil energization by current of proper polarity, each pole of the permanent magnet will be repelled and attracted by two corresponding legs of the E core, thereby moving the signal flag. A detent means for locking the permanent magnet against idle movement is provided.

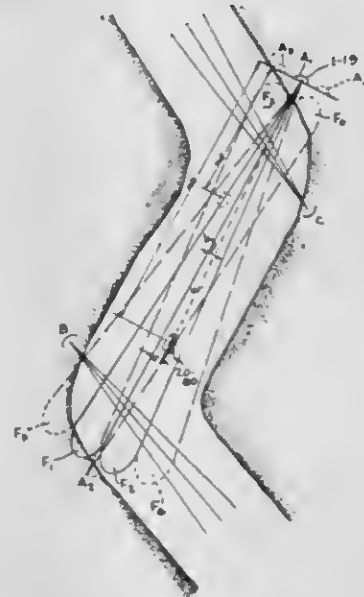
3,422,427

ELECTRONIC CHANNEL GUIDANCE SYSTEM

Peter P. Schaffner, 101 W. Springfield Ave., Philadelphia, Pa. 19118

Continuation-in-part of application Ser. No. 580,545, Sept. 19, 1966. This application Feb. 5, 1968, Ser. No. 709,853

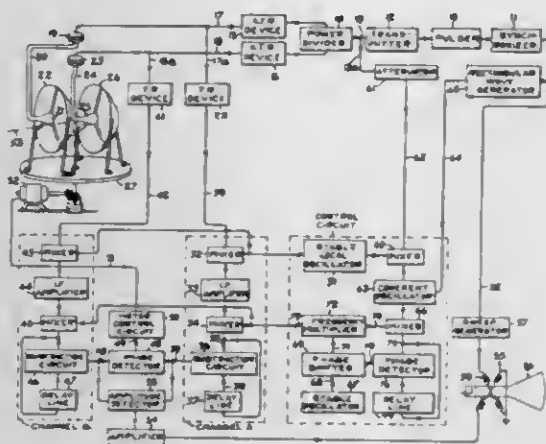
U.S. Cl. 343—6 14 Claims
Int. Cl. G01s 9/02



Channel guidance systems in which electronic equipment on board a vehicle traveling the range receives, in a distinctive time interval for that range, a sequence of signals comprising equal-amplitude beam pulses and time-separated pulses from which there is determined the relative bearing and distance from a range station and the offset of the vehicle from the range center line.

3,422,428 MOVING-TARGET-RESPONSIVE RADAR SYSTEM

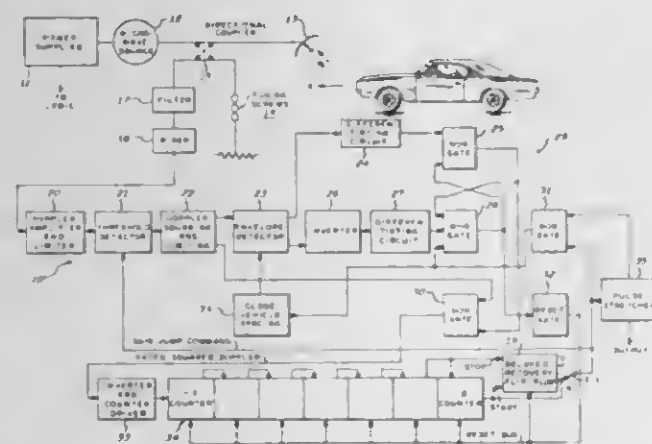
Richard C. Jensen, Baldwinville, N.Y., assignor to General Electric Company, a corporation of New York
Filed Sept. 15, 1953, Ser. No. 380,318
U.S. Cl. 343—7 19 Claims
Int. Cl. G01s 9/02



1. An object-detection system comprising means for radiating wave energy into space and for intercepting reflections from a remote object, said means including a pair of wave-intercepting devices disposed on opposite sides of a reference plane to derive a pair of output waves having a relative phasing representing the angular displacement of said object with respect to said reference plane, means for deriving a control effect dependent upon the angular displacement of only objects having a radial component of velocity with respect to said intercepting devices comprising a pair of translating channels, each coupled to one of said devices, for translating said output waves with substantially no change in relative phasing, each of said channels including means for translating waves representing a remote object having a radial component of velocity with respect to said intercepting devices, while materially reducing the amplitude of waves representing a fixed object, and means for utilizing the waves translated by said channels to derive a control effect dependent upon said relative phasing.

3,422,429 VEHICLE SENSING AND VELOCITY MEASURING APPARATUS RESPONSIVE TO VEHICLES MOVING ALONG A TRAFFIC PATH

David E. Kenyon, Huntington, N.Y., assignor to Sperry Rand Corporation, a corporation of Delaware
Filed Oct. 9, 1967, Ser. No. 673,654
U.S. Cl. 343—8 13 Claims
Int. Cl. G01s 9/44; G08g 1/00; G06g 7/78

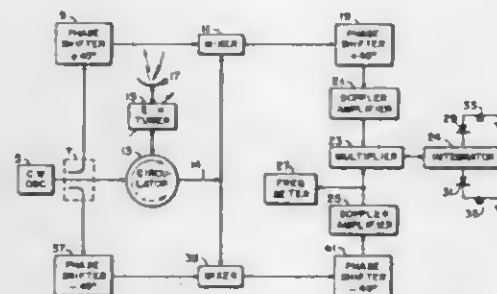


A Doppler radar type of vehicle sensing and velocity measuring apparatus which provides signals representative

of the presence and speed of vehicles travelling along traffic paths.

3,422,430 DOPPLER RADAR WITH TARGET VELOCITY DIRECTION INDICATOR

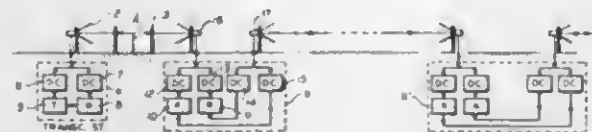
Otto E. Rittenbach, Neptune, N.J., assignor to the United States of America as represented by the Secretary of the Army
Filed Jan. 4, 1968, Ser. No. 695,685
U.S. Cl. 343—9 8 Claims
Int. Cl. G01s 9/44



Four Doppler radar sets of the zero-intermediate frequency type are shown. In all four the direction of target movement along the radar beam is obtained by comparing the relative phases of two Doppler signals resulting from two demodulation operations. In two of the embodiments, two demodulators or mixers are used, the local oscillator signals of which differ in phase by 90°. In the third embodiment a single mixer is used and the local oscillator signal of this mixer is periodically changed in phase by 90° and a switching arrangement used to derive the two Doppler signals which are then compared in phase to yield the target directivity. In the fourth embodiment the transmitted signal is periodically changed in phase by 90°.

3,422,431 DETECTION OF OBJECTS IN AN ELECTRO- MAGNETIC FIELD

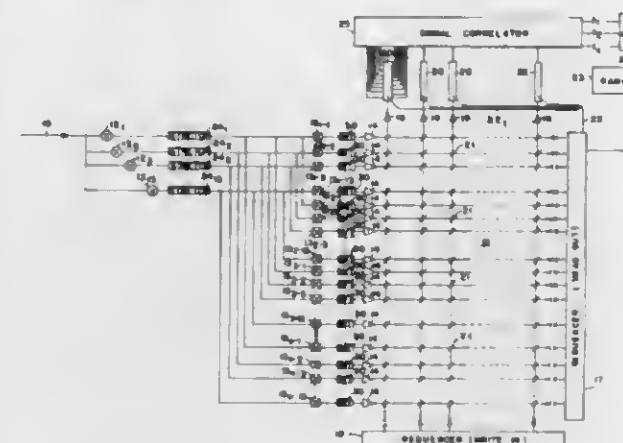
Theodore Hafner, 1501 Broadway,
New York, N.Y. 10036
Continuation-in-part of application Ser. No. 587,611,
Oct. 18, 1966. This application Mar. 14, 1967, Ser.
No. 623,100
U.S. Cl. 343—13 11 Claims
Int. Cl. G01s 9/06; G08b 13/00; G08b 13/24



The invention consists in substance of combining a single surface wave transmission line carrying surface waves of a field diameter of the order of one wavelength and supported at a distance above ground of the order of such wavelength to determine a surface wave propagation path between line and ground, with means for transmitting pulses of a frequency within the operating range of the line and through said propagation path, to indicate the position in time of the transmitted pulses as well as those reflected from an object in the propagation path and received over the line, so as to determine the difference in travel time between transmitted and reflected pulses, and thereby the distance of the object from the point of transmission.

3,422,432 SIGNAL IDENTIFICATION APPARATUS

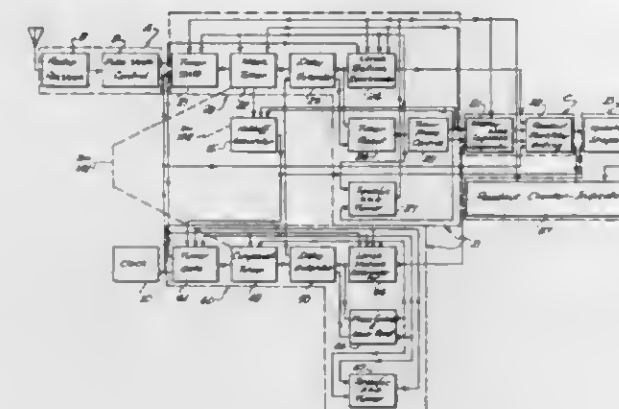
Martin R. Richmond, Belmont, Mass., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware
Filed Oct. 9, 1967, Ser. No. 673,873
U.S. Cl. 343—17.1 25 Claims
Int. Cl. F01s 7/28



Apparatus is herein disclosed for large dynamic range signal processing. The apparatus includes a magnetic core matrix in which samples of modulated coded signals to be recognized are stored. The matrix is coupled to a set of shift registers, one of which is coupled to each column of the storage core matrix. The rows of the matrix can be sequentially read out into the shift registers which are each tapped at selected stages in accordance with the code so that the signal is identified when an output appears simultaneously at all said selected stages of any shift register. The outputs from the taps of the shift register are coupled to a correlating network containing a multiplicity of summing networks each arranged to provide maximized output when a signal containing the modulation to be recognized is applied thereto.

3,422,433 LORAN RECEIVING SYSTEM

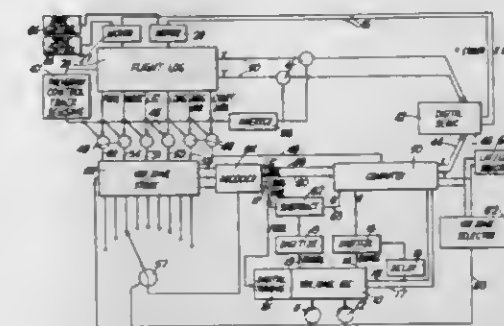
Wayne E. De Vault, Torrance, Calif., assignor to Guidance Technology Inc., Santa Monica, Calif., a corporation of California
Filed Apr. 21, 1967, Ser. No. 632,655
U.S. Cl. 343—103 7 Claims
Int. Cl. G01s 1/24



Receiving system for indicating the time interval between received pulses produced in a known time relationship, such as Loran signals. The apparatus selects from the received pulses those recurring at the desired repetition rate, generates a marker pulse one-half the pulse period after the first selected pulse, and measures the time interval between the marker pulse and the second selected pulse, regardless of which occurs first. Marker pulses are generated one-half the pulse period after alternate ones of the subsequently selected pulses so the measurements can be continuously repeated.

3,422,434 POSITION INDICATORS FOR USE IN MOBILE CRAFT

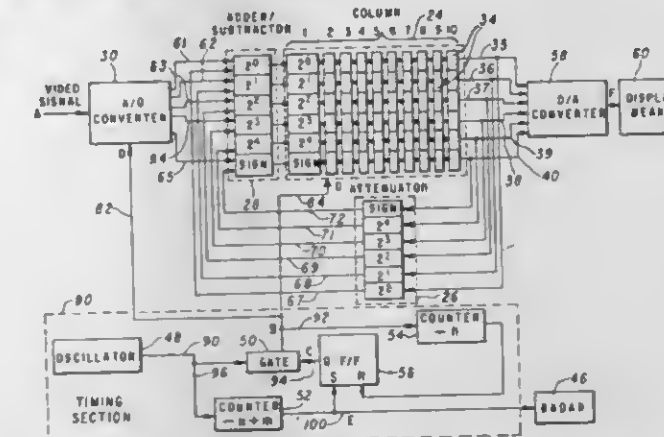
Michael Geoffrey Pearson, London, England, assignor to Decca Limited, London, England, a British company
Filed Nov. 21, 1966, Ser. No. 595,674
U.S. Cl. 343—112 14 Claims
Int. Cl. G01s 3/02



This specification discloses apparatus for the automatic display on any one of a number of charts of the position of a craft as determined by any one of a number of VOR/DME stations. The various charts are arranged in succession along a strip which can be moved to position one or part of a chart in a viewing position, a marker being movable transversely to the chart strip across the viewing position. The chart strip and marker are driven by servo means from a computer which determines the chart co-ordinates of the craft position from VOR/DME range and bearing information utilizing chart scale, location and orientation data sensed from the chart strip and VOR/DME station data from a VOR/DME data store. This VOR/DME data store contains information about a number of stations which might be used for the chart in the viewing position, the information being fed into the store from the chart strip as each individual chart is brought into the viewing position.

3,422,435 DIGITAL INTEGRATOR

Harvey G. Cragon and Samuel K. Smith, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Dec. 5, 1966, Ser. No. 599,071
U.S. Cl. 343—17.1 9 Claims
Int. Cl. G01s 7/28; G06j 1/02

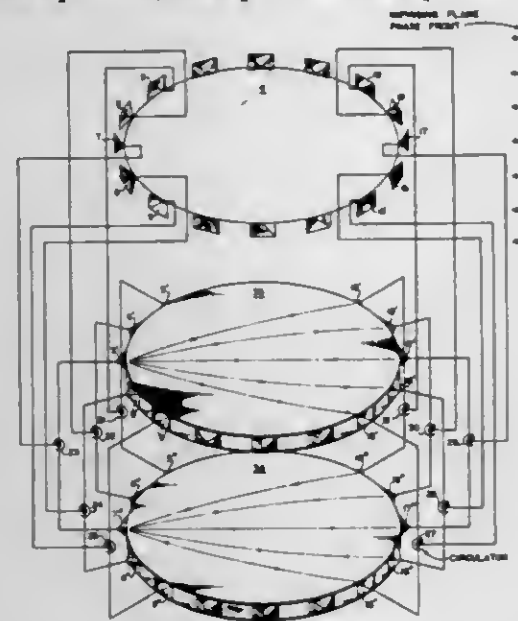


Disclosed herein is a digital video integrator described in conjunction with a radar system which receives periodically recurring signals. By recirculating the signals through the integrator, a signal-to-noise ratio enhancement is effected. The integrator includes an "n" word parallel shift register or other suitable digital storing means which stores and delays the digital video signals by a predetermined time period which in a radar environment equals the reciprocal of the pulse repetition frequency. The output of the storage register is connected to a feedback attenuator which attenuates and presents the attenuated digital signal to an algebraic summing device that combines the attenuated digital representation with the next periodically recurring signal and transmits the result to the storage register.

3,422,436 OMNIDIRECTIONAL RETRODIRECTIVE ANTENNA

Arthur E. Marston, Alexandria, Va., assignor to the United States of America as represented by the Secretary of the Navy

Filed Jan. 17, 1966, Ser. No. 521,220
U.S. Cl. 343-754 8 Claims
Int. Cl. H01q 19/06; H01q 13/00; H01q 3/26

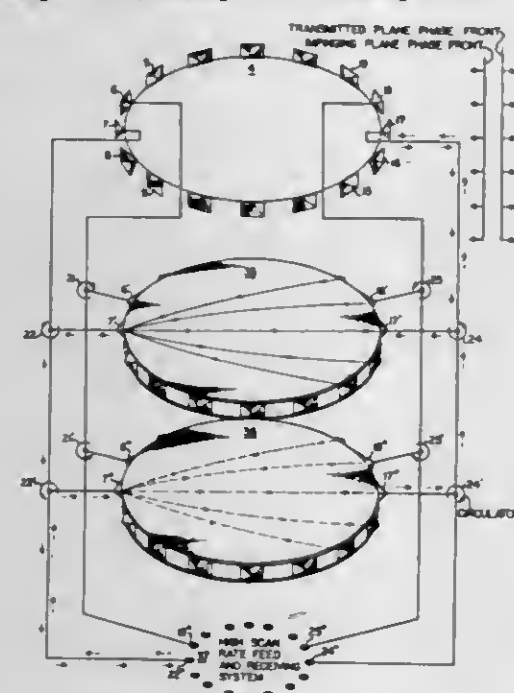


An omnidirectional retrodirective antenna for receiving a signal from any direction in azimuth and reradiating that signal back in the direction from which it originated to the exclusion of all other directions. The antenna may include a pair of Luneberg lenses each having a number of ports connected thereto equal in number to the waveguide horns. Three-port circulators may be used to interconnect these elements so that received signals are directed sequentially through the Luneberg lenses and then back to the same horns which received the signal.

3,422,437 RECIPROCAL OMNI-DIRECTIONAL RAPID SCAN ANTENNA SYSTEM

Arthur E. Marston, Alexandria, Va., assignor to the United States of America as represented by the Secretary of the Navy

Continuation-in-part of application Ser. No. 521,220, Jan. 17, 1966. This application July 7, 1966, Ser. No. 564,509
U.S. Cl. 343-754 9 Claims
Int. Cl. H01q 19/06; H01q 13/00; H01q 3/26



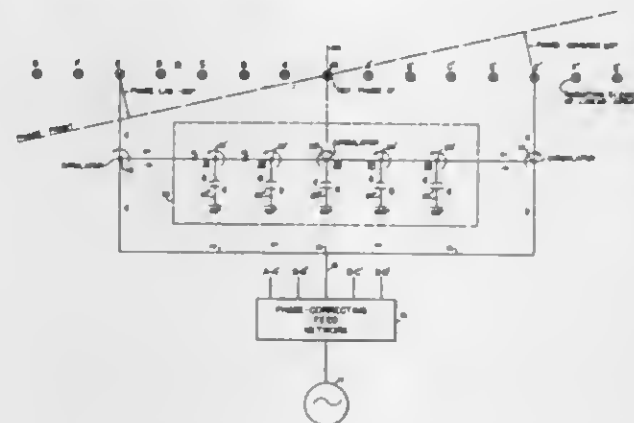
A rapid scan antenna system by which signals may be transmitted in any direction and other signals may be

simultaneously received from that direction or any other direction. The antenna may include two Luneberg lenses each having the same number of ports as there are waveguide horns. The horns, ports and an antenna feed and receiving system are interconnected by four-port circulators to permit simultaneous transmission and reception.

3,422,438 CONJUGATE PAIR FEED SYSTEM FOR ANTENNA ARRAY

Arthur E. Marston, 718 Putnam Place,
Alexandria, Va. 22302

Filed Nov. 30, 1965, Ser. No. 510,710
U.S. Cl. 343-854 6 Claims
Int. Cl. H01q 3/26; H01q 13/00

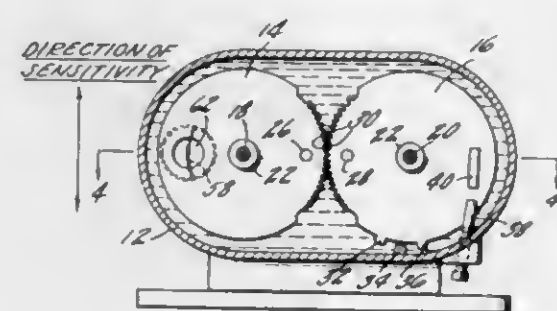


A feed system for an antenna array using non-reciprocal phase shifters. Each pair of radiating elements equidistant from the center of the array is connected to opposite ends of a variable non-reciprocal phase shifter. A signal to be radiated is divided to traverse the non-reciprocal phase shifters in opposite directions so that the phases of signals at each pair of radiating elements are conjugates of one another.

3,422,439 SHOCK RECORDER USING ECCENTRICALLY- WEIGHTED GEARS

Robert E. Grubaugh, Sherman Oaks, and Lee E. Elliott, Los Angeles, Calif., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Feb. 24, 1967, Ser. No. 618,532
U.S. Cl. 346-7 6 Claims
Int. Cl. G01d 9/00



Two eccentrically-weighted gears, rotatably disposed in a fluid, are neutrally buoyant and meshed to rotate in opposite directions in the same plane when disturbed by ground-motion pulses. A reflected light beam gives a visual indication of the gear movement.

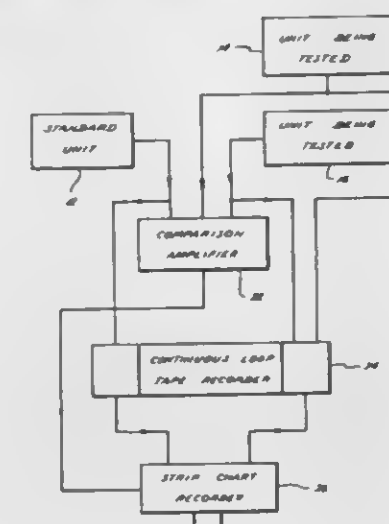
3,422,440 PLURAL RECORDER SYSTEM

James E. Kessel, Friendswood, Tex., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Apr. 27, 1967, Ser. No. 635,328

U.S. Cl. 346-44 2 Claims

Int. Cl. G01d 9/04; 9/08

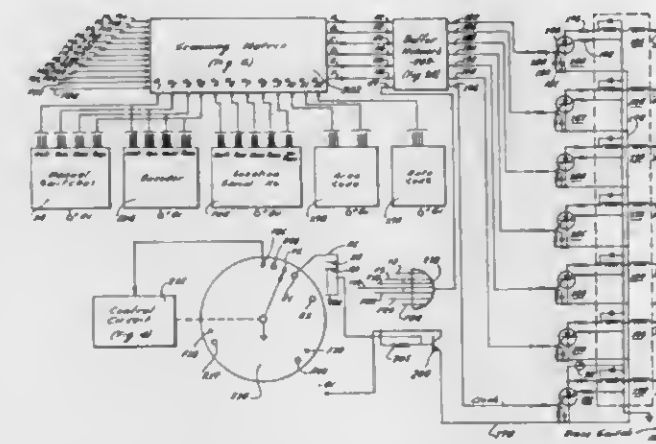


A comparison amplifier is used to compare a reference generator with a plurality of test units whose outputs are monitored and compared with the reference generator signals. All the signals are fed to a comparison amplifier and when one of the signals is different, an output signal will be produced which is used to actuate a strip-chart recorder. The signals are also fed to a continuous loop tape recorder. From the continuous loop tape recorder the signals are reproduced on the strip-chart recorder when it is actuated. Thus, only when a variation between one of the input signals occurs does the strip-chart recorder record the signals. Provision is also made to record the signals prior to the time error occurs and after the error has been removed.

3,422,441 BINARY CODE DATA RECORDER SYSTEM

Jacob Chapsky, Los Angeles, Calif., assignor, by mesne assignments, to Lockheed Aircraft Corporation, Plainfield N.J., a corporation of California

Filed Sept. 13, 1965, Ser. No. 486,896
U.S. Cl. 346-74 5 Claims
Int. Cl. G01d 15/06; 15/12



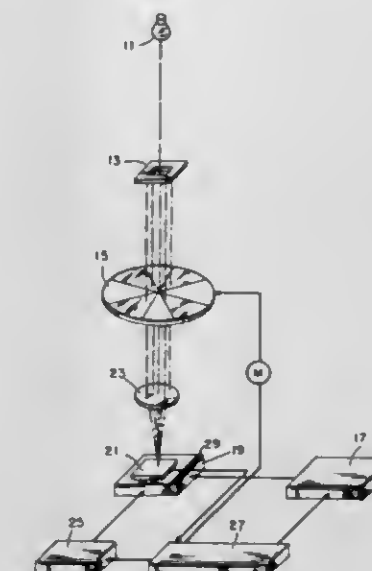
A binary data magnetic recorder featuring a plurality of silicon controlled switching circuits coupled to a corresponding plurality of recording heads and biased to produce current flow through selected recording heads in

response to binary coded data applied to the switching circuits through a buffer network. A rotary switch moves the system through a series of recording frames and resets the silicon controlled switching circuits to their initial state between each frame.

3,422,442 MICRO-ELECTRONIC FORM MASKING SYSTEM

William B. Glendinning, Belford, and Sidney Marshall, Neptune, N.J., assignors to the United States of America as represented by the Secretary of the Army

Filed Jan. 12, 1966, Ser. No. 520,829
U.S. Cl. 346-107 1 Claim
Int. Cl. G01d 9/42; H04n 5/84

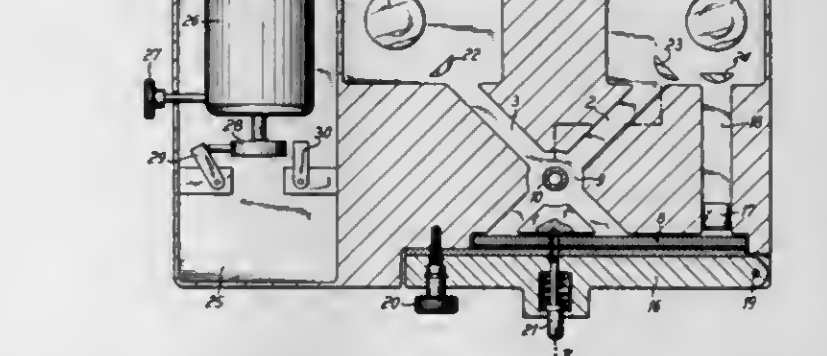


A device for the production of photographic masks utilized in the fabrication of microelectric circuits. The device utilizes a defined pencil of light for writing on a high resolution photographic plate which is exposed in a format, by controlled movement of the plate and a shutter intermediate the plate and the light source.

3,422,443 DEVICE FOR AUTOMATICALLY RECORDING BLOOD SETTLING

Helmut Hugo Georg Alexander Jansen, Taunusstr. 20, Wiesbaden, Germany

Filed Apr. 19, 1967, Ser. No. 632,095
Claims priority, application Germany, May 3, 1966, J 30,732

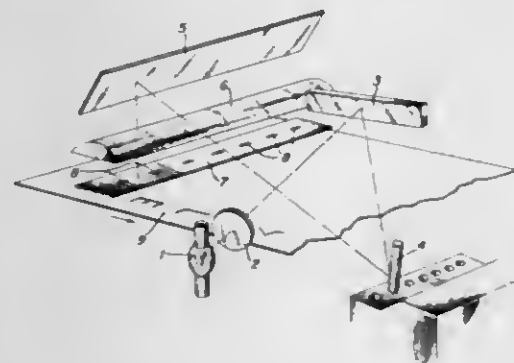


Disclosure relates to a device for automatically recording the blood settling rate in a sedimentation tube comprising an opaque block having an opening for receiving the sedimentation tube, a plurality of chambers having

individual lamps therein and channels extending therefrom in intersecting paths which cross at the opening for the tube, a light sensitive paper at the ends of the channels opposite the chambers, and clock operated switches for energizing the lamps in a fixed time sequence to record the amount of light passing through the blood in the tube on different areas of the light sensitive paper.

3,422,444

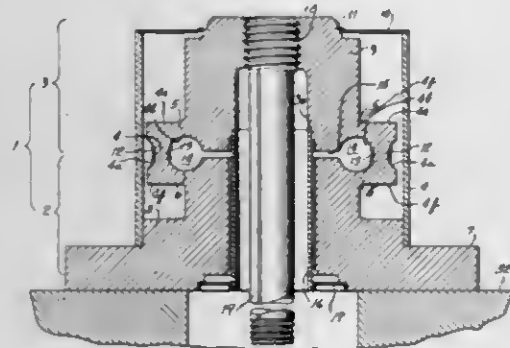
ALPHANUMERIC GALVANOMETER RECORDER
Norman L. Stauffer, Englewood, Colo., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Continuation-in-part of application Ser. No. 478,115, Aug. 9, 1965. This application Nov. 22, 1966, Ser. No. 596,288
U.S. Cl. 346—109 9 Claims
Int. Cl. G01d 9/42; H04l 15/24; H04l 15/34



An alphanumeric recorder having a galvanometer equipped with a mirror which is deflected by an input signal applied to the galvanometer. A lens and mirror system directs a beam of light toward the galvanometer mirror where it is reflected through a second lens system onto an opaque mask. The opaque mask prevents the light beam from falling upon a light sensitive paper, located behind it. A slit in the opaque mask allows the light beam to pass through the mask and fall upon the light sensitive paper, during a deflection of the galvanometer caused by the input signal. The light beam thus exposes the paper for recording an alphanumeric character on its surface.

3,422,445

LOAD CELL FOR MEASURING CONCENTRIC OR ECCENTRIC LOADS
Walter E. Jacobson, Meriden, Conn., assignor to Revere Corporation of America, Wallingford, Conn., a corporation of New Jersey
Filed Sept. 21, 1966, Ser. No. 580,920
U.S. Cl. 73—141 3 Claims
Int. Cl. G01l 5/12; G01l 1/22



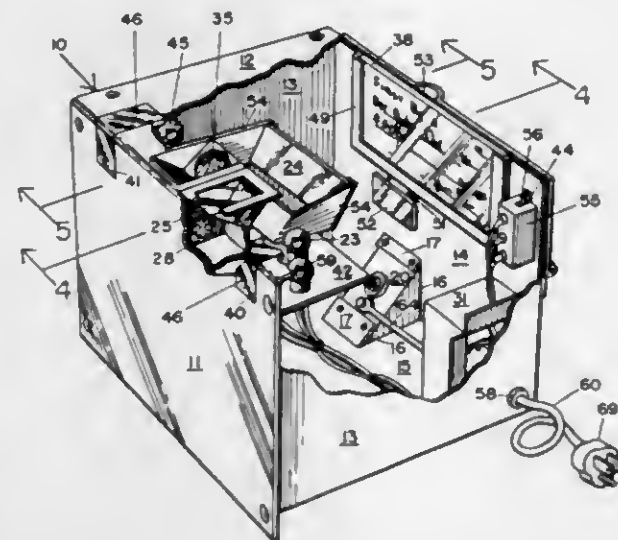
Load cell for measuring concentric or eccentric loads, including two annular coaxial load receiving ends connected by at least three cantilever struts spaced circumferentially of the axis of the annular ends, each strut being connected to the respective ends by a pair of integral cantilever connections projecting radially outward from the

ends. The load cell is enclosed by a housing including an external cylinder fixed on one of the two annular ends and connected to the other annular end by a sealing diaphragm, and an internal cylinder fixed on said other annular end and connected to said one annular end by a sealing diaphragm.

3,422,446

COMBINED FINGERPRINT VIEWING AND PHOTOGRAPHIC APPARATUS

William M. Riggles, Jr., Hialeah, Fla., assignor of thirty percent to Salvatore G. Militana, Miami Shores, Fla.
Filed July 19, 1965, Ser. No. 472,993
U.S. Cl. 95—1.1 8 Claims
Int. Cl. G03b 17/24; G03b 27/32; G03b 27/52

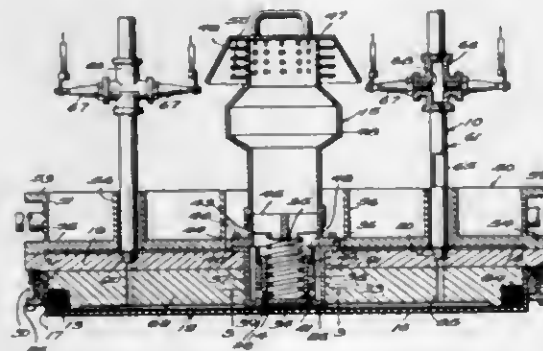


A combined fingerprint viewing and photographic apparatus having a 5-sided prism whose rear side is enclosed to form a chamber void of light whereby a darkened surface is presented to the main wall of the prism. A light source directs light rays through a side wall of the prism to reflect from the main wall. A camera is directed toward the front wall of the prism for photographing a fingerprint appearing on the main wall when a finger is placed on the main wall.

3,422,447

SEISMIC WAVE GENERATOR WITH VENTING VALVE

Lauren G. Kilmer, Tulsa, Okla., assignor, by mesne assignments, to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
Continuation-in-part of application Ser. No. 314,230, Oct. 7, 1963. This application May 17, 1966, Ser. No. 550,836
The portion of the term of the patent subsequent to Apr. 18, 1984, has been disclaimed
U.S. Cl. 181—5 7 Claims
Int. Cl. G10k 11/00; G01v 1/00, 1/02

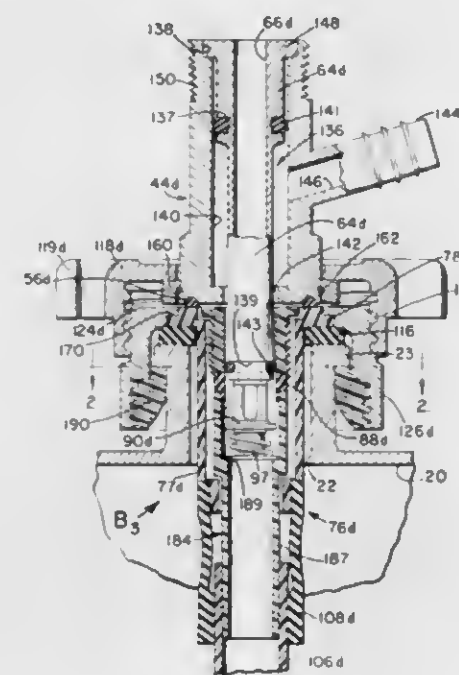


A seismic wave generator including a combustion chamber having a rigid bottom and rigid top resiliently fastened

together to permit limited vertical movement of the top relative to the bottom, and having a spring biased sliding exhaust valve actuated substantially simultaneously with the occurrence of relative movement between the bottom and the top to rapidly vent the pressure within the chamber.

3,422,448

TAPPING DEVICE FOR BEER KEGS AND THE LIKE
Mack S. Johnston, Kalispell, Mont., assignor to Johnston Enterprises, Inc., East Kalispell, Mont., a corporation of Montana
Continuation of application Ser. No. 406,682, Oct. 27, 1964. This application Oct. 18, 1966, Ser. No. 587,627
U.S. Cl. 222—400.7 20 Claims
Int. Cl. B65d 83/14; B67d 1/14; B67d 5/54

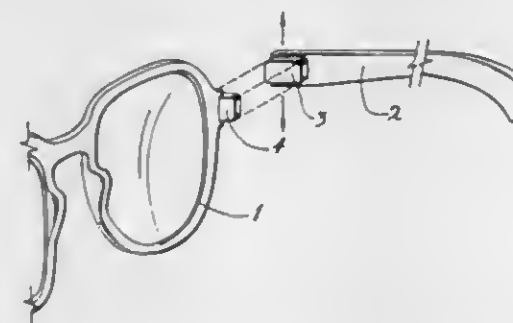


Disclosed is a novel tapping device for beer kegs and the like including a keg adapter mounted in the keg at the brewery and a probe type coupler attached at the restaurant or tavern to the keg. The adapter has separate enlarged beer and gas passages through it as does the coupler. In the adapter, a large arcuate gas passageway communicates with a resilient gas check valve on the adapter. A modified coupler for use at picnics has a probe which may be manually depressed to tap the keg.

3,422,449

EYEGLASSES WITH ADJUSTABLE MAGNETICALLY ATTACHED TEMPLES

Harry Rinnman, 28 N. 1st St., Geneva, Ill. 60134
Filed May 4, 1964, Ser. No. 364,581
U.S. Cl. 351—121 1 Claim
Int. Cl. G02c 5/14; G02c 5/00



Eyeglasses having matching magnets at the ends of the X and Y are the same or different halogens.

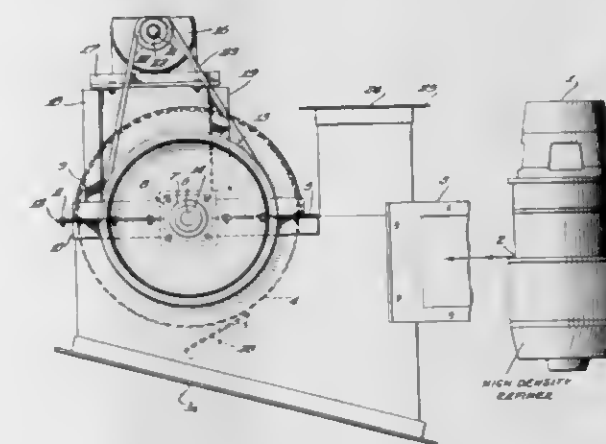
3,422,450

CYLINDRICAL TARGET FOR HIGH VOLUME GAS ENTRAINED PAPER PULP REFINER DISCHARGE

Henrik J. Eklund, Pittsfield, Mass., assignor to Jones Division, Beloit Corp., Pittsfield, Mass., a corporation of Wisconsin

Filed Aug. 27, 1965, Ser. No. 483,273

U.S. Cl. 162—247 4 Claims
Int. Cl. D21d 1/00; D21c 7/08; B02c 23/00



A cylindrical target surface is provided in a discharge conduit to improve the flow speed of the pulp from the refiner. A doctor blade may be used to aid in the removal of pulp from the target surface.

3,422,451

α,α,1,6-TETRAMETHYL-3-PIPERIDINEMETHANOLS AND THEIR PREPARATION

Arthur C. Cope, Boston, and William Dickinson Burrows, Cambridge, Mass., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed July 13, 1965, Ser. No. 471,747

U.S. Cl. 260—294.7 4 Claims
Int. Cl. C07d 29/04; C07d 29/16

The invention relates to α,α,1,6-tetramethyl-3-piperidinemethanol and to a method of producing it by reacting 1,5-dimethyl-4-hexenylamine with the formaldehyde and formic acid in the presence of heat.

3,422,452

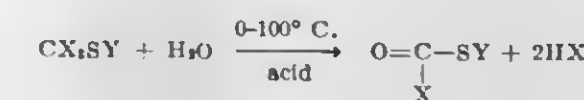
CARBONYL-HALOSULFENYL HALIDES AND PROCESS OF PREPARATION

Wolfgang Welss, Cologne-Stammheim, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Oct. 28, 1965, Ser. No. 512,257

Claims priority, application Germany, Nov. 11, 1964, F 44,413

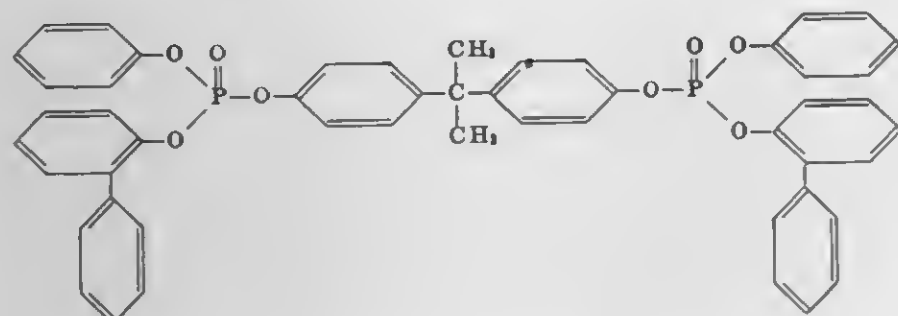
U.S. Cl. 260—544 9 Claims
Int. Cl. C07c 153/01



3,422,453

DI-O-BIPHENYL DIPHENYL BISPHENOL A BIS PHOSPHATE AND PROCESS
 Arlen W. Frank, Grand Island, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
 No Drawing. Filed May 27, 1965, Ser. No. 459,445
 U.S. Cl. 260-930
 Int. Cl. C07f 9/12

double-throw switches. In response to playing of any key, a percussive modulating signal is applied to the tone signal being played. In this way percussive tones may be generated without requiring additional switches or switch contacts over and above the normal keying contacts already present.

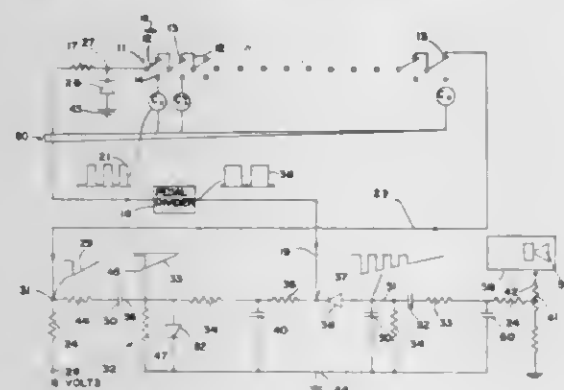


2. A process for preparing a neutral phosphorus-containing ester which comprises transesterifying at least 1 aryl radical of a phosphorus-containing compound selected from the group consisting of triaryl phosphates and triaryl phosphorothionates, wherein the aryl groups are independently selected from the group consisting of phenyl, naphthyl, alkylaryl having 7 to 30 carbon atoms, aryl-phenyl of 12 to 24 carbon atoms, arylalkyl-phenyl of 13 to 25 carbon atoms, and substituted forms of such aryls wherein the substituents are selected from the group consisting of chlorine, bromine, iodine and fluorine, with a transesterifying compound which is a monohydric compound selected from the group consisting of alkanols of 1 to 30 carbon atoms, arylalkanols of 7 to 30 carbon atoms, and alkanols of 2 to 12 carbon atoms, and substituted alkanols, wherein the substituent is lower alkoxyphenyl, and substituted phenol wherein the substituents are selected from the group consisting of lower alkyl, phenyl, benzyl, nitro and chlorine, in the presence of an effective amount, from 0.001 part to 0.5 part per part of phosphorus in the phosphorus-containing reactant, of a strongly basic catalyst for the reaction, at a temperature within the range of about 80° to about 300° C., and recovering a neutral phosphorus-containing ester.

3,422,454

ELECTRICAL MUSICAL INSTRUMENTS
 John R. Brand, Northridge, and Bradley J. Plunkett, Van Nuys, Calif., assignors to Warwick Electronics Inc., Chicago, Ill., a corporation of Delaware
 Filed Apr. 28, 1965, Ser. No. 451,374
 U.S. Cl. 84-1.01
 Int. Cl. G10h 1/00; G10h 3/00; G10h 1/02

4 Claims



A keying circuit for a monophonic keyboard instrument consisting of a series of sequentially connected

3,422,455 CIRCUIT BREAKER WITH CONDUCTIVE AND INSULATING PARTICLES

Henry Greber, 225 W. 80th St., Apt. 8D,
 New York, N.Y. 10024

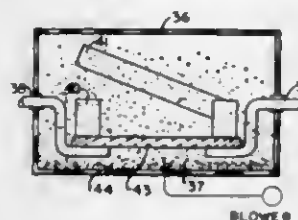
Filed June 8, 1965, Ser. No. 462,376

U.S. Cl. 200-151

4 Claims

Int. Cl. H01h 9/32; H01h 33/06; H01h 33/60

This invention is related to a circuit breaker in which a mixture of 50% to 50% of conductive and nonconductive powder particles is introduced into the arc space between the stationary and movable contacts at the moment of current interruption. For this purpose, the housing containing the stationary and the mobile contacts is turned around by 180 degrees about its horizontal axis,



so that the powder mixture is lifted and then falls down, and while so doing, fills the open space between the separated contact pairs. Another way to introduce the powder mixture into the space between the opened contact pairs is to blow it in by means of a blower.

3,422,456

ATOMIC BEAM TUBE HAVING AN IMPROVED COAXIAL CAVITY

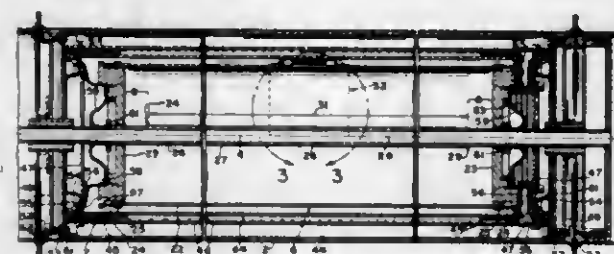
Joseph H. Holloway, Topsfield, Mass., assignor, by mesne assignments, to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California

Filed Aug. 18, 1964, Ser. No. 390,390

U.S. Cl. 250-41.3

2 Claims

Int. Cl. G01n 27/78; H01s 1/00; H01p 7/06



An atomic beam tube with a circular electric mode C-field cavity resonator. The cavity comprises a pair of coaxial tubular members closed at their ends and centrally excited by a waveguide or coaxial line. The cavity may be easily fabricated of low thermal expansion material such as quartz.

3,422,457

ARRANGEMENT FOR BUMPLESS TRANSFER OF A SERVO CONTROL SYSTEM FROM AUTOMATIC TO MANUAL AND VICE VERSA

Harold H. Koppel, University Heights, Ohio, assignor to Bailey Meter Company, a corporation of Delaware

Filed July 21, 1965, Ser. No. 473,797

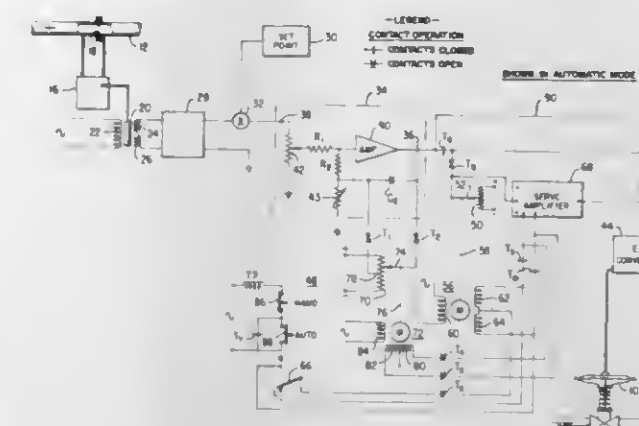
U.S. Cl. 318-28

5 Claims

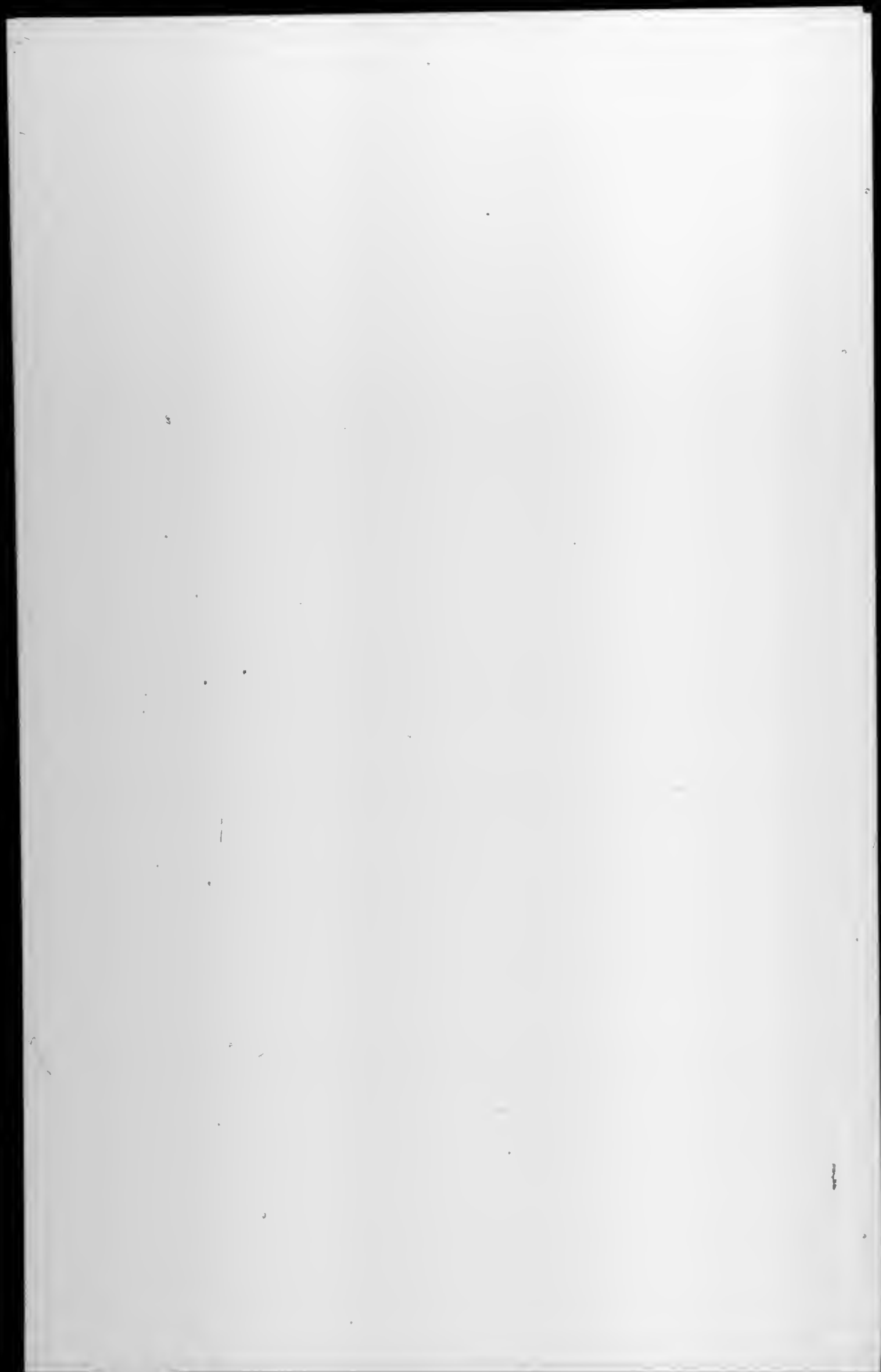
Int. Cl. G05b 11/00

A system for providing bumpless transfer between the automatic and manual control mode and vice versa. A reset capacitor is maintained as an integral part of a feedback circuit in the automatic controller during operation in either automatic or manual mode. During manual operation, a charge is developed across said capacitor in proportion to the unbalance between the manual and automatic controller output signals. This charge or voltage continuously maintains the output of the automatic controller equal to the manual controller output during manual operation and thereby insures bumpless transfer from the manual to automatic control mode. During auto-

matic operation, the signal generated by the manual mode means is automatically maintained equal to the signal gen-



erated by the automatic mode means thereby insuring bumpless transfer from the automatic control mode to the manual mode.



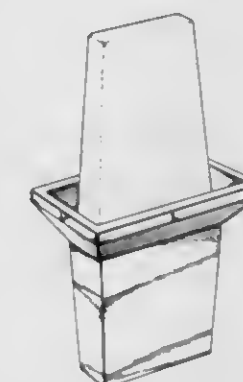
DESIGNS

JANUARY 14, 1969

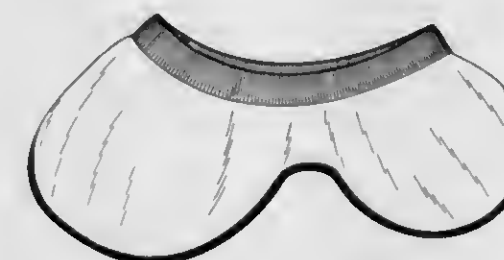
213,166
EDIBLE FOOD PRODUCT
Mary E. Stanley, 424 Bryan St., Rockingham,
N.C. 28379
Filed July 27, 1966, Ser. No. 3,228
Term of patent 14 years
U.S. Cl. D1—4
Int. Cl. D1—01; D1—02



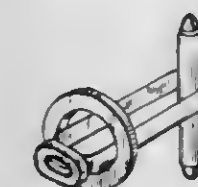
213,167
FROZEN CONFECTION
Martin J. Ferguson, 44 Summer Road,
Greenwich, Conn. 06830
Filed Oct. 11, 1967, Ser. No. 8,955
Term of patent 14 years
U.S. Cl. D1—5
Int. Cl. D1—01; D1—02



213,168
FOOT SOCK
William C. Stowell, Jr., P.O. Box 14, Old Somers Road
and Somerset Drive, Somers, N.Y. 10589
Filed June 15, 1967, Ser. No. 7,480
Term of patent 14 years
U.S. Cl. D2—330
Int. Cl. D2—05



213,169
CUFF LINK BACKING
Harold Kessler, 685 Morton Ave., Franklin Square,
N.Y. 11010, and Jack Landau, 76 Corbin Place,
Brooklyn, N.Y. 11235
Filed June 15, 1967, Ser. No. 7,487
Term of patent 7 years
U.S. Cl. D2—422
Int. Cl. D2—08



213,170
COMBINED CONTAINER AND HAND PUMP FOR
SPRAYING LIQUIDS OR THE LIKE
Frederick W. Muller, Shawnee Mission, Kans., and Juel
D. Clevenger, Raytown, Mo., assignors to Cook Chemi-
cal Company, Kansas City, Mo., a corporation of
Missouri
Filed Nov. 20, 1967, Ser. No. 9,479
Term of patent 14 years
U.S. Cl. D9—3
Int. Cl. D9—01



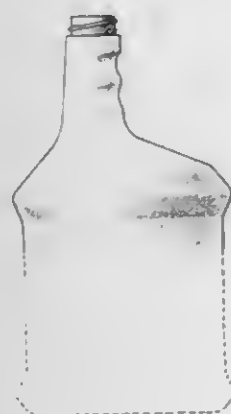
213,171
APPLIQUE EMBLEM
Shirley Bellmon, Billings, Okla. 74630
Filed Oct. 18, 1967, Ser. No. 9,047
Term of patent 14 years
U.S. Cl. D3—9
Int. Cl. D5—07



213,172
BOTTLE

Frederick W. Muller, Shawnee Mission, Kans., assignor to Cook Chemical Company, Kansas City, Mo., a corporation of Missouri
Filed Nov. 20, 1967, Ser. No. 9,478
Term of patent 14 years

U.S. Cl. D9—127
Int. Cl. D9—01

213,173
CUP

Andrew P. Lockhart, Carthage, and Elbert M. Hubbard, Dallas, Tex., assignors to Carthage Cup Company, Carthage, Tex., a corporation of Texas
Filed Feb. 23, 1968, Ser. No. 10,687
Term of patent 14 years

U.S. Cl. D9—220
Int. Cl. D9—04

213,174
CUP

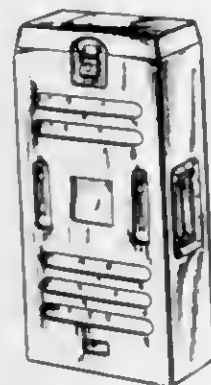
Paul Davis, 18 Parsons Drive, Swampscott, Mass. 01907
Filed Feb. 27, 1968, Ser. No. 10,149
Term of patent 14 years

U.S. Cl. D9—220
Int. Cl. D9—04

213,175
SHIPPING CONTAINER

William H. Bath, 123—60 83rd Ave., Kew Gardens, N.Y. 14478
Filed June 26, 1967, Ser. No. 7,588
Term of patent 14 years

U.S. Cl. D9—224
Int. Cl. D9—04



213,176

REMOVABLE INNER COMPARTMENT FOR A CAN
Theodore N. Nearing, Putnam Valley, N.Y., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware
Filed Mar. 11, 1968, Ser. No. 10,919
Term of patent 14 years

U.S. Cl. D9—253
Int. Cl. D9—99



213,177

REMOVABLE INNER COMPARTMENT FOR A CAN
Theodore N. Nearing, Putnam Valley, N.Y., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware
Filed Mar. 11, 1968, Ser. No. 10,924
Term of patent 14 years

U.S. Cl. D9—253
Int. Cl. D9—99



213,178

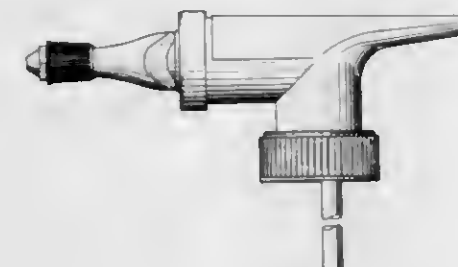
REMOVABLE INNER COMPARTMENT FOR A CAN
Theodore N. Nearing, Putnam Valley, N.Y., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware
Filed Mar. 11, 1968, Ser. No. 10,923
Term of patent 14 years

U.S. Cl. D9—253
Int. Cl. D9—99

213,179
HAND PUMP FOR SPRAYING LIQUIDS OR THE LIKE

Juel D. Clevenger, Raytown, Mo., assignor to Cook Chemical Company, Kansas City, Mo., a corporation of Missouri
Filed Nov. 20, 1967, Ser. No. 9,477
Term of patent 14 years

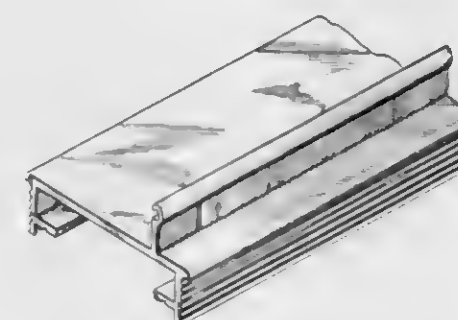
U.S. Cl. D9—276
Int. Cl. D9—99



213,180

POST MEMBER FOR A DOOR SECTION
J. Kenneth Rilmington, 10562 109th St., Edmonton, Alberta, Canada
Filed Sept. 1, 1967, Ser. No. 8,467
Term of patent 14 years

U.S. Cl. D13—6
Int. Cl. D25—03



213,181

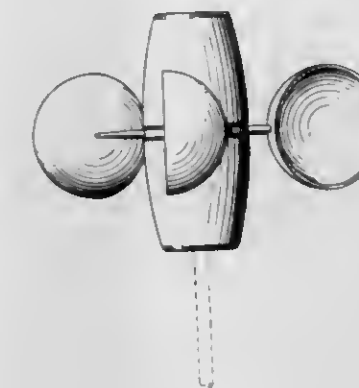
MOBILE AIR TRAFFIC CONTROL TOWER
John H. Criswell, Berea, Ohio, assignor, by mesne assignments, to Air Traffic Control System, Inc., a corporation of Delaware
Filed Feb. 13, 1967, Ser. No. 5,795
Term of patent 14 years

U.S. Cl. D14—3
Int. Cl. D12—13



213,182
NOVELTY VEHICLE ACCESSORY
James N. Colman, 3527 Pacific, St. Joseph, Mo. 64507
Filed Apr. 1, 1968, Ser. No. 11,249
Term of patent 14 years

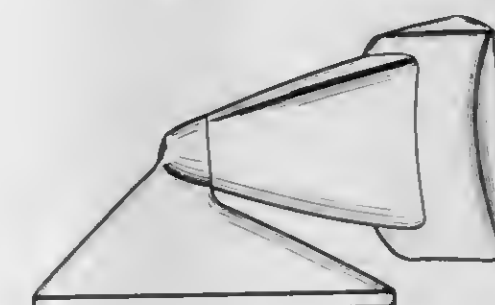
U.S. Cl. D14—6
Int. Cl. D12—14



213,183

REAR VIEW MIRROR
Fritz Strater, Westphalia, Germany, assignor to Willi Muller and Ursula Strater, trading as Busch und Muller, Metallwarenfabrik, Meinerzhagen, Westphalia, Germany
Filed Feb. 13, 1968, Ser. No. 10,558
Claims priority, application Germany Aug. 14, 1967, MR 287
Term of patent 14 years

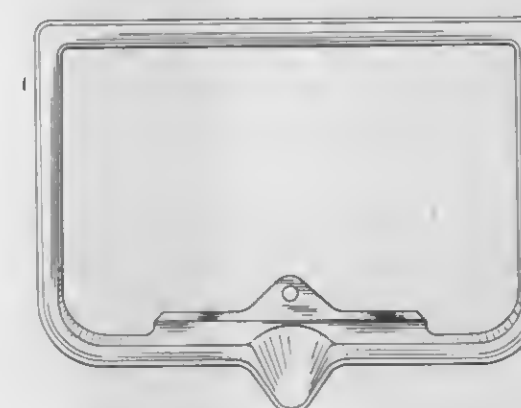
U.S. Cl. D14—6
Int. Cl. D12—14



213,184

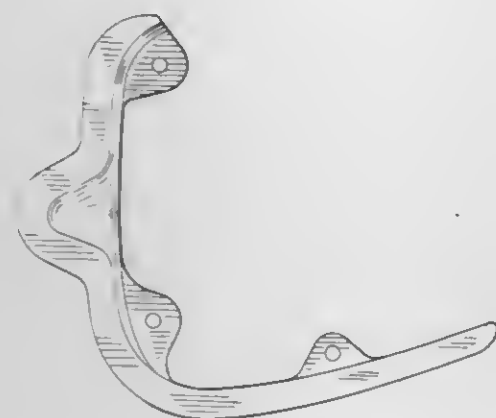
AUTOMOBILE GASOLINE DOOR GUARD
Perry E. Allen, 4644 Round Hill Road, Birmingham, Mich. 48010
Filed Mar. 20, 1968, Ser. No. 11,052
Term of patent 14 years

U.S. Cl. D14—6
Int. Cl. D12—14



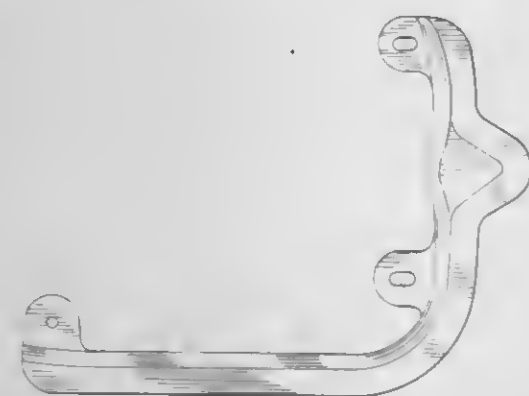
213,185
AUTOMOBILE GASOLINE DOOR GUARD
 Perry E. Allen, 4644 Round Hill Road,
 Birmingham, Mich. 48010
 Filed Mar. 20, 1968, Ser. No. 11,053
 Term of patent 14 years

U.S. Cl. D14—6
 Int. Cl. D12—14



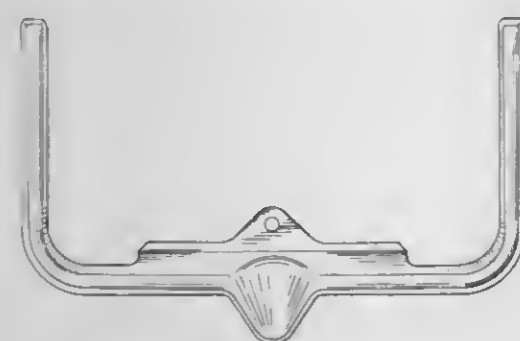
213,186
AUTOMOBILE GASOLINE DOOR GUARD
 Perry E. Allen, 4644 Round Hill Road,
 Birmingham, Mich. 48010
 Filed Mar. 20, 1968, Ser. No. 11,063
 Term of patent 14 years

U.S. Cl. D14—6
 Int. Cl. D12—14



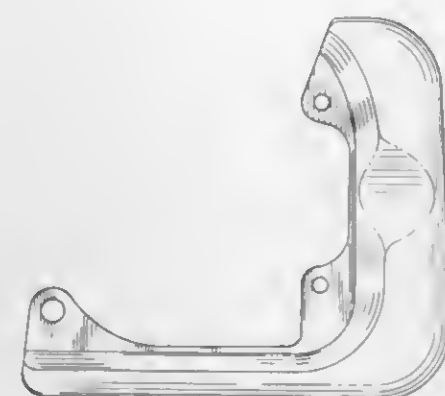
213,187
AUTOMOBILE GASOLINE DOOR GUARD
 Perry E. Allen, 4644 Round Hill Road,
 Birmingham, Mich. 48010
 Filed Mar. 20, 1968, Ser. No. 11,074
 Term of patent 14 years

U.S. Cl. D14—6
 Int. Cl. D12—14



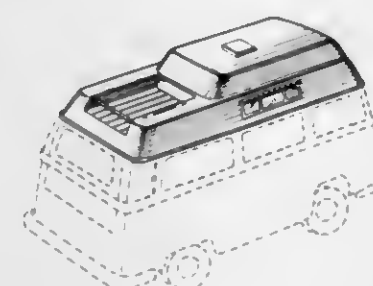
213,188
AUTOMOBILE GASOLINE DOOR GUARD
 Perry E. Allen, 4644 Round Hill Road,
 Birmingham, Mich. 48010
 Filed Mar. 20, 1968, Ser. No. 11,075
 Term of patent 14 years

U.S. Cl. D14—6
 Int. Cl. D12—14



213,189
CAMPER TOP
 William A. Rittler and Edward J. Anderson, both of 535
 4th St., San Fernando, Calif. 91340
 Filed May 28, 1968, Ser. No. 12,114
 Term of patent 3½ years

U.S. Cl. D14—27
 Int. Cl. D12—10



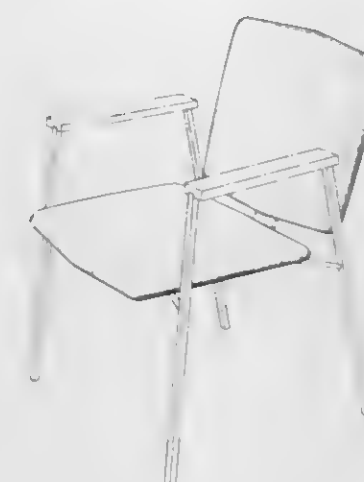
213,190
CHAIR
 Kayomi Watari, 643 N. Flores St.,
 Los Angeles, Calif. 90048
 Filed Nov. 1, 1967, Ser. No. 9,241
 Term of patent 14 years

U.S. Cl. D15—1
 Int. Cl. D6—01



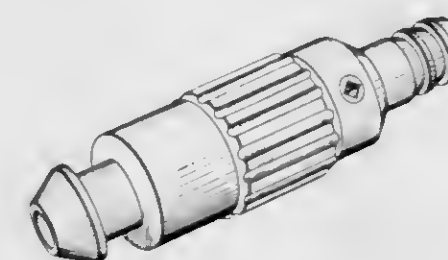
213,191
CHAIR
 George A. Koch, Cobourg, Ontario, Canada, assignor to
 Curtis Products Limited, Cobourg, Ontario, Canada
 Filed Nov. 13, 1967, Ser. No. 9,373
 Term of patent 14 years

U.S. Cl. D15—1
 Int. Cl. D6—01



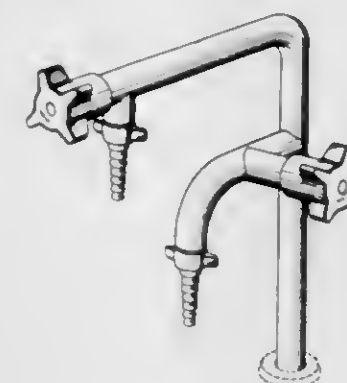
213,192
VALVE
 John A. Hastings, Fontneau Road,
 South Yarmouth, Mass. 02664
 Filed Oct. 24, 1966, Ser. No. 4,410
 Term of patent 14 years

U.S. Cl. D23—19
 Int. Cl. D23—01



213,193
MULTIPLE OUTLET FAUCET
 Kurt Martin, Sissach, Basel-Land, and Paul Steiner,
 Affol-Tern am Albis, Switzerland, assignors to R.
 Nussbaum & Co. AG, Otten, Solothurn, Switzer-
 land, a company of Switzerland
 Filed Apr. 14, 1967, Ser. No. 6,689
 Term of patent 14 years

U.S. Cl. D23—25
 Int. Cl. D23—01



213,194
BARBECUE AND FIREPLACE TONGS
 Donald J. Capps, 5216 Willmonte Ave.,
 Temple City, Calif. 91780
 Filed Apr. 22, 1968, Ser. No. 11,572
 Term of patent 14 years

U.S. Cl. D23—100
 Int. Cl. D23—03



213,195
LOG-HANDLING TONGS
 Paul A. Reichman, Greentown, Pa., assignor to Custom
 Wrought Products Co., Greentown, Pa., a partnership
 Filed May 17, 1968, Ser. No. 11,981
 Term of patent 14 years

U.S. Cl. D23—100
 Int. Cl. D23—03



213,196
LOG-HANDLING TONGS
 Paul A. Reichman, Rte. 507, R.D.,
 Greentown, Pa. 18426
 Filed May 17, 1968, Ser. No. 11,994
 Term of patent 14 years

U.S. Cl. D23—100
 Int. Cl. D23—03



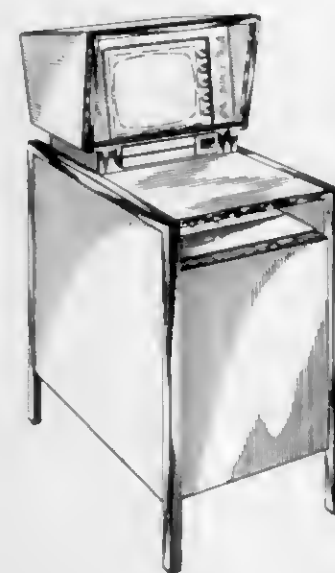
213,197
LOG-HANDLING TONGS
 Paul A. Reichman, Greentown, Pa., assignor to Custom
 Wrought Products Co., Greentown, Pa., a partnership
 Filed May 17, 1968, Ser. No. 11,996
 Term of patent 14 years

U.S. Cl. D23—100
 Int. Cl. D23—03



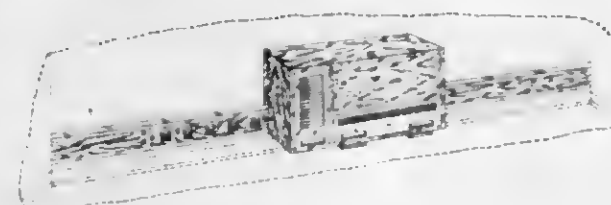
213,198
**COMBINED CLOSED CIRCUIT TELEVISION
 TRANSMITTER AND RECEIVER CABINET**
 Walter G. Anders, Canton, Ohio, assignor to Diebold, In-
 corporated, Canton, Ohio, a corporation of Ohio
 Filed Oct. 9, 1967, Ser. No. 8,919
 Term of patent 14 years

U.S. Cl. D26—5
 Int. Cl. D14—03



213,199
**COMBINED GAS-FIRED FURNACE AND
 DUCT CASINGS THEREFOR**
 Ralph R. Hodges, Belleville, Ill., assignor to Empire Stove
 Company, Belleville, Ill., a corporation of Illinois
 Filed Nov. 7, 1967, Ser. No. 9,310
 Term of patent 14 years

U.S. Cl. D23—110
 Int. Cl. D23—03



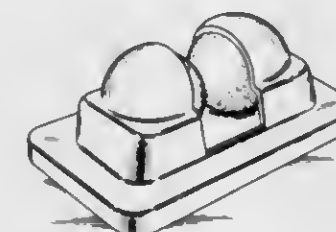
213,200
STUD WELDING TOOL
 Howard N. Wieland, Amherst, and Steve Spisak, Elyria,
 Ohio, assignors to Gregory Industries, Inc., Lorain,
 Ohio, a corporation of Michigan
 Filed Apr. 22, 1968, Ser. No. 11,543
 Term of patent 14 years

U.S. Cl. D26—1
 Int. Cl. D8—02



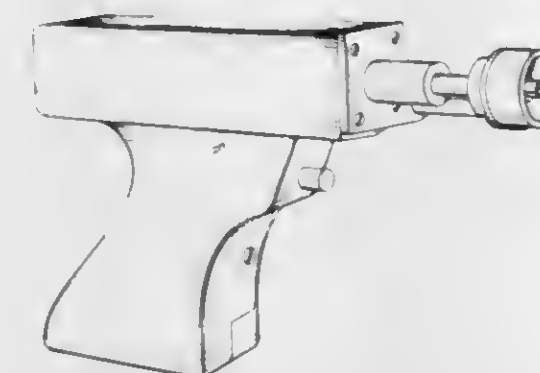
213,201
**HOLDER FOR TOWELS, HANDLED ARTICLES
 AND THE LIKE**
 Harry W. Hill, 1127 Pershing, Lansing, Mich. 48910
 Filed May 31, 1968, Ser. No. 12,167
 Term of patent 14 years

U.S. Cl. D33—17
 Int. Cl. D6—01



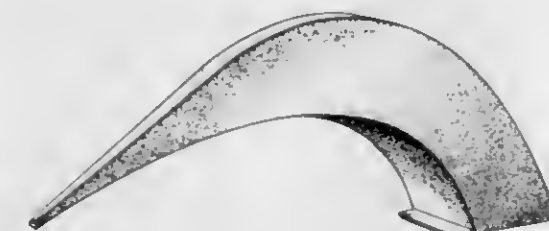
213,202
STUD WELDING TOOL
 Don E. Ehrlich, Avon, Ohio, assignor to Gregory In-
 dustries, Inc., Lorain, Ohio, a corporation of Michigan
 Filed Mar. 4, 1968, Ser. No. 10,826
 Term of patent 14 years

U.S. Cl. D26—1
 Int. Cl. D8—02



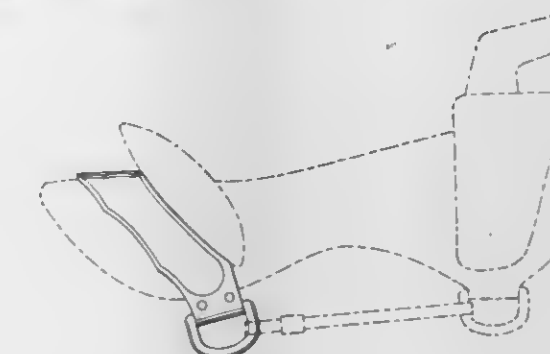
213,203
ANTENNA
 Lawrence V. Behr, Greenville, N.C., assignor to
 Multronics, Inc., Rockville, Md., a corpora-
 tion of Maryland
 Filed Feb. 26, 1968, Ser. No. 10,718
 Term of patent 14 years

U.S. Cl. D26—14
 Int. Cl. D14—03



213,204
FLANK CINCH ADAPTER
 Jerry L. Copley, 795 S. Pennsylvania St.,
 Denver, Colo. 80209
 Filed May 29, 1968, Ser. No. 12,115
 Term of patent 14 years

U.S. Cl. D30—19
 Int. Cl. D30—03



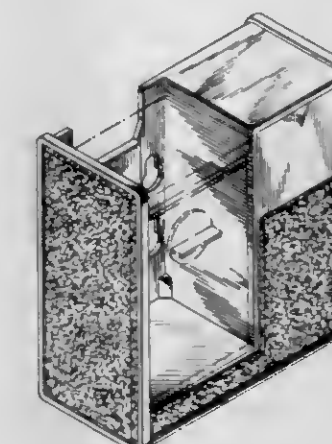
213,205
CABINET
 Herbert E. Spencer, 3852 Division Ave. SE.,
 Grand Rapids, Mich. 49508
 Filed Sept. 28, 1967, Ser. No. 8,770
 Term of patent 14 years

U.S. Cl. D33—19
 Int. Cl. D6—01



213,206
SHAVER HOLDER
 Robert J. Tolmie, Bridgeport, Conn., assignor to Sperry
 Rand Corporation, New York, N.Y., a corporation of
 Delaware
 Filed Sept. 18, 1967, Ser. No. 8,628
 Term of patent 14 years

U.S. Cl. D33—23
 Int. Cl. D6—01



**213,207
TOY FIGURE**

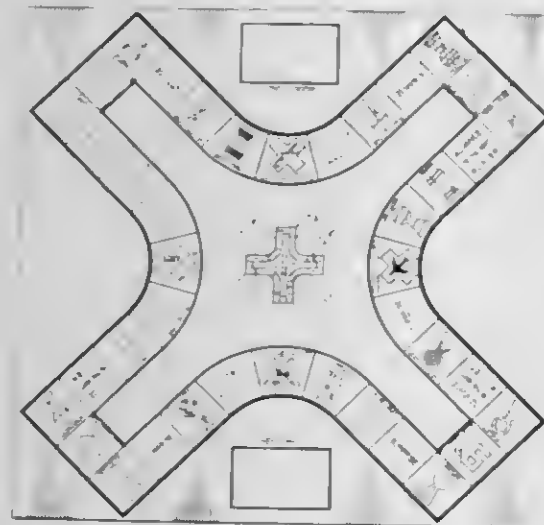
Judith E. Leader, 9115 34th St. W., St. Louis Park,
Minn. 55426
Filed Apr. 26, 1968, Ser. No. 11,641
Term of patent 14 years

U.S. Cl. D34—2
Int. Cl. D21—02



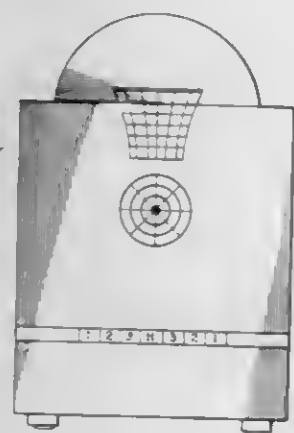
**213,208
GAME BOARD**
Donald A. E. Beer, 14 E. 63rd St.,
New York, N.Y. 10021
Filed Dec. 8, 1967, Ser. No. 9,708
Term of patent 14 years

U.S. Cl. D34—5
Int. Cl. D21—01



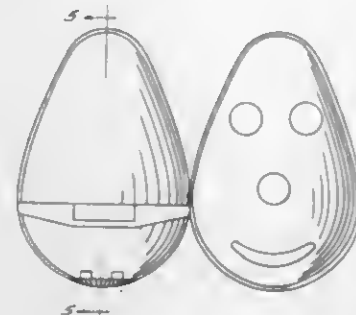
**213,209
COMBINED TARGET AND GAME BOARD**
Norbert Zielinski, 2622 S. Ridgeway Ave.,
Chicago, Ill. 60623
Filed Jan. 11, 1968, Ser. No. 10,129
Term of patent 14 years

U.S. Cl. D34—5
Int. Cl. D21—01



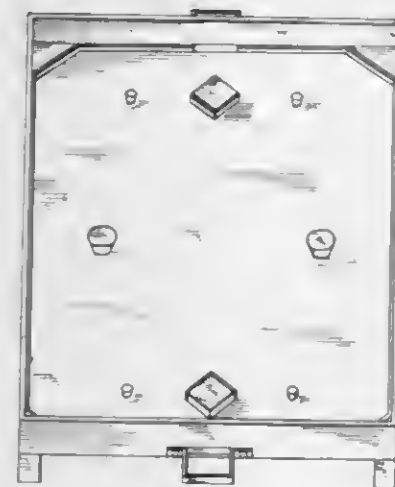
**213,210
EGG SHAPED ROCKING TOY**
Simmons Correia, Jr., 16 Wells St.,
Lawrence, Mass. 01841
Filed Jan. 3, 1967, Ser. No. 5,283
Term of patent 14 years

U.S. Cl. D34—5
Int. Cl. D21—02



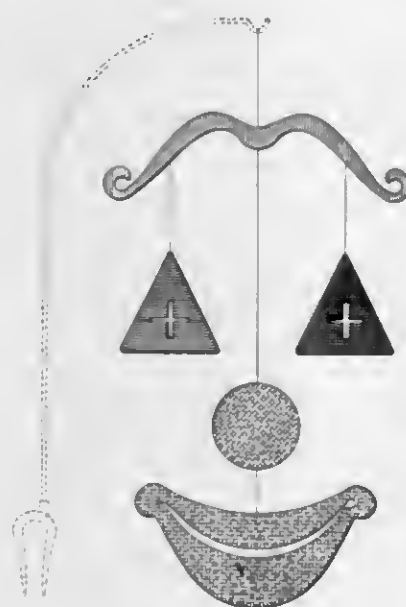
**213,211
GAME BOARD**
Gary G. Leggat, 12252 Memorial, Detroit,
Mich. 48227
Filed Jan. 11, 1968, Ser. No. 10,128
Term of patent 3½ years

U.S. Cl. D34—5
Int. Cl. D21—01



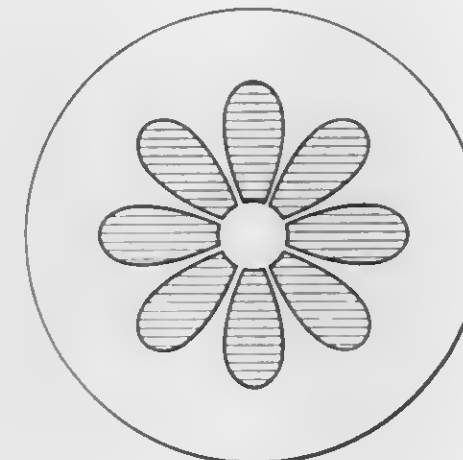
**213,212
MOBILE**
Richard L. Maxwell, Belleville, N.J., assignor to J. L.
Prescott Co., Passaic, N.J., a corporation of New
Jersey
Filed Feb. 16, 1968, Ser. No. 10,609
Term of patent 14 years

U.S. Cl. D34—15
Int. Cl. D21—02



**213,213
PLATE OR SIMILAR ARTICLE**
George L. Horton, Jr., Corning, and Mark R. Weltzman,
Elmira, N.Y., assignors to Corning Glass Works, Corn-
ing, N.Y., a corporation of New York
Filed Nov. 15, 1967, Ser. No. 9,422
Term of patent 14 years

U.S. Cl. D44—15
Int. Cl. D7—01



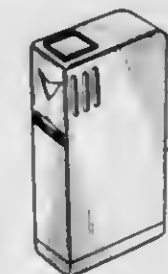
**213,214
LIGHTER**
Marcel Quercia, Paris, France, assignor to Flaminaire
Marcel Quercia, Paris, France
Filed May 23, 1967, Ser. No. 7,229
Term of patent 14 years

U.S. Cl. D48—27
Int. Cl. D27—05



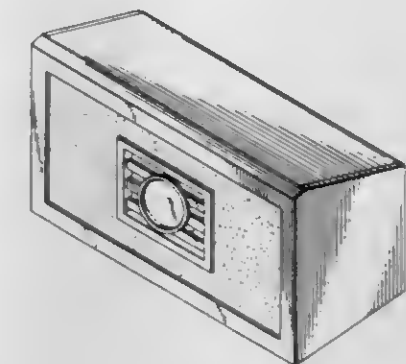
**213,215
GAS LIGHTER**
Shirokichi Inagaki, 81 Senjunakai-cho, Adachi-ku,
Tokyo, Japan
Filed Jan. 18, 1968, Ser. No. 10,210
Term of patent 14 years

U.S. Cl. D48—27
Int. Cl. D27—05



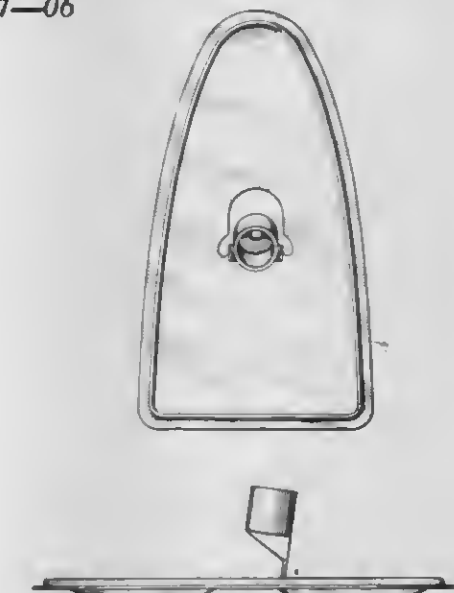
**213,216
AUTOMOTIVE DASHBOARD ILLUMINATION
LAMP**
Robert D. Kahn, Rockville Centre, N.Y., assignor to
Fedtro, Inc., Rockville Centre, N.Y., a corporation of
New York
Filed Mar. 11, 1968, Ser. No. 10,918
Term of patent 14 years

U.S. Cl. D48—32
Int. Cl. D12—14; D26—99



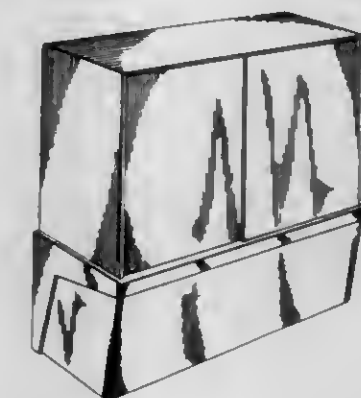
**213,217
DUSTING MOP HEAD**
Louis A. Littleton, Davis and Trenton Ave.,
Point Pleasant, N.J. 08742
Filed Feb. 8, 1968, Ser. No. 10,508
Term of patent 14 years

U.S. Cl. D49—21
Int. Cl. D7—06

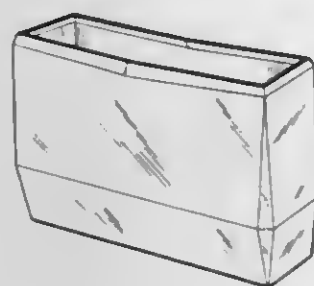


**213,218
MASTER CONTROL UNIT FOR A CENTRALIZED
OIL LUBRICATING SYSTEM**
Robert M. Wolaver, South Euclid, Ohio, assignor to Eaton
Yale & Towne Inc., Cleveland, Ohio, a corporation of
Ohio
Original design application Apr. 3, 1967, Ser. No. 6,497.
Divided and this application Jan. 22, 1968, Ser. No.
10,594
Term of patent 14 years

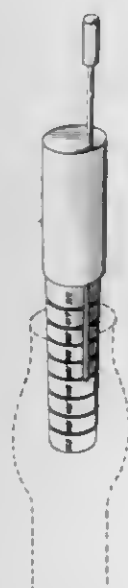
U.S. Cl. D52—2
Int. Cl. D23—01; D31



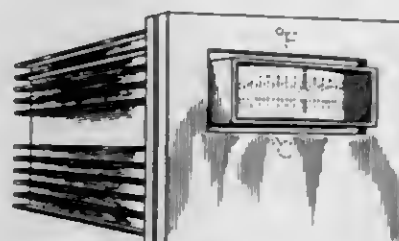
213,219
CONTAINER FOR PAPER NAPKINS OR THE LIKE
 Nathan Shapira, Los Angeles, Calif., assignor to Cartiera Di Cairate S.p.A., Milan, Italy
 Filed July 17, 1967, Ser. No. 7,815
 Term of patent 14 years
 U.S. Cl. D52—2
 Int. Cl. D7—99



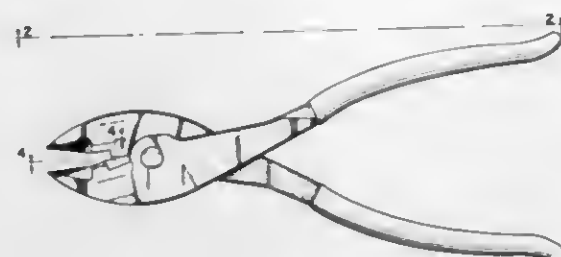
213,220
WOOD MUSICAL INSTRUMENT GAUGE
 Saul Fromkin, 409 E. 31st St., Paterson, N.J. 07504
 Filed Dec. 1, 1967, Ser. No. 9,607
 Term of patent 14 years
 U.S. Cl. D52—6
 Int. Cl. D10—08



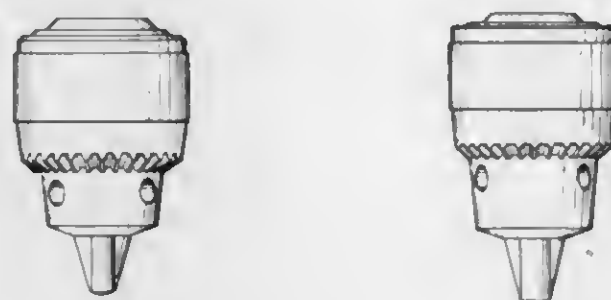
213,221
INDICATING TEMPERATURE CONTROLLER
 William L. Plumb, New York, N.Y., and Robert Drozdowski, Linden, N.J., assignors to Thermo Electric Co., Inc., Saddle Brook, N.J., a corporation of New Jersey
 Filed Oct. 6, 1967, Ser. No. 8,895
 Term of patent 14 years
 U.S. Cl. D52—7
 Int. Cl. D10—09



213,222
WIRE FORMING AND CUTTING IMPLEMENT
 Eugene Gawura, 6927 Coleman, Dearborn, Mich. 48126
 Filed Mar. 25, 1968, Ser. No. 11,124
 Term of patent 14 years
 U.S. Cl. D54—13
 Int. Cl. D8—02



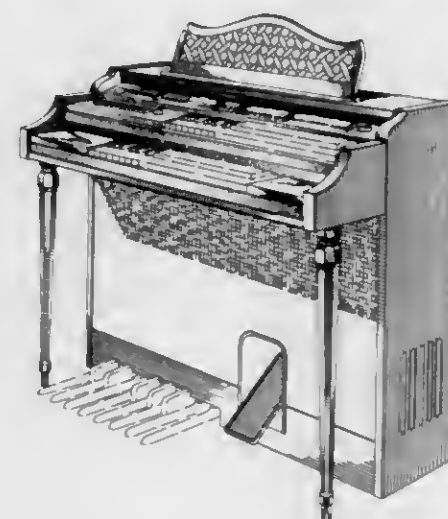
213,223
CHUCK
 Donald J. McCarthy, Wethersfield, Conn., assignor to The Jacobs Manufacturing Company, West Hartford, Conn., a corporation of New Jersey
 Filed Nov. 25, 1966, Ser. No. 4,803
 Term of patent 14 years
 U.S. Cl. D54—14
 Int. Cl. D15—05



213,224
ORGAN CONSOLE
 Winsor D. White, Jr., Blowing Rock, N.C., assignor to D. H. Baldwin Company, Cincinnati, Ohio, a corporation of Ohio
 Filed Mar. 12, 1968, Ser. No. 10,933
 Term of patent 14 years
 U.S. Cl. D56—2
 Int. Cl. D17—01



213,225
ORGAN CONSOLE
 Winsor D. White, Jr., Blowing Rock, N.C., assignor to D. H. Baldwin Company, Cincinnati, Ohio, a corporation of Ohio
 Filed Mar. 12, 1968, Ser. No. 10,940
 Term of patent 14 years
 U.S. Cl. D56—2
 Int. Cl. D17—01



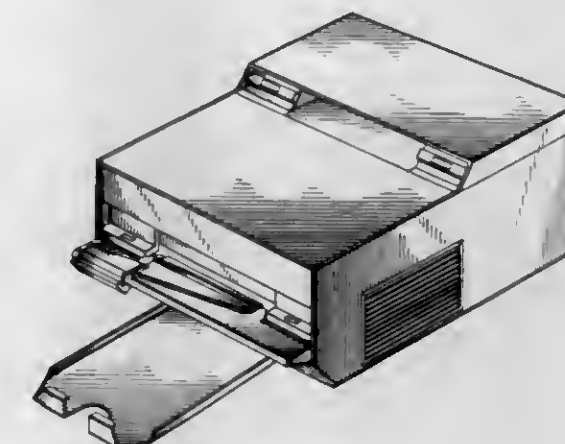
213,226
STEREO PHONOGRAPH UNIT OR SIMILAR ARTICLE
 William T. Allan, 4264 Thornton Ave., Fremont, Calif. 94536
 Filed Dec. 13, 1967, Ser. No. 9,765
 Term of patent 14 years
 U.S. Cl. D56—4
 Int. Cl. D14—01; D14—03



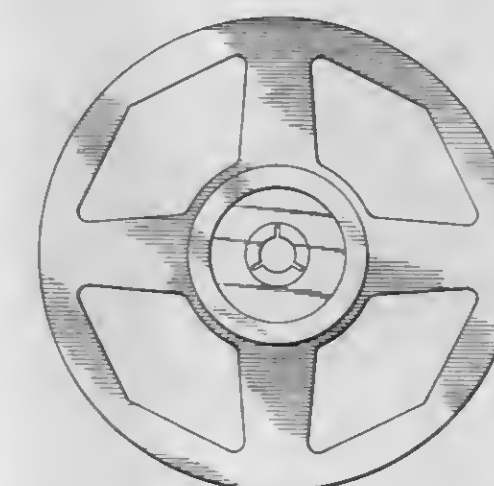
213,227
PIANO CASE
 Winsor D. White, Jr., Blowing Rock, N.C., assignor to D. H. Baldwin Company, Cincinnati, Ohio, a corporation of Ohio
 Filed Mar. 12, 1968, Ser. No. 10,931
 Term of patent 14 years
 U.S. Cl. D56—9
 Int. Cl. D17—01



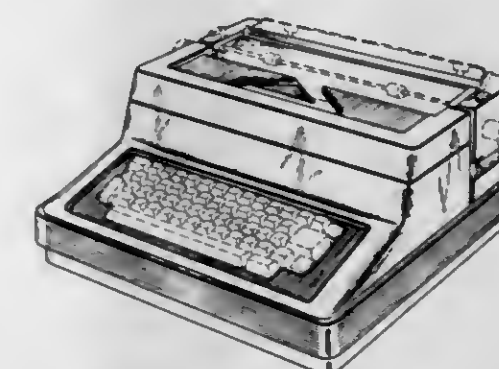
213,228
COPYING MACHINE OR SIMILAR ARTICLE
 Charles E. Jones and Joseph H. Gruenhut, Lincolnwood, Ill., assignors to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
 Filed July 7, 1967, Ser. No. 7,726
 Term of patent 14 years
 U.S. Cl. D61—1
 Int. Cl. D18—03



213,229
INERTIA DEFEATING FILM REEL
 Morris Goldberg, Denver, Colo., assignor to Goldberg Brothers, Inc., Denver, Colo., a corporation of Colorado
 Filed Dec. 26, 1967, Ser. No. 9,932
 Term of patent 14 years
 U.S. Cl. D61—1
 Int. Cl. D16—07



213,230
TYPEWRITER
 Carl Auboeck, Vienna, Austria, assignor to Olympia Werke A.G., Wilhelmshaven, Germany
 Filed Feb. 1, 1968, Ser. No. 10,413
 Claims priority, application Germany Sept. 4, 1967
 Term of patent 7 years
 U.S. Cl. D64—11
 Int. Cl. D18—01



213,231

TYPEWRITER OR THE LIKE

Gerhard Dietrich, Fuerth, Bavaria, and Alfred Mamet, Altenberg, Nuremberg, Germany, assignors to Triumph Werke Nuremberg A.G., Nuremberg, Germany
Filed Oct. 16, 1967, Ser. No. 9,014

Claims priority, application Germany June 21, 1967
Term of patent 14 years

U.S. Cl. D64—11
Int. Cl. D18—01



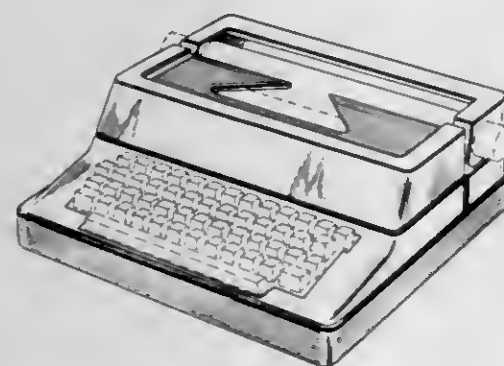
213,232

TYPEWRITER HOUSING

Carl Auboeck, Vienna, Austria, assignor to Olympia Werke A.G., Wilhelmshaven, Germany
Filed Dec. 28, 1967, Ser. No. 9,963

Claims priority, application Germany Sept. 4, 1967
Term of patent 7 years

U.S. Cl. D64—11
Int. Cl. D18—01



213,233

TYPEWRITER HOUSING

Carl Auboeck, Vienna, Austria, assignor to Olympia Werke A.G., Wilhelmshaven, Germany
Filed Dec. 28, 1967, Ser. No. 9,962

Claims priority, application Germany Sept. 4, 1967
Term of patent 7 years

U.S. Cl. D64—11
Int. Cl. D18—01



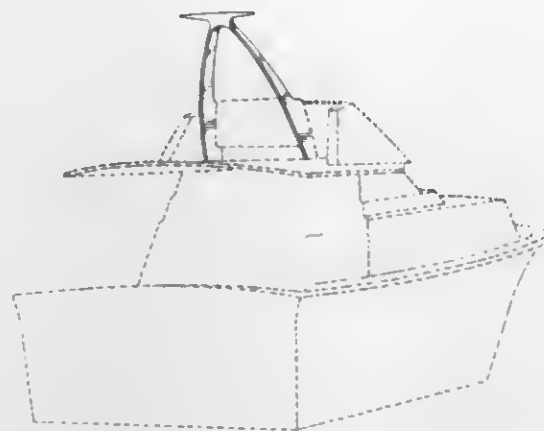
213,234

BOAT WISHBONE

Richard G. Reineman, Balboa, Calif., assignor to Brunswick Corporation, a corporation of Delaware
Filed Oct. 9, 1967, Ser. No. 8,921

Term of patent 14 years

U.S. Cl. D71—1
Int. Cl. D12—06



213,235

COMBINED GAS TANK AND HORN TRUMPET FOR A FIRE ALARM OR THE LIKE

Sidney J. Jacoby, 601 W. Susquehanna Ave., Philadelphia, Pa. 19122

Filed Aug. 15, 1967, Ser. No. 8,277

Term of patent 14 years

U.S. Cl. D72—1
Int. Cl. D29—01



213,236

HOLDER FOR A PAPER PAD

Anthony Zacharia, 5935 Colfax Ave., North Hollywood, Calif. 91601

Filed Oct. 16, 1967, Ser. No. 8,997

Term of patent 14 years

U.S. Cl. D74—1
Int. Cl. D19—99; D6—99



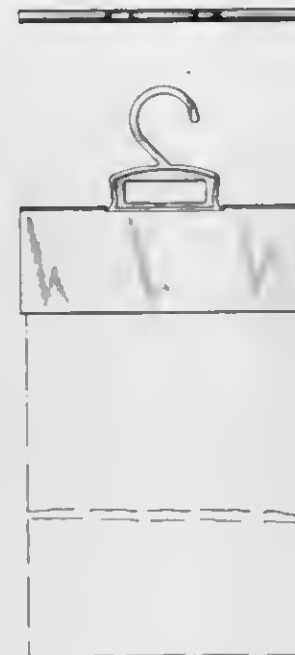
213,237

PIECE GOODS HANGER

Irwin Bassett, North Woodmere, N.Y., assignor to The Lamport Company, Inc., New York, N.Y., a corporation of New York
Filed Jan. 19, 1968, Ser. No. 10,234

Term of patent 14 years

U.S. Cl. D80—8
Int. Cl. D6—07



213,238

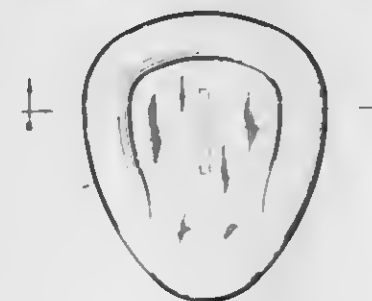
BED PAN COVER

Mercedes V. Mulloy, 710 1/2 W. 13th St., Eugene, Oreg. 97402

Filed Oct. 6, 1967, Ser. No. 8,888

Term of patent 14 years

U.S. Cl. D83—1
Int. Cl. D24—05



213,239

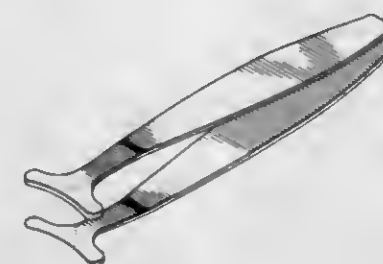
FALSE EYELASH APPLICATOR

Marlene W. Flewellin, 1025 Merner Road, Hillsborough, Calif. 94010

Filed Nov. 13, 1967, Ser. No. 9,363

Term of patent 14 years

U.S. Cl. D86—10
Int. Cl. D28—03



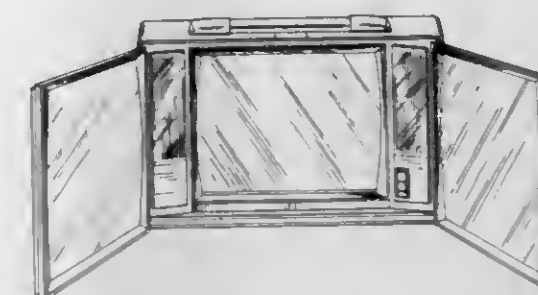
213,240

VANITY CASE

Philip Litner, Chicago, Ill., assignor to Curtis-Electro Lighting, Incorporated, Chicago, Ill., a corporation of Illinois
Filed Apr. 8, 1968, Ser. No. 11,359

Term of patent 14 years

U.S. Cl. D86—10
Int. Cl. D3—01



213,241

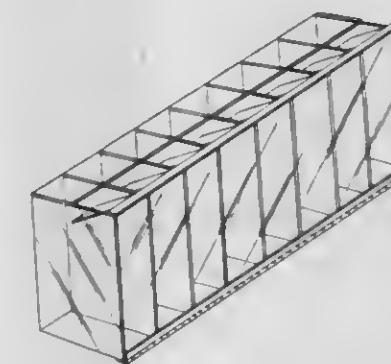
COMPARTMENTED TICKET BOX

John F. Curto, 5757 College Ave., San Diego, Calif. 92120

Filed Mar. 18, 1968, Ser. No. 11,027

Term of patent 14 years

U.S. Cl. D87—1
Int. Cl. D3—99; D9—04



213,242

LUGGAGE HANDLE OR SIMILAR ARTICLE

Anthony N. D'Elia, Riverdale, and Edward M. Stolarz, Yorktown Heights, N.Y., assignors to Presto Lock Co., Inc., Garfield, N.J., a corporation of New York

Filed Aug. 11, 1967, Ser. No. 8,232

Term of patent 14 years

U.S. Cl. D87—2
Int. Cl. D3—99



213,243

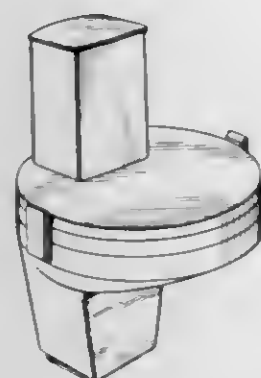
BATHROOM UTILITY BAG
Corinne C. Blair, 5341 La Pasada St., Apt. 5,
Long Beach, Calif. 90815
Filed Jan. 10, 1968, Ser. No. 10,107
Term of patent 7 years

U.S. Cl. D87—5
Int. Cl. D3—99; D7—06



213,244

VEGETABLE SHREDDER OR THE LIKE
Douglas N. Cabell, Bloomfield Hills, Mich., assignor to
Ronson Corporation, Woodbridge, N.J., a corporation
of New Jersey
Filed Dec. 26, 1967, Ser. No. 10,035
Term of patent 14 years
U.S. Cl. D89—1
Int. Cl. D7—05



213,245

TIRE
James F. Newman, St. Clair Shores, Mich., assignor to
Uniroyal, Inc., New York, N.Y., a corporation of New
Jersey

Filed May 2, 1968, Ser. No. 11,760
Term of patent 14 years
U.S. Cl. D90—20
Int. Cl. D12—14



213,246

HIGHWAY SIGN SUPPORT
Hubert John van Leeuwen, 153 Spring St.,
Amherst, Nova Scotia, Canada
Filed Jan. 19, 1968, Ser. No. 10,233
Term of patent 14 years

U.S. Cl. D96—12
Int. Cl. D20—03



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Allen, Perry E. Automobile gasoline door guard. 213,186, 1-14-69, Cl. D14—6.
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TO WHOM

PATENTS WERE ISSUED ON THE 14TH DAY OF JANUARY, 1969

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

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90 : 3,422,229	281 : 3,422,248	199 : 3,422,269	3,422,096	693 : 3,422,166	3,422,341
100.2 : 3,422,230	341 : 3,422,249	213 : 3,422,270	3,422,097	693 : 3,422,166	3,422,342
165 : 3,422,231	220-4 : 3,421,649	218 : 3,422,271	3,422,098	693 : 3,422,166	3,422,343
170.8 : 3,422,232	26 : 3,421,650	219 : 3,422,272	3,422,099	693 : 3,422,166	3,422,344
180-44 : 3,421,996	42 : 3,421,651	220 : 3,422,273	3,422,100	693 : 3,422,166	3,422,345
181-5 : 3,422,447	46 : 3,421,652	224 : 3,422,274	3,422,101	693 : 3,422,166	3,422,346
33 : 3,421,997	60 : 3,421,653	251-58 : 3,421,732	3,422,102	693 : 3,422,166	3,422,347
182-24 : 3,421,998	93 : 3,421,655	172 : 3,421,733	3,422,103	693 : 3,422,166	3,422,348
141 : 3,421,999	97 : 3,421,656	337 : 3,421,734	3,422,104	693 : 3,422,166	3,422,349
184-7 : 3,421,600	221-13 : 3,421,657	252-3 : 3,422,011	3,422,105	693 : 3,422,166	3,422,350
188-72 : 3,421,601	307 : 3,421,658	28 : 3,422,012	3,422,106	693 : 3,422,166	3,422,351
73 : 3,421,602	222-55 : 3,421,659	33 : 3,422,013	3,422,107	693 : 3,422,166	3,422,352
3,421,603	76 : 3,421,660	37 : 3,422,014	3,422,108	693 : 3,422,166	3,422,353
3,421,604	94 : 3,421,661	42.7 : 3,422,015	3,422,109	693 : 3,422,166	3,422,354
82.77 : 3,421,605	95 : 3,421,662	49.6 : 3,422,016	3,422,110	693 : 3,422,166	3,422,355
100 : 3,421,606	193 : 3,421,663	62.64 : 3,422,019	3,422,111	693 : 3,422,166	3,422,356
196 : 3,421,607	340 : 3,421,664	9 : 3,422,020	3,422,112	693 : 3,422,166	3,422,357
192-84 : 3,421,784	386.5 : 3,421,665	99 : 3,422,021	3,422,113	693 : 3,422,166	3,422,358
85 : 3,421,608	400.7 : 3,422,448	161 : 3,422,022	3,422,114	693 : 3,422,166	3,422,359
193-2 : 3,421,609	442 : 3,421,666	181 : 3,422,023	3,422,115	693 : 3,422,166	3,422,360
195-28 : 3,421,980	504 : 3,421,667	301.2 : 3,422,024	3,422,116	693 : 3,422,166	3,422,361
80 : 3,421,981	223-73 : 3,421,668	4 : 3,422,025	3,422,117	693 : 3,422,166	3,422,362
103.5 : 3,421,982	91 : 3,421,669	6 : 3,422,025	3,422,118	693 : 3,422,166	3,422,363
196-99 : 3,421,610			3,422,119	693 : 3,422,166	3,422,364

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328-186 : 3,422,363	337-37 : 3,422,384	340-173.2 : 3,422,400	343-7 : 3,422,428	35
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(U.S. States, Territories and Armed Forces, the Commonwealth of Puerto Rico, and the Canal Zone)

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1 : 3,421,366	6 : 3,421,459	6 : 3,422,008	9 : 3,421,519	10 : 3,421,930	12 : 3,422,425
3,421,959	3,421,465	3,422,015	3,421,559	3,421,967	3,422,446
3,421,965	3,421,472	3,422,062	3,421,579	3,422,050	3,421,239
3,421,976	3,421,476	3,422,127	3,421,615	3,422,055	3,421,287
3,422,281	3,421,482	3,422,131	3,421,635	3,422,061	3,421,664
3,422,326	3,421,501	3,422,147	3,421,690	3,422,064	3,421,684
2 : 3,421,730	3,421,512	3,422,161	3,421,717	3,422,082	3,421,765
4 : 3,421,371	3,421,514	3,422,189	3,421,719	3,422,085	3,422,029
3,421,510	3,421,516	3,422,212	3,421,742	3,422,116	3,422,314
3,421,553	3,421,523	3,422,219	3,421,784	3,422,132	3,421,159
3,421,556	3,421,527	3,422,257	3,421,805	3,422,143	3,421,187
3,421,789	3,421,530	3,422,264	3,421,834	3,422,154	3,421,201
3,421,898	3,421,542	3,422,285	3,421,837	3,422,180	3,421,209
3,422,283	3,421,555	3,422,289	3,421,839	3,422,215	3,421,215
3,422,327	3,421,564	3,422,336	3,421,853	3,422,418	3,421,222
5 : 3,421,505	3,421,575	3,422,340	3,421,866	3,421,236	3,421,479
3,421,695	3,421,578	3,422,360	3,421,906	3,421,275	3,421,546
3,421,900	3,421,586	3,422,388	3,421,918	3,421,302	3,421,600
6 : 3,421,158	3,421,607	3,422,394	3,421,922	3,421,354	3,421,608
3,421,163	3,421,613	3,422,404	3,421,928	3,421,430	3,421,637
3,421,168	3,421,614	3,422,405	3,421,939	3,421,591	3,421,432
3,421,170	3,421,623	3,422,406	3,421,955	3,421,700	3,421,442
3,421,200	3,421,624	3,422,412	3,421,971	3,421,948	3,421,450
3,421,203	3,421,632	3,422,416	3,421,973	3,422,019	3,421,453
3,421,211	3,421,634	3,422,424	3,421,976	3,422,213	3,421,483
3,421,223	3,421,655	3,422,433	3,422,083	3,422,278	3,421,500
3,421,225	3,421,656	3,422,439	3,422,124	3,422,291	3,421,502
3,421,247	3,421,658	3,422,441	3,422,144	3,422,324	3,421,507
3,421,249	3,421,669	3,422,454	3,422,149	3,422,354	3,421,537
3,421,254	3,421,675	8 : 3,421,303	3,422,175	3,422,403	3,421,554
3,421,266	3,421,714	3,421,396	3,422,181	3,421,593	3,421,643
3,421,270	3,421,715	3,421,439	3,422,201	3,421,643	3,421,644
3,421,281	3,421,721	3,421,497	3,422,223	3,421,659	3,421,680
3,421,288	3,421,739	3,421,670	3,422,253	3,421,702	3,421,747
3,421,292	3,421,761	3,421,674	3,422,256	3,421,304	3,421,785
3,421,301	3,421,777	3,422,265	3,422,293	3,421,305	3,421,816
3,421,316	3,421,788	3,422,444	3,422,301	3,421,458	3,421,781
3,421,323	3,421,809	9 : 3,421,162	3,422,313	3,421,468	3,421,861
3,421,324	3,421,819	3,421,233	3,422,325	3,421,485	3,422,038
3,421,340	3,421,835	3,421,271	3,422,330	3,421,494	3,422,087
3,421,359	3,421,864	3,421,278	3,422,387	3,421,518	3,422,092
3,421,369	3,421,933	3,421,289	3,422,413	3,421,592	3,422,117
3,421,375	3,421,942	3,421,296	3,422,445	3,421,621	3,422,126
3,421,380	3,421,944	3,421,298	3,421,621	3,421,621	3,422,259
3,421,402	3,421,946	3,421,318	3,421,621	3,421,621	3,422,310
3,421,404	3,421,946	3,421,330	3,421,621	3,421,621	3,422,332
3,421,429	3,421,962	3,421,408	3,421,621	3,421,621	3,422,352
3,421,447	3,421,989	3,421,409	3,421,621	3,421,621	3,422,361
3,421,451	3,421,990	3,421,508	3,421,621	3,421,621	3,422,394
3,421,456	3,421,991	3,421,513	3,421,621	3,421,621	3,422,444

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3,421,992	3,421,411	3,421,536	3,422,393	3,422,358	3,422,305
3,421,993	3,421,423	3,421,551	3,422,407	3,422,368	42 : Re.26,516
3,421,997	3,421,425	3,421,662	3,422,419	3,422,378	3,421,179
3,422,004	3,421,435	3,421,679	3,422,430	3,422,398	3,421,181
3,422,006	3,421,470	3,421,704	3,422,442	3,422,402	3,421,199
3,422,007	3,421,503	3,421,803	35 : 3,421,671	3,422,428	3,421,217
3,422,011	3,421,552	3,421,865	36 : 3,421,166	3,422,429	3,421,279
3,422,016	3,421,633	3,421,905	3,421,169	3,422,431	3,421,344
3,422,027	3,421,653	3,422,255	3,421,175	3,422,453	3,421,352
3,422,033	3,421,754	3,422,269	3,421,228	3,422,455	3,421,353
3,422,041	3,421,821	3,422,280	3,421,230	37 : 3,421,193	3,421,365
3,422,046	3,421,858	3,422,423	3,421,234	3,421,308	3,421,367
3,422,052	3,421,892	28 : 3,421,368	3,421,241	3,421,529	3,421,388
3,422,081	3,421,893	3,421,558	3,421,252	3,421,659	3,421,391
3,422,088	3,421,936	29 : 3,421,198	3,421,255	3,421,678	3,421,405
3,422,089	3,421,985	3,421,452	3,421,257	3,421,770	3,421,471
3,422,096	3,421,988	3,421,718	3,421,258	3,421,935	3,421,474
3,422,163	3,421,998	3,421,810	3,421,268	3,422,010	3,421,492
3,422,183	3,422,023	3,421,811	3,421,284	38 : 3,421,589	3,421,515
3,422,199	3,422,025	3,422,178	3,421,309	39 : Re.26,518	3,421,517
3,422,214	3,422,030	3,422,202	3,421,310	3,421,172	3,421,571
3,422,231	3,422,056	3,422,288	3,421,311	3,421,173	3,421,572
3,422,249	3,422,075	30 : 3,421,850	3,421,336	3,421,174	3,421,588
3,422,311	3,422,119	3,422,448	3,421,338	3,421,180	3,421,612
3,422,376	3,422,248	31 : 3,421,740	3,421,350	3,421,188	3,421,619
3,422,396	3,422,251	3,421,774	3,421,355	3,421,235	3,421,630
3,422,426	3,422,252	3,422,389	3,421,357	3,421,237	3,421,640
3,422,449	3,422,266	32 : 3,421,493	3,421,370	3,421,238	3,421,647
18 : 3,421,161	3,422,273	33 : 3,421,224	3,421,392	3,421,250	3,421,651
3,421,208	3,422,279	3,421,963	3,421,410	3,421,262	3,421,667
3,421,276	3,422,282	3,422,211	3,421,414	3,421,265	3,421,681
3,421,307	3,422,286	3,422,371	3,421,424	3,421,277	3,421,732
3,421,399	3,422,306	3,422,386	3,421,431	3,421,283	3,421,744
3,421,403	3,422,315	34 : 3,421,164	3,421,477	3,421,285	3,421,746
3,421,488	3,422,321	3,421,213	3,421,484	3,421,290	3,421,749
3,421,495	3,422,323	3,421,221	3,421,507	3,421,299	3,421,780
3,421,532	3,422,351	3,421,232	3,421,509	3,421,334	3,421,798
3,421,533	3,422,355	3,421,347	3,421,511	3,421,349	3,421,799
3,421,596	3,422,359	3,421,362	3,421,522	3,421,383	3,421,836
3,421,642	3,422,362	3,421,433	3,421,534	3,421,397	3,421,873
3,421,648	3,422,377	3,421,441	3,421,543	3,421,413	3,421,885
3,421,666	3,422,385	3,421,463	3,421,569	3,421,461	3,421,899
3,421,759	3,422,395	3,421,489	3,421,574	3,421,467	3,421,913
3,421,796	3,422,422	3,421,520	3,421,577	3,421,475	3,421,917
3,421,801	3,422,432	3,421,544	3,421,610	3,421,480	3,421,921
3,421,882	3,422,450	3,421,547	3,421,622	3,421,491	3,421,925
3,421,996	3,422,451	3,421,599	3,421,629	3,421,498	3,421,932
3,422,002	3,422,456	3,421,618	3,421,631	3,421,535	3,421,934
3,422,112	26 : 3,421,196	3,421,661	3,421,638	3,421,540	3,422,022
3,422,153	3,421,218	3,421,713	3,421,683	3,421,545	3,422,024
3,422,209	3,421,240	3,421,720	3,421,685	3,421,557	3,422,042
3,422,218	3,421,280	3,421,735	3,421,737	3,421,565	3,422,044
3,422,303	3,421,320	3,421,745	3,421,748	3,421,566	3,422,053
3,422,320	3,421,321	3,421,766	3,421,764	3,421,568	3,422,072
3,422,363	3,421,322	3,421,782	3,421,773	3,421,587	3,422,077
3,422,369	3,421,328	3,421,824	3,421,787	3,421,609	3,422,097
19 : Re.26,519	3,421,342	3,421,838	3,421,802	3,421,716	3,422,101
3,421,327	3,421,343	3,421,842	3,421,807	3,421,722	3,422,155
3,421,356	3,421,351	3,421,851	3,421,808	3,421,724	3,422,168
3,421,779	3,421,390	3,421,862	3,421,813	3,421,734	3,422,171
3,421,792	3,421,448	3,421,870	3,421,814	3,421,743	3,422,194
3,422,071	3,421,455	3,421,878	3,421,817	3,421,752	3,422,234
3,422,356	3,421,490	3,421,901	3,421,818	3,421,768	3,422,237
20 : 3,421,267	3,421,526	3,421,912	3,421,832	3,421,769	3,422,240
3,421,274	3,421,562	3,421,920	3,421,841	3,421,797	3,422,250
3,421,479	3,421,563	3,421,938	3,421,845	3,421,869	3,422,270
3,421,546	3,421,576	3,421,947	3,421,846	3,421,876	3,422,272
3,422,182	3,421,600	3,421,983	3,421,867	3,421,889	3,422,309
3,422,365	3,421,608	3,421,994	3,421,884	3,421,894	3,422,343
21 : 3,421,297	3,422,032	3,422,032	3,421,886	3,421,958	3,422,353
3,421,464	3,421,703	3,422,047	3,421,895	3,421,961	3,422,372
3,421,538	3,422,048	3,422,048	3,421,896	3,421,969	3,422,375
3,421,573	3,422,063	3,422,063	3,421,911	3,421,970	3,422,381
3,421,660	3,422,075	3,422,067	3,421,915	3,421,974	3,422,392
3,421,689	3,422,091	3,422,091	3,421,927	3,422,013	3,422,408
3,421,691	3,422,093	3,422,093	3,421,941	3,422,021	3,422,409
3,422,045	3,422,095	3,422,095	3,421,945	3,422,034	3,422,410
3,422,238	3,422,108	3,422,108	3,421,975	3,422,049	3,422,427
22 : 3,421,620	3,422,114	3,422,114	3,422,009	3,422,057	44 : 3,421,341
3,422,051	3,422,115	3,422,115	3,422,017	3,422,129	3,421,499
3,422,145	3,422,121	3,422,121	3,422,058	3,422,130	3,421,924
24 : 3,421,205	3,422,123	3,422,123	3,422,080	3,422,137	3,422,241
3,421,376	3,422,134	3,422,134	3,422,094	3,422,177	45 : Re.26,515
3,421,401	3,422,157	3,422,157	3,422,099	3,422,197	3,421,191
3,421,521	3,422,159	3,422,159	3,422,100	3,422,215	3,421,346
3,421,645	3,422,166	3,422,166	3,422,105	3,422,236	3,421,528
3,421,649	3,422,169	3,422,169	3,422,158	3,422,296	3,421,550
3,421,760	3,422,170	3,422,170	3,422,164	3,422,335	3,421,776
3,421,781	3,422,176	3,422,176	3,422,185	3,422,342	3,421,827
3,421,877	3,422,184	3,422,184	3,422,186	3,422,346	47 : 3,421,687
3,421,972	3,422,193	3,422,188	3,422,188	3,422,370	3,421,723
3,422,026	3,422,200	3,422,191	3,422,191	3,422,373	3,421,879
3,422,126	3,422,227	3,422,204	3,422,204	3,422,374	3,421,929
3,422,259	3,422,232	3,422,205	3,422,205	3,422,399	3,422,043
3,422,310	3,422,233	3,422,206	3,422,206	3,422,457	3,422,133
3,422,352	3,422,235	3,422,208	3,422,208	40 : 3,421,184	3,422,167
3,422,361	3,422,244	3,422,217	3,422,217	3,421,524	48 : 3,421,165
25 : 3,421,204	3,422,267	3,422,224	3,422,224	3,421,582	3,421,178
3,421,206	3,422,274	3,422,262	3,422,262	3,421,584	3,421,197
3,421,212	3,422,276	3,422,277	3,422,277	3,421,790	3,421,202
3,421,219	3,422,292	3,422,287	3,422,287	3,422,142	3,421,286
3,421,242	27 : 3,421,251	3,422,299	3,422,304	3,422,160	3,421,300
3,421,244	3,421,260	3,422,300	3,422,308	3,422,447	3,421,360
3,421,273	3,421,272	3,422,302	3,422,316	41 : 3,421,329	3,421,394
3,421,374	3,421,339	3,422,348	3,422,337	3,421,412	3,421,444

48 : 3,421,457	48 : 3,422,054	51 : 3,421,256	51 : 3,421,966	53 : 3,421,657	54 : 3,422,165
3,421,539	3,422,319	3,421,325	3,421,981	3,421,663	55 : 3,421,195
3,421,580	3,422,322	3,421,361	3,421,984	3,421,665	3,421,220
3,421,583	3,422,328	3,421,363	3,422,109	3,421,726	3,421,227
3,421,585	3,422,329	3,421,381	3,422,229	3,421,736	3,421,337
3,421,625	3,422,390	3,421,436	3,422,332	3,421,758	3,421,379
3,421,701	3,422,417	3,421,438	3,422,357	3,421,953	3,421,398
3,421,733	3,422,435	3,421,440	3,422,436	3,422,068	3,421,418
3,421,753	3,422,440	3,421,454	3,422,437	3,422,222	3,421,466
3,421,800	49 : 3,421,243	3,421,460	3,422,438	3,422,391	3,421,496
3,421,863	3,421,504	3,421,676	53 : 3,421,190	3,422,397	3,421,762
3,421,902	3,421,668	3,421,677	3,421,231	3,421,843	3,422,243
3,421,952	50 : 3,421,226	3,421,692	3,421,253	3,422,066	3,422,246
3,422,012	3,421,646	3,421,699	3,421,415	3,422,078	3,422,261
3,422,028	3,421,725	3,421,854	3,421,561	3,422,079	3,422,317
3,422,040	3,421,771	3,421,872	3,421,605	3,422,118	

Design Patents

6 : 213,189	9 : 213,167	26 : 213,184	29 : 213,179	36 : 213,213	39 : 213,198
213,190	213,206	213,185	213,182	213,216	213,200
213,194	213,223	213,186	34 : 213,212	213,221	213,202
213,219	17 : 213,199	213,187	213,217	213,237	213,218
213,226	213,209	213,188	36 : 213,168	213,242	40 : 213,171
213,234	213,228	213,201	213,169	213,166	41 : 213,238
213,236	213,240	213,205	213,175	213,203	42 : 213,195
213,239	20 : 213,170	213,211	213,176	213,224	213,196
213,241	25 : 213,172	213,222	213,177	213,225	213,197
213,243	213,174	213,244	213,178	213,227	213,235
8 : 213,204	213,192	213,245	213,178	39 : 213,181	48 : 213,173
213,229	213,210	27 : 213,207	213,208		

U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
January 14, 1969 Volume 858 Number 2

TRADEMARKS
NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 617,181 (VOLKSWAGEN), Volkswagenwerk OmbH, Vehicles—namely, automobiles and trucks, air craft, boats; and parts of and accessories for automobiles, namely, radiators, direction indicators, windshield defrosters, anti-dazzle appliances, windshield wipers, shock absorbers, brakes, and baggage racks; **Reg. No. 631,649 (VW IN CIRCLE)**, same; **Reg. No. 653,695 (VW)**, same; **Reg. No. 790,621 (VOLKSWAGEN)**, same, Automobiles and trucks, air craft, and boats; and parts of and accessories for automobiles—namely, radiators, direction indicators, windshield defrosters, anti-dazzle appliances, windshield wipers, shock absorbers, brakes, and baggage racks; **Reg. No. 790,959 (VW AND DESIGN)**, same; **Reg. No. 791,311 (VW)**, same, **Reg. No. 804,889 (VW AND DESIGN)**, same, repair and reconditioning of motor vehicles, aircraft and boats; **Reg. No. 808,381 (VOLKSWAGEN)**, same, Vehicles—namely, automobiles and trucks, aircraft, and boats; and parts and accessories for automobiles and trucks, aircraft and boats, namely, radiators, direction indicators, windshield wipers, shock absorbers, brakes, and baggage racks; **Reg. No. 815,632 (VW)**, same, Repair, reconditioning and replacement of motors and accessories and parts thereof, and repair and reconditioning of motor vehicles, aircraft, and boats; **Reg. No. 819,297 (VOLKSWAGEN)**, same, filed Apr. 19, 1968, D.C., C.D. Calif. (Los Angeles), Doc. 68-632-1H, Volkswagenwerk Aktiengesellschaft v. Gerhard Paul Mischke, doing business as Speedway Motors. Same, filed July 3, 1968, D.C. Puerto Rico (San Juan), Doc. 416-68, Volkswagenwerk Aktiengesellschaft v. Rafael Escalante, doing business as Garage Rafael, formerly Garage La Altagracia. Same, filed July 12, 1968, D.C., C.D. Calif. (Los Angeles), Doc. 68-1134-CC, Volkswagenwerk Aktiengesellschaft v. Walter Stewart, doing business as Garden Grove Sports Car Service. Same, filed Aug. 2, 1968, D.C. Oreg. (Portland), Doc. 68-428, Volkswagenwerk Aktiengesellschaft v. Eugene A. Teal et al. Same, filed Oct. 8, 1968, D.C.N.J. (Newark), Doc. C-1025-68, Volkswagenwerk Aktiengesellschaft v. Wilbur A. Varley and Lucille Varley. Same, filed Oct. 10, 1968, D.C. Nebr. (Omaha), Doc. C-03149, Volkswagenwerk Aktiengesellschaft v. Dean J. Morrison, doing business as Allied Industries International. Same, filed Oct. 24, 1967, D.C., S.D.N.Y., Doc. 67-CV-328, Volkswagenwerk Aktiengesellschaft v. Sogan Imports, Inc.

Reg. No. 631,649. (See Reg. No. 617,131.)**Reg. No. 653,695.** (See Reg. No. 617,131.)**Reg. No. 790,621.** (See Reg. No. 617,131.)**Reg. No. 790,959.** (See Reg. No. 617,131.)**Reg. No. 791,311.** (See Reg. No. 617,131.)**Reg. No. 804,889.** (See Reg. No. 617,131.)**Reg. No. 808,381.** (See Reg. No. 617,131.)**Reg. No. 815,632.** (See Reg. No. 617,131.)**Reg. No. 819,297.** (See Reg. No. 617,131.)

CONDITION OF TRADEMARK APPLICATIONS AS OF NOVEMBER 30, 1968

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]..... 15,923
Date of oldest new application..... September 7, 1967
Date of oldest amended application (filing date)..... May 4, 1964

C. M. WENDT, Director, Trademark Examining Operation TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B.....	4-1-68	7-18-66
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200.....	2-29-68	3-28-65
(III) P. S. BALL, Classes 19, 21, 23, 26, 31, 34, 35, 38.....	3-8-68	5-4-64
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 26, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107.....	9-7-67	9-22-65
Renewals (All Classes).....	10-29-68	
Sec. 12(c) Publications (All Classes).....	11-1-68	

Applications filed during the month of November 1968—2,446

Registrations Issued 401—No. 863,333 to No. 863,733
Renewals Issued 90

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price \$20.50 per annum, foreign mailing \$5.75 additional; single copies, 40 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

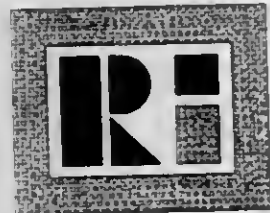
MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 78 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105. A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 268,427. Reynolds Industries, Incorporated, Santa Monica, Calif. Filed Apr. 5, 1967. SN 273,694. The Scott & Fetzer Company, Cleveland, Ohio. Filed June 12, 1967.



The drawing is lined for the color yellow, but the particular color is not claimed. The representation of the color yellow surrounding the mark is a portion of the background and not part of the mark.

Class 9—Explosives, Firearms, Equipments, and Projectiles

For Detonators (Int. Cl. 13).

Class 21—Electrical Apparatus, Machines, and Supplies

For Electrical Connectors and Resistors (Int. Cl. 9).

First use at least as early as Sept. 15, 1964.

SN 269,678. Miller Manufacturing Company, Inc., Durham, N.C. Filed Apr. 20, 1967.



Class 19—Vehicles

For Truck Bodies (Int. Cl. 12).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Hydraulic Body Lift Cylinders (Int. Cl. 7).

First use on or about Mar. 1, 1958.

SN 272,661. Woodford Manufacturing Co., Des Moines, Iowa. Filed May 31, 1967.



Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Hydrants (Int. Cl. 11).

First use Dec. 28, 1966.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Metal Dock Plates (Int. Cl. 6).

First use Apr. 7, 1967.

TM 44



Class 19—Vehicles

For Utility Service Truck Bodies, Line Construction Utility Truck Bodies With and Without Hydraulic Derricks (Int. Cl. 12).

First use January 1955.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Power-Operated Aerial Ladders Adapted To Be Mounted on Trucks (Int. Cl. 7).

First use October 1961.

SN 274,477. Julius Garfunkel & Co., Incorporated, Washington, D.C. Filed June 22, 1967.



Owner of Reg. Nos. 103,889, 794,119, and others.

Class 51—Cosmetics and Toilet Preparations

For Toiletries for Men—Namely, Cologne, After Shave Lotion, All Purpose Lotion, Hair Tonic, Shaving Cream, Shaving Soap, Personal Deodorant and Mouthwash (Int. Cls. 3 and 5).

Class 52—Detergents and Soaps

For Toilet Soap and Liquid Hair Shampoo (Int. Cl. 3).

First use Sept. 13, 1964.

SN 277,588. Miles Laboratories, Inc., Elkhart, Ind. Filed Aug. 7, 1967.



Class 44—Dental, Medical, and Surgical Appliances

For Cleaning Device for Dental Surfaces and Oral Hygiene Generally, Whereby Pressurized Antiseptic Solution Is Directed At and Between the Teeth (Int. Cl. 10).

Class 51—Cosmetics and Toilet Preparations

For Effervescent Mouthwash Solution for Use in Dental and Oral Hygiene (Int. Cl. 8).

First use June 26, 1967.

JANUARY 14, 1969

U. S. PATENT OFFICE

TM 45

SN 278,426. Selectron International Co., Inc., Chicago, Ill. Filed Aug. 16, 1967.



Class 21—Electrical Apparatus, Machines, and Supplies

For Radios, Televisions, and Transceivers and Component Parts Thereof (Int. Cl. 9).

Class 36—Musical Instruments and Supplies

For Magnetic Tape Recorders, Magnetic Tape, and Phonographs (Int. Cl. 9).

First use Apr. 15, 1964.

SN 279,774. Bent Hansen, d.b.a. Hoyrup Jessen, Saedding pr. Esbjerg, Denmark. Filed Sept. 7, 1967.

HYKRO

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Pet and Animal Equipment and Accessories—Namely, Collars, Baths and Mirrors for Animals, Feeding Devices in the Form of Drinking Fountains, Seed Fountains, Treat Cups, Volery Fountains, Dog Dishes, Exercise Equipment and Play-

things in the Form of Ladders, Swings, Trapezes, Budgie Wheels, Tread-Mills, Plastic Bones for Dogs, Bells and Rattles, Mattresses for Dog Beds, Litter Pans, Hamster Climbing Rings, Hamster Slides, Hamster Scratching Posts (Int. Cls. 18 and 21).

Class 46—Foods and Ingredients of Foods

For Cat Food, Dog Food, Bird Foods and Hamster Food (Int. Cl. 31).

First use January 1944; in commerce January 1955.

SN 290,361. Automotive Controls Corp., Branford, Conn. Filed Feb. 6, 1968.



Class 21—Electrical Apparatus, Machines, and Supplies

For Vehicular Electrical Solenoids, Switches and Associated Hardware, and Electrical Connectors and Sockets (Int. Cl. 9).

Class 26—Measuring and Scientific Appliances

For Electrically-Operated Temperature-Responsive Sensing Units for Vehicular Motors (Int. Cl. 9).

First use Sept. 30, 1967.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105. A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 270,015. L. Teweles Seed Co., Milwaukee, Wis. Filed Apr. 25, 1967.

XR-66

For Soybean Seed (Int. Cl. 31).

First use Apr. 10, 1967.

SN 270,016. L. Teweles Seed Co., Milwaukee, Wis. Filed Apr. 25, 1967.

XR-33

For Soybean Seed (Int. Cl. 31).

First use Apr. 10, 1967.

SN 277,653. Flower of the Month, Inc., Grand Rapids, Mich. Filed Aug. 7, 1967.

FLOWER OF THE MONTH

Owner of Reg. No. 397,300.

For Flowers, Plants, Bulbs, Trees and Shrubs (Int. Cl. 31).

First use June 1, 1947.

SN 282,375. Konrad Hornschuch Aktiengesellschaft Werk Weissbach, Weissbach, Wurttemberg, Germany. Filed Oct. 12, 1967.

SKAILEN

Owner of German Reg. No. 707,606, dated Aug. 11, 1962; and U.S. Reg. Nos. 719,452, 780,781, and 784,604.

For Artificial Leather Especially for Upholstery and Apparel Such as Headwear, Footwear, Gloves, Belts, etc. (Int. Cl. 18).

SN 283,011. Kimberly-Clark Corporation, Neenah, Wis. Filed Oct. 20, 1967.

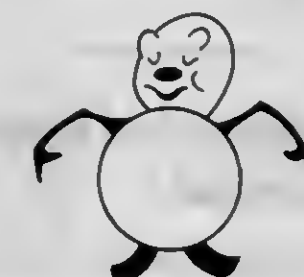
KIMPUFF

Owner of Reg. Nos. 229,755, 549,660, and 554,685. For Fibre Products in the Form of Creped Wadding Sheets, Used Principally as Padding, Packaging, and Cushioning Material (Int. Cl. 22).

First use Oct. 12, 1967.

Class 2—Receptacles

SN 273,676. Polyfoam, Inc., Lester Prairie, Minn. Filed June 12, 1967.



For Protective Cardboard and Polystyrene Packing Inserts for Containers (Int. Cl. 16).

First use June 30, 1965.

SN 284,616. Clark Equipment Company, Buchanan, Mich., by merger and change of name from Clark Equipment Company, Buchanan, Mich. Filed Nov. 13, 1967.

Broum

Owner of Reg. No. 672,122.
For Cargo Containers (Int. Cl. 20).
First use at least as early as 1950.

SN 293,755. Textron Inc., Providence, R.I. Filed Mar. 20, 1968.

PHOTO SHOWCASE

Applicant disclaims "Photo" apart from the mark as shown.
For Snapshot Storage Container (Int. Cl. 16).
First use Dec. 11, 1967.

SN 297,432. Numeridex Tape Systems, Inc., Chicago, Ill. Filed May 6, 1968.

NUMERIDEX

For Containers for Storing Perforated Control Tapes (Int. Cl. 20).
First use at least as early as Sept. 1, 1967.

SN 301,048. Dispensers, Inc., d.b.a. Dripout Starline Corporation, Goleta, Calif. Filed June 21, 1968.



Applicant disclaims the words "Product" and "Save, Store and Pour" and the representation of the goods apart from the balance of the mark as shown. Owner of Reg. Nos. 373,123, 681,150, and 724,647.

For Dispensing Receptacles—Namely, Salt and Pepper Shakers, Sugar Pourers, Cheese Servers, and Liquid Servers With Metal or Plastic Closures (Int. Cl. 21).
First use Apr. 1, 1968.

SN 304,258. Shamrock-Neatway Products, Inc., Minneapolis, Minn. Filed Aug. 2, 1968.



The word "Ware" is disclaimed apart from the mark as shown.
For Plastic Bowls, Mugs and Tumblers (Int. Cl. 21).
First use July 1, 1968.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 296,431. Lambert-Kay, Inc., Los Angeles, Calif. Filed Apr. 24, 1968.

VICTORY

For Collar for Dogs Impregnated With Insecticides (Int. Cl. 5).
First use Jan. 19, 1968.

SN 296,432. Lambert-Kay, Inc., Los Angeles, Calif. Filed Apr. 24, 1968.

VICTORY

For Collar for Cats Impregnated With Insecticides (Int. Cl. 5).
First use Jan. 19, 1968.

Class 4—Abrasives and Polishing Materials

SN 296,026. S. S. Kresge Company, Detroit, Mich. Filed Apr. 19, 1968.



Owner of Reg. Nos. 743,912, 845,181, and others.
For Abrasive Coated Sheets and Belts (Int. Cl. 8).
First use in or before December 1967.

SN 304,654. Iida Ludovico, Syracuse, N.Y. Filed Aug. 8, 1968.

BUNNY PUFF

For Nylon Scrubbing Balls (Int. Cl. 21).
First use at least as early as July 1, 1968.

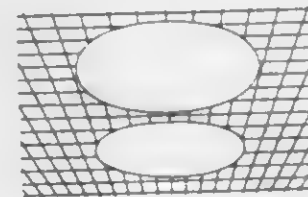
Class 5—Adhesives

SN 277,986. E.M.A. Corporation, Northvale, N.J. Filed Aug. 10, 1967.

EMA Bond

For Thermoplastic Electromagnetic Adhesives (Int. Cl. 1).
First use Feb. 22, 1967.

SN 308,342. Chicago Adhesive Products Co., Chicago, Ill. Filed Sept. 27, 1968.



For Waterproof, Latex Emulsion and Alcohol Base Adhesive for Use With Floor Coverings (Int. Cl. 1).
First use March 1962.

Class 6—Chemicals and Chemical Compositions

SN 267,088. Wyandotte Chemical Corporation, Wyandotte, Mich. Filed Mar. 17, 1967.

FASPEEL

For Liquid Additive for Addition to Peeling Solutions for Use in Peeling Fruits and Vegetables (Int. Cl. 1).
First use July 23, 1965.

SN 274,299. Rolfe Chemical Corporation, Stamford, Conn., assignee of Andrew Rolfe Chemical Corporation, North Haven, Conn. Filed June 20, 1967.

SOL-VAN

For Chemical Preparations for Industrial Use To Be Added to Bulk Heating Fuels To Improve Combustion and Reduce Air Pollution and Chemical Preparations To Be Added to Waste Materials To Reduce Air Pollution During Incineration (Int. Cl. 1).
First use Mar. 17, 1967.

SN 276,177. S.A.E.S. Getters S.p.A. Milan, Italy. Filed July 17, 1967.

SAES

Priority claimed under Sec. 44(d) on Italian application filed Feb. 21, 1967; Reg. No. 204,475, dated Apr. 11, 1967.
For Chemical Compositions for the Absorption of Gases in Electronic Devices (Int. Cl. 1).
First use 1952; in commerce Sept. 14, 1957.

SN 277,983. Carlisle Chemical Works, Inc., Reading, Ohio. Filed Aug. 10, 1967.

CAR-A-VAN

For Antioxidants; Corrosion Inhibitors, Dicing Compositions; Dispersants; Heat Transfer Fluids, Hydraulic Brake Fluids; Fire Retardants, Additives for Fluid Petroleum Products To Depress the Pour Point of Such Products; Additives for Petroleum Products To Improve Lubrication of Surfaces Which Are in Extreme Pressure Contact; Additives for Fluid Petroleum Products To Provide More Uniform Viscosities Under Variations of Temperature; Additives for Petroleum Lubricating Products To Reduce Wear of Moving Parts Lubricated With Such Products; and Functional Fluids Used to Transmit Energy From One Point to Another (Int. Cls. 1 and 2).
First use Apr. 14, 1967.

SN 279,313. Madison Chemical Corporation, Maywood, Ill. Filed Aug. 29, 1967.

BANISH

For Herbicide (Int. Cl. 5).
First use Feb. 18, 1963.

SN 287,085. Nursery Specialty Products, Inc., Greenwich, Conn. Filed Dec. 18, 1967.



For Anti-Dessicant Spray To Be Applied to Cut Trees and Wreaths (Int. Cl. 1).
First use August 1962.

SN 287,095. Pierce Chemical Company, Rockford, Ill. Filed Dec. 18, 1967.

SILYL-8

For Chemical Reagents for Conditioning, Treating and Maintaining the Fidelity of Gas Chromatographic Columns (Int. Cl. 1).
First use about May 1, 1967.

SN 287,096. Pierce Chemical Company, Rockford, Ill. Filed Dec. 18, 1967.

TRI-SIL

For Silylating Reagents for Use in Gas Chromatography, Spectrometry and Other Instrumented Analytical Procedures, in Thin-Layer Chromatography and Synthesis (Int. Cl. 1).
First use Aug. 1, 1965.

SN 289,384. Denver Chemical Manufacturing Company, d.b.a. Wampole Laboratories, Stamford, Conn. Filed Jan. 23, 1968.

BILISCREEN

For Diagnostic Laboratory Reagent Kit Used To Determine Elevated Bilirubin Levels (Int. Cl. 1).
First use Dec. 20, 1967.

SN 291,699. Argus Chemical Corporation, Brooklyn, N.Y. Filed Feb. 23, 1968.

ESPEROX

For Organic Peroxide Catalysts Used in the Synthesis of Plastics and Resins (Int. Cl. 1).
First use Jan. 26, 1968.

SN 293,227. Calgon Corporation, Pittsburgh, Pa. Filed Mar. 14, 1968.

BUROLOCK

Owner of Reg. No. 285,744.
For Composition Comprising Sodium Metaphosphate and a Water-Soluble Organic Polymer, for the Prevention of Calcium Scale and Sludge Deposits in Boilers (Int. Cl. 1).
First use Oct. 25, 1967.

SN 293,405. Shin-Etsu Chemical Company, Chiyoda-ku, Tokyo, Japan. Filed Mar. 15, 1968.

POLON

Owner of Japanese Reg. No. 464,361, dated Apr. 13, 1955.
For Silicone Water Repellents (Int. Cl. 1).

SN 293,471. Calgon Corporation, Pittsburgh, Pa. Filed Mar. 18, 1968.

SHOW

For Laundry Preparation Containing Chemical Water Softener, Fabric Softener, Whiteners and Brighteners (Int. Cl. 3).
First use Feb. 23, 1968.

SN 293,477. Colgate-Palmolive Company, New York, N.Y. Filed Mar. 18, 1968.

AXION

For Laundry Bleach (Int. Cl. 3).
First use Jan. 15, 1968.

SN 298,777. E. Merck Aktiengesellschaft, Darmstadt, Germany. Filed May 22, 1968.

EM-TEST

Owner of German Reg. No. 635,615, dated July 4, 1967.
For Diagnostic Reagents and Diagnostic Reagent Kits for Laboratory and Clinical Use for Medical Determinations of Children, Adults and Animals (Int. Cl. 1).

Class 7 — Cordage

SN 301,931. Gibson Greeting Cards, Inc., Cincinnati, Ohio.
Filed July 3, 1968.



For Pretied Bows (Int. Cl. 26).
First use Feb. 15, 1968.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 287,231. Nord-Aviation Societe Nationale de Constructions Aeronautiques, Paris, France. Filed Dec. 19, 1967.

HARPON

Priority claimed under Sec. 44(d) on French Reg. No. 734,256, dated June 22, 1967. "Harpon" is the French equivalent of the English word "harpoon."

For Firearms, Ammunitions, Explosive Substances, Rockets, Projectiles and Missiles, Especially With Remote Automatic Controls, for Use on All Vehicles, Including Tanks and Armoured Vehicles, Parts and Accessories of the Said Projectiles and Missiles, Fireworks (Int. Cl. 13).

SN 297,409. Intercontinental Arms, Inc., Los Angeles, Calif.
Filed May 6, 1968.



For Over-And-Under Pistol Firearm and Parts Therefor (Int. Cl. 13).
First use Jan. 16, 1963.

SN 297,410. Intercontinental Arms, Inc., Los Angeles, Calif.
Filed May 6, 1968.

RENEGADE

For Double Barrel Pistol Firearms and Parts Therefor (Int. Cl. 13).
First use Aug. 7, 1962.

SN 297,411. Intercontinental Arms, Inc., Los Angeles, Calif.
Filed May 6, 1968.

KENTUCKIAN

For Pistol and Rifle Firearms and Parts Therefor (Int. Cl. 13).
First use Sept. 9, 1963.

Class 11 — Inks and Inking Materials

SN 295,969. Sun Chemical Corporation, New York, N.Y.
Filed Apr. 18, 1968.

SUNGARD

For Gravure Printing Inks (Int. Cl. 2).
First use Mar. 11, 1968.

SN 295,970. Sun Chemical Corporation, New York, N.Y.
Filed Apr. 18, 1968.

SUNKET

For Gravure Printing Inks (Int. Cl. 2).
First use Mar. 11, 1968.

SN 295,971. Sun Chemical Corporation, New York, N.Y.
Filed Apr. 18, 1968.

SUNAL

For Gravure Printing Inks (Int. Cl. 2).
First use Mar. 11, 1968.

SN 295,972. Sun Chemical Corporation, New York, N.Y.
Filed Apr. 18, 1968.

SUNTOL

For Gravure Printing Inks (Int. Cl. 2).
First use Mar. 11, 1968.

SN 295,973. Sun Chemical Corporation, New York, N.Y.
Filed Apr. 18, 1968.

SUNAR

For Gravure Printing Inks (Int. Cl. 2).
First use Mar. 11, 1968.

SN 295,974. Sun Chemical Corporation, New York, N.Y.
Filed Apr. 18, 1968.

SUNATE

For Gravure Printing Inks (Int. Cl. 2).
First use Mar. 11, 1968.

SN 295,975. Sun Chemical Corporation, New York, N.Y.
Filed Apr. 18, 1968.

SUNAMIDE

For Gravure Printing Inks (Int. Cl. 2).
First use Mar. 11, 1968.

SN 295,977. Sun Chemical Corporation, New York, N.Y.
Filed Apr. 18, 1968.

SUNEX

For Gravure Printing Inks (Int. Cl. 2).
First use Mar. 11, 1968.

Class 12 — Construction Materials

SN 285,866. Technique du Verre Tissé, Paris, France. Filed Nov. 29, 1967.

THERMOBIAIS

Owner of French Reg. No. 725,282, dated May 25, 1967.
For Thermic Insulators (Int. Cl. 17).

SN 286,939. The International Synthetic Rubber Company Limited, Southampton, England. Filed Dec. 14, 1967.

UNISOL

Owner of British Reg. No. 870,861, dated Oct. 26, 1964.
For Liquid Organic Preparations for Use in Stabilizing Soil by Application to the Soil To Bind the Top Surface of the Soil as a Firm Resilient Film and Thereby Impart Erosion Resistance Thereto (Int. Cl. 1).

SN 290,375. Richard Earl Robertson Bell, Portland, Greg.
Filed Feb. 6, 1968.



For Prefabricated Buildings (Int. Cl. 19).
First use June 29, 1967.

SN 297,832. The Georgia Marble Company, Atlanta, Ga.
Filed May 10, 1968.

PINE LOG

For Natural Quartzite Uncut Stone for Building Venners (Int. Cl. 19).
First use Jan. 6, 1960.

SN 300,424. Consolidated Papers, Inc., Wisconsin Rapids, Wis. Filed June 14, 1968.

C-VOIDS

For Paperboard or Fibreboard Tubes for Use in Forming Concrete (Int. Cl. 16).
First use April 1967.

SN 300,432. Consolidated Papers, Inc., Wisconsin Rapids, Wis. Filed June 14, 1968.

C-FORMS

For Paperboard or Fibreboard Tubes for Use in Forming Concrete (Int. Cl. 16).
First use October 1966.

SN 301,063. Grover Aluminum Products, Inc., Patchogue, N.Y. Filed June 21, 1968.

DESIGN-A-DOR

For Aluminum Doors (Int. Cl. 6).
First use Dec. 1, 1967.

SN 302,112. Pacific Wood Products Company, Los Angeles, Calif. Filed July 5, 1968.

PLANK-MATE

For Plywood Panels (Int. Cl. 19).
First use May 1966.

SN 302,391. Thomas K. Chaffee Company, Providence, R.I.
Filed July 10, 1968.

GLASTIC

For Roof Cement and Roof Resurfacers (Int. Cl. 19).
First use May 1966.

SN 302,495. Evans Products Company, Portland, Greg.
Filed July 11, 1968.

STYLEBORD

Owner of Reg. No. 529,237.
For Prefinished Paneling (Int. Cl. 19).
First use at least as early as November 1967.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

SN 266,371. Superior Concrete Accessories, Inc., Franklin Park, Ill. Filed Mar. 9, 1967.

Speed-Thread

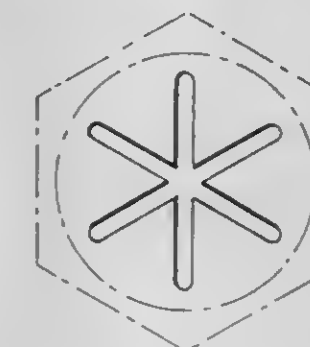
For "She" Bolts and "He" Bolts for Use in Connection With Ties and Anchors for Concrete Wall Forms (Int. Cl. 6).
First use on or about Apr. 13, 1966.

SN 264,895. Curtis Noll Corporation, Cleveland, Ohio. Filed Nov. 15, 1967.

DURATORQ

For Fasteners and Associated Products—Namely, Bolts, Cap Screws, Nuts, Washers, and Lock Washers (Int. Cl. 6).
First use at least as early as 1960.

SN 292,242. Trans-Continental Bolt Co. Ltd., Windsor, Ontario, Canada. Filed Mar. 1, 1968.



Priority claimed under Sec. 44(d) on Canadian application filed Sept. 29, 1967; Reg. No. 158,081, dated Aug. 30, 1968. The broken lines in the drawing show the asterisk design in situ.

For Nuts and Bolts (Int. Cl. 6).

SN 298,461. Long-Lok Corporation, Los Angeles, Calif. Filed May 17, 1968.

HOT-LOK

For Self-Locking Threaded Fasteners (Int. Cl. 6).
First use January 1960.

SN 302,352. Earl Clayton Thompson, Waco, Tex. Filed July 9, 1968.

PECK-A-DRINK

For Valves for Dispensing Drinking Water for Poultry and Livestock (Int. Cl. 11).
First use Dec. 1, 1967.

Class 14 — Metals and Metal Castings and Forgings

SN 292,552. Claremont Polychemical Corporation, Roslyn Heights, N.Y. Filed Mar. 6, 1968.

CLARIBRITE

For Aluminum Powder (Int. Cl. 6).
First use prior to Feb. 8, 1968.

Class 15 — Oils and Greases

SN 308,259. Percy Harms Corporation, Skokie, Ill. Filed Sept. 26, 1968.

EPOXEASE

For Mold Release Agents (Int. Cl. 4).
First use on or before Sept. 1, 1963.

Class 16 — Protective and Decorative Coatings

SN 285,981. Abso-Clean Chemical Co., Detroit, Mich. Filed Dec. 1, 1967.

"METALAGLO"

For Acrylic-Metallic Terpolymer Floor Finish (Int. Cl. 2).
First use June 16, 1967.

SN 289,630. Stabond Corporation, Gardena, Calif. Filed Jan. 25, 1968.

VULCABOND

For Synthetic Rubber Base Paint (Int. Cl. 2).
First use Oct. 8, 1945.

SN 290,599. W. R. Grace & Co., New York, N.Y. Filed Feb. 8, 1968.

ANOPRIME

For Zinc-Rich Corrosion Inhibiting Primer Coating for Ferrous Metals (Int. Cl. 2).
First use Dec. 6, 1967.

SN 291,385. Gulf States Paint Company, Houston, Tex. Filed Feb. 19, 1968.

CHARYSMA

For Latex Paint (Int. Cl. 2).
First use Oct. 24, 1967.

SN 291,838. Conchemco, Incorporated, Kansas City, Mo. Filed Feb. 26, 1968.

COLONY

Owner of Reg. Nos. 293,021, 636,054, and others.
For Wood Stains and Clear Finishes (Int. Cl. 2).
First use Nov. 22, 1967.

SN 298,150. Rock Paint & Chemical Company, Fort Atkinson, Wis. Filed May 14, 1968.

ROCK-GUARD

For Paints and Primers (Int. Cl. 2).
First use Aug. 24, 1967.

SN 298,604. International Paint Company, Inc., New York, N.Y. Filed May 20, 1968.

TEAK-GARD

For Varnish-Type Wood Preservative (Int. Cl. 2).
First use July 31, 1967.

SN 298,732. Kyanize Paints, Inc., Everett, Mass. Filed May 21, 1968.

KYPLATE

For Epoxy Enamel (Int. Cl. 2).
First use Feb. 20, 1968.

Class 17 — Tobacco Products

SN 280,814. Rothmans of Pall Mall Limited, Zurich, Switzerland. Filed Sept. 20, 1967.



For Cigarettes (Int. Cl. 34).
First use January 1957; in commerce May 1957.

SN 281,393. Rothmans of Pall Mall Limited, Zurich, Switzerland. Filed Sept. 28, 1967.

PULLMAN**BY ROTHMANS**

For Cigarettes (Int. Cl. 34).
First use May 26, 1967; in commerce May 26, 1967.

SN 291,651. Turmac Tobacco Company N.V., Amsterdam, Netherlands. Filed Feb. 21, 1968.

TURMAC

For Cigarettes (Int. Cl. 34).
First use Apr. 1, 1948; in commerce June 29, 1967.

SN 295,955. Charles Rattray, Perth, Scotland. Filed Apr. 18, 1968.

RATTRAY'S

Owner of U.S. Reg. No. 435,936.
For Smoking Tobacco (Int. Cl. 34).
First use 1912; in commerce 1933.

SN 297,576. John Middleton, Inc., King of Prussia, Pa. Filed May 7, 1968.



The drawing is filed for the color red. Applicant disclaims the representation of a pipe and a cigar, respectively, apart from the mark as shown. Owner of Reg. Nos. 805,883 and 805,884.

For Cigars (Int. Cl. 34).
First use Apr. 1, 1968.

SN 303,470. The S. Frieder & Sons Company, Philadelphia, Pa. Filed July 24, 1968.

SEAFARERS

For Cigars (Int. Cl. 34).
First use June 27, 1968.

SN 303,471. The S. Frieder & Sons Company, Philadelphia, Pa. Filed July 24, 1968.

LORD HORATIO

For Cigars (Int. Cl. 34).
First use June 27, 1968.

SN 304,311. Compania Insular Tabacalera, S.A., Las Palmas de gran, Canaria, Canary Islands. Filed Aug. 5, 1968.



Without waiving any common law rights, applicant disclaims the term "Las Palmas" apart from the mark as shown. Owner of U.S. Reg. No. 769,414.
For Cigars (Int. Cl. 34).
First use Dec. 6, 1962; in commerce Dec. 22, 1962.

SN 307,720. Universal Cigar Corporation, New York, N.Y. Filed Sept. 19, 1968.

SANTA FE

Owner of Reg. Nos. 317,621, 396,981, and others.
For Cigars (Int. Cl. 34).
First use 1963; 1887 as to "Santa Fe."

Class 18 — Medicines and Pharmaceutical Preparations

SN 273,797. Soperle, Societe Anonyme, Morat, Switzerland. Filed June 13, 1967.

BRONCATAR

Owner of Swiss Reg. No. 213,559, dated Oct. 12, 1965.
For Pharmaceutical Preparations for the Treatment of Coughs of Non-Asthmatic Origin (Int. Cl. 5).

SN 277,417. Abbott Laboratories, North Chicago, Ill. Filed Aug. 3, 1967.

PERTSCAN

For Radioactive Pharmaceutical for Internal Use in Diagnostic Scanning Procedures (Int. Cl. 5).
First use Mar. 1, 1967.



Owner of Japanese Reg. Nos. 323,081, dated Oct. 23, 1939, and 368,292, dated Feb. 24, 1947.
For Medicines and Pharmaceutical Preparations (Int. Cl. 5).

SN 292,655. American Home Products Corporation, New York, N.Y. Filed Mar. 7, 1968.

GREEN ALERT

For Stimulant Preparation (Int. Cl. 5).
First use Sept. 22, 1967.

SN 293,962. The Upjohn Company, Kalamazoo, Mich. Filed Mar. 22, 1968.

BIODRY

For Antibiotic Preparation for Veterinary Use (Int. Cl. 5).
First use Jan. 15, 1968.

SN 307,941. Rucker Pharmacal Co., Inc., Shreveport, La. Filed Sept. 23, 1968.

RU-TUSS

For Nasal Decongestant and Cold Preparation (Int. Cl. 5).
First use Sept. 10, 1959.

SN 307,943. Rucker Pharmacal Co., Inc., Shreveport, La. Filed Sept. 23, 1968.

RU-SPAS

For Antispasmodic Preparation (Int. Cl. 5).
First use Mar. 20, 1959.

Class 19 — Vehicles

SN 260,914. American Hospital Supply Corporation, Evanston, Ill. Filed Dec. 10, 1966.



Applicant disclaims the words "Hospital Supply" apart from the mark as shown.
For Shelf Trucks and Hand Carts for Use in Hospitals (Int. Cl. 12).
First use on or before Sept. 1, 1964.

SN 276,256. Shasta Industries, Inc., Northridge, Calif. Filed July 18, 1967. SN 290,901. Ski-Tow Manufacturing Co., Elkhart, Ind. Filed Feb. 12, 1968.



Owner of Reg. No. 577,100.
For Travel Trailers (Int. Cl. 12).
First use May 1, 1967.

SN 276,376. Wisconsin Trailer Company, Inc., Richfield, Wis. Filed July 19, 1967.



For Motor Truck Trailers—Namely, Tilting Deck Trailers, Low Bed Trailers, and Non-Tilting Trailers (Int. Cl. 12).
First use June 20, 1967.

SN 280,553. Carlson & Parnell, Inc., d.b.a. Carlson-Parnell Co., Anoka, Minn. Filed Sept. 18, 1967.

SNO CHAMP

For Pull-Type Vehicles for Transporting Persons or Goods on Snow or Ice (Int. Cl. 12).
First use Feb. 1, 1967.

SN 280,736. Wheeler Mobile Limited, Toronto, Ontario, Canada. Filed Sept. 19, 1967.

BEAVER

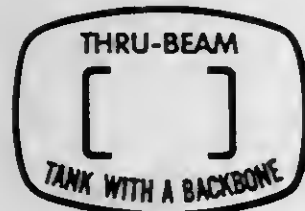
Owner of Canadian Reg. No. 148,503, dated Dec. 9, 1966.
For Small Amphibious Wheeled Vehicles (Int. Cl. 12).
First use July 14, 1966; in commerce Dec. 15, 1966.

SN 292,871. Alfa Romeo S.p.A., Milan, Italy. Filed Oct. 19, 1967.

ALFA ROMEO 33

Priority claimed under Sec. 44(d) on Italian application filed July 23, 1967; Reg. No. 214,761, dated Sept. 20, 1967.
Owner of U.S. Reg. Nos. 228,220 and 728,196.
For Motor Cars (Int. Cl. 12).

SN 284,115. Southwest Welding & Manufacturing Co., Alhambra, Calif. Filed Nov. 3, 1967.



The words "Thru-Beam" and "Tank With a Backbone" are disclaimed apart from the mark as shown.
For Sprinkler Tank Trailers (Int. Cl. 12).
First use June 1, 1967.

SN 290,003. Mermax Pty. Limited, Epping, New South Wales, Australia. Filed Jan. 31, 1968.

MERMAX

For Sheepskin Car Seat Cushions (Int. Cl. 12).
First use Mar. 1, 1966; in commerce Jan. 8, 1968.



For Camping Trailers (Int. Cl. 12).
First use Jan. 11, 1967.

SN 290,902. Ski-Tow Manufacturing Co., Elkhart, Ind. Filed Feb. 12, 1968.



For Camping Trailers (Int. Cl. 12).
First use Jan. 3, 1963.

SN 292,664. American Machine & Foundry Company, New York, N.Y. Filed Mar. 7, 1968.

SKI DADDLER

For Powered Snow Vehicles and Parts Thereof; and Accessories Therefor—Namely, Passenger and Cargo Tow Sled Vehicles, Transport Trailer Vehicles, and Fitted Snow Vehicle Protective Covers (Int. Cls. 12 and 22).
First use October 1965.

SN 293,953. Slickcraft Boat Co., Holland, Mich. Filed Mar. 22, 1968.

SLICKCRAFT

For Boats (Int. Cl. 12).
First use in or about June 1954.

SN 297,043. Daytona Sports Company, Reseda, Calif. Filed May 1, 1968.

FAST-BAC

For Motorcycle Handlebars and Motorcycle Luggage Racks (Int. Cl. 12).
First use July 13, 1967.

SN 297,392. Dolphin-Kamper, Inc., Corunna, Ind. Filed May 6, 1968.



For Camping Equipment—Namely, Campers for Pick-Up Trucks, Sleds for Snow-Mobiles, and Camper Trailers (Int. Cl. 12).
First use Mar. 16, 1968.

SN 297,512. AP Parts Corporation, Toledo, Ohio. Filed May 7, 1968.

COLUMBUS

Owner of Reg. No. 783,014.
For Shock Absorbers (Int. Cl. 12).
First use July 14, 1949.

SN 298,076. Acme Missiles & Construction Corporation, Rockville Centre, N.Y. Filed May 14, 1968. SN 303,377. Blair Fashions, Inc., d.b.a. Vector Sails, Chicago, Ill. Filed July 23, 1968.



For Sailboats (Int. Cl. 12).
First use Feb. 13, 1968.

SN 298,644. Toyota Jidosha Kogyo Kabushiki Kaisha (Toyota Motor Co., Ltd.), Toyota-shi, Aichi-ken, Japan. Filed May 20, 1968.



For Motorcars and Parts Thereof (Int. Cl. 12).
First use in or about November 1966; in commerce in or about January 1967.

SN 298,700. The Cessna Aircraft Company, Wichita, Kans. Filed May 21, 1968.

CESSNA

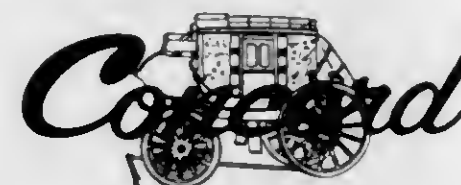
Owner of Reg. Nos. 576,100 and 739,698.
For Airplanes and Parts Thereof (Int. Cl. 12).
First use Nov. 15, 1967.

SN 299,228. Gerring Industries, Inc., Shipshewana, Ind. Filed May 28, 1968.

HOLLY PARK

For House Trailers (Int. Cl. 12).
First use May 1964.

SN 299,649. Concord Mobile Homes, Inc., Elkhart, Ind. Filed June 4, 1968.



Owner of Reg. Nos. 751,969 and 760,258.
For Mobile Homes and House Trailers (Int. Cl. 12).
First use Apr. 4, 1960.

SN 300,569. Eagle-Picher Industries, Inc., Cincinnati, Ohio. Filed June 17, 1968.

ORCO

For Rubber Mats Particularly for Use on the Floors of Automobiles (Int. Cl. 27).
First use June 12, 1964.

SN 302,204. Clifford E. Tucker, Los Angeles, Calif. Filed July 8, 1968.

SCOTSMAN

Owner of Reg. Nos. 677,606 and 793,945.
For House Trailers, Mobile Offices, Mobile Dressing Rooms, Concession Trailers, and Camper Coaches for Pick-Up Trucks (Int. Cl. 12).
First use at least as early as May 15, 1951.



The word "Sails" is disclaimed apart from the mark as a whole.
For Sails (Int. Cl. 22).
First use Oct. 16, 1967.

Class 20—Linoleum and Oiled Cloth

SN 291,478. American Blitrite Rubber Co., Inc., Trenton, N.J. Filed Feb. 20, 1968.

TIVOLI

For Vinyl Flooring (Int. Cl. 27).
First use Jan. 10, 1968.

SN 297,379. Burke Rubber Company, Inc., San Jose, Calif. Filed May 6, 1968.

ARGONAUT

For Floor Tile (Int. Cl. 19).
First use Apr. 1, 1961.

SN 298,708. Congoleum Industries, Inc., Kearny, N.J., assignee of Congoleum-Nairn Inc., Kearny, N.J. Filed May 21, 1968.



For Plastic Coverings of the Solid Surface, Resilient Type for Surfaces Such as Floors, Walls, Countertops and the Like in the Form of Rolls, Rugs, and Tiles (Int. Cls. 19 and 27).
First use Apr. 17, 1968.

SN 305,515. Fabric Leather Corporation, New Hyde Park, N.Y. Filed Aug. 20, 1968.



Laminated Vinyl Floor Tile (Int. Cl. 19).
First use July 18, 1967.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 197,685. Dynaco, Inc., Philadelphia, Pa. Filed July 13, 1964.

DYNACO

For Audio Transformers (Int. Cl. 9).
First use Dec. 1, 1955.

SN 243,350. Preformed Line Products Company, Cleveland Ohio. Filed Apr. 13, 1966.

WRAPLOCK

For Ties and Pads for Connecting Electrical Cables, Strands or Wires to Insulators (Int. Cl. 9).
First use about Sept. 30, 1959.

SN 278,874. Contacts, Incorporated, Wethersfield, Conn. SN 286,852. Teletronics, Inc., Dallas, Tex. Filed Dec. 13, 1967. Filed Aug. 23, 1967.

UNI-CLAD

For Electrical Contacts and Contact Assemblies of Two or More Metals Interfacially Bonded (Int. Cl. 9).
Filed Feb. 2, 1967.

SN 280,285. West Chemical Products, Inc., Long Island City, N.Y. Filed Sept. 13, 1967.



Owner of Reg. Nos. 523,007 and 525,944.
For Electric Automatic Insecticide Sprayer; Electric Portable Hand Manipulable Insecticide Atomizers; and Electric Railroad Car Atomizers (Int. Cl. 7).
First use Feb. 13, 1967.

SN 281,453. Courac Corporation, New York, N.Y. Filed Sept. 29, 1967.

BALLADIER

For Microphones (Int. Cl. 9).
First use June 1965.

SN 286,330. Electrospace Corporation, Bronx, N.Y. Filed Dec. 6, 1967.

RECORD-O-CHANGE

Owner of Reg. No. 780,898.
For Remote Announcer for a Telephone Answering Apparatus (Int. Cl. 9).
First use Nov. 15, 1967.

SN 286,562. Studebaker Corporation, South Bend, Ind. Filed Dec. 8, 1967.

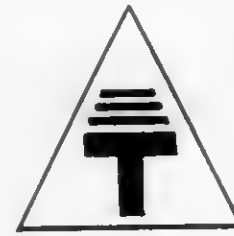


The word "Marine" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 558,149 and 649,254.
For Marine Gasoline-Driven and Diesel-Driven Electric Generating Plants and Components Thereof, and Separate Electric Generators (Int. Cl. 7).
First use Jan. 15, 1965.

SN 286,781. Thermo Electric Co., Inc., Saddle Brook, N.J. Filed S.R. Dec. 12, 1967; Am. P.R. Aug. 20, 1968.

THERMO CABLE

Owner of Reg. Nos. 679,920 and 774,958.
For Wires for Connecting Thermocouples to Electrical Circuits (Int. Cl. 9).
First use March 1959.



For Color Television Sets (Int. Cl. 9).
First use Jan. 1, 1964.

SN 287,164. Fisher Radio Corporation, Long Island City, N.Y. Filed Dec. 18, 1967.

TX-1000

For Control Amplifiers (Int. Cl. 9).
First use July 25, 1967.

SN 295,501. Bach Arricon, Inc., Los Angeles, Calif. Filed Apr. 12, 1968.

SOUNDRIVE

For Synchronous Electric Motors (Int. Cl. 7).
First use prior to December 1960.

SN 295,519. Ellenco Inc., Washington, D.C. Filed Apr. 12, 1968.

RESALARM

For Residential Electrical Fire Alarm Systems (Int. Cl. 9).
First use on or about Apr. 3, 1968.

SN 299,608. The West Bend Company, West Bend, Wis. Filed June 3, 1968.



Owner of Reg. No. 717,814.
For Electric Skillet (Int. Cl. 11).
First use May 10, 1968.

Class 22 — Games, Toys, and Sporting Goods

SN 288,893. Tonka Corporation, Mound, Minn. Filed Jan. 15, 1968.



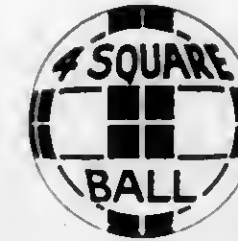
Owner of Reg. No. 749,721.
For Miniature Automobiles, Trucks, Trailers, Steamshovels, Loaders, and Road Graders (Int. Cl. 28).
First use Jan. 2, 1968.

SN 291,030. Colt's Inc., Hartford, Conn. Filed Feb. 14, 1968.
Owner of Reg. No. 522,530.

OFFICIAL POLICE

For Toy Guns, Pistols, Rifles, and Holster Sets (Int. Cl. 28).
First use January 1968.

SN 292,770. Eagle Rubber Co., Inc., Ashland, Ohio. Filed Mar. 8, 1968. SN 297,039. Cragstan Industries, Inc., New York, N.Y. Filed May 1, 1968.



The word "Ball" and the representation of the ball are disclaimed apart from the mark as shown.
For Inflated Playballs (Int. Cl. 28).
First use Feb. 26, 1968.

SN 293,121. Gentex Corporation, New York, N.Y. Filed Mar. 13, 1968.

BEAVER

For Buoyant Vests (Int. Cl. 9).
First use Jan. 31, 1968.

SN 293,475. Century 21 Toys Limited, London, England. Filed Mar. 18, 1968.



For Space Toys—Namely, Models of Vehicles Used for the Exploration of Space (Int. Cl. 28).
First use January 1967; in commerce Dec. 15, 1967.

SN 294,075. Pfaeueger Corporation, Akron, Ohio. Filed Mar. 25, 1968.

PELICAN

Owner of Reg. No. 106,420.
For Fish Hooks (Int. Cl. 28).
First use in or about October 1954.

SN 294,654. Noel A. Price, Kansas City, Mo. Filed Apr. 1, 1968.

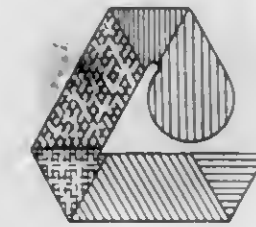


For Fishing Tackle (Int. Cl. 28).
First use Sept. 1, 1967.

SN 295,886. Gala Merchandise Corp., Los Angeles, Calif. Filed Apr. 18, 1968.

FUN CRACKER

For Streamer-Ejecting Toys (Int. Cl. 28).
First use on or about May 10, 1967.



The drawing is lined for the colors pink, red, orange, yellow, green, and blue.

For Toys—Namely, Automobiles, Airplanes, and Other Vehicles; Banks, Xylophones, Target Games, Walkie-Talkies, Sewing Machines, Dolls, Purses, Trains, Guns, Stuffed Animals, Microscopes, Telescopes, Ring Toss Games, Film Projectors, Inflated Toys, Swimming Pools, Tricycles; Battery-Operated, Wind-Up, Friction Drive and Pull Toys (Int. Cl. 28).

First use October 1967.

SN 297,360. American Horseshoe League, Woodland Hills, Calif. Filed May 6, 1968.

AMERICAN HORSESHOE LEAGUE

Applicant disclaims the words "Horseshoe League" except as a part of the mark.

For Horseshoes and Associated Equipment Used in Playing the Sport of Horseshoe (Int. Cl. 28).
First use May 2, 1968.

SN 300,095. Northwestern Golf Company, Chicago, Ill. Filed June 10, 1968.

ESQUIRE

For Golf Clubs (Int. Cl. 28).
First use January 1960.

SN 300,096. Northwestern Golf Company, Chicago, Ill. Filed June 10, 1968.

SHOT SAVER

For Golf Clubs (Int. Cl. 28).
First use Jan. 1, 1963.

SN 300,097. Northwestern Golf Company, Chicago, Ill. Filed June 10, 1968.

KEMO-BLOC

For Golf Clubs (Int. Cl. 28).
First use January 1964.

SN 300,098. Northwestern Golf Company, Chicago, Ill. Filed June 10, 1968.

DIAMOND BACK

For Golf Clubs (Int. Cl. 28).
First use January 1967.

SN 300,406. Mattel, Inc., Hawthorne, Calif. Filed June 14, 1968.



Owner of Reg. Nos. 635,129, 816,938, and 823,342.
For Toy Vehicles—Namely, Bicycles, Tricycles, Cement Mixers, Power Wreckers, Pick-Up Trucks, Dump Trucks, and Skiploaders (Int. Cl. 28).
First use Mar. 9, 1964.

SN 301,494. Rainbow Crafts, Inc., Cincinnati, Ohio. Filed June 27, 1968.

DABBA-DRAGON

For Painting Toy Kit Containing Paints and Brushes (Int. Cl. 28).
First use on or prior to Feb. 23, 1968.

SN 307,270. Mattel, Inc., Hawthorne, Calif. Filed Sept. 13, 1968.

TORERO

For Toy Automobiles (Int. Cl. 28).
First use Aug. 30, 1968.

SN 307,271. Mattel, Inc., Hawthorne, Calif. Filed Sept. 13, 1968.

GRENADO

For Toy Automobiles (Int. Cl. 28).
First use Aug. 30, 1968.

SN 307,272. Mattel, Inc., Hawthorne, Calif. Filed Sept. 13, 1968.

TWINADO

For Toy Automobiles (Int. Cl. 28).
First use Aug. 30, 1968.

SN 307,273. Mattel, Inc., Hawthorne, Calif. Filed Sept. 13, 1968.

TURBOFIRE

For Toy Automobiles (Int. Cl. 28).
First use Aug. 30, 1968.

SN 307,274. Mattel, Inc., Hawthorne, Calif. Filed Sept. 13, 1968.

TWINMILL

For Toy Automobiles (Int. Cl. 28).
First use Aug. 30, 1968.

SN 307,275. Mattel, Inc., Hawthorne, Calif. Filed Sept. 13, 1968.

DEVIL'S DEUCE

For Toy Automobiles (Int. Cl. 28).
First use Aug. 30, 1968.

SN 307,280. Revere Manufacturing Co., Inc., South Hackensack, N.J. Filed Sept. 13, 1968.



For Rackets for Tennis or Similar Games (Int. Cl. 28).
First use Mar. 27, 1968.

SN 307,281. Revere Manufacturing Co., Inc., South Hackensack, N.J. Filed Sept. 13, 1968.



For Rackets for Tennis or Similar Games (Int. Cl. 28).
First use Mar. 27, 1968.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 260,020. Columbus McKinnon Corporation, Tonawanda, N.Y. Filed Dec. 5, 1966.



Owner of Reg. Nos. 442,294, 604,191, and others.
For Electrically Controlled Overhead Trolley Conveyor Systems, Consisting Essentially of Overhead Tracks, Switches, Stops, Load Supports, Load Weight Monitors, and Parts Thereof (Int. Cl. 7).
First use on or about May 7, 1958.

SN 262,748. Allied Sewing Machine and Vacuum Cleaner Distributors, Oak Park, Mich. Filed Jan. 18, 1967.

NATIONAL

For Sewing Machines and Attachments (Int. Cl. 7).
First use Apr. 1, 1966.

SN 265,646. Austin F. McCormack, d.b.a. McCormack Equipment Company, Dallas, Tex. Filed Feb. 28, 1967.



For Sewage and Waste Treatment and Recovery Plants, and Mechanical Air and Water Purification Plants (Int. Cl. 11).
First use January 1967.

SN 269,589. Warren Tool Corporation, Warren, Ohio. Filed Apr. 19, 1967.



The word "Vises" is disclaimed apart from the mark as shown.
For Work Holding Vises (Int. Cl. 6).
First use Apr. 7, 1967.

SN 276,084. Baker Perkins Inc., Saginaw, Mich. Filed July 17, 1967.

APH

For Bread Handling and Palletizing Machines for the Conveying and Placing of Bakery Products into Individual Containers or Trays and the Vertical Stacking or Racking of Such Containers or Trays, and Parts Thereof (Int. Cl. 7).
First use May 22, 1967.

SN 276,087. Bata Shoe Company of Canada Limited, Batavia, Ontario, Canada. Filed July 17, 1967.



Owner of Canadian Reg. No. 137,062, dated Aug. 21, 1964.
For Leather and Related Treating, Curling, Forming, and Fabricating Machinery Used in Manufacturing Footwear—Namely, Mechanical and Hydraulic Clicking Machines; Vacuum and Pressure Forming Machines; Conveyors for Footwear Manufacture; Rubber Extruding Machines; Cyclic Upper Muller and Moist Heat-Setter for Footwear Manufacture; High Frequency Bonding and Cutting Machines; and Laminating Machines for Laminating Footwear Materials (Int. Cl. 7).

SN 280,435. M-B-W, Inc., Shlenger, Wis. Filed Sept. 15, 1967.

GROUND POUNDER

For Portable Vibrating Compactors Useful for Compacting Sand, Gravel, Clay, Asphalt, and the Like (Int. Cl. 7).
First use Apr. 7, 1967.

SN 281,864. Bokum Tool Company Incorporated, Madison Heights, Mich. Filed Oct. 5, 1967.

B & B

Owner of Reg. No. 409,477.
For Boring Bars for Machine Tools (Int. Cl. 7).
First use Jan. 4, 1942.

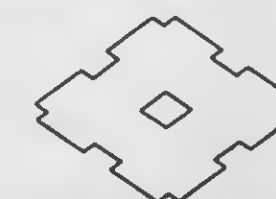
SN 282,884. Centrala Importowo-Eksportowa "Impermetal," Warsaw, Poland. Filed Oct. 19, 1967.



No claim is made to the exclusive use of the representation of the bearings, apart from the mark as a whole. Owner of Polish Reg. No. 45,826, dated Feb. 4, 1966.

For Roller and Ball Bearings—Namely, Roller Bearings, Ball Bearings, Needle Bearings, and Spherical Bearings (Int. Cl. 7).

SN 283,172. Sumitomo Machinery Corporation of America, Carlstadt, N.J. Filed Oct. 23, 1967.



For Speed Variators, Mechanical Speed Reducers, and Machines for Changing the Relative Speeds of Rotating Shafts (Int. Cl. 7).
First use June 8, 1967.

SN 285,540. Giddings & Lewis, Inc., Fan du Lac, Wis. Filed Nov. 24, 1967.

NUMERICENTER

Owner of Reg. Nos. 665,056, 813,939, and others.
For Machine Tools—Namely, Boring, Drilling and Milling Machines, Automatic Tool Changing Mechanisms, Cutting Tools and Holders Therefor, and Controls for Automatic Operation of Said Machines and Mechanisms To Perform Boring, Drilling, Milling, Tapping, Threading and Reaming Functions, and Parts and Attachments Therefor (Int. Cl. 7).
First use Feb. 27, 1965.

SN 286,004. Dover Corporation, New York, N.Y. Filed Dec. 1, 1967.

SPOT-RITE

For Ribbed Plate for Use as an Indicator To Determine Correct Positioning of Various Sizes of Motor Vehicles Over Hydraulic Lifts (Int. Cl. 7).
First use Nov. 1, 1967.

SN 286,786. Ivers-Lee, S.A. (Ivers-Lee, A.G.) (Ivers-Lee, Ltd.), Burgdorf, Bern, Switzerland. Filed Dec. 13, 1967.

ALCUP

Priority claimed under Sec. 44(d) on Swiss Reg. No. 225,810, dated June 19, 1967.
For Packaging Machinery (Int. Cl. 7).

SN 287,310. Midas, Inc., Chicago, Ill. Filed Dec. 20, 1967.



The mark is lined for the color yellow and the color is claimed as an integral part of the mark. Applicant claims the exclusive right to the use of the words "Muffler Shops" as a part of its mark, but not otherwise. Owner of Reg. Nos. 620,322, 803,614, and others.

For Mufflers for Internal Combustion Engines and Parts Therefor—Namely, Tail Pipes, Exhaust Pipes and Extensions, Muffler Clamps and Hangers, Dual Muffler Kits, Hollywood Type Mufflers; Positive Crankcase Ventilation Valves and Systems Used in Internal Combustion Engines for Eliminating Crankcase Emissions and Parts Therefor; Fuel Pumps; Water Pumps; and Car Jacks (Int. Cls. 8 and 12).
First use on or about Dec. 19, 1958.

SN 287,896. Circle Tool and Manufacturing Company, Des Plaines, Ill. Filed Jan. 2, 1968.



For Hydraulically Operated Remote Control Unit for Cranes and the Like (Int. Cl. 7).
First use May 20, 1966.

SN 288,299. Gearmatic Co., Ltd., North Surrey, British Columbia, Canada. Filed Jan. 8, 1968.

ROTO-VERSAL

For Hydraulic Transmissions for Transmitting Power From an Engine to a Work Element Such as Winches, Wheels, and Driven Motors (Int. Cl. 7).

First use Oct. 15, 1962; in commerce May 10, 1967.

SN 288,558. Universal Instruments Corporation, Binghamton, N.Y. Filed Jan. 10, 1968.



For Machines for the Manufacture, Preparation, and Circuit Integration of Electronic Components—Namely, Diodes, Resistors, Capacitors, Transistors, Modules, and Jumper and Terminal Wires (Int. Cl. 7).

First use during July 1967.

SN 291,286. The Reece Corporation, Waltham, Mass. Filed Feb. 16, 1968.



The drawing is lined for the colors red and gold, however, no claim is made to any particular color.

For Sewing Machines and Parts and Attachments Therefor (Int. Cl. 7).

First use Sept. 13, 1967.

SN 291,842. The Council Tool Company, Inc., Wyanah, N.C. Filed Feb. 26, 1968.



For Cutting and Digging Tools, for Home, Garden, Farm and Forest—Namely, Axes, Blades, Post Hole Diggers, Forestry Tools, Fire Axes, Fire Rakes, Fire Swatters, Bush Hooks, Logging Tools, Hoes, Hookaroons, Turf Edgers, Weed Cutters, Rakes, and Related Types of Outdoor Edge Tools (Int. Cl. 8).

First use December 1967.

SN 294,158. Bagshaw & Company Limited, Dunstable, England. Filed Mar. 26, 1968.

MINITRACK

For Materials Handling Apparatus—Namely, Overhead Conveyor Systems, Including Chain and Load-Carrying Trolleys, and Parts Thereof (Int. Cl. 7).

First use November 1962; in commerce October 1966.

SN 294,248. Atwood Corporation, Dolton, Ill. Filed Mar. 27, 1968.

SCALE O MATIC

For Dough Dividers (Int. Cl. 7).

First use Jan. 14, 1967.

SN 294,628. Hercules Incorporated, Wilmington, Del. Filed Apr. 1, 1968.



For Automatic Emulsifier for the Emulsification of Paste Resin Size (Int. Cl. 7).

First use on or about Jan. 1, 1963.

SN 294,753. Sandvikens Jernverks AB, Sandviken, Sweden. Filed Apr. 2, 1968.

DIEFLEX

Owner of Swedish Reg. No. 117,293, dated Aug. 26, 1966. For Die Steel Strip Cutting Dies, Dies and Cutting Dies Formed From Hardened Steel Bands Having One or Two Longitudinal Edges, for Cutting Textiles, Leather, Paper, and Cardboard (Int. Cl. 7 and 8).

SN 295,432. Hercules Gallon Products, Inc., Gallon, Ohio. Filed Apr. 11, 1968.

EZ PACK

Owner of Reg. No. 768,652. For Stationary Refuse Compacting Machines and Refuse Containers for Use Therewith (Int. Cl. 7).

First use May 24, 1966.

SN 295,966. Ronald D. Storrs, d.b.a. Squire Vacuum Systems, Phoenix, Ariz. Filed Apr. 18, 1968.



Applicant disclaims the wording "Vacuum Systems," "for Barber Shops," and "for Your Comfort," apart from the mark as shown.

For Vacuum Equipment Installed in Barber Shops and Attachable to Barber Clippers To Facilitate the Removal of Cut Hair (Int. Cl. 7).

First use Mar. 19, 1968.

SN 298,159. C. Tennant, Sons & Co., Warren, Ohio. Filed May 14, 1968.

DIE LOK

For Metal Strapping Tools, and Parts Thereof (Int. Cl. 8).

First use on or about Feb. 1, 1968.

SN 298,257. The Stanley Works, New Britain, Conn. Filed May 15, 1968.

HEX-A-MATIC

For Adjustable Nut Driver (Int. Cl. 8).

First use Mar. 30, 1967.

SN 298,324. Ex-Cell-O Corporation, Detroit, Mich. Filed May 16, 1968.

TRANS-LOK

For Bushings and Liners for Use in Plastic Tooling, Other Castable and Ductile Material Tooling, and Wood Tooling (Int. Cl. 7 and 17).

First use June 25, 1959.

SN 298,326. Ex-Cell-O Corporation, Detroit, Mich. Filed May 16, 1968.

PRESS-LOK

For Bushings for Use in Plastic Tooling, Other Castable and Ductile Material Tooling, and Wood Tooling (Int. Cl. 7).

First use June 25, 1959.

SN 300,387. Textron Inc., Providence, R.I. Filed June 13, 1968.

HOMELITE

Owner of Reg. Nos. 151,508, 842,370, and others. For Luggage—Namely, Carrying Cases for Chain Saws (Int. Cl. 7).

First use Dec. 21, 1967.

SN 300,576. Formsprag Company, Warren, Mich. Filed June 17, 1968.

FORMCHROME

For Sprags, Useful for Over-Running and Reverse-Locking Clutches (Int. Cl. 7).

First use May 1, 1968.

SN 308,440. Sumitomo Metal Industries, Ltd., Higashi-ku, Osaka, Japan. Filed Sept. 30, 1968.

SUMITOMO

For Parts for Machines—Namely, Gears, Pinions, and Shafts (Int. Cl. 7).

First use June 30, 1961; in commerce Sept. 27, 1965.

Class 24—Laundry Appliances and Machines

SN 296,447. Patek & Co., San Francisco, Calif. Filed Apr. 24, 1968.

GLASTRUX

For Manually Movable Wheeled Bins for Transporting Washed Wet Fabrics to Laundry Drying Apparatus (Int. Cl. 12).

First use on or about Feb. 26, 1968.

Class 25—Locks and Safes

SN 301,541. The Mosler Safe Co., Hamilton, Ohio. Filed June 27, 1968.

MAGNA

For Vault Doors and Night Depositories (Int. Cl. 6).

First use June 24, 1968.

Class 26—Measuring and Scientific Appliances

SN 276,322. Komyo Rikagaku Kogyo Kabushiki Kaisha, Meguro-ku, Tokyo-to, Japan. Filed July 19, 1967.

Kitagawa

For Detector Tubes Used in a Gas Detector; Said Tubes Containing Reagents Sensitive to a Particular Gas or Vapor (Int. Cl. 9).

First use February 1961; in commerce February 1961.

SN 281,666. American Atomica Corporation, Tucson, Ariz. Filed Oct. 3, 1967.



For Beta Radiation Sources (Int. Cl. 9).

First use Sept. 12, 1967.

SN 283,237. Electronic Management Associates, Inc., New York, N.Y. Filed Oct. 24, 1967.

TELEFREEZE

For Thermostats (Int. Cl. 9).

First use Sept. 7, 1967.

SN 283,668. Kalt Corporation, Santa Monica, Calif. Filed Oct. 30, 1967.

KALCOR

For Photographic and Related Products—Namely, Air Releases, Camera Bellows, Binoculars, Blower Brushes, Cable Releases, Camera Grips, Changing Bags, Copy Stands, Developing Trays, Duplicators, Easels, Movie Editors, Enlargers, Extension Tubes, Film Leader Templates, Flash Brackets, Flash Guns and Cubes, Graduates, Hand Straps, Lenses and Lens Accessories Including Adapters Lens Caps, Extenders, Filters, Flanges and Shades, Light Reflectors and Stands, Magnifiers, Microscope Adapters, Monoculars, Neck Straps, Photo Data Analyzers, Pouring Measures, Projection Screens, Quick Release Tripod Connectors, Range Finders, Reading Glasses, Reverse Adapters, Self-Timers, Shoulder Pads, Sleeves for Negatives, Slide Mounts, Slide-Notchers, Movie and Recording Tape Splicers, Telescopes, Thermometers, Tripods, and Unipods (Int. Cl. 9).

First use Oct. 1, 1967.

SN 291,169. McPherson Instrument Corporation, Acton, Mass. Filed Feb. 15, 1968.

MCPHERSON

For Instrumentation for the Measurement of Electromagnetic Radiation in the Nature of Spectrometers, Monochromators, Comparators, Light Sources, Gratings, Sample Cells, Pumps, and Gauges; and Electrical Circuits Associated Therewith (Int. Cl. 9).

First use prior to Dec. 31, 1948.

SN 291,896. Replica Associates, Inc., Kansas City, Mo. Filed Feb. 26, 1968.

SPEED-O-LITE

For Photographic Lay Marker Table (Int. Cl. 9).

First use Sept. 16, 1967.

SN 291,961. Buchler Instruments, Inc., Fort Lee, N.J. Filed Feb. 27, 1968.

FRACTOMETTE

For Automatic Fraction Collector, Comprising a Plurality of Vessels Adapted To Receive Metered Quantities of a Solution To Be Separated (Int. Cl. 9).

First use on or about Aug. 9, 1967.

SN 292,710. Quickfit & Quartz Limited, Stone, Staffordshire, England. Filed Mar. 7, 1968.

CLEARFIT

Owner of U.S. Reg. No. 805,435 and others.
For Laboratory and Scientific Glassware for General Use in Measuring, Testing, and Research and Development (Int. Cl. 9).

First use June 30, 1966; in commerce Sept. 30, 1966.

SN 292,739. Colight, Inc., Minneapolis, Minn. Filed Mar. 8, 1968.

HYDROLITE

For Photographic Exposure Light Source (Int. Cl. 9).
First use June 17, 1966.

SN 293,192. Audio Visual Instruction Devices, Inc., Marshall, Mich. Filed Mar. 18, 1968.



The words "For" and "Education" are disclaimed apart from the combination shown.

For Combination Visual and Audio Teaching Equipment including the Combination of a Transparency Projector, Rear Vision Projection Screen, Magnetic Tape Deck and Stand, and Parts Thereof (Int. Cl. 9).

First use Feb. 4, 1967.

SN 293,649. Technicon Corporation, Ardaley, N.Y. Filed Mar. 19, 1968.

TECHNILOGGER

For Data Processor for Analyzing and Programming Analog Information (Int. Cl. 9).
First use Jan. 19, 1966.

SN 293,861. Stanbio Laboratory, Inc., San Antonio, Tex. Filed Mar. 21, 1968.

PREPETTE

For Calibrated Laboratory Measuring Equipment (Int. Cl. 9).
First use July 3, 1967.

SN 295,773. Solltest, Inc., Evanston, Ill. Filed Apr. 16, 1968.

MOISTURE-SCOUT

For Moisture Meter for Measuring Moisture Content of Materials (Int. Cl. 9).
First use Aug. 31, 1966.

SN 295,933. Mamiya Koki Kabushiki Kaisha, d.b.a. Mamiya Camera Co., Ltd., Bunkyo-ku, Tokyo-to, Japan. Filed Apr. 18, 1968.

DTL

For Cameras (Int. Cl. 9).
First use Nov. 16, 1967; in commerce Nov. 18, 1967.

SN 295,998. Accura, Ltd., Flushing, N.Y. Filed Apr. 19, 1968.

BORDERMASTER

For Photographic Enlarging Easels (Int. Cl. 9).
First use Apr. 10, 1967.

SN 297,180. Oscar Eckloff, d.b.a. Eckloff Stroboscope Co., Whittier, Calif. Filed May 2, 1968.

STROBE-O-MATIC

For Inspection Light for Rotary Printing Presses (Int. Cl. 9).
First use June 1964.

SN 298,902. Imperial-Eastman Corporation, Chicago, Ill. Filed May 23, 1968.

AIRLITE

For Indicators Which Provide a Color Visual Readout From a Fluid Circuit (Int. Cl. 9).
First use Dec. 5, 1967.

SN 299,728. Computer Industries, Inc., Sherman Oaks, Calif. Filed June 5, 1968.

COPE

For Stand Alone Electronic Data Controllers, Data Processors, Peripheral Storage Units, Peripheral Printers and Readers, and Communication Modems (Int. Cl. 9).
First use at least as early as Nov. 8, 1967.

SN 299,729. Computer Industries, Inc., Sherman Oaks, Calif. Filed June 5, 1968.

COPE .45

For Stand Alone Electronic Data Controllers, Data Processors, Peripheral Storage Units, Peripheral Printers and Readers, and Communication Modems (Int. Cl. 9).
First use at least as early as Nov. 8, 1967.

SN 300,537. Raytheon Company, Lexington, Mass. Filed June 17, 1968.

CLOUDFAX

For Electrographic Recording Instruments for Displaying Computer-Processed Satellite and Earth-Derived Cloud Cover Information and Other Meteorological Data (Int. Cl. 9).
First use June 2, 1967.

Class 27 — Horological Instruments

SN 287,447. Movado Watch Agency, Inc., New York, N.Y. Filed Dec. 22, 1967.

KINGTRONIC

Owner of Reg. Nos. 806,712 and 806,713.
For Watches (Int. Cl. 14).
First use Dec. 4, 1967.

SN 288,109. Movado Watch Agency, Inc., New York, N.Y. Filed Jan. 4, 1968.

SPACE-CRUISER

For Watches (Int. Cl. 14).
First use Nov. 28, 1967.

SN 288,111. Movado Agency, Inc., New York, N.Y. Filed Jan. 4, 1968.

SPORT-DRIVER

For Watches (Int. Cl. 14).
First use Nov. 28, 1967.

SN 293,393. Les Fabriques de Balanciers Réunies, Société Anonyme, Bienne, Switzerland. Filed Mar. 15, 1968.



GLUCYDUR

Priority claimed under Sec. 44(d) on Swiss Reg. No. 228,727, dated Oct. 4, 1967. Applicant disclaims the representation of a balance wheel separate and apart from the mark as shown on the drawing, reserving unto itself all common law rights which it may have or arise in said term.

For Watch and Clocks Movements—Namely, Watch Balance Wheels (Int. Cl. 14).

Class 28 — Jewelry and Precious-Metal Ware

SN 301,272. Textron Inc., Providence, R.I. Filed June 24, 1968.

SORCERESS

For Expansion Bracelets, Including Watch Bracelets (Int. Cl. 14).
First use June 14, 1968.

SN 302,521. Rogers, Lunt & Bowlen Company, d.b.a. Lunt Silversmiths, Greenfield, Mass. Filed July 11, 1968.

COUNTERPOINT

For Sterling Silver Flatware (Int. Cl. 8).
First use Mar. 28, 1968.

Class 30 — Crockery, Earthenware, and Porcelain

SN 211,001. Nichimen Co., Inc., Chicago, Ill., assignee of H. Wittur and Company, Evanston, Ill. Filed Jan. 29, 1965.

CAMELOT

For China Dinnerware (Int. Cl. 21).
First use on or about Oct. 3, 1962.

Class 31 — Filters and Refrigerators

SN 275,568. Union Tank Car Company (Delaware corporation), Chicago, Ill., by assignment, merger, and change of name from Union Tank Car Company (New Jersey corporation), Chicago, Ill. Filed July 7, 1967.

BEAUTY WATER

Applicant disclaims any rights in the term "Water" apart from the mark as shown.
For Ion Exchange Type Water Softening Units. (Int. Cl. 11).
First use June 1967.

Class 32 — Furniture and Upholstery

SN 292,351. Congoleum Industries, Inc., Kearny, N.J., assignee of Congoleum-Nairn Inc., Kearny, N.J. Filed Mar. 4, 1968.

MARTINIQUE

For Tables (Int. Cl. 20).
First use Feb. 12, 1968.

SN 302,082. Howard Displays, Inc., New York, N.Y. Filed July 5, 1968.

SPACEMAKER

For Display Racks for Carpets, Brassieres; Stands for Storing and Displaying for Sale Various Goods (Int. Cl. 20).
First use September 1967.

SN 302,302. Cloray Corporation, Cincinnati, Ohio. Filed July 9, 1968.

SKYWAY

For Window Blinds (Int. Cl. 20).
First use July 10, 1947.

SN 302,781. The United States Bedding Company, St. Paul, Minn. Filed July 15, 1968.

SPINAL GUARD

For Mattresses (Int. Cl. 20).
First use June 25, 1968.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 281,808. Clement E. Neuhelsel, d.b.a. Sugar Creek Industries, Bloomington, Ill. Filed Oct. 4, 1967.



For Electrical Heating or Warming Oven Designed for Smoking foods (Int. Cl. 11).
First use Aug. 10, 1967.
Subj. to Intf. with SN 280,229.

SN 281,809. Clement E. Neuhelsel, d.b.a. Sugar Creek Industries, Bloomington, Ill. Filed Oct. 4, 1967.

LPL-SMOKY

For Electric Heating or Warming Oven Designed for Smoking Food (Int. Cl. 11).
First use Aug. 10, 1967.
Subj. to Intf. with SN 280,229.

SN 289,101. S. S. Kresge Company, Detroit, Mich. Filed Jan. 18, 1968.



For Propane Torch Kits Comprised of a Propane Torch, Flame Spreader, Burner Tips, Soldering Tips, Propane Fuel Tank, and Pencil Point Burner Assembly (Int. Cl. 11).
First use in or before December 1967.

SN 289,322. Charles R. Mulrhead, d.b.a. Cleanweld Products Company, South Gate, Calif. Filed Jan. 22, 1968.

SOLIDOX

For Welding Torches and Accessories Therefor, Sold as a Kit, Including Gaseous and Solid Fuel Sources, Glasses, Spark Lighter, Brazing Rods, and Tip Cleaners (Int. Cl. 9).
First use Nov. 10, 1965.

SN 297,365. Atlantic Richfield Company, Philadelphia, Pa. Filed May 6, 1968.



Owner of Reg. Nos. 814,293, 814,298, and others.
For Oil Burners and Oil Fired Water Heaters (Int. Cl. 11).
First use August 1967.

SN 297,677. ILG Industries Inc., Chicago, Ill. Filed May 8, 1968.



Owner of Reg. No. 501,182.
For All Types of Air Moving and Conditioning Equipment—Namely, Propeller and Centrifugal Fans, Unit Heaters, Roof and Wall Ventilators, and Shutters Therefor (Int. Cl. 11).
First use Apr. 17, 1968; Oct. 1, 1910, in a slightly different form.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 288,508. The General Tire & Rubber Company, Akron, Ohio. Filed Jan. 10, 1968.

GT50M

For Tires (Int. Cl. 12).
First use Nov. 22, 1967.

SN 303,750. Polipren—Lavorazione Elastomert Speciali di Carlo Tondato & C.—Società in Nome Collettivo, Turin, Italy. Filed July 29, 1968.



For O-Ring Seals (Int. Cl. 71).
First use July 1, 1966; in commerce Jan. 10, 1967.

Class 36 — Musical Instruments and Supplies

SN 294,757. Trent Town Records, Trenton, N.J. Filed Apr. 2, 1968.

TRENT TOWN

For Phonograph Records and Pre-recorded Magnetic Tapes. (Int. Cl. 9).
First use Oct. 20, 1967.

SN 309,234. Certron Corporation, Anaheim, Calif. Filed Oct. 9, 1968.



For Pre-recorded Magnetic Tape in a Cassette (Int. Cl. 9).
First use Sept. 2, 1968.

SN 309,326. Abnak Music Enterprises, Inc., Dallas, Tex. Filed Oct. 10, 1968.

BRITANIA

For Phonograph Records (Int. Cl. 9).
First use January 1965.

Class 37 — Paper and Stationery

SN 290,466. Pierson Industries, Inc., Palmer, Mass. Filed Feb. 8, 1968.

VERSI-PLY

For Tubular Laminated Films for Packaging (Int. Cl. 16).
First use Jan. 8, 1968.

SN 296,119. Clapay Corporation, Cincinnati, Ohio. Filed Apr. 22, 1968.

REDDI RED

For Plastic Film for Packaging (Int. Cl. 16).
First use Feb. 22, 1968.

SN 300,034. Laminating & Coating Corporation, Schaumburg, Ill. Filed June 10, 1968.



For Sheets or Film for Wrapping or Packaging Purposes (Int. Cl. 16).
First use Apr. 5, 1968.

SN 300,035. Laminating & Coating Corporation, Schaumburg, Ill. Filed June 10, 1968.



For Sheets or Film for Wrapping or Packaging Purposes (Int. Cl. 16).
First use Apr. 22, 1968.

Class 38 — Prints and Publications

Class 39 — Clothing

SN 259,102. Glendinning Companies, Inc., Westport, Conn. Filed Nov. 21, 1966.

"ROAD TO RICHES"

For Promotional Printing Game Materials of the Public Participation Type, Comprising Coupons, Envelopes for Containing Said Coupons, and Game Books for Receiving Said Coupons, for Distribution by Retail Outlets for Playing a Game To Stimulate the Sale of Their Goods and Services (Int. Cl. 16).
First use on or about Mar. 21, 1966.

SN 289,785. R. H. Dunaway, Topeka, Kans., assignee of Dan, Inc., Topeka, Kans. Filed Jan. 29, 1968.

U-SELL-IT

For Home Selling Kits Consisting of Printed Signs, Instructional Manual, Contract Forms, Property Description Sheets, Guest Register, and Payment Table Booklet (Int. Cl. 16).
First use Nov. 13, 1967.

SN 292,925. Great Lakes Foundation, Ann Arbor, Mich. Filed Mar. 11, 1968.



For Magazine Issued Periodically (Int. Cl. 16).
First use on or about Feb. 16, 1968.

SN 295,335. Harvest Years Publishing Company, New York, N.Y. Filed Apr. 10, 1968.

TIME TO SPARE

For Syndicated Newspaper Column (Int. Cl. 16).
First use July 31, 1967.

SN 295,601. AMP Incorporated, Harrisburg, Pa. Filed Apr. 15, 1968.

AMP NEWS

For Company News Pamphlet Published From Time to Time (Int. Cl. 16).
First use Dec. 8, 1967.

SN 301,585. Columbia Broadcasting System, Inc., New York, N.Y. Filed June 28, 1968.

CBS

Owner of Reg. Nos. 381,572, 833,813, and others.
For Illustrated Non-Fiction and Children's Books (Int. Cl. 16).
First use on or about Dec. 14, 1967.

SN 309,428. Random House, Inc., New York, N.Y. Filed Oct. 11, 1968.

BRIGHT & EARLY BOOKS

Applicant disclaims exclusive right to the word "Books" apart from the mark as shown.
For Books (Int. Cl. 16).
First use at least as early as Aug. 16, 1968.

SN 268,054. Joseph Love, Inc., New York, N.Y. Filed Mar. 6, 1967.

Confetti Collection
BY LOVE

Owner of Reg. No. 538,298 and 767,630.
For Children's Wear—Namely, Dresses, Pinafores, Jumpers, Skirts, Blouses, Shorts, Jackets, and Coats (Int. Cl. 25).
First use Dec. 30, 1966.

SN 277,302. Reid & Reid, Inc., Long Island City, N.Y., assignee of Royal Lynne, Ltd., New York, N.Y. Filed Aug. 1, 1967.

CHARLES LORD

The name "Charles Lord" is that of a fictitious person.
For Ladies' Wearing Apparel—Namely, Dresses, Suits, Coats, Blouses, Skirts, Robes, Pajamas, and Shells (Int. Cl. 25).
First use July 6, 1967.

SN 279,360. Bond Stores, Incorporated, New York, N.Y. Filed Aug. 30, 1967.

LADY BOND

Owner of Reg. Nos. 214,030 and 305,592.
For Suits and Coats (Int. Cl. 25).
First use July 15, 1966.

SN 280,280. West Chemical Products, Inc., Long Island City, N.Y. Filed Sept. 13, 1967.



Owner of Reg. No. 512,279.
For Industrial Aprons and Sleeves (Int. Cl. 25).
First use Feb. 13, 1967.

SN 280,572. Day's Tallor-D Clothing, Inc., Tacoma, Wash. Filed Sept. 18, 1967.

DAY'S SPORTSWEAR

Applicant disclaims "Sportswear" separate and apart from the mark as shown, reserving all common law rights. Owner of Reg. Nos. 507,132, 802,298, and others.
For Men's and Boys' Trousers and Shorts (Int. Cl. 25).
First use Nov. 23, 1966.

SN 288,642. Prince Anatole, Inc., Dallas, Tex. Filed Jan. 11, 1968.

PRINCE ANATOLE

For Women's and Children's Dresses, Blouses, Pants, Shorts, Skirts, Play Suits, and Coats (Int. Cl. 25).
First use Dec. 20, 1967.

SN 289,607. Rapid-American Corporation, New York, N.Y. Filed Jan. 25, 1968.

TIMOTHY LYLE

The name "Timothy Lyle" is not the name of any living person known to applicant.

For Men's and Boys' Outer Garments—Namely, Coats, Suits, Sport Coats, Jackets, Top Coats, Overcoats, Slacks, Trousers, and Vests (Int. Cl. 25).
First use Dec. 6, 1967.

SN 290,063. Apparel Corporation of America, Knoxville, Tenn. Filed Feb. 1, 1968.

THE RAIN FIGHTERS

Applicant disclaims the term "Rain" separate and apart from the mark as shown.
For Raincoats (Int. Cl. 25).
First use Dec. 18, 1967.

SN 290,297. Interco Incorporated, St. Louis, Mo. Filed Feb. 5, 1968.

STAR BRAND SHOES ARE BETTER

For Shoes (Int. Cl. 25).
First use as early as 1898.

SN 291,536. Time and Place, Inc., New York, N.Y. Filed Feb. 20, 1968.

TIME AND PLACE

For Women's Clothing and Sportswear—Namely, Slacks, Pantsuits, Skirts, Jumpers, Shorts, Blouses, Shifts, Sweaters, Jackets, and Shirts (Int. Cl. 25).
First use on or about Jan. 23, 1968.

SN 294,244. Allied Stores Corporation, New York, N.Y. Filed Mar. 27, 1968.

VARDON

Owner of Reg. No. 351,960.

For Women's Wear—Namely, Hostery, Slips and Petticoats, Pajamas and Gowns, Panties and Stretch Girdles and Brasieres, Shirts and Blouses, Skirts, Sweaters, Pants, Shoes, Raincoats, Coats; Infants' Wear—Namely, Diapers and Waterproof Pants, Layette Underwear, Sleepwear, Babies Feeding Bib, Bootee Set Including Sweater, Hat and Bootees, and Terry Hooded Towel; Girls' Wear—Namely, Underwear, Panties, Slips and Petticoats, Pajamas and Gowns, Stretch Coordinates, Namely, Shirts and Pants, Knit Tops, Pants Outerwear; Boys' Wear—Namely, Hosiery, Underwear, Pajamas, Dungarees, Walking Shorts, Shirts, Slacks, Sport Coats; and Men's Wear—Namely, Hosiery, Underwear, Pajamas, Robes, Dress and Sport Shirts, Walking Shorts, Workwear (Pants and Shirts), Slacks, Sport Coats, All-Weather Coats, and Shoes (Int. Cl. 25).
First use Sept. 11, 1936.

SN 296,978. Pincus Bros., Inc., Philadelphia, Pa. Filed Apr. 30, 1968.

THOS. DAVID

The name "Thos. David" is a fanciful name and does not identify any particular living individual.

For Men's and Young Men's Coats, Vests, Trousers, Sport Coats, and Slacks (Int. Cl. 25).
First use July 1, 1962.

SN 297,801. President Shops, Inc., Kansas City, Mo. Filed May 9, 1968.



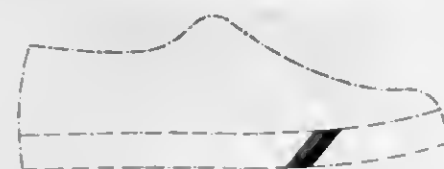
The word "Fashion" is disclaimed apart from the mark as shown.
For Men's Suits (Int. Cl. 25).
First use in or about 1948.

SN 298,485. Viner Bros., Inc., Bangor, Maine. Filed May 17, 1968.



For Women's and Misses' Shoes (Int. Cl. 25).
First use January 1968.

SN 298,648. Unlroyal, Inc., New York, N.Y. Filed May 20, 1968.



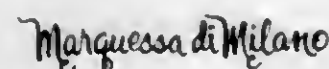
The drawing is lined for the colors blue and red. Owner of Reg. No. 685,185.
For Shoes (Int. Cl. 25).
First use Feb. 20, 1968.

SN 300,333. Countess Mara, Inc., New York, N.Y. Filed June 13, 1968.

"BAS-RELIEF"

Owner of Reg. No. 674,769.
For Neckties (Int. Cl. 25).
First use Apr. 10, 1957.

SN 300,981. Spartans Industries, Inc., New York, N.Y. Filed June 20, 1968.



The name "Marquessa di Milano" is fanciful. Translated, the expression "Marquessa di Milano" means "Marquessa of Milan." Applicant disclaims the expression "di Milano."
For Women's Undergarments—Namely, Bras and Foundations (Int. Cl. 25).
First use Jan. 2, 1962.

SN 301,050. Farah Manufacturing Company, Inc., El Paso, Tex. Filed June 21, 1968.

MASTER 50

Owner of Reg. Nos. 797,272, 829,827, and 834,794.
For Men's and Boys' Slacks and Fabrics Sold Exclusively in the Form of Such Garments (Int. Cl. 25).
First use Oct. 18, 1967.

SN 301,051. Farah Manufacturing Company, Inc., El Paso, Tex. Filed June 21, 1968.

MASTER 70

Owner of Reg. Nos. 797,272, 829,827, and 834,794.
For Men's and Boys' Slacks and Fabrics Sold Exclusively in the Form of Such Garments (Int. Cl. 25).
First use Nov. 25, 1967.

SN 301,052. Farah Manufacturing Company, Inc., El Paso, Tex. Filed June 21, 1968.

MASTER TWIST

Owner of Reg. Nos. 797,272, 829,827, and 834,794.
For Men's and Boys' Slacks and Fabrics Sold Exclusively in the Form of Such Garments (Int. Cl. 25).
First use Mar. 23, 1968.

SN 301,208. Danny Dare, Inc., Kansas City, Mo. Filed June 24, 1968.



For Clothing, Particularly Outer Coats Having a Hood With a Face Mask (Int. Cl. 25).
First use May 1, 1968.

SN 301,456. Leonard Springer, Inc., New York, N.Y. Filed June 26, 1968.

ROYAL CROWN SABLE

The word "Sable" is disclaimed apart from the mark as shown.
For Sable Fur Coats, Jackets, Stoles and Collars (Int. Cl. 25).
First use on or before January 1960.
Subj. to Intf. with SN 307,165.

SN 301,693. A. S. Beck Shoe Corporation, New York, N.Y. Filed July 1, 1968.



Owner of Reg. Nos. 365,306, 693,556, and others.
For Men's Shoes (Int. Cl. 25).
First use June 5, 1968.

SN 301,955. Nina Dimos, New York, N.Y. Filed July 3, 1968.
The name "Nina Dimos" is fictitious.



For Women's Clothing—Namely, Dresses, Coats, Suits, Cocktail Dresses, Evening Gowns, Belts, Shoes and Hats (Int. Cl. 25).
First use on or about May 15, 1967.

SN 302,050. Continental Vogues Ltd., New York, N.Y. Filed July 5, 1968.

MISS CONTINENTAL

For Shoes (Int. Cl. 25).
First use in or about May 1964.

SN 302,051. Continental Vogues Ltd., New York, N.Y. Filed July 5, 1968.

LADY CONTINENTAL

For Shoes (Int. Cl. 25).
First use in or about May 1963.

SN 302,211. Barney's Clothes, Inc., New York, N.Y. Filed July 8, 1968.

Barney's International Shop

Applicant disclaims the word "Shop" apart from the mark as shown. Owner of Reg. Nos. 350,874, 413,944, and 740,068.
For Men's Suits, Overcoats, Topcoats and Coats (Int. Cl. 25).
First use May 1965; 1937 as to the name "Barney's."

SN 302,213. Barney's Clothes, Inc., New York, N.Y. Filed July 8, 1968.

Andrew Keith

"Andrew Keith" is fictitious and not the name of any particular living individual.
For Men's Overcoats, Sport Coats, and Suits (Int. Cl. 25).
First use September 1967.

SN 302,214. Barney's Clothes, Inc., New York, N.Y. Filed July 8, 1968.

Barney's Imperial Room

Owner of Reg. Nos. 350,874, 413,944, and 740,068.
For Men's Suits, Overcoats, Topcoats and Coats (Int. Cl. 25).
First use December 1941; 1937 as to the name "Barney's."

SN 302,215. Barney's Clothes, Inc., New York, N.Y. Filed July 8, 1968.

Barney's RSVP Shop

Applicant disclaims the word "Shop" apart from the mark as shown. Owner of Reg. Nos. 350,874, 413,944 and 740,068.
For Men's Suits, Overcoats, Topcoats and Coats (Int. Cl. 25).
First use December 1965; 1937 as to the name "Barney's."

SN 302,683. Indianapolis Glove Company, Inc., Indianapolis, Ind. Filed July 15, 1968.



Applicant disclaims the corporate name "Indianapolis Glove Company" and the word "Gloves" apart from the mark as shown. The drawing is lined for the colors red and green. Owner of Reg. Nos. 143,053 and 321,307.

For Gloves and Mittens of Fabric, Leather and Combinations Thereof (Int. Cl. 25).
First use February 1960.

SN 306,805. A. Sagner's Son, Frederick, Md. Filed Sept. 6, 1968.

CLUBKNIT

Owner of Reg. Nos. 639,721, 802,310, 812,232, and 842,149. For Men's Suits, Pants, and Overcoats; Men's Wear—Namely, Dress Shirts, Negligee Shirts, and Work Shirts and Parts Thereof—Namely, Neckbands, Cuffs, and Shirt Fronts; Ties, Slacks, Jackets, Shoes, Vests, Raincoats, Sweaters, Topcoats, Overcoats, Undershirts, Undershorts, Bathrobes, and Handkerchiefs; Women's Wear—Namely, Suits, Blouses, Skirts, Dresses, Shirts, Slips, Underwear, Slacks, Jackets, Shoes, Raincoats, Sweaters, Housecoats and Handkerchiefs; Children's Wear—Namely, Girls' Suits, Coats, Skirts, Jackets, Dresses, Hats, Shirts, Blouses, Shoes, Slacks, Sweaters, Raincoats, Bathrobes, Slips, Underwear, and Handkerchiefs; Boys' Suits, Overcoats, Pants, Shirts, Shoes, Sweaters, Vests, Ties, Jackets, Slacks, Bathrobes, Raincoats, Undershirts, Undershorts, and Handkerchiefs (Int. Cl. 25).
First use May 23, 1968.

SN 307,165. Carillon Furs, Inc., New York, N.Y. Filed Sept. 12, 1968.



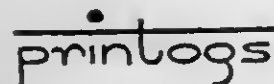
The word "Sable" is disclaimed apart from the mark as shown.

For Sable Garments—Namely, Jackets, Coats, Boleros, Shrugs, Boas and Capes (Int. Cl. 25).

First use Jan. 31, 1968.

Subj. to Intf. with SN 301,456.

SN 307,803. Bejan Sportmodes Ltd., Glendale, N.Y. Filed Sept. 20, 1968.



For Junior and Misses' Stretch Pants and Knitted Pantop Blouses (Int. Cl. 25).
First use Sept. 12, 1968.

SN 308,023. McCrory Corporation, New York, N.Y. Filed Sept. 23, 1968.

YOUNG PRINCESSE

Owner of Reg. No. 792,258.
For Underwear (Int. Cl. 25).
First use August 1963.

SN 308,096. De Luxe Girdlecraft Co., Inc., New York, N.Y. Filed Sept. 24, 1968.

2B

Owner of Reg. No. 500,559.
For Maternity Girdles, Panty Girdles, Panties, Garter Belts, and Petticoats (Int. Cl. 25).
First use July 2, 1947, on maternity garter belts.

Class 41—Canes, Parasols, and Umbrellas

SN 309,194. The Villager, Inc., Philadelphia, Pa. Filed Oct. 8, 1968.

THE VILLAGER

Owner of Reg. Nos. 702,965, 841,021, and others.
For Umbrellas (Int. Cl. 18).
First use at least as early as Apr. 30, 1967.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 275,115. Associated Dry Goods Corporation, New York, N.Y. Filed June 30, 1967.

SECURITY QUALITY PLUS

Applicant disclaims the words "Quality Plus" apart from the mark as a whole, reserving, however, all common law rights thereto.

For Infants' Receiving Blankets, Scatter Rugs, Draperies, Bath Mat Sets, Furniture Throw Covers, Curtains, and Table Linens (Int. Cls. 24 and 27).
First use Dec. 15, 1965, on infants' receiving blankets.

SN 277,998. Glenoit Mills, Inc., New York, N.Y. Filed Aug. 10, 1967.

SPOOFER

For Knitted High Pile Fabric (Int. Cl. 24).
First use Oct. 4, 1962.

SN 281,295. Lancer Fabrics, Inc., New York, N.Y. Filed Sept. 27, 1967.

LANCRON

For Crimped Polyester Fabrics (Int. Cl. 24).
First use June 14, 1967.

SN 292,673. A. Leon Capel & Sons, Incorporated, Troy, N.C. Filed Mar. 7, 1968.

QUILTING BEE

For Rugs (Int. Cl. 27).
First use on or about Dec. 1, 1967.

SN 292,674. A. Leon Capel & Sons, Incorporated, Troy, N.C. Filed Mar. 7, 1968.

PIECES OF EIGHT

For Rugs (Int. Cl. 27).
First use on or about Dec. 1, 1967.

SN 292,675. A. Leon Capel & Sons, Incorporated, Troy, N.C. Filed Mar. 7, 1967.

POLYANNA

For Rugs (Int. Cl. 27).
First use on or about Nov. 15, 1967.

SN 293,610. West Point-Pepperell, Inc., West Point, Ga. Filed Mar. 18, 1968.

CRISTEX

For Shoe Lining Fabrics (Int. Cl. 24).
First use at least as early as 1935.

SN 301,715. Coin Sales Corporation, New York, N.Y. Filed July 1, 1968.

EUROCOINED

Owner of Reg. No. 771,953.
For Textile Fabrics, Including Laminated Textile Fabrics, for Use in Wearing Apparel, Furnishings, Upholstery, and Industrial Products (Int. Cl. 24).
First use at least by June 18, 1968.

SN 304,433. Cone Mills Corporation, Greensboro, N.C. Filed Aug. 6, 1968.

RECREATION

Owner of Reg. No. 501,682.
For Textile Fabric in the Piece of Cotton, or Synthetic Fibers or Any Combination Thereof (Int. Cl. 24).
First use June 20, 1968.

Class 44—Dental, Medical, and Surgical Appliances

SN 272,922. R. W. Easterbrook Pty. Limited, Camberwell, Victoria, Australia. Filed June 2, 1967.

DISKERCHIEF

Priority claimed under Sec. 44(d) on Australian application filed Jan. 17, 1967; Reg. No. A207,561, dated July 3, 1968.

For Disposable Gauze-Like Disc for Sampling and Testing Nasal and Similar Bacteria or Micro-organisms Contained in Nasal and Throat Secretions (Int. Cl. 5).

SN 279,167. E. D. Bullard Company, Sausalito, Calif. Filed Aug. 28, 1967.

UNI-PAC

For First Aid Kits Including Antiseptics, Such as Iodine, Hexachlorophene; Adhesive and Gauze Bandages and Dressings; Palliatives for Thermal and Chemical Burns; Palliatives for Insect Bites; Ammonia Inhalants; Adhesive Tape; Oral Preventatives for Poison Ivy and Poison Oak; Splints; Tour-niquets; Forceps; Scissors; Eye Droppers; and Swabs (Int. Cl. 5).
First use about Aug. 14, 1967.

SN 297,268. I. Beutelrock & Sohn, Munich, Germany, Filed May 3, 1968.

BEUTELROCK

For Dental Instruments, Particularly Nerve and Root Canal Drills (Int. Cl. 10).
First use prior to 1890; in commerce about 1902.

SN 298,601. Hitachi Sales Corporation, Long Island City, N.Y. Filed May 20, 1968.

THE MAGIC WAND

Without waiving its common-law rights, applicant makes no claim to the word "Wand" apart from the mark as shown. For Electric Massager (Int. Cl. 10).
First use Apr. 25, 1968.

SN 305,897. Parke, Davis & Company, Detroit, Mich. Filed Aug. 26, 1968.

READI-BAND

Owner of Reg. No. 587,600.
For Adhesive Bandages (Int. Cl. 5).
First use on or before Aug. 15, 1968.

SN 306,226. The Dentists' Supply Company of New York, York, Pa. Filed Aug. 29, 1968.

GLASTONE

Owner of Reg. No. 300,906.
For Dental Investment Gypsum Material for Making Molds To Form Dental Restorative Devices (Int. Cl. 5).
First use Feb. 15, 1961.

Class 45—Soft Drinks and Carbonated Waters

SN 298,920. The Brownie Company, Richmond, Va. Filed May 23, 1968.



Owner of Reg. No. 421,133.
For Soft Drinks (Int. Cl. 32).
First use Mar. 28, 1945.

Class 46—Foods and Ingredients of Foods

SN 259,311. Fat Mike's Inc., Union City, N.J. Filed Nov. 23, 1966.

FAT MIKE'S

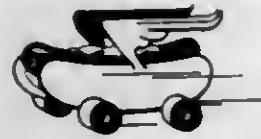
For Chili Sauce Containing Ground Beef (Int. Cl. 30).
First use May 6, 1964.

SN 269,437. Malt-A-Plenty, Inc., Tulsa, Okla. Filed Apr. 18, 1967.

FLAMING SNOWBALLS

Owner of Reg. No. 724,590.
For Package Containing Candles, Artificial Holly Sprays, and Ice Cream Balls Covered With Coconut (Int. Cl. 30).
First use Nov. 30, 1959.

SN 285,231. Hot Dogs Plus, Inc., Mount Prospect, Ill. Filed Nov. 20, 1967.



The drawing is filed for the color red. No claim is made of exclusive right to the representation of a hot dog sandwich per se.

For Ready To Eat Food Items—Namely, Hot Dogs, Beef, Chicken, Ribs, and Shrimp (Int. Cl. 29).

First use Jan. 11, 1967.

Subj. to Intf. with SN 291,227 and SN 291,229.

SN 292,640. Usen Products Company, Woburn, Mass. Filed Mar. 6, 1968.

C'EST LA CAT

The English translation of the French words "C'est La" is "It is the."

For Cat Food (Int. Cl. 31).

First use Feb. 26, 1968.

SN 292,641. Usen Products Company, Woburn, Mass. Filed Mar. 6, 1968.

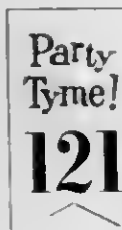
LE BON CAT

The English translation of the French words "Le Bon" is "the good."

For Cat Food (Int. Cl. 31).

First use Feb. 26, 1968.

SN 297,087. Party-Tyme Products, Inc., New York, N.Y. Filed May 1, 1968.



Owner of Reg. Nos. 775,088 and 824,553.
For Concentrated Fresh Fruit Juice Mixes for Making Food Beverages and Cocktails (Int. Cl. 32).
First use Jan. 9, 1968.

SN 297,880. O-Kay Food Distributors, Inc., Roselle Park, N.J. Filed May 10, 1968.



Applicant disclaims the term "Inc." apart from the mark as a whole.

For Fresh Salads and Frozen Prepared Foods—Namely, Macaroni, Cheese, Lasagne, Fish Cakes, Shrimp Rolls, and Shrimp Croquettes (Int. Cls. 29 and 31).

First use October 1964.

SN 298,026. Mother's Food Products, Inc., Newark, N.J. Filed May 13, 1968.

MOTHER'S

Owner of Reg. Nos. 540,298, 777,505, and others.
For Gefilte Fish, Borscht, Sweet Peppers, Cucumber Salad, Oleomargarine, Hot Cherry Peppers, Pickles, Mayonnaise, Horseradish; Schav (Beverage Made From Sour-Grass, Which is Sorrel, Water, Salt and Eggs), Fish d'Oeuvres (Fishballs), Sauerkraut (Pickled Country DeLuxe and Pickled Country Cabbage), and Matzo Balls (Int. Cls. 29, 31, and 32).

First use Dec. 20, 1946, on gefilte fish.

SN 298,489. Zevo, Inc., Los Angeles, Calif. Filed May 17, 1968.

ZEVO MATE

Owner of Reg. Nos. 798,868, 839,671, and 845,561.
For Liquid Vegetable Derived Creamer for Coffee and the Like (Int. Cl. 29).

First use Apr. 16, 1968.

SN 300,027. F. B. Washburn Candy Corporation, Brockton, Mass. Filed June 7, 1968.

WALEECO

For Candy (Int. Cl. 30).

First use at least as early as Sept. 1, 1944.

SN 300,133. Swift & Company, Chicago, Ill. Filed June 10, 1968.

PROVIDE

For Bread Mix (Int. Cl. 30).

First use on or about Mar. 28, 1968.

SN 300,156. Dari-Fresh Company, Maywood, Ill. Filed June 11, 1968.

CONTEMPORARY

For Candles (Int. Cl. 30).

First use on or before Apr. 8, 1968.

SN 300,240. Agway, Inc., DeWitt, N.Y. Filed June 12, 1968.

CAGE-GRO

For Poultry Feed (Int. Cl. 31).

First use May 3, 1968.

SN 300,596. Ideal Macaroni Company, Bedford Heights, Ohio. Filed June 17, 1968.

CHOO CHOO-WHEELS

For Macaroni (Int. Cl. 30).

First use on or about Jan. 2, 1963.

SN 300,597. Ideal Macaroni Company, Bedford Heights, Ohio. Filed June 17, 1968.



For Macaroni (Int. Cl. 30).

First use on or about Jan. 2, 1963.

SN 300,702. General Foods Corporation, White Plains, N.Y. Filed June 18, 1968.

SIZE 8

For Breakfast Cereal (Int. Cl. 30).
First use Apr. 26, 1968.

SN 300,721. Midwest Biscuit Company, Burlington, Iowa. Filed June 18, 1968.

EAT-N-TIME

For Cookies and Crackers (Int. Cl. 30).
First use May 24, 1968.

SN 300,804. Calumet Cheese Co., Inc., Hilbert, Wis. Filed June 19, 1968.



Owner of Reg. Nos. 747,014 and 829,546.
For Cold Pack Cheese Food (Int. Cl. 29).
First use July 20, 1962.

SN 300,875. Jiffy Fry, Inc., Crookston, Minn. Filed June 20, 1968.



For Frozen Potato Fragments (Int. Cl. 29).
First use Feb. 1, 1968.

SN 301,045. Crowley's Milk Company, Inc., Binghamton, N.Y. Filed June 21, 1968.

NOLA

For Cheeses, including Mozzarella (Whole Milk), and Ricotta (Whole Milk) (Int. Cl. 29).
First use Feb. 1, 1967.

SN 301,241. National Biscuit Company, New York, N.Y. Filed June 24, 1968.

CINNA-MUM-M-M

For Cereal Breakfast Food (Int. Cl. 30).
First use June 3, 1968.

SN 301,326. Armour-Dial, Inc., Chicago, Ill. Filed June 25, 1968.

HARVEST TABLE

For Canned Meat Products, Specifically Beef Stew (Int. Cl. 29).
First use on or prior to May 17, 1968.

SN 301,327. Armour-Dial, Inc., Chicago, Ill. Filed June 25, 1968.

COLONIAL INN

For Canned Meat Products, Specifically Chili (Int. Cl. 29).
First use on or prior to May 17, 1968.

SN 301,336. General Foods Corporation, White Plains, N.Y. Filed June 25, 1968.

ENGLISH GRILLE

For Dog Food (Int. Cl. 31).
First use May 24, 1968.

CHATEAU STYLE

For Dog Food (Int. Cl. 31).
First use May 24, 1968.

SN 301,339. General Foods Corporation, White Plains, N.Y. Filed June 25, 1968.

WESTERN GRILLE

For Dog Food (Int. Cl. 31).
First use May 24, 1968.

SN 301,341. General Foods Corporation, White Plains, N.Y. Filed June 25, 1968.

CORNISH GRILLE

For Dog Food (Int. Cl. 31).
First use May 24, 1968.

SN 301,471. Topps Chewing Gum, Incorporated, Brooklyn, N.Y. Filed June 26, 1968.

CRAZY CALLING CARDS

For Chewing Gum (Int. Cl. 30).
First use May 8, 1968.

SN 301,757. National Dairy Products Corporation, Chicago, Ill. Filed July 1, 1968.

FERM-O-LAC

For Dried Dairy Product for Bakers Consisting Principally of Whey (Int. Cl. 29).
First use Apr. 11, 1968.

SN 301,857. Red Owl Stores, Inc., Minneapolis, Minn. Filed July 2, 1968.

HARVEST QUEEN

Owner of Reg. No. 620,957.
For Tea (Int. Cl. 30).
First use June 6, 1968.

SN 301,907. James H. Black Company, Streator, Ill. Filed July 3, 1968.

VIENNESE

For Salad Dressing (Int. Cl. 29).
First use Apr. 22, 1968.

SN 301,951. New Bedford Seafood Co-Operative Association, Inc., New Bedford, Mass. Filed July 3, 1968.



For Frozen Fish (Int. Cl. 29).
First use on or about May 1, 1963.

SN 302,492. The Dalles Cherry Growers, Inc., The Dalles, Oreg. Filed July 11, 1968.

WY-AM

For Fresh Sweet Cherries (Int. Cl. 31).
First use June 1968.

SN 302,507. New England Confectionery Company, Cambridge, Mass. Filed July 11, 1968.

APPLE BLOSSOMS

For Candy (Int. Cl. 30).
First use June 18, 1968.

SN 307,349. Reese Finer Foods, Inc., Chicago, Ill. Filed Sept. 13, 1968.

LONDON BRIDGE

For Candy (Int. Cl. 30).
First use May 2, 1968.

SN 307,908. B. & L. Popcorn Company, Inc., Van Buren, Ind. Filed Sept. 23, 1968.

RAINBOW

For Multi-Colored Popcorn (Int. Cl. 30).
First use Sept. 5, 1968.

SN 307,909. Lee E. Brown, Delano, Calif. Filed Sept. 23, 1968.

CAL-FINE

For Fresh Grapes (Int. Cl. 31).
First use Aug. 19, 1968.

SN 308,251. H. E. Butt Grocery Company, d.b.a. H.E.B. Food Stores, Corpus Christi, Tex. Filed Sept. 26, 1968.



For Ice Cream, Mellorine, and Ice Milk (Int. Cl. 30).
First use Aug. 5, 1968.

SN 308,566. Mead Johnson & Company, Evansville, Ind. Filed Oct. 1, 1968.

SNACKERINOS

For Low Calorie Snack Chips of a Cereal Nature (Int. Cl. 30).
First use on or prior to Sept. 18, 1968.

SN 308,567. Mead Johnson & Company, Evansville, Ind. Filed Oct. 1, 1968.

SKINNY'S

For Low Calorie Snack Chips of a Cereal Nature (Int. Cl. 30).
First use on or prior to Sept. 18, 1968.

SN 308,570. Mead Johnson & Company, Evansville, Ind. Filed Oct. 1, 1968.

BRIMMERS

Owner of Reg. Nos. 843,789 and 855,655.
For Low Calorie Snack Chips of a Cereal Nature (Int. Cl. 30).
First use on or prior to Sept. 18, 1968.

TRIMMERS

Owner of Reg. Nos. 843,789 and 855,655.
For Low Calorie Snack Chips of a Cereal Nature (Int. Cl. 30).
First use on or prior to Sept. 18, 1968.

SN 309,337. Philip Morris Incorporated, New York, N.Y. Filed Oct. 10, 1968.



The drawing is lined for the colors red, green, yellow, and gold. Owner of Reg. Nos. 609,236, 826,966, and others.
For Chewing Gum (Int. Cl. 30).
First use Sept. 19, 1968; at least as early as 1924 as to "Clark's."

Class 47 — Wines

SN 281,172. Bodegas y Vinedos Glol, Empresa Estatal, Industrial y Comercial, Maipu, Argentina. Filed Sept. 26, 1967.

LA COLINA

The Spanish expression "La Colina" is translated "the hill." Owner of Argentine Reg. No. 390,564, dated Dec. 27, 1957.
For Wines (Int. Cl. 33).

SN 291,172. Monsieur Henri Wines, Ltd., Brooklyn, N.Y. Filed Feb. 15, 1968.

JOHN BRIGGS

The name "John Briggs" is a fanciful name and not the name of a particular living individual.
For Wines (Int. Cl. 33).
First use Nov. 14, 1963.

SN 293,043. Monsieur Henri Wines, Ltd., Brooklyn, N.Y. Filed Mar. 12, 1968.

EMPRESS

For Wines (Int. Cl. 33).
First use Dec. 2, 1963.

Class 50 — Merchandise Not Otherwise Classified

SN 302,249. Tingue, Brown & Co., New York, N.Y. Filed July 8, 1968.

COROCEL

For Underblanket for Newspaper Presses (Int. Cl. 16).
First use June 4, 1963.

Class 51 — Cosmetics and Toilet Preparations

SN 287,011. Gold Eagle Products Co., Chicago, Ill. Filed Dec. 15, 1967.

SN 274,170. Balmain Parfums, Inc., New York, N.Y. Filed June 19, 1967.

'MISS BALMAIN'

Owner of Reg. Nos. 707,281 and 707,282.
For Perfume, Cologne, and Eau de Toilette (Int. Cl. 3).
First use Nov. 14, 1966.

SN 284,978. Apere Cosmetics, Ltd., Palo Alto, Calif. Filed Nov. 16, 1967.

prince ivan

The name "Prince Ivan" is fictitious.
For After Shave Cologne (Int. Cl. 3).
First use July 19, 1967.

SN 299,915. Lanvin-Charles of the Ritz, Inc., New York, N.Y. Filed June 7, 1968.

TALISMAN

Owner of Reg. Nos. 284,554 and 545,554.
For After Shave Lotion (Int. Cl. 3).
First use May 10, 1968.

SN 302,187. Alberto-Culver Company, Melrose Park, Ill. Filed July 8, 1968.

JUNE BLONDE

Applicant disclaims the word "Blonde" apart from the mark as shown.
For Hair Color Preparation (Int. Cl. 3).
First use Mar. 15, 1968.

SN 308,742. S. C. Johnson & Son, Inc., Racine, Wis. Filed Oct. 3, 1968.

QUOTE

For Mouthwash and Breath Freshener (Int. Cl. 3).
First use on or about July 19, 1968.

Class 52 — Detergents and Soaps

SN 268,752. Madison Chemical Corporation, Maywood, Ill. Filed Apr. 10, 1967.

THERMATIC

For Liquid Drain Solvent (Int. Cl. 3).
First use July 1963.

SERVICE MARKS**Class 100 — Miscellaneous**

SN 294,261. Cartwright Enterprises, Inc., Delaplane, Va. Filed Mar. 27, 1968.

PONDEROSA

For Restaurant Services (Int. Cl. 42).
First use Aug. 31, 1963.
Subj. to Intf. with SN 190,829, SN 253,200, SN 256,768, and SN 300,213.

Class 101 — Advertising and Business

SN 257,729. Sports Car Club of America, Incorporated, Westport, Conn. Filed Nov. 1, 1966.

CANADIAN-AMERICAN CHALLENGE CUP

For Organizing, Promoting, Sanctioning, and Supervising the Operation and Administration of a Series of International Sports Car Racing Events (Int. Cl. 35).
First use Jan. 25, 1966.



Owner of Reg. No. 838,217.
For Car Wash, Cooling System Cleaner, Windshield Washer Solvent, Carburetor and Parts Cleaner, and Glass Cleaner (Int. Cl. 3).
First use October 1965.

SN 291,709. Burton, Parsons Chemicals, Inc., Washington, D.C. Filed Feb. 23, 1968.

"KARE-KIT"

For Packaged Combinations of Soaking, Wetting and Cleaning Solutions for Contact Lenses (Int. Cl. 3).
First use Jan. 2, 1968.

SN 297,754. Aut-O-Kar Wash Corporation, Dallas, Tex., by change of name from Automatic Car Wash Distributors, Inc., Dallas, Tex. Filed May 9, 1968.

AUT-O-TER

For Car Wash Detergent, Rinse Additive, and Spray Wax (Int. Cl. 3).
First use June 16, 1967.

SN 302,254. Alberto-Culver Company, Melrose Park, Ill. Filed July 9, 1968.

WHITE GLOVE

Owner of Reg. No. 839,390.
For Dishwashing Detergent for Household Use (Int. Cl. 3).
First use Apr. 16, 1968.

SN 304,039. Glamorene Products Corporation, Clifton, N.J. Filed Aug. 1, 1968.

DRAIN POWER

Applicant disclaims the word "Drain" apart from the mark as shown.
For Drain Opener (Int. Cl. 3).
First use July 23, 1968.

SN 306,104. Lever Brothers Company, New York, N.Y. Filed Aug. 28, 1968.

AMMO

Owner of Reg. Nos. 242,071 and 615,462.
For Detergent for General Washing and Cleaning (Int. Cl. 3).
First use Sept. 26, 1967.

SN 277,654. Flower of the Month, Inc., Grand Rapids, Mich. Filed Aug. 7, 1967.

FLOWER OF THE MONTH

Owner of Reg. No. 397,300.
For Delivering Selected Flowers Each Month to Subscribers (Int. Cl. 35).
First use June 1, 1947.

SN 281,064. Theodore D. Galss, d.b.a. Taxaco Income Tax Service and Tax Automated Company, Tinley Park, Ill. Filed Sept. 25, 1967.

TAXACO

For Accounting Services (Int. Cl. 35).
First use Aug. 14, 1967.

SN 282,466. Wm. J. Keller, Inc., Buffalo, N.Y. Filed Oct. 13, 1967.

LEKTROCOMP

For Printing Service (Int. Cl. 35).
First use on or about June 2, 1967.

SN 282,467. Wm. J. Keller, Inc., Buffalo, N.Y. Filed Oct. 13, 1967.

CVR

For Printing Service (Int. Cl. 35).
First use on or about Aug. 10, 1967.

SN 285,861. Southern Vital Record Center, Inc. Flora, Miss. Filed Nov. 29, 1967.

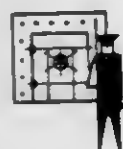


No claim is made to the wording "Positive Record Control" apart from the mark without waiving any common law rights therein.

For Providing Information Retrieval Services for Customers by Means of Microfilming Records; and Maintenance of Records (Int. Cl. 35).

First use on or about Oct. 1, 1962.

SN 285,862. Southern Vital Record Center, Inc. Flora, Miss. Filed Nov. 29, 1967.



For Providing Information Retrieval Services for Customers by Means of Microfilming Records; and Maintenance of Records (Int. Cl. 35).

First use on or about Mar. 1, 1962.

SN 294,401. Management Recruiters International, Inc., Cleveland, Ohio. Filed Mar. 28, 1968.

THE MATCHMAKERS

For Employment Agency Services (Int. Cl. 35).
First use Mar. 15, 1968.

SN 294,641. Mozingo's Tire Company, Incorporated, d.b.a. Delta Buyers Co-Op of North Carolina, South Carolina and Virginia, Charlotte, N.C. Filed Apr. 1, 1968.



For Cooperative Wholesale Buying and Distribution of Automotive Tire and Accessory Products for Retail Tire Dealers (Int. Cl. 35).

First use at least as early as October 1962.

SN 300,159. McCrory Corporation, New York, N.Y. Filed June 11, 1968.

THE BROWSERIE

For Operating a Section of a Department Store Specializing in Stationery and Gift Objects (Int. Cl. 35).

First use Sept. 20, 1967.

SN 307,378. Automated Information Management, Inc., Minneapolis, Minn. Filed Sept. 16, 1968.



For Designing, Developing, Implementing, and Managing Computerized Information Systems for Others (Int. Cl. 35).
First use Nov. 1, 1966.

SN 308,418. Careers Unlimited, Inc., New York, N.Y. Filed Sept. 30, 1968.



For Employment Agency Services (Int. Cl. 35).
First use in or about October 1967.

Class 102 — Insurance and Financial

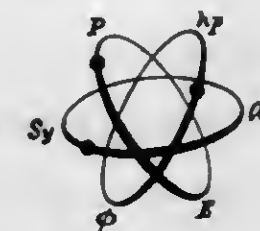
SN 271,618. Gulf Life Insurance Company, Jacksonville, Fla. Filed May 16, 1967.



For Underwriting Life Insurance, and Health and Accident Insurance (Int. Cl. 36).
First use Apr. 1, 1967.

Class 103 — Construction and Repair

SN 269,408. E. F. Felt Co., Inc., San Leandro, Calif. Filed Apr. 18, 1967.



The letter symbols appearing in the mark are engineering symbols used to denote certain elements in mathematical equations. No claim of exclusive right is made to the letter symbols for the services recited.

For Overhaul and Repair of Aircraft Accessories and Components (Int. Cl. 37).
First use 1950.

SN 296,311. Cutter Salvage Corporation, Cleveland, Ohio. Filed Apr. 23, 1968.



For Services Rendered to the Reclaiming or Salvaging of Cutting Tools (Int. Cl. 37).
First use on or about Apr. 1, 1953.

SN 298,069. Union Oil Company of California, Los Angeles, Calif. Filed May 13, 1968.



The mark is lined for the colors orange and blue, which are claimed as a feature of the mark. Owner of Reg. Nos. 166,846, 827,032, and others.
For Vehicle Service Station Services (Int. Cl. 37).
First use Dec. 29, 1966.

Class 107 — Education and Entertainment

SN 278,092. Contact Computer Corporation, Boston, Mass. Filed Aug. 11, 1967.



For College Selection Services—Namely, Identifying Suitable Colleges for a Student on the Basis of the Student's Personal Preferences (Int. Cl. 41).
First use Apr. 16, 1967.

SN 292,383. Charles Bruce Innes, Calgary, Alberta, Canada. Filed Mar. 4, 1968.

THE SOUND INVESTMENT

For Vocal and Instrumental Rendition of Music by a Group of Performers (Int. Cl. 41).
First use Jan. 31, 1968; in commerce Jan. 31, 1968.

SN 292,981. The Trustees of the Stevens Institute of Technology, Hoboken, N.J. Filed Mar. 11, 1968.



For Conducting College and Graduate Educational and Related Courses in Science, Engineering, Business and Other Fields; Research for Others; Counseling Students on Courses for Education, Business, Research and Other Fields to Pursue; Testing and Advising as to Career Guidance for Pre-College and College Students; and Related Services (Int. Cl. 41).
First use 1870.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 287,176. The Sovereign Military Order of the Temple of Jerusalem, Inc., Essex Fells, N.J. Filed Dec. 18, 1967.



The wording shown as part of the mark reads "Not To Us, O Lord, But To Thy Name Be Given Glory."
For Indicating Membership in applicant.
First use May 9, 1965.

TRADEMARK REGISTRATIONS ISSUED PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

- 863,333. NOYO AND DESIGN. Union Lumber Company. MULTIPLE CLASS (Classes 1, 10, and 12). SN 241,948. Pub. 10-29-68. Filed 3-25-66.
- 863,334. GLASCOAT. United Merchants and Manufacturers, Inc. SN 278,454. Pub. 8-20-68. Filed 8-17-67.
- 863,335. NOLYN. Rexall Drug and Chemical Company, d.b.a. Fiberfil. SN 284,732. Pub. 8-20-68. Filed 11-13-67.
- 863,336. BAYCRYL. Farbenfabriken Bayer Aktiengesellschaft. SN 284,899. Pub. 10-29-68. Filed 11-15-67.
- 863,337. BLANEX. Blane Chemical Corporation. SN 285,903. Pub. 10-29-68. Filed 11-30-67.
- 863,338. POLYCUP. Hercules Incorporated. SN 287,359. Pub. 9-3-68. Filed 12-21-67.
- 863,339. HPI. Honeycomb Products, Inc. SN 290,854. Pub. 10-29-68. Filed 2-12-68.
- 863,340. MAFCO. MacAndrews & Forbes Company. SN 296,745. Pub. 8-13-68. Filed 4-29-68.
- 863,341. GL 2. Lake Superior Pulp & Paper Inc. SN 300,312. Pub. 10-29-68. Filed 6-13-68.
- 863,342. HAND-SHAKE. Dow Badische Company. SN 303,102. Pub. 10-29-68. Filed 7-19-68.
- 863,343. NO-JAR. Dow Badische Company. SN 303,105. Pub. 10-29-68. Filed 7-19-68.
- 863,344. WEYON. Dow Badische Company. SN 303,106. Pub. 10-29-68. Filed 7-19-68.
- 863,345. NO-JOLT. Dow Badische Company. SN 303,108. Pub. 10-29-68. Filed 7-19-68.
- 863,346. LURSET. Dow Badische Company. SN 303,109. Pub. 10-29-68. Filed 7-19-68.
- 863,347. UPCO. Ulano Products Company, Inc. SN 303,117. Pub. 10-29-68. Filed 7-19-68.
- 863,348. STA-SHARP. Ulano Products Company, Inc. SN 303,120. Pub. 10-29-68. Filed 7-19-68.
- 863,349. POLY-X. Ulano Products Company, Inc. SN 303,122. Pub. 10-29-68. Filed 7-19-68.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

- 863,350. TAO-A-BAG. Precision Dynamics Corporation. SN 259,577. Pub. 10-29-68. Filed 11-28-66.
- 863,351. MISS BERGDORF. Bergdorf & Goodman Company. MULTIPLE CLASS (Classes 3 and 39). SN 269,380. Pub. 10-29-68. Filed 4-18-67.
- 863,352. ELWEL. American Chain & Cable Company, Inc. SN 287,341. Pub. 10-29-68. Filed 12-21-67.

Class 6—Chemicals and Chemical Compositions

- 863,353. ROSE-X. J. L. Prescott Company, assignee of Rose-X Chemical Company, Inc. MULTIPLE CLASS (Classes 6 and 52). SN 231,944. Pub. 10-29-68. Filed 11-1-65.
- 863,354. INOCHROME. Uguine Kuhlmann. SN 267,870. Pub. 10-29-68. Filed 3-29-67.
- 863,355. KELCO SCS. Kelco Company. SN 274,753. Pub. 10-29-68. Filed 6-26-67.

- 863,356. PRESTANE. Harold D. Johnson, d.b.a. Ideas for Industry. SN 282,193. Pub. 7-9-68. Filed 10-10-67.
- 863,357. SANI-PAK. Celeste, Inc. SN 285,393. Pub. 10-29-68. Filed 11-22-67.
- 863,358. PERMA-THINZ. Georgia-Pacific Corporation. SN 286,009. Pub. 10-29-68. Filed 12-1-67.
- 863,359. AMMOSPHERE. USS Agri-Chemicals, Inc., assignee of Armour Agricultural Chemical Company. SN 286,315. Pub. 9-10-68. Filed 12-6-67.
- 863,360. AIRWICK SOLID. Airwick Industries, Inc., by change of name from Alrkem, Inc. SN 287,868. Pub. 10-29-68. Filed 1-2-68.
- 863,361. HYDRAID. Calgon Corporation. SN 293,472. Pub. 10-29-68. Filed 3-18-68.

Class 7—Cordage

- 863,362. GEM-TIE. Germain's, Inc. SN 292,781. Pub. 10-29-68. Filed 3-8-68.
- 863,363. GOLDEN HARVEST AND DESIGN. Pacific Container and Supply, Inc. SN 295,943. Pub. 10-29-68. Filed 4-18-68.
- 863,364. OXEN. Pacific Container and Supply, Inc. SN 295,944. Pub. 10-29-68. Filed 4-18-68.

Class 10—Fertilizers

- 863,333. (See Class 1 for this trademark.)
- 863,365. BEST-TABS AND DESIGN. Occidental Petroleum Corporation. SN 270,504. Pub. 10-29-68. Filed 5-2-67.

Class 12—Construction Materials

- 863,333. (See Class 1 for this trademark.)
- 863,366. HAINAUT HS SAMBRE AND DESIGN. Societe Metallurgique Hainaut-Sambre. MULTIPLE CLASS (Classes 12 and 14). SN 252,036. Pub. 10-29-68. Filed 8-9-66.
- 863,367. DAL-MAYAN. Dallas Ceramic Company. SN 286,740. Pub. 10-29-68. Filed 3-15-67.
- 863,368. INDEPENDENCE "BRICK." Sears, Roebuck and Co. SN 287,269. Pub. 8-20-68. Filed 3-21-67.
- 863,369. CORSON BOND-R. G. & W. H. Corson, Incorporated. SN 277,888. Pub. 10-29-68. Filed 8-9-67.
- 863,370. CORSON SUPER BOND-RX. G. & W. H. Corson, Incorporated. SN 277,890. Pub. 10-29-68. Filed 8-9-67.
- 863,371. MACOLITE. Masonite Corporation. SN 288,652. Pub. 10-29-68. Filed 10-30-67.
- 863,372. MISCELLANEOUS DESIGN. American Timber & Trading Co., Inc. SN 285,509. Pub. 10-29-68. Filed 11-24-67.
- 863,373. RUCOPIPE. Hooker Chemical Corporation. SN 286,675. Pub. 10-29-68. Filed 12-11-67.
- 863,374. VH IN A CIRCLE. The Youngstown Sheet and Tube Company. MULTIPLE CLASS (Classes 12 and 13). SN 286,784. Pub. 10-29-68. Filed 12-13-67.
- 863,375. HARMIX FEP. Dresser Industries, Inc. SN 289,386. Pub. 10-29-68. Filed 1-23-68.

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- 863,376. STASIL. Avnet, Inc. SN 200,553. Pub. 10-29-68. Filed 1-26-68.
- 863,377. GREAT SCOT TWEED SAWN AND DESIGN. Great Scot Timber Co. SN 293,374. Pub. 10-29-68. Filed 3-15-68.
- 863,378. FILON-STRIPES. Vistron Corporation. SN 296,996. Pub. 10-29-68. Filed 4-30-68.
- 863,379. RADIALUBE. Merriman, Inc. SN 301,673. Pub. 10-29-68. Filed 7-1-68.
- 863,380. POSI-SEAL. Electro-Mechanical Enterprises, Inc. SN 262,481. Pub. 3-5-68. Filed 1-13-67.
- 863,381. MAXON. Maxon Premix Burner Company, Inc. MULTIPLE CLASS (Classes 13 and 34). SN 269,908. Pub. 10-29-68. Filed 4-24-67.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

- 863,374. (See Class 12 for this trademark.)
- 863,382. GREEN GLASS. Robert A. Gilmour, d.b.a. Gilmour Manufacturing Co. SN 273,760. Pub. 10-29-68. Filed 6-13-67.
- 863,383. TAB. Parker-Hannifin Corporation. SN 274,648. Pub. 10-29-68. Filed 6-23-67.
- 863,384. PUT-KEY. Randolph-Rand Corporation. SN 274,658. Pub. 6-18-68. Filed 6-23-67.
- 863,385. POLYTUF. Vistron Corporation. SN 282,642. Pub. 10-29-68. Filed 10-16-67.
- 863,386. LARGEBAR AND DESIGN. Barton Products Corporation. SN 286,804. Pub. 10-29-68. Filed 12-13-67.
- 863,387. SUPER BELL-TITE. Clow Corporation. SN 287,147. Pub. 10-29-68. Filed 12-18-67.
- 863,388. WSI. Atlas Corporation. SN 290,708. Pub. 10-29-68. Filed 2-9-68.
- 863,389. CIRCLE AND TRIANGLE DESIGN. "Automatic" Sprinkler Corporation of America. SN 302,887. Pub. 10-29-68. Filed 7-17-68.

Class 14—Metals and Metal Castings and Forgings

- 863,366. (See Class 12 for this trademark.)
- 863,390. PATIO. Colonial Stores Incorporated. SN 292,554. Pub. 10-29-68. Filed 3-6-68.
- 863,391. FACIPLIC. Uddeholm Aktiebolag. SN 295,572. Pub. 10-29-68. Filed 4-12-68.

Class 16—Protective and Decorative Coatings

- 863,392. ZINC-LOCK. Zinc-Lock Company. SN 274,290. Pub. 10-29-68. Filed 6-20-67.
- 863,393. ZN AND DESIGN. Zinc-Lock Company. SN 274,291. Pub. 10-29-68. Filed 6-20-67.
- 863,394. WOTHANE. Woburn Chemical Corp. SN 280,996. Pub. 10-29-68. Filed 9-22-67.
- 863,395. WHIP-END DIP. Marine Development and Research Corp. SN 287,306. Pub. 10-29-68. Filed 12-20-67.
- 863,396. DEVTAR. Celanese Coatings Company. SN 287,893. Pub. 10-29-68. Filed 1-2-68.
- 863,397. POLYASTICS AND DESIGN. Polyastica Corporation. SN 287,943. Pub. 10-29-68. Filed 1-2-68.
- 863,398. SOLAR-GARD. Hooker Chemical Corporation. SN 293,721. Pub. 10-29-68. Filed 3-20-68.

Class 17—Tobacco Products

- 863,399. DICKINSON AND DESIGN. Dickinson Leaf Tobacco Company, Inc. SN 257,171. Pub. 10-29-68. Filed 10-25-66.
- 863,400. CLARENDEEN. St. Regis Tobacco Corporation Limited. SN 275,472. Pub. 10-29-68. Filed 7-6-67.
- 863,401. CUNARD. St. Regis Tobacco Corporation Limited. SN 277,077. Pub. 10-29-68. Filed 7-28-67.
- 863,402. MERCATOR AND DESIGN. Ualoea Vander Elst Freres Societe Anonyme. SN 277,739. Pub. 10-29-68. Filed 8-7-67.
- 863,403. DUNHILL THE "ROYAL YACHT" AND DESIGN. Alfred Dunhill Limited. SN 294,346. Pub. 10-29-68. Filed 3-28-68.
- 863,404. PENTHOUSE. Ontario Tobacco Company Limited. SN 296,446. Pub. 10-29-68. Filed 4-24-68.
- 863,405. MIDDLETON'S CHERRY BLEND. John Middleton, Inc. SN 297,577. Pub. 10-29-68. Filed 5-7-68.
- 863,406. DORSET. Liggett & Myers Incorporated. SN 302,743. Pub. 10-29-68. Filed 7-15-68.

Class 18—Medicines and Pharmaceutical Preparations

- 863,407. GRANNICK'S BITTER APPLE. Valhar Chemical Corporation. SN 255,662. Pub. 10-29-68. Filed 10-3-66.
- 863,408. "REL-EEZE." Peter N. Petrak, d.b.a. "Rel-Eeze" Laboratory. SN 264,227. Pub. 9-10-68. Filed 2-8-67.
- 863,409. NEO-LYTES. Eastern Shore Laboratories, Inc. SN 273,619. Pub. 10-29-68. Filed 6-12-67.
- 863,410. BRIDINE. The Purdue Frederick Company. SN 274,892. Pub. 8-13-68. Filed 6-27-67.
- 863,411. ZOIN. Ciba Limited. SN 276,223. Pub. 10-29-68. Filed 7-18-67.
- 863,412. ZAS. Montana Pharmaceuticals, Inc. SN 279,087. Pub. 10-29-68. Filed 8-25-67.
- 863,413. NICOCAP. Bentex Pharmaceutical Company. SN 279,524. Pub. 10-29-68. Filed 9-1-67.
- 863,414. QUIN-PLEX. The Purdue Frederick Company. SN 282,478. Pub. 8-13-68. Filed 10-13-67.
- 863,415. N (DESIGN). Norden Laboratories, Inc. SN 282,606. Pub. 10-29-68. Filed 10-18-67.
- 863,416. QUINPLEXIN. The Purdue Frederick Company. SN 282,817. Pub. 8-6-68. Filed 10-18-67.
- 863,417. ZELANA. Bonne Sante, S.A. SN 283,859. Pub. 10-29-68. Filed 11-1-67.
- 863,418. NEODECASPRAY. Merck & Co., Inc. SN 284,384. Pub. 10-29-68. Filed 11-8-67.
- 863,419. HOURNITE. Delta Drug Corporation. SN 288,195. Pub. 10-29-68. Filed 1-5-68.
- 863,420. CEPHALOVAC-EW. Richardson-Merrell Inc. SN 288,348. Pub. 10-29-68. Filed 1-8-68.
- 863,421. VAPORUB. Richardson-Merrell Inc. SN 289,033. Pub. 10-29-68. Filed 1-17-68.
- 863,422. T-I-GAMMAGEE. Merck & Co., Inc. SN 289,317. Pub. 10-29-68. Filed 1-22-68.
- 863,423. GALACTOQUIN. The Purdue Frederick Company. SN 289,528. Pub. 10-29-68. Filed 1-24-68.
- 863,424. NYSTAFORM-HC. Miles Laboratories, Inc., SN 289,822. Pub. 10-29-68. Filed 1-29-68.
- 863,425. LT-BLEN. Abbott Laboratories. SN 289,867. Pub. 10-29-68. Filed 1-30-68.
- 863,426. REGROZINE. Geigy Chemical Corporation. SN 290,386. Pub. 10-29-68. Filed 2-6-68.
- 863,427. SENSE. Bristol-Myers Company. SN 290,712. Pub. 10-29-68. Filed 2-9-68.
- 863,428. FAR-O-VAC. American Home Products Corporation. SN 290,813. Pub. 10-29-68. Filed 2-12-68.

- 863,429. CARDREL. USV Pharmaceutical Corporation. SN 290,911. Pub. 10-29-68. Filed 2-12-68.
- 863,430. HALINAN. USV Pharmaceutical Corporation. SN 290,912. Pub. 10-29-68. Filed 2-12-68.
- 863,431. CRINATROL. Crinatrol Corporation. MULTIPLE CLASS (Classes 18 and 51). SN 296,740. Pub. 10-29-68. Filed 4-29-68.
- 863,432. NITROZONE-V. Dow B. Hickam, Inc. SN 301,490. Pub. 10-29-68. Filed 6-27-68.

Class 19—Vehicles

- 863,433. EQUIPCO PDQ SYSTEM AND DESIGN. Unarco Industries, Inc. SN 282,737. Pub. 10-29-68. Filed 10-17-67.
- 863,434. HORSE (DESIGN). Ferrari S.p.A. Esercizio Fabbriche Automobili e Corse. SN 286,258. Pub. 10-29-68. Filed 12-5-67.
- 863,435. TODCO. Overhead Door Combination. SN 289,060. Pub. 10-29-68. Filed 1-18-68.
- 863,436. REBCATS. Richard E. Brown, d.b.a. Rebcats. SN 289,919. Pub. 10-29-68. Filed 1-30-68.
- 863,437. MINI-CART. Jervis B. Webb Company. SN 290,358. Pub. 10-29-68. Filed 2-5-68.
- 863,438. RANGEMASTER. Thiokol Chemical Corporation. SN 291,448. Pub. 10-29-68. Filed 2-19-68.
- 863,439. FLEXI-FIT. Atlas Specialty Mfg. Co. SN 291,700. Pub. 10-29-68. Filed 2-23-68.
- 863,440. VERSA-DECK. ACF Industries, Incorporated. SN 292,872. Pub. 10-29-68. Filed 3-11-68.
- 863,441. NORTH STAR. Camper Enterprises, Inc. SN 292,886. Pub. 10-29-68. Filed 3-11-68.
- 863,442. BRONCO AND DESIGN. North American Rockwell Corporation. SN 293,048. Pub. 10-29-68. Filed 3-12-68.
- 863,443. ATLAS AND DESIGN. The Union Fork and Hoe Company. SN 293,606. Pub. 10-29-68. Filed 3-18-68.
- 863,444. AMERICAN RACING EQUIPMENT AND DESIGN. American Racing Equipment. SN 295,789. Pub. 10-29-68. Filed 4-17-68.

Class 21—Electrical Apparatus, Machines, and Supplies

- 863,445. SAIA. Sala A.G. MULTIPLE CLASS (Classes 21 and 26). SN 254,402. Pub. 10-29-68. Filed 9-13-66.
- 863,446. EC AND DESIGN. Electrospace Corporation. MULTIPLE CLASS (Classes 21 and 26). SN 273,384. Pub. 10-29-68. Filed 6-8-67.
- 863,447. LIFTMASTER. Chamberlain Manufacturing Corporation, assignee of Perma-Power Company. SN 275,978. Pub. 10-29-68. Filed 6-21-67.
- 863,448. RADPLANE. Infra-Red Systems, Inc. SN 277,244. Pub. 10-29-68. Filed 8-1-67.
- 863,449. K-L AND DESIGN. Kerrigan Lewis Manufacturing Co. SN 278,703. Pub. 10-29-68. Filed 8-21-67.
- 863,450. HIPOTRONICS AND DESIGN. Hipotronics, Inc. MULTIPLE CLASS (Classes 21 and 26). SN 283,526. Pub. 10-29-68. Filed 10-27-67.
- 863,451. SOUND ONE AND DESIGN. Sound One, Ltd. SN 287,538. Pub. 10-29-68. Filed 12-29-67.
- 863,452. CLUB AND DESIGN. Regional Services Corporation, assignee of The General Tire & Rubber Company. MULTIPLE CLASS (Classes 21 and 31). SN 288,510. Pub. 10-29-68. Filed 1-10-68.
- 863,453. SST. Smith-Schreyer and Associates, d.b.a. The Smith Co. SN 290,342. Pub. 10-29-68. Filed 2-5-68.
- 863,454. RADROUND. Infra-Red Systems, Inc. SN 290,691. Pub. 10-29-68. Filed 2-9-68.

- 863,455. PNR X-66. Cerra Corporation. SN 291,711. Pub. 10-29-68. Filed 2-23-68.
- 863,456. 400. Fisher Radio Corporation. SN 291,720. Pub. 10-29-68. Filed 2-23-68.
- 863,457. PENETROX. Burady Corporation. SN 292,341. Pub. 10-29-68. Filed 3-4-68.
- 863,458. MULTI GARD GROUND SENTRY. Electronics Manufacturing Corporation. SN 295,193. Pub. 10-29-68. Filed 4-8-68.
- 863,459. CARDEC. Malco Manufacturing Company, Inc. SN 301,888. Pub. 10-29-68. Filed 7-3-68.

Class 22—Games, Toys, and Sporting Goods

- 863,460. TALO AND DESIGN. Talo Buyers, Inc. SN 253,178. Pub. 10-29-68. Filed 8-25-66.
- 863,461. ANT FARM. Cossman & Levine, Inc. SN 268,158. Pub. 10-29-68. Filed 4-3-67.
- 863,462. MISCELLANEOUS DESIGN. Mastlille Corporation. SN 274,886. Pub. 10-29-68. Filed 6-27-67.
- 863,463. JOHNNY TOYMAKER. De Luxe Tupper Corporation. SN 283,089. Pub. 10-29-68. Filed 11-2-67.
- 863,464. BABY DOLL WITHOUT A NAME. Modern Products, Inc. SN 287,933. Pub. 10-29-68. Filed 1-2-68.
- 863,465. MINI-TONKA. Tonka Corporation. SN 288,891. Pub. 10-29-68. Filed 1-15-68.
- 863,466. MIGHTY-TONKA. Tonka Corporation. SN 288,892. Pub. 10-29-68. Filed 1-15-68.
- 863,467. ACTION BOY. Ideal Toy Corporation. SN 291,005. Pub. 7-2-68. Filed 2-14-68.
- 863,468. GRAND PRIX. The Franklin Mint, Inc., by change of name from General Numismatics Corporation. MULTIPLE CLASS (Classes 22 and 38). SN 291,315. Pub. 10-29-68. Filed 2-10-68.
- 863,469. SWERVY CURVY TOPSY TURVY TIPSY SKIPSY DOODLE. Biazon, Inc. SN 294,162. Pub. 10-29-68. Filed 3-26-68.
- 863,470. MICRO-MESSAGES. Wham-O Mfg. Co. SN 294,788. Pub. 10-29-68. Filed 4-3-68.
- 863,471. TEENY-TINYS. Wham-O Mfg. Co. SN 294,790. Pub. 10-29-68. Filed 4-3-68.
- 863,472. TWIST-AWAY. Dynamic Classics, Ltd. SN 295,597. Pub. 10-29-68. Filed 4-15-68.
- 863,473. CRAGSTAN AND DESIGN. Cragstan Industries, Inc. SN 297,040. Pub. 10-29-68. Filed 5-1-68.
- 863,474. MINIMATES. Matsushiro USA, Inc. SN 297,076. Pub. 10-29-68. Filed 5-1-68.
- 863,475. VAULA. Pagliani & Provenzale S.p.A. SN 297,263. Pub. 10-29-68. Filed 5-3-68.
- 863,476. VAULA CUE TORINO V AND DESIGN. Pagliani & Provenzale S.p.A. SN 297,264. Pub. 10-29-68. Filed 5-3-68.
- 863,477. TEX-SIZ-TRAP. Nocona Leather Goods Company, d.b.a. Nocona Athletic Goods Company. SN 297,879. Pub. 10-29-68. Filed 5-10-68.
- 863,478. FOLD-A-MAGIC. Norstar Corporation. SN 298,032. Pub. 10-29-68. Filed 5-13-68.
- 863,479. SOLIDO. Ferdinand de Vazellles. SN 298,814. Pub. 10-29-68. Filed 5-22-68.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

- 863,480. FLUIDONICS. I-T-E Imperial Corporation, assignee of Imperial-Eastman Corporation. SN 241,661. Pub. 1-2-68. Filed 3-23-66.
- 863,481. STONE. Stone Conveyor Co., Inc. SN 247,161. Pub. 10-29-68. Filed 6-2-68.

- 863,482. NOCO. Aktiebolaget Svenska Metallverken. SN 253,075. Pub. 10-29-68. Filed 8-24-66.
- 863,483. MORAT. Franz Morat G.m.b.H. SN 261,295. Pub. 10-29-68. Filed 12-22-66.
- 863,484. SLURRY-MATIC. Rex Chainbelt Inc. SN 264,587. Pub. 9-17-68. Filed 2-13-67.
- 863,485. E-Z PIC. Walter N. Johnson. SN 268,315. Pub. 10-29-68. Filed 4-4-67.
- 863,486. MESCO. Marine Engine Specialties. SN 275,059. Pub. 10-29-68. Filed 6-20-67.
- 863,487. K AND DESIGN. Hermann Kronseder, d.b.a. Hermann Kronseder Maschinenfabrik. SN 279,947. Pub. 10-29-68. Filed 9-8-67.
- 863,488. KRONES. Hermann Kronseder, d.b.a. Hermann Kronseder Maschinenfabrik. SN 279,948. Pub. 10-29-68. Filed 9-8-67.
- 863,489. PRONTOMATIC. Hermann Kronseder, d.b.a. Hermann Kronseder Maschinenfabrik. SN 279,949. Pub. 10-29-68. Filed 9-8-67.
- 863,490. UNIVERSELLA. Hermann Kronseder, d.b.a. Hermann Kronseder Maschinenfabrik. SN 279,950. Pub. 10-29-68. Filed 9-8-67.
- 863,491. JET-ALL. Subscription Television, Incorporated. SN 280,711. Pub. 10-29-68. Filed 9-19-67.
- 863,492. QUIK PIK. The Cincinnati Mine Machinery Co. SN 284,615. Pub. 10-29-68. Filed 11-13-67.
- 863,493. GASBOY REEL-A-MATIC. William M. Wilson's Sons, Inc. SN 284,855. Pub. 10-29-68. Filed 11-14-67.
- 863,494. RANGER. Roberts Company. SN 286,447. Pub. 10-29-68. Filed 12-7-67.
- 863,495. JIFFY-LOK. D-M-E Corporation. SN 291,717. Pub. 10-29-68. Filed 2-23-68.
- 863,496. CORBETT AND DESIGN. Corbett Industries, Inc. SN 291,969. Pub. 10-29-68. Filed 2-27-68.
- 863,497. COR VAC. Corbett Industries, Inc. SN 291,970. Pub. 10-29-68. Filed 2-27-68.
- 863,498. POSITRAC. Hy-Torq Corporation. SN 291,987. Pub. 10-29-68. Filed 2-27-68.
- 863,499. VALIANT. Morris Struhl, Inc. SN 294,323. Pub. 10-29-68. Filed 3-27-68.
- 863,500. AMETEK AND DESIGN. Ametek, Inc. SN 297,128. Pub. 10-29-68. Filed 5-2-68.
- 863,501. PIONEER QUADRAMATIC. Erving Paper Mills. SN 298,216. Pub. 10-29-68. Filed 5-15-68.

Class 24—Laundry Appliances and Machines

- 863,502. MISCELLANEOUS DESIGN. Temco, Inc. MULTIPLE CLASS (Classes 24 and 34). SN 286,292. Pub. 10-29-68. Filed 12-5-67.

Class 26—Measuring and Scientific Appliances

- 863,445. (See Class 21 for this trademark.)
- 863,446. (See Class 21 for this trademark.)
- 863,450. (See Class 21 for this trademark.)
- 863,503. FISHER BRAND. Fisher Scientific Company. SN 255,608. Pub. 9-24-68. Filed 10-3-66.
- 863,504. SEL-TRON. Walter F. White. SN 262,529. Pub. 10-29-68. Filed 1-13-67.
- 863,505. LORAC. Seismograph Service Corporation, assignee of Seismograph Service Corporation. SN 265,111. Pub. 10-29-68. Filed 2-20-67.
- 863,506. RIVERO. Fundicion Rivero, Inc. SN 276,296. Pub. 10-29-68. Filed 7-10-67.

Class 28—Jewelry and Precious-Metal Ware

- 863,507. YOUNG SOPHISTICATES. Giovanni Jewelry Company, by change of name from Venice, Inc. SN 295,576. Pub. 10-29-68. Filed 4-12-68.

Class 29—Brooms, Brushes, and Dusters

- 863,508. "SHE." Clifford O. Hedwell, d.b.n. "She" Cosmetic Company. MULTIPLE CLASS (Classes 29 and 51). SN 295,785. Pub. 10-29-68. Filed 4-17-68.

Class 31—Filters and Refrigerators

- 863,452. (See Class 21 for this trademark.)
- 863,509. MIRACLE. T. F. H. Publications, Inc. SN 263,216. Pub. 10-29-68. Filed 1-24-67.
- 863,510. WB AND DESIGN. Neptune Microfloc, Incorporated. SN 267,649. Pub. 10-29-68. Filed 3-27-67.
- 863,511. 421. Bell Aerospace Corporation. SN 273,893. Pub. 10-29-68. Filed 6-14-67.

Class 32—Furniture and Upholstery

- 863,512. CANTERBURY. Canterbury House, Inc. SN 279,623. Pub. 10-29-68. Filed 6-5-67.
- 863,513. SKYTRONIC. The Shaw-Welker Company. SN 289,837. Pub. 10-29-68. Filed 1-29-68.
- 863,514. NEW DISCOVERY. Donald H. Mitchell. SN 290,185. Pub. 10-29-68. Filed 2-2-68.
- 863,515. BENNINGTON. The Bennington Company. SN 290,245. Pub. 10-29-68. Filed 2-5-68.

Class 34—Heating, Lighting, and Ventilating Apparatus

- 863,502. (See Class 24 for this trademark.)
- 863,501. (See Class 13 for this trademark.)
- 863,516. SEA-BREEZE. The Coleman Company, Inc. SN 266,662. Pub. 10-29-68. Filed 3-16-67.
- 863,517. PISTOLITE. United Silver and Cutlery Company. SN 268,904. Pub. 10-29-68. Filed 4-11-67.
- 863,518. TRACMATE. Airline Welding & Engineering. SN 269,272. Pub. 10-29-68. Filed 4-17-67.
- 863,519. COST CUTTER. The Harris Caloric Company. SN 275,140. Pub. 10-29-68. Filed 6-30-67.
- 863,520. HAUCK AND DESIGN. Hauck Manufacturing Company. SN 284,816. Pub. 10-29-68. Filed 11-14-67.
- 863,521. 12 AND DESIGN. Carrier Corporation. SN 290,256. Pub. 10-29-68. Filed 2-5-68.
- 863,522. CENTRI-TIER. Loren Cook Company. SN 290,627. Pub. 10-29-68. Filed 2-8-68.
- 863,523. AXIA-TIER. Loren Cook Company. SN 290,628. Pub. 10-29-68. Filed 2-8-68.
- 863,524. HERCUVIT. PPG Industries, Inc., by change of name from Pittsburgh Plate Glass Company. SN 294,237. Pub. 10-29-68. Filed 3-27-68.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

- 863,525. AUBURN. Bryan Rubber Company, Incorporated. SN 285,194. Pub. 10-29-68. Filed 11-20-67.

- 863,526. HALLS GASKETS AND DESIGN. Halls Gaskets Ltd. SN 288,695. Pub. 10-29-68. Filed 1-12-68.
- 863,527. MISCELLANEOUS DESIGN. Dana Corporation. SN 291,365. Pub. 10-29-68. Filed 2-19-68.
- 863,528. MOKAN. Vandever Tire Company, Incorporated. SN 294,701. Pub. 10-29-68. Filed 4-1-68.
- 863,529. HSP. The Armstrong Rubber Company. SN 295,295. Pub. 10-29-68. Filed 4-10-68.
- 863,530. SEAL-PAK. Green, Tread & Co., Inc. SN 293,020. Pub. 10-29-68. Filed 7-18-68.
- 863,550. DAIRY INDUSTRIES CATALOG. The Miller Publishing Company. SN 289,708. Pub. 10-29-68. Filed 1-26-68.
- 863,551. GIVING CARDS AND DESIGN. Olving Cards, Inc. SN 290,731. Pub. 10-29-68. Filed 2-9-68.
- 863,552. IMPRINT. National Business Services Inc. SN 291,997. Pub. 10-29-68. Filed 2-27-68.
- 863,553. MR. MAGIC AND DESIGN. Spadea Syndicate, Inc. SN 297,638. Pub. 10-29-68. Filed 5-3-68.
- 863,554. DIRECTOR AND DESIGN. Director Publishing Company. SN 301,676. Pub. 10-29-68. Filed 7-1-68.

Class 36 — Musical Instruments and Supplies Class 39 — Clothing

- 863,531. MINASONIC. Americom Corporation. SN 269,047. Pub. 9-3-68. Filed 4-13-67.
- 863,532. MINSONIC. Americom Corporation. SN 269,048. Pub. 9-3-68. Filed 4-13-67.
- 863,533. FIVE HUNDRED. C. O. Conn Ltd. SN 279,457. Pub. 10-29-68. Filed 8-31-67.
- 863,534. FUENTES. Diacos Fuentes, S.A. SN 291,495. Pub. 10-29-68. Filed 2-20-68.
- 863,535. GOLDEN WONDERLAND. A.A. Records, Inc. SN 294,241. Pub. 10-29-68. Filed 3-27-68.
- 863,536. MICA. Musical Instrument Corporation of America. SN 295,155. Pub. 10-29-68. Filed 4-8-68.
- 863,551. (See Class 3 for this trademark.)
- 863,555. FRINGE BENEFIT. Frank Raimondl, d.b.a. Fringe Benefit Co. SN 271,725. Pub. 10-29-68. Filed 5-17-67.
- 863,556. BOND FIFTH AVENUE. Bond Stores, Incorporated. SN 272,255. Pub. 9-10-68. Filed 5-24-67.
- 863,557. GIANINO. Charlotte Wagman, d.b.a. Contex Limited. SN 272,765. Pub. 10-29-68. Filed 5-31-67.
- 863,558. DYNACOR. Dynacor Manufacturing Company. SN 281,276. Pub. 10-29-68. Filed 9-27-67.
- 863,559. JET BAK AND DESIGN. Jonbli Mfg. Co., Inc. SN 293,899. Pub. 10-29-68. Filed 11-1-67.
- 863,560. TAPILON. Toyo Rayon Co., Ltd. MULTIPLE CLASS (Classes 39 and 43). SN 284,271. Pub. 10-29-68. Filed 11-7-67.
- 863,561. COLLEJEANS. Gay Togs, Inc. SN 285,168. Pub. 5-28-68. Filed 11-20-67.
- 863,562. BUCKY. The Strouse, Adlar Company. SN 286,287. Pub. 7-9-68. Filed 12-5-67.
- 863,563. SSK AND DESIGN. S. S. Kresge Company. SN 286,688. Pub. 10-29-68. Filed 12-11-67.
- 863,564. BABY-OL. S.A.R.L. Manufacture d'Articles de Puericulture du Sud-Ouest-M.A.P.S.O. SN 287,320. Pub. 10-29-68. Filed 12-20-67.
- 863,565. PATTIKINS. St. Louis Shoe Corporation. SN 289,840. Pub. 10-29-68. Filed 1-29-68.
- 863,566. RESUME. Dunn and McCarthy, Inc. SN 291,050. Pub. 10-29-68. Filed 2-14-68.
- 863,567. SPORTSUITER. Rapid-American Corporation. SN 291,285. Pub. 10-29-68. Filed 2-16-68.
- 863,568. BAN-LON AND DESIGN. Joseph Bancroft & Sons Co. SN 299,541. Pub. 10-29-68. Filed 6-3-68.

Class 37 — Paper and Stationery

- 863,537. LAUFER AND DESIGN. Laufer Gummiwarenfabrik, Schwerdt & Renner. SN 284,427. Pub. 10-29-68. Filed 11-9-67.
- 863,538. NITE SECRETARY. Raimond Silver Manufacturing Company, Inc. SN 287,377. Pub. 10-29-68. Filed 12-21-67.
- 863,539. PROTECT-O-PAK. The Roy M. Moffitt Company. SN 287,446. Pub. 10-29-68. Filed 12-22-67.
- 863,540. STEREOGRAPHIC. The Parker Pen Company. SN 301,132. Pub. 10-29-68. Filed 6-24-68.

Class 38 — Prints and Publications

- 863,468. (See Class 22 for this trademark.)
- 863,541. OPTICART AND DESIGN. Carl Weigang, d.b.a. Opticart-Verlag Carl Weigang. SN 270,446. Pub. 10-29-68. Filed 5-1-67.
- 863,542. WALKING THE DOG AND DESIGN. George E. Stratton. SN 273,804. Pub. 10-29-68. Filed 6-13-67.
- 863,543. TV-Q. Goodway Printing Company, Inc. SN 275,259. Pub. 10-29-68. Filed 7-3-67.
- 863,544. FUNNY WORLD OF GOLF. George T. Bubany. SN 275,830. Pub. 10-29-68. Filed 7-12-67.
- 863,545. FINS FURS AND FEATHERS. Keith C. Schuyler. SN 276,587. Pub. 10-29-68. Filed 7-21-67.
- 863,546. MINI MARK AND DESIGN. Mint-Mark of Dallas, Inc. SN 276,759. Pub. 10-29-68. Filed 7-25-67.
- 863,547. MISCELLANEOUS DESIGN. The Trustees of Mount Holyoke College. SN 284,519. Pub. 10-29-68. Filed 11-9-67.
- 863,548. AB ALWAYS BETTER AND DESIGN. Spokane Film, Inc. MULTIPLE CLASS (Classes 38 and 106). SN 284,527. Pub. 10-29-68. Filed 11-13-67.
- 863,549. DESIGN OF GLOBE AND PARACHUTE. Parachuting Associates, Incorporated. SN 285,571. Pub. 10-29-68. Filed 11-24-67.

Class 40 — Fancy Goods, Furnishings, and Notions

- 863,569. MISTER TEENY-BOPPER. Mister Teeny-Bopper, Inc. SN 274,822. Pub. 10-29-68. Filed 6-26-67.
- 863,570. BIARRITZ. Fashion Treas, Inc. SN 281,368. Pub. 10-29-68. Filed 9-23-67.
- 863,571. FRAUDS. Helene Curtis Industries, Inc. SN 293,272. Pub. 10-29-68. Filed 3-14-68.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

- 863,572. CHAVELLE. Stevconit Textile Co. SN 284,843. Pub. 10-1-68. Filed 11-14-67.
- 863,573. LA'GO. M. G. Textiles, Inc. SN 285,844. Pub. 10-29-68. Filed 11-29-67.

- 863,574. MONOCOIL. Uniroyal, Inc. SN 286,215. Pub. 10-29-68. Filed 12-4-67.
- 863,575. PLAY-TIME. Reeves Brothers, Inc. SN 292,614. Pub. 10-29-68. Filed 3-6-68.
- 863,576. CON CON. The Kendall Company. SN 293,931. Pub. 10-29-68. Filed 3-22-68.
- 863,577. BACKSTOP. West Point-Pepperell, Inc. SN 294,336. Pub. 10-29-68. Filed 3-27-68.
- 863,578. THERMOLAM. Stacy Fabrica Corp. SN 294,418. Pub. 10-29-68. Filed 3-29-68.
- 863,579. MODU/BASE. Commercial Carpet Corporation. SN 295,115. Pub. 10-29-68. Filed 4-8-68.
- 863,595. SO-LO AND DESIGN. Foremost-McKesson, Inc., assignee of Foremost Dairies, Inc. SN 270,121. Pub. 10-29-68. Filed 4-27-67.
- 863,596. BOYE-S. Jacques Pan Cakes, Inc. SN 276,563. Pub. 10-29-68. Filed 7-21-67.
- 863,597. PITA GOL. Pita Gol S.A. SN 277,066. Pub. 10-29-68. Filed 7-28-67.
- 863,598. FLAVOR TREE. Philip Morris Incorporated, d.b.a. Flavor Tree Co. SN 277,207. Pub. 7-2-68. Filed 7-31-67.
- 863,599. CAPALON. Ezed. S. Carbon d.b.a. S. Carbon Co. SN 277,435. Pub. 10-29-68. Filed 8-3-67.
- 863,600. LA FLORENTINE. Ferruccio Giovannini, Inc. SN 278,679. Pub. 10-29-68. Filed 8-21-67.
- 863,601. SPIEDIES. Robert E. Sanders, d.b.a. Sandy's Spiedie Shoppea. SN 278,825. Pub. 10-29-68. Filed 8-22-67.
- 863,602. COMPARE. Carnation Company. SN 281,032. Pub. 10-29-68. Filed 9-25-67.
- 863,603. SPOGHETTI RINGS ETC. AND DESIGN. American Beauty Macaroni Company. SN 281,348. Pub. 10-29-68. Filed 9-28-67.
- 863,604. KATY'S. Paul F. Belch Company. SN 282,878. Pub. 10-29-68. Filed 10-19-67.
- 863,605. MAR-GOLD. The Mar-Gold Corporation. SN 283,910. Pub. 10-29-68. Filed 11-1-67.
- 863,606. POPE. M. De Rosa, Inc. SN 284,296. Pub. 10-29-68. Filed 11-7-67.
- 863,607. HERSHEY'S KISSES. Hershey Foods Corporation, by change of name from Hershey Chocolate Corporation. SN 284,820. Pub. 10-29-68. Filed 11-14-67.
- 863,608. REDLANDS CHIEF. Shibli S. Damus, d.b.a. United Citrus Growers. SN 284,997. Pub. 10-29-68. Filed 11-16-67.
- 863,609. TUDOR PRINCE. Antony Worham Limited. SN 286,229. Pub. 10-29-68. Filed 12-4-67.
- 863,610. RED-LETTER DAY. Floyd L. Webb. SN 286,731. Pub. 10-29-68. Filed 1-12-68.
- 863,611. DESERT BRAND. Wilsey-Bennett Co. SN 288,904. Pub. 10-29-68. Filed 1-15-68.
- 863,612. BIRDS EYE AND BIRD DESIGN. General Foods Corporation. SN 289,985. Pub. 10-29-68. Filed 1-31-68.
- 863,613. R RABINOWITZ'S ETC. AND DESIGN. Paramount Poultry, Inc. SN 290,694. Pub. 10-29-68. Filed 2-9-68.
- 863,614. NORTHEASTERN BRAND MAINE AND DESIGN. Royal River Packing Co. SN 291,100. Pub. 10-29-68. Filed 2-14-68.
- 863,615. SHIELD (DESIGN). Central Soya Company, Inc. SN 292,178. Pub. 10-29-68. Filed 2-29-68.
- 863,616. HAYDEN HOUSE MICRO MAGIC AND DESIGN. Ocoma Fooda Company, d.b.a. Hayden House Foods. SN 292,745. Pub. 10-29-68. Filed 3-8-68.
- 863,617. CAROL. United States Baking Company, Inc. SN 293,063. Pub. 10-29-68. Filed 3-12-68.
- 863,618. NUTRISOY. Archer Daniels Midland Company. SN 293,103. Pub. 10-29-68. Filed 3-13-68.
- 863,619. EVA-CLUB. Societe pour l'Exploitation et la Vente des Produits "Eva" et "Fruite." SN 293,783. Pub. 10-29-68. Filed 3-21-68.
- 863,620. JOHNNY MAC'S. MacDonald Honey Company, Inc. SN 295,040. Pub. 10-29-68. Filed 4-5-68.
- 863,621. SLIM 'N TRIM. Anderson, Clayton & Co. SN 296,290. Pub. 10-29-68. Filed 4-23-68.
- 863,622. SUN CROP. J. R. Simplot Company. SN 296,621. Pub. 10-29-68. Filed 4-26-68.
- 863,623. SPAG-ODDLES. National Food Products, Inc. SN 297,587. Pub. 10-29-68. Filed 5-7-68.
- 863,624. CAT FEAST. Allen Products Co., Inc. SN 297,642. Pub. 10-29-68. Filed 5-8-68.
- 863,625. JOYS. Beatrice Fooda Co. SN 298,408. Pub. 10-29-68. Filed 5-17-68.

Class 43 — Thread and Yarn

- 863,500. (See Class 39 for this trademark.)
- 863,580. MELOTUK. Emile Bernat & Sons Co. SN 287,343. Pub. 10-29-68. Filed 12-21-67.
- 863,561. STEVETEX. J. P. Stevens & Co., Inc. SN 293,750. Pub. 10-29-68. Filed 3-20-68.
- 863,582. RIGODON. N.V. Koninklijke Veenendaalsche Sijeten Vlijfachtfabriek V/H Wed. D. S. Van Schuppen & Zoon. SN 294,202. Pub. 10-29-68. Filed 3-26-68.
- 863,583. BERELLA LIGHTNING. Emile Bernat & Sons Co. SN 294,252. Pub. 10-29-68. Filed 3-27-68.
- 863,584. COVERLAST. Rich-Flex Mfg. Corporation. SN 295,174. Pub. 10-29-68. Filed 4-8-68.

Class 44 — Dental, Medical, and Surgical Appliances

- 863,585. EXPAND-O-GRAFT. Michigan Research Corporation. SN 286,167. Pub. 10-29-68. Filed 3-7-67.
- 863,586. MONOTRAY. Sherwood Medical Industries Inc., by assignment and change of name from Brunswick Corporation. SN 274,952. Pub. 10-29-68. Filed 6-28-67.
- 863,587. HEARD ROUND THE WORLD. Dahlberg Electronics, Inc. SN 287,524. Pub. 10-29-68. Filed 12-26-67.
- 863,588. THERMO JEL. The Dentists' Supply Company of New York. SN 291,144. Pub. 10-29-68. Filed 2-15-68.
- 863,589. ER-ROL. E. H. Segal, d.b.a. Er-Rol Articulator Mfg. Co. SN 295,057. Pub. 10-29-68. Filed 4-5-68.

Class 45 — Soft Drinks and Carbonated Waters

- 863,590. FROZENATED. John E. Mitchell Company, Inc. SN 268,420. Pub. 7-23-68. Filed 4-5-67.
- 863,591. CRANTASTIC. Mystic Farms, Inc. SN 289,825. Pub. 10-29-68. Filed 1-29-68.

Class 46 — Foods and Ingredients of Foods

- 863,592. HERSHEY'S. Hershey Foods Corporation, by change of name from Hershey Chocolate Corporation. SN 252,097. Pub. 10-29-68. Filed 8-10-66.
- 863,593. ASTRO AND DESIGN. Astro Pet Foods and Supplies, Inc. SN 256,263. Pub. 10-29-68. Filed 10-12-66.
- 863,594. RUFF-TABS. Farmland Industries, Inc. SN 268,589. Pub. 10-29-68. Filed 4-7-67.

- 863,626. NURSOY. American Home Products Corporation. SN 299,065. Pub. 9-3-68. Filed 5-27-68.
- 863,627. WINDWARD ISLE. Wilbur-Ellis Company. SN 299,188. Pub. 10-29-68. Filed 5-28-68.
- 863,628. ORLANDO. C. Orlando Corp. SN 299,735. Pub. 10-29-68. Filed 6-5-68.
- 863,629. HOSTESS (DESIGN). Andes Candies Inc. SN 300,393. Pub. 10-29-68. Filed 6-14-68.
- 863,630. LL LAURA LEE CANDIES AND DESIGN. Laura Lee Candies, Inc. SN 300,402. Pub. 10-29-68. Filed 6-14-68.
- 863,631. FOUR JOHNS AND DESIGN. John F. Dullam, d.b.a. Dullam Harvesting Co. SN 301,127. Pub. 10-29-68. Filed 6-24-68.
- 863,632. GOLDEN GATE. Golden Gate Salami Co. SN 301,129. Pub. 10-29-68. Filed 6-24-68.
- 863,633. PARK MANOR AND DESIGN. H. E. Butt Grocery Company, d.b.a. H.E.B. Food Stores. SN 301,583. Pub. 10-29-68. Filed 6-28-68.
- 863,634. BY-NOW. Ralph Samsel, d.b.a. Ralph Samsel Co. SN 302,201. Pub. 10-29-68. Filed 7-8-68.
- 863,635. GRAPE ROYALE. George A. Lucas & Sons. SN 302,362. Pub. 10-29-68. Filed 7-10-68.
- 863,636. SUN-UP EARLY QUALITY AND DESIGN. William Howard O'Brien, d.b.a. Harquahala Packing Co. SN 302,566. Pub. 10-29-68. Filed 7-12-68.
- 863,637. FIGARO. Castle & Cooke, Inc. SN 302,888. Pub. 10-29-68. Filed 7-17-68.
- 863,638. TRI-CO AND DESIGN. Tri-Co Almonds, Inc. SN 303,240. Pub. 10-29-68. Filed 7-22-68.
- 863,639. Y-NOT. Cardinet Candy Company, Inc. SN 303,737. Pub. 10-29-68. Filed 7-29-68.
- 863,640. FF FAIRWAY FOODS AND DESIGN. Fairway Foods, Inc. SN 303,741. Pub. 10-29-68. Filed 7-29-68.

Class 47 — Wines

- 863,641. PIERRE POUPON. Pierre Poupon. SN 278,818. Pub. 10-29-68. Filed 8-22-67.

Class 48 — Malt Beverages and Liquors

- 863,642. VELVET GLOVE. Theo. Hamm Brewing Co. SN 292,978. Pub. 10-29-68. Filed 3-11-68.

Class 49 — Distilled Alcoholic Liquors

- 863,643. COSSNOV. Whitehall Company, Ltd., d.b.a. Cossnov & Cie. SN 277,398. Pub. 10-29-68. Filed 8-2-67.
- 863,644. MARTELL J & F. MARTELL AND DESIGN. J. & F. Martell, Inc. SN 286,348. Pub. 10-29-68. Filed 12-6-67.
- 863,645. JOSH HENRY. Continental Distilling Corporation, d.b.a. Continental Distilling Co. SN 288,494. Pub. 10-29-68. Filed 1-10-68.

Class 50 — Merchandise Not Otherwise Classified

- 863,646. INTERLAKE. Interlake Steel Corporation. SN 254,689. Pub. 10-15-68. Filed 9-19-66.
- 863,647. FLEXI-DOME. The AFA Corporation of Florida, assignee of Owens Plastic Products Corporation. SN 276,681. Pub. 8-20-68. Filed 7-24-67.

- 863,648. HERMOSA. Hermosa Industries, Inc. SN 278,797. Pub. 10-29-68. Filed 8-22-67.
- 863,649. TECH-TARP. Technical Rubber, Inc. SN 292,308. Pub. 10-29-68. Filed 3-1-68.
- 863,650. HUMMER'S HANGOUT. David J. Kiedrowski, d.b.a. Itenfro-Franklin Company. SN 296,430. Pub. 10-29-68. Filed 4-24-68.
- 863,651. WHOPGOLLY ART. Dean W. Howland. SN 297,676. Pub. 10-29-68. Filed 5-8-68.
- 863,652. ANOX. Anodyne, Inc. SN 303,096. Pub. 10-29-68. Filed 7-19-68.

Class 51 — Cosmetics and Toilet Preparations

- 863,653. (See Class 18 for this trademark.)
- 863,654. (See Class 29 for this trademark.)
- 863,655. HATSUMORU. Tamura Jishodo Co., Ltd. SN 287,966. Pub. 10-29-68. Filed 1-2-68.
- 863,656. GOLD STRIPE. Chadbourn Gotham, Inc. SN 289,477. Pub. 10-29-68. Filed 1-23-68.
- 863,657. HUMMING BIRD. Chadbourn Gotham, Inc. SN 289,478. Pub. 10-29-68. Filed 1-23-68.
- 863,658. GLYDELM. Laboratoires Lutsia. SN 289,702. Pub. 10-29-68. Filed 1-26-68.
- 863,659. BUSY GIRL. Chesebrough-Pond's Inc. SN 298,702. Pub. 10-29-68. Filed 5-21-68.
- 863,660. LOVE STORY. Chas. Pfizer & Co., Inc. SN 299,074. Pub. 10-29-68. Filed 5-27-68.
- 863,661. GOOD NEWS. Helene Curtis Industries, Inc. SN 299,762. Pub. 10-29-68. Filed 6-5-68.
- 863,662. F-T WITH THAT FINAL TOUCH ETC. AND DESIGN. Gem, Incorporated. SN 301,587. Pub. 10-29-68. Filed 6-28-68.

Class 52 — Detergents and Soaps

- 863,663. (See Class 6 for this trademark.)
- 863,664. PL+S. Progressive Laboratory Specialties Corp. SN 255,643. Pub. 10-29-68. Filed 10-3-66.
- 863,665. MAGIC MIRROR MAINTAINER. Premax Laboratories, Inc. SN 271,513. Pub. 4-16-68. Filed 5-15-67.
- 863,666. 2 (TWO). Colgate-Palmolive Company. SN 275,120. Pub. 10-29-68. Filed 6-30-67.
- 863,667. GALAHAD. Puritan Chemical Company. SN 290,526. Pub. 10-29-68. Filed 2-7-68.
- 863,668. CHALLENGE. Colgate-Palmolive Company. SN 291,588. Pub. 10-29-68. Filed 2-21-68.
- 863,669. RELIASOLV. Alpha Metals, Inc. SN 292,251. Pub. 10-29-68. Filed 3-1-68.
- 863,670. FLUFFLES. Avon Products, Inc. SN 293,683. Pub. 10-29-68. Filed 3-20-68.
- 863,671. SENTIMENTAL. Avon Products, Inc. SN 294,449. Pub. 10-29-68. Filed 3-29-68.
- 863,672. SCENTIMENTS. Avon Products, Inc. SN 294,450. Pub. 10-29-68. Filed 3-29-68.

Service Marks

Class 100 — Miscellaneous

- 863,670. INTERNATIONAL CARDIOLOGY FOUNDATION AND DESIGN. International Cardiology Foundation. SN 253,760. Pub. 10-29-68. Filed 9-2-66.
- 863,671. TOWNE CRIER AND DESIGN. Gourmand's, Inc. SN 254,445. Pub. 9-10-68. Filed 9-14-66.

- 863,672. PPP PREDICTABLE PROFIT PROGRAM. USS Agri-Chemicals, Inc., assignee of Armour Agricultural Chemical Company. SN 257,759. Pub. 10-22-68. Filed 11-2-66.
- 863,673. E INTERNATIONAL ESCORT ETC. AND DESIGN. International Escort and Secretary Ltd., by change of name from International Escort Ltd. SN 266,229. Pub. 8-13-68. Filed 3-8-67.
- 863,674. FAMOUS RECIPE AND DESIGN. Famous Recipe Fried Chicken, Inc. SN 266,868. Pub. 9-10-68. Filed 3-16-67.
- 863,675. OXYTROL. Occidental Petroleum Corporation. SN 270,509. Pub. 10-29-68. Filed 5-2-67.
- 863,676. MISCELLANEOUS DESIGN. Life Center, Inc. SN 282,470. Pub. 10-29-68. Filed 10-13-67.
- 863,677. MICROLOG. Schlumberger Limited (Schlumberger N.V.), assignee of Schlumberger Technology Corporation. SN 287,675. Pub. 10-29-68. Filed 12-27-67.
- 863,678. LATEROLOG. Schlumberger Limited (Schlumberger N.V.), assignee of Schlumberger Technology Corporation. SN 287,676. Pub. 10-29-68. Filed 12-27-67.
- 863,679. MICROLATERLOG. Schlumberger Limited (Schlumberger N.V.), assignee of Schlumberger Technology Corporation. SN 287,677. Pub. 10-29-68. Filed 12-27-67.
- 863,680. SNP. Schlumberger Limited (Schlumberger N.V.), assignee of Schlumberger Technology Corporation. SN 287,679. Pub. 10-29-68. Filed 12-27-67.
- 863,681. PLAZA INN. The Plaza Inn Company. SN 290,012. Pub. 10-29-68. Filed 1-31-68.
- 863,682. BILLY BUDD RESTAURANTS AND DESIGN. American Motor Inns, Inc. SN 290,062. Pub. 10-29-68. Filed 2-1-68.
- 863,683. M AND KEY DESIGN. E. R. Moore Company. SN 295,486. Pub. 10-29-68. Filed 4-12-68.

Class 101 — Advertising and Business

- 863,684. LITHO-TRONIC. Wm. J. Keller, Inc. SN 256,565. Pub. 10-29-68. Filed 10-17-66.
- 863,685. APE. Petty Geophysical Engineering Company. SN 261,227. Pub. 10-29-68. Filed 12-21-66.
- 863,686. TAXPERT. Theodore D. Galas, d.b.a. Taxpert Income Tax Services. SN 274,057. Pub. 8-20-68. Filed 6-10-67.
- 863,687. MISCELLANEOUS DESIGN. Jordan Marsh Company. SN 285,842. Pub. 10-29-68. Filed 11-29-67.
- 863,688. JOAN BARI. Edison Brothers Stores, Inc. SN 296,379. Pub. 10-29-68. Filed 4-24-68.

Class 102 — Insurance and Financial

- 863,689. 1879 AND DESIGN. Bache & Co. Incorporated. SN 260,399. Pub. 10-29-68. Filed 12-9-66.
- 863,690. FULL-SCOPE SAVINGS. Continental Illinois National Bank and Trust Company of Chicago, d.b.a. Continental Bank. SN 272,704. Pub. 10-29-68. Filed 5-31-67.
- 863,691. MISCELLANEOUS DESIGN. Continental Illinois National Bank and Trust Company of Chicago, d.b.a. Continental Bank. SN 272,705. Pub. 10-29-68. Filed 5-31-67.
- 863,692. BILL-PLAN SAVINGS. Continental Illinois National Bank and Trust Company of Chicago, d.b.a. Continental Bank. SN 272,706. Pub. 10-29-68. Filed 5-31-67.
- 863,693. FULL SCOPE AND DESIGN. Continental Illinois National Bank and Trust Company of Chicago, d.b.a. Continental Bank. SN 272,707. Pub. 10-29-68. Filed 5-31-67.
- 863,694. MR. MIDWEST POLICY AND DESIGN. Midwest Mutual Insurance Company. SN 278,229. Pub. 10-29-68. Filed 8-14-67.

- 863,695. O (DESIGN). The Onondaga County Savings Bank, d.b.a. Onondaga Savings Bank. SN 279,212. Pub. 10-29-68. Filed 8-28-67.

Class 103 — Construction and Repair

- 863,696. COLOR CARE ETC. AND DESIGN. Maxie Lee Sturkle, d.b.a. Color Care Television. SN 273,698. Pub. 10-29-68. Filed 6-12-67.
- 863,697. NE AND DESIGN. Mutual Sales Associates, Inc. SN 275,071. Pub. 10-29-68. Filed 6-29-67.
- 863,698. MOTOR VALET AND DESIGN. Robert Bailey & Associates, Inc. SN 283,085. Pub. 10-29-68. Filed 10-23-67.
- 863,699. MILEX. Miller, Inc. SN 293,839. Pub. 10-29-68. Filed 3-21-68.

Class 104 — Communication

- 863,700. LORAC. Selsmograph Service Corporation, assignee of Selsmograph Service Corporation. SN 264,687. Pub. 10-29-68. Filed 2-14-67.

Class 106 — Material Treatment

- 863,548. (See Class 38 for this trademark.)

Class 107 — Education and Entertainment

- 863,701. DAYTONA BEACH ELECTRICAL ETC. AND DESIGN. Daytona Beach Electrical Joint Apprenticeship and Training Committee. SN 248,122. Pub. 10-29-68. Filed 6-15-66.
- 863,702. PIECES OF EIGHT. Medallions, Inc. SN 278,979. Pub. 10-29-68. Filed 8-24-67.
- 863,703. MISCELLANEOUS DESIGN. All America Karate Federation, Inc. SN 286,889. Pub. 10-29-68. Filed 12-14-67.

Collective Membership Marks

Class 200

- 863,704. UNITED GROCERS. United Grocers, Ltd. SN 280,490. Pub. 10-29-68. Filed 9-15-67.
- 863,705. UG UNITED GROCERS AND DESIGN. United Grocers, Ltd. SN 280,491. Pub. 10-29-68. Filed 9-15-67.
- 863,706. UCA ETC. AND DESIGN. Underground Contractors Association. SN 281,811. Pub. 10-29-68. Filed 10-4-67.

Certification Mark

Class A — Goods

- 863,707. VP3. DHJ Industries Inc. SN 283,107. Pub. 10-29-68. Filed 10-23-67.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

SECTION 1

(Combined Certificates)

863,733. Burton Industries, Tujunga, Calif. SN 177,961.
Filed P.R. 9-30-63; Am. S.R. 10-19-66.

"RENT-A-ROOTER"

Class 100—Miscellaneous

For Designing Drain Cleaning Equipment Displays and Display Stands (Int. Cl. 42).

Class 101—Advertising and Business

For Advertising and Promotional Services in the Drain Cleaning Trade (Int. Cl. 35).

Class 103—Construction and Repair

For Leasing and Rental of Drain Cleaning Equipment (Int. Cl. 37).

First use Jan. 12, 1963.

SECTION 2

Class 6—Chemicals and Chemical Com- positions
Class 15—Oils and Greases

863,708. Arsan Research, Westland, Mich. SN 279,265.
Filed 8-29-67.

SNAIL-RID

For Chemical Preparation for Killing Snails (Int. Cl. 5).
First use Jan. 15, 1966.

863,709. Stanley Home Products, Inc., Westfield, Mass. SN 280,476. Filed P.R. 9-15-67; Am. S.R. 10-1-68.

ENDA-BUG

For Insecticide (Int. Cl. 5).
First use July 31, 1963.

Class 8—Smokers' Articles, Not Including Tobacco Products

863,710. W. Roland Cook Associates, Inc., d.b.a. Cook's Pipe Great Company, Greenwich, Conn. SN 293,807. Filed P.R. 3-21-68; Am. S.R. 10-7-68.

Cook's PIPE GREATS

For Smoking Pipes, and Cigar and Cigarette Holders (Int. Cl. 34).
First use Nov. 15, 1966.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

863,711. Textron, Inc., Providence, R.I. SN 301,893. Filed P.R. 7-3-68; Am. S.R. 10-28-68.

RANDALL

For Cooking Utensils, Specifically: Pots, Pans, Skillets, Roasters, Dutch Ovens, Griddles, Kettles, and Muffin Pans (Int. Cls. 11 and 21).
First use September 1965.

TM 82

863,712. The Ore-Lube Corporation, College Point, N.Y. SN 256,127. Filed P.R. 10-10-66; Am. S.R. 9-30-68.

ENGINE POWER

For Gasoline Additives, Oil Additives, and Transmission Additives (Int. Cl. 1).
First use Jan. 1, 1966.

Class 19—Vehicles

863,713. Esquire, Inc., New York, N.Y. SN 252,254. Filed P.R. 8-12-66; Am. S.R. 10-25-68.

FILMOBILE

For Mobile Instructional Materials Center (Int. Cl. 12).
First use Sept. 19, 1965.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

863,714. Van Wyck International Corporation, New York, N.Y. SN 246,217. Filed P.R. 5-20-66; Am. S.R. 10-16-68.

VAN WYCK

For Household Appliances—Namely, Electric Slicing Knives, Can Openers, Knife Sharpeners, and Electric Hand Mixers (Int. Cl. 7).
First use Apr. 22, 1966, on electric slicing knives.

863,715. Johnson & Johnson, d.b.a. Permacel, New Brunswick, N.J. SN 271,484. Filed P.R. 5-15-67; Am. S.R. 11-4-68.

AUTOTAPER

For Packaging Machines for Applying Pressure Sensitive Tape (Int. Cl. 7).
First use Apr. 21, 1966.

JANUARY 14, 1969

U. S. PATENT OFFICE

TM 83

Class 26—Measuring and Scientific Appliances
Class 39—Clothing

863,716. Splindler & Sauppe, Glendale, Calif. SN 264,984.
Filed P.R. 2-17-67; Am. S.R. 10-17-68.

ULTRABRIGHT

For High Power Light Output Systems for Use With Slide Projectors (Int. Cl. 9).
First use July 16, 1966.

Class 34—Heating, Lighting, and Ventilating Apparatus

863,717. Air Reduction Company, Incorporated, New York, N.Y. SN 242,311. Filed P.R. 3-31-66; Am. S.R. 10-31-68.

PULSED-ARC

For Electric Welding Machines (Int. Cl. 7).
First use Jan. 3, 1966.

Class 38—Prints and Publications

863,718. The Chicago Section of the American Chemical Society, Chicago, Ill. SN 266,198. Filed P.R. 3-8-67; Am. S.R. 11-8-68.

CHEM SHOW NEWS

For News Bulletin Containing Information of Interest to Chemists and the Chemical Industry (Int. Cl. 16).
First use prior to July 1961.

863,719. Allied Education Council, Inc., Galesburg, Mich. SN 278,944. Filed P.R. 8-24-67; Am. S.R. 10-21-68.

SEMI-PROGRAMED SERIES

For Text Books and Manuals of Instructions (Int. Cl. 16).
First use May 8, 1967.

863,720. Zal Levin, d.b.a. Zal Publishing Company, Lincolnwood, Ill. SN 279,953. Filed P.R. 9-8-67; Am. S.R. 11-4-68.

TRAVEL TOPICS

For Magazine (Int. Cl. 16).
First use Mar. 1, 1951.

863,721. Tower Press, Inc., Danvers, Mass. SN 285,475. Filed P.R. 11-22-67; Am. S.R. 11-4-68.

OLD TIME SONGS & POEMS

For Bimonthly Magazine (Int. Cl. 16).
First use August 1967.

863,722. Israel Publishing Company, Philadelphia, Pa. SN 286,347. Filed P.R. 12-6-67; Am. S.R. 11-4-68.

ISRAEL

For Magazine (Int. Cl. 16).
First use Nov. 1, 1967.

863,723. Caldwell Dress Co., Philadelphia, Pa. SN 301,819.
Filed 7-2-68.

Caldwell

For Ladies', Misses' and Junior Misses' Dresses (Int. Cl. 25).
First use July 22, 1946.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

863,724. Theodore Bradley, Monterey, Calif. SN 288,078.
Filed 1-4-68.

DISPOS-A-SHEET

For Disposable Sheets To Serve in Lieu of Bed Linen (Int. Cl. 24).
First use June 14, 1966.

863,725. Theodore Bradley, Monterey, Calif. SN 288,080.
Filed 1-4-68.

DISPOS-A-PILLOW

For Disposable Pillow Cases (Int. Cl. 24).
First use June 14, 1966.

Class 46—Foods and Ingredients of Foods

863,726. General Foods Corporation, White Plains, N.Y. SN 282,186. Filed P.R. 10-10-67; Am. S.R. 10-7-68.

LIGHT-CAL

For Reduced Calorie Table Syrup (Int. Cl. 30).
First use Sept. 20, 1967.

Class 50—Merchandise Not Otherwise Classified

863,727. Acme Supply & Sales, Inc., Fort Lauderdale, Fla. SN 286,978. Filed P.R. 12-15-67; Am. S.R. 10-31-68.

"CLIP-ON"

For Plastic Changeable Letters (Int. Cl. 16).
First use Aug. 15, 1959.

Class 51—Cosmetics and Toilet Preparations

863,728. Cosmetically Yours, Inc., Yonkers, N.Y. SN 276,922. Filed P.R. 7-27-67; Am. S.R. 9-13-68.

DATE ME PINK

For Lipstick (Int. Cl. 3).
First use July 6, 1967.

863,729. Cosmetically Yours, Inc., Yonkers, N.Y. SN 276,924.
Filed P.R. 7-27-67; Am. S.R. 9-13-68.

LOVE ME WHITE

For Lipstick (Int. Cl. 3).
First use July 6, 1967.

863,730. Cosmetically Yours, Inc., Yonkers, N.Y. SN 276,925.
Filed P.R. 7-27-67; Am. S.R. 9-13-68.

MAKE ME CORAL

For Lipstick (Int. Cl. 3).
First use July 6, 1967.

863,731. Cosmetically Yours, Inc., Yonkers, N.Y. SN 276,926.
Filed P.R. 7-27-67; Am. S.R. 9-13-68.

FROST ME PEACH

For Lipstick (Int. Cl. 3).
First use July 6, 1967.

863,732. Cosmetically Yours, Inc., Yonkers, N.Y. SN 276,927.
Filed P.R. 7-27-67; Am. S.R. 9-13-68.

WARM ME RED

For Lipstick (Int. Cl. 3).
First use July 6, 1967.

Service Marks

Class 100—Miscellaneous

863,733. See Section 1 (Combined Certificate).

Class 101—Advertising and Business

863,733. See Section 1 (Combined Certificate).

Class 103—Construction and Repair

863,733. See Section 1 (Combined Certificate).

TRADEMARK REGISTRATIONS RENEWED

- | | |
|---|---|
| 31,505. A. & H. AND REPRESENTATION OF A PLOW. Cl. 18 (Int. Cl. 5). 5-3-1898. | 442,281. B-D. Cl. 44 (Int. Cls. 5, 9, and 10). 3-22-49. |
| 71,179. "E.Z. TOP" AND DESIGN. Cl. 39 (Int. Cl. 25). 11-10-08. | 442,411. RED-DEVIL-TRIPLEX AND DESIGN. Cl. 52 (Int. Cl. 1). 4-12-49. |
| 238,391. "URBANA CULTURE" ETC. AND DESIGN. Cl. 10 (Int. Cl. 1). 2-7-28. | 442,422. ILCO AND DESIGN. Cl. 13 (Int. Cl. 6). 4-12-49. |
| 240,956. "TAYLOR'S RED COON" AND REPRESENTATION OF A COON. Cl. 17 (Int. Cl. 34). 4-10-28. | 500,288. MARY BARRON. Cl. 39 (Int. Cl. 25). 5-11-48. |
| 245,222. CALVEG. Cl. 46 (Int. Cl. 29). 8-7-28. | 501,339. RED DIAMOND. Cl. 6 (Int. Cl. 1). 8-3-48. |
| 246,282. MARCHIONESS. Cl. 39 (Int. Cl. 25). 9-4-28. | 502,508. ANCHOR AND DESIGN. Cl. 6 (Int. Cl. 6). 9-28-48. |
| 246,986. CALSTRING. Cl. 29 (Int. Cl. 21). 9-18-28. | 502,628. KESTER. Cl. 6 (Int. Cl. 1). 10-5-48. |
| 248,493. NON STOP. Cl. 46 (Int. Cl. 31). 10-23-28. | 503,380. VISINET. Cl. 2 (Int. Cl. 22). 10-26-48. |
| 248,694. MELOSPUN. Cl. 39 (Int. Cl. 25). 10-30-28. | 503,611. NORTHBILT. Cl. 39 (Int. Cl. 25). 11-2-48. |
| 248,695. SUPERSPUN. Cl. 39 (Int. Cl. 25). 10-30-28. | 503,635. ALICE CAROL. Cl. 39 (Int. Cl. 25). 11-2-48. |
| 248,771. "AFRIKANDER" ETC. AND DESIGN. Cl. 17 (Int. Cl. 34). 10-30-28. | 503,647. VINTAGE. Cl. 39 (Int. Cl. 25). 11-2-48. |
| 249,052. "YERBA PARAGUAYA NANDUTY" ETC. AND DESIGN. Cl. 46. 11-6-28. | 503,686. REACTIVATOR. Cl. 23 (Int. Cl. 11). 11-2-48. |
| 249,093. SUPREMACY. Cl. 22 (Int. Cl. 28). 11-6-28. | 503,812. NAIL-IN-STEEL. Cl. 12 (Int. Cl. 6). 11-9-48. |
| 249,185. WESTERN ELECTRIC NEWS. Cl. 38 (Int. Cl. 16). 11-6-28. | 503,851. ALPINE. Cl. 42 (Int. Cl. 24). 11-16-48. |
| 249,345. FORD. Cl. 25 (Int. Cl. 6). 11-13-28. | 504,059. EKTACHROME. Cl. 6 (Int. Cl. 1). 11-23-48. |
| 250,951. "AUNT DINAH" AND DESIGN. Cl. 46 (Int. Cl. 30). 12-18-28. | 504,279. BENIS. Cl. 7 (Int. Cl. 22). 11-30-48. |
| 251,324. STAYWARM. Cl. 42 (Int. Cl. 24). 1-1-29. | 504,320. ACME. Cl. 21 (Int. Cl. 9). 11-30-48. |
| 251,448. "FEATHER-WEIGHT" AND REPRESENTATION OF FEATHER. Cl. 44 (Int. Cl. 10). 1-8-29. | 504,325. DELIBLE. Cl. 37 (Int. Cl. 16). 11-30-48. |
| 251,758. "YERBA PARAGUAYA LEGITIMA" ETC. AND DESIGN. Cl. 46 (Int. Cl. 30). 1-15-29. | 504,630. TAMPA MONARCH AND DESIGN. Cl. 17 (Int. Cl. 34). 12-7-48. |
| 251,857. DOUBLE EAGLE. Cl. 35 (Int. Cl. 12). 1-15-29. | 504,732. HAMMERHEAD. Cl. 21 (Int. Cl. 9). 12-14-48. |
| 252,792. SAVOL. Cl. 23 (Int. Cl. 7). 2-12-29. | 504,836. SOBEE. Cl. 46 (Int. Cl. 5). 12-14-48. |
| 253,798. "SPEEDAUMAT" AND HEAVY UNDERLINE. Cls. 23 and 50 (Int. Cls. 7 and 16). 3-5-29. | 504,925. BENISTORY. Cl. 38 (Int. Cl. 16). 12-21-48. |
| 254,779. SILK. Cl. 37 (Int. Cl. 16). 4-2-29. | 505,023. TOWN & COUNTRY. Cl. 12 (Int. Cl. 19). 12-21-48. |
| 255,108. CARBOLOY. Cl. 14 (Int. Cl. 6). 4-16-29. | 505,240. INNER SANCTUM. Cl. 39 (Int. Cl. 25). 12-28-48. |
| 255,541. GLYDE. Cl. 23 (Int. Cl. 8). 4-23-29. | 505,411. INNER SANCTUM. Cl. 2 (Int. Cl. 21). 1-4-49. |
| 255,737. "DOUBLE-Q" ETC. Cl. 46 (Int. Cl. 29). 4-30-29. | 505,429. HOLES-AERO. Cl. 19 (Int. Cl. 12). 1-4-49. |
| 440,075. DURISOL. Cl. 12 (Int. Cl. 19). 8-10-48. | 505,674. HR AND DESIGN. Cl. 18 (Int. Cl. 5). 1-18-49. |
| 440,287. SIMMERSTAT. Cl. 21 (Int. Cl. 9). 8-24-48. | 505,682. SHAT-R-PROOF. Cl. 33 (Int. Cl. 21). 1-18-49. |
| 440,528. NATIONAL CHAMPION. Cl. 34 (Int. Cl. 11). 9-14-48. | 505,685. ROSEMERIE. Cl. 1 (Int. Cl. 31). 1-18-49. |
| 440,723. BABY ANCHOR. Cl. 32 (Int. Cl. 20). 9-21-48. | 506,044. ONCART (DESIGN). Cl. 47 (Int. Cl. 33). 1-25-49. |
| 440,847. DUSTMASTER. Cl. 12 (Int. Cl. 19). 10-5-48. | 506,045. SANTA FE. Cl. 47 (Int. Cl. 33). 1-25-49. |
| 441,094. TS. Cl. 38 (Int. Cl. 16). 10-19-48. | 506,050. DEWEY MALTESE CROSS (DESIGN). Cl. 12 (Int. Cl. 19). 1-25-49. |
| 441,194. FOUR-SOME. Cl. 39 (Int. Cl. 25). 11-2-48. | 506,592. MARSHALL. Cl. 46 (Int. Cl. 29). 2-8-49. |
| 441,201. LEKTRON. Cl. 23 (Int. Cl. 8). 11-2-48. | 506,785. ARISTONOR. Cl. 42 (Int. Cl. 24). 2-15-49. |
| 441,303. WATASEAL. Cl. 42 (Int. Cl. 17). 11-16-48. | 507,009. OLD COUNCIL TREE. Cl. 37 (Int. Cl. 16). 2-22-49. |
| 441,542. WHITRACO. Cl. 42 (Int. Cl. 24). 12-7-48. | 507,250. DIAPENDA. Cl. 39 (Int. Cl. 25). 3-1-49. |
| | 507,305. GEARKOTE. Cl. 15 (Int. Cl. 4). 3-1-49. |
| | 507,613. HERDON. Cl. 22 (Int. Cl. 28). 3-15-49. |
| | 507,883. B-D. Cl. 44 (Int. Cls. 5 and 10). 3-22-49. |
| | 507,885. ASEPTO. Cl. 44 (Int. Cls. 9 and 10). 3-22-49. |
| | 507,887. RED FLASH. Cl. 44 (Int. Cl. 9). 3-22-49. |
| | 508,187. FOUNDRY. Cl. 38 (Int. Cl. 16). 4-5-49. |

- 508,188. STEEL. Cl. 38 (Int. Cl. 16). 4-5-49.
508,189. MACHINE (DESIGN). Cl. 38 (Int. Cl. 16). 4-5-49.
508,190. THE GREAT LAKES RED BOOK. Cl. 38 (Int. Cl. 16). 4-5-49.
508,247. FLYING FISH (DESIGN). Cl. 38 (Int. Cl. 10). 4-5-49.
508,333. LEATHER & SHOES. Cl. 38 (Int. Cl. 16). 4-5-49.

- 508,436. PAGE. Cl. 46 (Int. Cl. 29). 4-12-49.
508,593. KENDALL. Cl. 44 (Int. Cl. 5). 4-12-49.
508,594. KEE LECTRIC. Cl. 11 (Int. Cl. 16). 4-12-49.
508,634. METAPHEN. Cl. 6 (Int. Cl. 5). 4-12-49.
508,653. PABALATE. Cl. 18 (Int. Cl. 5). 4-12-49.
508,700. CYRUS NOBEL AND DESIGN. Cl. 49 (Int. Cl. 33). 4-19-49.
509,029. R AND DIAMOND DESIGN. Cl. 14 (Int. Cl. 6). 4-26-49.

TRADEMARK REGISTRATIONS CANCELED

Section 8

The following registrations issued Nov. 27, 1962

- 741,102. LITHAFRAX. Cl. 1.
741,103. OMEGA AND DESIGN. Cl. 1.
741,104. AQUA-GLAS AND DESIGN. Cl. 1.
741,108. BFD AND DESIGN. Cl. 2.
741,109. RUFFY. Cl. 2.
741,110. WHATA-DREAM AND DESIGN. Cl. 3.
741,115. BESTWOOD SPRAY A BOND ETC. AND DESIGN. Cl. 5.
741,118. FLENGLU. Cl. 5.
741,123. SANI-SWIM. Cl. 6.
741,128. STANOFLO. Cl. 6.
741,129. DEBISOL. Cl. 6.
741,136. FROM THE BETTER HALF OF THE TREE AND DESIGN. Cl. 6.
741,143. BREWOOD. Cl. 12.
741,149. FANCIFUL DESIGN OF 4 R's AND DOUBLE ARROW. Cl. 13.
741,150. SHOWER FLOWER. Cl. 13.
741,151. TABLE QUEEN AND DESIGN. Cl. 13.
741,157. POLYNODIC. Cl. 14.
741,158. FERRONODIC. Cl. 14.
741,159. TCJ. Cl. 14.
741,161. COMMANDO. Cl. 15.
741,163. PHOSPHATHERM. Cl. 15.
741,169. COGETAMA. Cl. 17.
741,170. STANOFLO. Cl. 18.
741,172. ANESTRINA. Cl. 18.
741,174. DAYBRITE. Cl. 18.
741,175. DEGESTO. Cl. 18.
741,176. SPEED-A-VITE. Cl. 18.
741,177. BADGER BALM. Cl. 18.
741,179. FEDWAY. Cl. 18.
741,183. RELAE. Cl. 19.
741,184. RELAE VADOR. Cl. 19.
741,191. MMA AND DESIGN. Cl. 21.
741,193. NAWIDE. Cl. 21.
741,194. TRANSFEROBOT. Cl. 21.
741,195. ROBODYNE. Cl. 21.
741,198. STEM-JET. Cl. 21.
741,200. NEVA-PUSH. Cl. 21.
741,201. IONOSWITCH AND DESIGN. Cl. 21.
741,204. IDENTAPLATE. Cl. 21.
741,205. ILLUSTRAPHON. Cl. 21.
741,210. HOOP-ALONG. Cl. 22.
741,211. BABY BANK'ER. Cl. 22.
741,212. EZ BIRD OUT. Cl. 22.
741,213. PEDI-PUMP. Cl. 22.
741,214. MARBELLENO. Cl. 22.
741,217. ELIZABETH AND DESIGN. Cl. 22.
741,218. A TALKEE-TEECHER TOY AND DESIGN. Cl. 22.
741,219. CAP-CHUR. Cl. 22.
741,220. ASTRONAUT. Cl. 22.
741,221. ASTROFLIGHT. Cl. 22.
741,223. FLEXIROLL. Cl. 23.
741,226. SCENECONTROL. Cl. 23.
741,229. ROTO-PAK AND DESIGN. Cl. 23.
741,231. STA-PUT CARVESE AND DESIGN. Cl. 23.
741,239. KWIK-KLIP. Cl. 23.
741,247. LANCER. Cl. 23.
741,248. MAYTAG AND DESIGN. Cl. 24.
741,249. CLEANARAMA. Cl. 24.
741,250. DOO-DEE. Cl. 24.
741,251. P AND KEY DESIGN. Cl. 25.
741,253. FLUX TRAP. Cl. 26.
741,254. BEAUTYLOOKS. Cl. 26.
741,261. LOGRINC. Cl. 26.

- 741,262. ALWAC. Cl. 26.
741,267. NO-CON AND DESIGN. Cl. 26.
741,268. VIEWLINER. Cl. 26.
741,275. WEINSCHEL AND DESIGN. Cl. 26.
741,277. CARY. Cl. 26.
741,278. FEDOR. Cl. 27.
741,285. LITHAFRAX. Cl. 30.
741,286. TURBODRY. Cl. 31.
741,287. THERMO-CEL. Cl. 31.
741,293. GOLDEN QUILT. Cl. 32.
741,295. FRENCH PROVINCIAL ETCHINGS. Cl. 32.
741,296. EARLY AMERICAN ETCHINGS. Cl. 32.
741,297. MOBILIA. Cl. 32.
741,299. PROFESSIONAL. Cl. 32.
741,302. GLIDE-A-FRAME. Cl. 32.
741,303. "SEW-REST." Cl. 32.
741,304. TIDEWATER. Cl. 32.
741,306. TEMPIC 9. Cl. 32.
741,309. EASILITE CROSSNET. Cl. 33.
741,315. MELODAIR. Cl. 36.
741,316. MAGNIFICO AND REPRESENTATION OF NOBLEMAN. Cl. 36.
741,318. CHEVRON (DESIGN). Cl. 37.
741,325. REPRESENTATION OF A FINGERTIP AND FINGER PRINT. Cl. 38.
741,327. FRENCH IN RECORD TIME. Cl. 38.
741,331. BANK-AT-HOME. Cl. 38.
741,337. T & D. Cl. 38.
741,338. SIR . . . FOR HER AND DESIGN. Cl. 39.
741,339. WEE WALKER AND DESIGN. Cl. 39.
741,342. COLLEGE HILL. Cl. 39.
741,343. LANCETTA. Cl. 39.
741,346. OUR OWN AND DESIGN. Cl. 39.
741,351. FASHION 10. Cl. 39.
741,353. AQUA-BROOKE. Cl. 39.
741,354. LUREX. Cl. 40.
741,355. PEARLTONE. Cl. 40.
741,370. PECAN JOE'S COUNTRY STORE AND DESIGN. Cl. 46.
741,374. FANCIFUL REPRESENTATION OF A RETORT AND CIRCLE DESIGN. Cl. 46.
741,375. LAZY LOU. Cl. 46.
741,377. ROSEMEAD AND DESIGN. Cl. 46.
741,381. DILLY BELLS AND DESIGN. Cl. 46.
741,382. DUNKERS DELITE. Cl. 46.
741,383. BOCOY. Cl. 49.
741,386. MO WO CHI. Cl. 50.
741,387. GLIT-O-RAMA AND DESIGN. Cl. 50.
741,388. BUSH AND DESIGN. Cl. 51.
741,394. F-7 AND DESIGN. Cl. 51.
741,396. SWEET SUE. Cl. 51.
741,399. BATHAGENA. Cl. 51.
741,400. BELA-DEEM. Cl. 51.
741,402. OSWELLY. Cl. 52.
741,407. SCOPE. Cl. 100.
741,410. PRIVATE ENTERPRISE INC. AND WORLD MAP. Cl. 102.
741,411. REPRESENTATION OF AN EAGLE, LEAF AND CLOUDS. Cl. 102.
741,414. K-1. Cl. 104.
741,415. "KON-TIKI" SAFARIS. Cl. 105.
741,417. SPACE AND FORM. Cl. 107.
741,422. POOLSIDE. Cl. 39.
741,424. CUT 'EM WITH A FORK EVERY TIME. Cl. 46.
741,425. BOYKIN AND SON. Cl. 46.

Section 18

- 744,730. DRYSYS. Cl. 23. 2-5-63.
744,826. DRYSYS. Cl. 34. 2-5-63.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

- 368,671. SCO-CO PLASTICSEAL. Cl. 12. 6-27-39. Southport Paint Co., Inc., Savannah, Ga. Corrected: In the certificate lines 3 and 17, in the heading, signature and in the statement, column 1, line 1, "Company" should be deleted and Co. should be inserted.
- 368,672. SCO-CO REDYCOTE. Cl. 12. 6-27-39. Southport Paint Co., Inc., Savannah, Ga. Corrected: In the certificate lines 3 and 17, in the heading, signature and in the statement, column 1, line 1, "Company" should be deleted and Co. should be inserted.
- 403,765. SCO-CO AND DESIGN. Cl. 18. 10-19-43. Southport Paint Co., Inc., Savannah, Ga. Corrected: In the certificate lines 3 and 17, in the heading, signature and in the statement, column 1, line 1, "Company" should be deleted and Co. should be inserted.
- 404,659. SCO-CO AND DESIGN. Cl. 12. 12-14-43. Southport Paint Co., Inc., Savannah, Ga. Corrected: In the certificate lines 3 and 17, in the heading, signature and in the statement, column 1, line 1, "Company" should be deleted and Co. should be inserted.
- 502,240. QUEEN GUINEVERE. Cl. 46. 9-21-48. Sands, Taylor & Wood Company, Somerville, Mass. Amended: In the

statement, column 1, lines 22 through 26 are deleted, and the drawing is amended to appear:

QUEEN GUINEVERE

- 566,894. DURA ROOF AND DESIGN. Cl. 10. 11-18-52. Southport Paint Co., Inc., Savannah, Ga. Corrected: In the certificate lines 4 and 15, in the heading, signature, and in the statement, column 1, line 1, "Florida" should be deleted and Co. should be inserted.
- 844,985. COPYSTAT 500. Cl. 28. 2-27-68. Copystatics Manufacturing Corporation, Miami Lakes, Fla. Corrected: In the statement, column 1, line 1, "Florida" should be deleted and New York should be inserted.
- 852,118. COPYSTATICS. Cls. 6 and 37. 7-9-68. Copystatics Manufacturing Corporation, Miami Lakes, Fla. Corrected: In the statement, column 1, line 1, "Florida" should be deleted and New York should be inserted.
- 863,610. C DESIGN. Cls. 26 and 37. 7-30-68. Copystatics Manufacturing Corporation, Miami Lakes, Fla. Corrected: In the statement, column 1, line 1 "Florida" should be deleted and New York should be inserted.

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INDEX OF REGISTRANTS

JANUARY 14, 1969

(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

- A.A. Records, Inc., New York, N.Y. 863,535, pub. 10-29-68. Cl. 36.
- ACF Industries, Inc., St. Charles, Mo. 863,440, pub. 10-29-68. Cl. 19.
- AFA Corp. of Florida, The, Miami, Fla., from Owens Plastic Products Corp., Palatine, Ill. 863,647, pub. 8-20-68. Cl. 50.
- Abbott Laboratories, North Chicago, Ill. 508,634, ren. 1-14-69. Cl. 6.
- Abbott Laboratories, North Chicago, Ill. 863,425, pub. 10-29-68. Cl. 18.
- Abilities, Inc., Albertson, N.Y. 741,267, can. Cl. 26.
- Acme Electric Corp., Cuba, N.Y. 504,320, ren. 1-14-69. Cl. 21.
- Acme Supply & Sales, Inc., Fort Lauderdale, Fla. 863,727. Cl. 50.
- Addressograph-Multigraph Corp.: See—
Speedomatic Co., The.
- Air Reduction Co., Inc., New York, N.Y. 863,717. Cl. 34.
- Airkem, Inc.: See—
Airkem Industries, Inc.
- Airline Welding & Engineering, Gardena, Calif. 863,518, pub. 10-29-68. Cl. 34.
- Alrick Industries, Inc., from Airkem, Inc., Carlstadt, N.J. 863,360, pub. 10-29-68. Cl. 6.
- Aktiebolaget Svenska Metallverken, Vasteras, Sweden. 863,462, pub. 10-29-68. Cl. 23.
- All America Karate Federation, Inc., Los Angeles, Calif. 863,703, pub. 10-29-68. Cl. 107.
- Allen & Hanbury, Ltd., London, England, to Glaxo-Allenbury's (Canada) Ltd., Weston, Ontario, Canada. 31,505, ren. 1-14-69. Cl. 18.
- Allen Products Co., Inc., Allentown, Pa. 863,624, pub. 10-29-68. Cl. 46.
- Allied Education Council, Inc., Gallen, Mich. 863,719. Cl. 38.
- Alpha Metals, Inc., Jersey City, N.J. 863,666, pub. 10-29-68. Cl. 52.
- American Beauty Macaroni Co., Kansas City, Kans. 863,603, pub. 10-29-68. Cl. 46.
- American Chain & Cable Co., Inc., New York, N.Y. 863,352, pub. 10-29-68. Cl. 3.
- American Home Products Corp., New York, N.Y. 863,428, pub. 10-29-68. Cl. 18.
- American Home Products Corp., New York, N.Y. 863,626, pub. 9-3-68. Cl. 46.
- American Motor Inns, Inc., Roanoke, Va. 863,682, pub. 10-29-68. Cl. 100.
- American Racing Equipment, Brisbane, Calif. 863,444, pub. 10-29-68. Cl. 19.
- American Timber & Trading Co., Inc., Portland, Ore. 863,372, pub. 10-29-68. Cl. 12.
- Americom Corp., New York, N.Y. 863,531-2, pub. 9-3-68. Cl. 36.
- Ametek, Inc., New York, N.Y. 863,500, pub. 10-29-68. Cl. 23.
- Anderson, Clayton & Co., Dallas, Tex. 863,621, pub. 10-29-68. Cl. 46.
- Andea Candles Inc., Chicago, Ill. 863,629, pub. 10-29-68. Cl. 46.
- Anodyne, Inc., North Miami Beach, Fla. 863,652, pub. 10-29-68. Cl. 50.
- Archer Daniels Midland Co., Minneapolis, Minn. 863,618, pub. 10-29-68. Cl. 46.
- Aristocrat Leather Products, Inc., New York, N.Y., to Evans-Aristocrat Industries, Inc., Elizabeth, N.J. 505,240, ren. 1-14-69. Cl. 39.
- Aristocrat Leather Products, Inc., New York, N.Y., to Evans-Aristocrat Industries, Inc., Elizabeth, N.J. 505,411, ren. 1-14-69. Cl. 2.
- Armour Agricultural Chemical Co.: See—
USS Agri-Chemicals, Inc.
- Armour & Co., Chicago, Ill. 741,118, can. Cl. 5.
- Armstrong Rubber Co., The, West Haven, Conn. 863,529, pub. 10-29-68. Cl. 35.
- Arrowsmith Mfg. Co., New York, N.Y., to Arrowsmith Mfg. Co., Inc., Chicago, Ill. 251,448, ren. 1-14-69. Cl. 44.
- Arrowsmith Mfg. Co., Inc.: See—
Arrowsmith Mfg. Co.
- Arsan Research, Westland, Mich. 863,708. Cl. 6.
- Associated Electrical Industries Ltd.: See—
Sun-Vic Controls Ltd.
- Astro Pet Foods & Supplies, Inc., Deer Park, N.Y. 863,593, pub. 10-29-68. Cl. 46.
- Atlas Corp., New York, N.Y. 863,388, pub. 10-29-68. Cl. 13.
- Atlas Specialty Mfg. Co., Chicago, Ill. 863,439, pub. 10-29-68. Cl. 19.
- "Automatic" Sprinkler Corp. of America, Cleveland, Ohio. 863,380, pub. 10-29-68. Cl. 13.
- Avnet, Inc., Plainview, N.Y. 863,376, pub. 10-29-68. Cl. 12.
- Avon Products, Inc., New York, N.Y. 863,667-9, pub. 10-29-68. Cl. 52.
- Bache & Co. Inc., New York, N.Y. 863,689, pub. 10-29-68. Cl. 102.
- Bailey, Robert, & Associates, Inc., Des Plaines, Ill. 863,698, pub. 10-29-68. Cl. 103.
- Ballinger, W. A., d.b.a. W. A. Ballinger & Co., to W. A. Ballinger & Co., San Francisco, Calif. 246,986, ren. 1-14-69. Cl. 29.
- Ballinger, W. A., & Co.: See—
Ballinger, W. A.
- Bancroft, Joseph, & Sons Co., Rockford, Wilmington, Del. 863,568, pub. 10-29-68. Cl. 39.
- Barron, Mary, Lingerle Corp.: See—
Davidson Brothers Corp., The.
- Barth Levitt Products, Valley Stream, N.Y. 741,176, can. Cl. 18.
- Barton Products Corp., West Bend, Wis. 863,386, pub. 10-29-68. Cl. 13.
- Battles, Otto V., Los Olivos, Calif., to Arden T. Jensen & F. Donald Sokol, executors of the estate of Otto V. Battles, deceased. 505,685, ren. 1-14-69. Cl. 1.
- Bay State Curtain Mfg. Co., Inc.: See—
Stone-Cline Curtain Co., Inc.
- Beacon Pharmacal Co.: See—
Stacks, Irving H.
- Beatrice Foods Co., Chicago, Ill. 863,625, pub. 10-29-68. Cl. 46.
- Becton, Dickinson & Co., Rutherford, to Becton, Dickinson & Co., East Rutherford, N.J. 442,281, ren. 1-14-69. Cl. 44.
- Becton, Dickinson & Co., East Rutherford, N.J. 507,883, ren. 1-14-69. Cl. 44.
- Becton, Dickinson & Co., East Rutherford, N.J. 507,885, ren. 1-14-69. Cl. 44.
- Becton, Dickinson & Co., East Rutherford, N.J. 507,887, ren. 1-14-69. Cl. 44.
- Bedwell, Clifford O., d.b.a. "She" Cosmetic Co., South El Monte, Calif. 863,508, pub. 10-29-68. Multiple Class (Classes 29 and 51).
- Beich, Paul F., Co., Bloomington, Ill. 863,604, pub. 10-29-68. Cl. 46.
- Bell Aerospace Corp., Burbank, Calif. 863,511, pub. 10-29-68. Cl. 31.
- Bemis Bro. Bag Co., St. Louis, Mo., to Bemis Co., Inc., Minneapolis, Minn. 503,380, ren. 1-14-69. Cl. 2.
- Bemis Bro. Bag Co., St. Louis, Mo., to Bemis Co., Inc., Minneapolis, Minn. 504,279, ren. 1-14-69. Cl. 7.
- Bemis Bro. Bag Co., St. Louis, Mo., to Bemis Co., Inc., Minneapolis, Minn. 504,925, ren. 1-14-69. Cl. 38.
- Bemis Co., Inc.: See—
Bemis Bro. Bag Co.
- Bennington Co., The, Union, N.J. 863,515, pub. 10-29-68. Cl. 32.
- Bentex Pharmaceutical Co., Houston, Tex. 863,413, pub. 10-29-68. Cl. 18.
- Bergdorf & Goodman Co., New York, N.Y. 863,351, pub. 10-29-68. Multiple Class (Classes 3 and 39).
- Bernat, Emilie, & Sons Co., Uxbridge, Mass. 863,580, pub. 10-29-68. Cl. 43.
- Bernat, Emilie, & Sons Co., Uxbridge, Mass. 863,583, pub. 10-29-68. Cl. 43.
- Bestwood Corp., Newark, N.J. 741,115, can. Cl. 5.
- Blane Chemical Corp., Mansfield, Mass. 863,337, pub. 10-9-68. Cl. 1.
- Blazon, Inc., Akron, Ohio. 863,469, pub. 10-29-68. Cl. 22.
- Boles-Aero, Inc.: See—
Boles, Donald R.
- Boles, Donald R., d.b.a. Boles Mfg. Co., Burbank, to Boles-Aero, Inc., Sun Valley, Calif. 505,429, ren. 1-14-69. Cl. 19.
- Boles Mfg. Co.: See—
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- Bond Stores, Inc., New York, N.Y. 863,556, pub. 9-10-68. Cl. 39.
- Bonne Sante, S.A., Mineola, N.Y. 863,417, pub. 10-29-68. Cl. 18.
- Boykin, Libby, d.b.a. Boykin and Son, Mount Olive, N.C. 741,425, can. Cl. 46.
- Boykin and Son: See—
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- Bradley, Theodore, Monterey, Calif. 863,724-5. Cl. 42.
- Breneman-Hartshorn Inc., Cincinnati, Ohio. 741,143, can. Cl. 12.
- Brightwater Paper Co., Dover, Del., and Adams, Mass., to The Budd Co., Philadelphia, Pa. 504,325, ren. 1-14-69. Cl. 37.
- Bristol-Myers Co., New York, N.Y. 863,427, pub. 10-29-68. Cl. 18.
- Brook Chemicals Ltd., Dublin, Ireland. 741,396, can. Cl. 51.
- Brown, Richard E., d.b.a. Rebcats, Washington, D.C. 863,436, pub. 10-29-68. Cl. 19.
- Brunswick Corp.: See—
Sherwood Medical Industries Inc.
- Bryan Rubber Co., Inc., Salem, Va. 863,525, pub. 10-29-68. Cl. 35.
- Bubany, George T., Los Angeles, Calif. 863,544, pub. 10-29-68. Cl. 38.
- Budd Co., The: See—
Brightwater Paper Co.
- Burbrooke Mfg. Co. Inc., New York, N.Y. 741,353, can. Cl. 39.

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Burlington Industries, Inc.: See—
 Mooresville Mills.
 Hurady Corp., Norwalk, Conn. 863,457, pub. 10-29-68, Cl. 21.
 Burton Industries, Tujunga, Calif. 863,733, Multiple Class (Classes 100, 101, and 103).
 Bush, W. J., & Co., Ltd., London, England. 741,388, can. Cl. 51.
 Butcher, L. H., Co., Los Angeles, Calif. 741,104, can. Cl. 1.
 Butt, H. E., Grocery Co., d.b.a. H.E.B. Food Stores, Corpus Christi, Tex. 863,633, pub. 10-29-68, Cl. 46.
 Caldwell Dress Co., Philadelphia, Pa. 863,723, Cl. 39.
 Calgon Corp., Pittsburgh, Pa. 863,361, pub. 10-29-68, Cl. 6.
 California Vegetable Products Co., Los Angeles, Calif., to Sokol & Co., Chicago, Ill. 245,222, ren. 1-14-69, Cl. 46.
 Camper Enterprises, Inc., Minneapolis, Minn. 863,441, pub. 10-29-68, Cl. 19.
 Cañabury House, Inc., Peru, Ind. 863,512, pub. 10-29-68, Cl. 32.
 Carbon, F. S., Co.: See—
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 Carbon, Fred S., d.b.a. F. S. Carbon Co., Buchanan, Mich. 863,599, pub. 10-29-68, Cl. 46.
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 Carborundum Co., The, Niagara Falls, N.Y. 741,285, can. Cl. 39.
 Cardinet Candy Co., Inc., Concord, Calif. 863,639, pub. 10-29-68, Cl. 46.
 Carey, Philip, Corp.: See—
 Lehon Co., The.
 Carlton Facilities Ltd., London, England. 741,315, can. Cl. 39.
 Carnation Co., Los Angeles, Calif. 863,602, pub. 10-29-68, Cl. 46.
 Carrier Corp., Syracuse, N.Y. 863,521, pub. 10-29-68, Cl. 34.
 Carrier Engineering Co., Ltd., London, England. 744,730, can. Cl. 23.
 Carrier Engineering Co. Ltd., London, England. 744,826, can. Cl. 34.
 Carter Corp.: See—
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 Carter Dry Goods Co., to Carter Corp., Louisville, Ky. 251,324, ren. 1-14-69, Cl. 42.
 Carter, William, Co., The, Needham Heights, Mass. 507,250, ren. 1-14-69, Cl. 39.
 Castle & Cooke, Inc., Honolulu, Hawaii. 863,637, pub. 10-29-68, Cl. 46.
 Celanese Coatings Co., New York, N.Y. 863,396, pub. 10-29-68, Cl. 16.
 Celeste, Inc., Wilton, Conn. 863,357, pub. 10-29-68, Cl. 6.
 Central Soya Co., Inc., Fort Wayne, Ind. 863,615, pub. 10-29-68, Cl. 46.
 Cerro Corp., New York, N.Y. 863,455, pub. 10-29-68, Cl. 21.
 Chadbourne Gotham, Inc., Charlotte, N.C. 863,654-5, pub. 10-29-68, Cl. 51.
 Chamberlain Mfg. Corp., Elmhurst, from Perma-Power Co., Chicago, Ill. 863,447, pub. 10-29-68, Cl. 21.
 Chemische Fabrik Budenheim Rudolf A. Oetker, Budenheim (Rhine), near Mainz, Germany. 741,163, can. Cl. 15.
 Chesbrough-Pond's Inc., New York, N.Y. 863,657, pub. 10-29-68, Cl. 51.
 Chicago Section of the American Chemical Society, The, Chicago, Ill. 863,718, Cl. 38.
 Chipman's, Chas., Sons, Easton, Pa., to Chas. Chipman's Sons Co., Inc., New York, N.Y. 71,179, ren. 1-14-69, Cl. 39.
 Chipman's, Chas., Sons Co., Inc.: See—
 Chipman's, Chas., Sons.
 Ciba Ltd., Basel, Switzerland. 863,411, pub. 10-29-68, Cl. 18.
 Cincinnati Mine Machinery Co., The, Cincinnati, Ohio. 863,492, pub. 10-29-68, Cl. 23.
 Clancy, J. R., Inc., Syracuse, N.Y. 741,226, can. Cl. 24.
 Cleworth Publishing Co., Inc., Cos Cob, Conn. 741,337, can. Cl. 38.
 Clow Corp., Chicago, Ill. 863,387, pub. 10-29-68, Cl. 13.
 Cohen, Weenen & Co., Ltd., to Cohen Weenen & Co. Ltd., London, England. 248,771, ren. 1-14-69, Cl. 17.
 Coleman Co., Inc., The, Wichita, Kans. 863,516, pub. 10-29-68, Cl. 34.
 Calgate-Palmolive Co., New York, N.Y. 863,663, pub. 10-29-68, Cl. 52.
 Colgate-Palmolive Co., New York, N.Y. 863,665, pub. 10-29-68, Cl. 52.
 Colonial Stores Inc., Atlanta, Ga. 863,390, pub. 10-29-68, Cl. 14.
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 Commercial Carpet Corp., New York, N.Y. 863,579, pub. 10-29-68, Cl. 42.
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 Continental Distilling Corp., d.b.a. Continental Distilling Co., Philadelphia, Pa. 863,645, pub. 10-29-68, Cl. 49.
 Continental Illinois National Bank & Trust Co. of Chicago, U.S. Banking Association, d.b.a. Continental Bank, Chicago, Ill. 863,690-3, pub. 10-29-68, Cl. 102.
 Continental Oil Co., Ponca City, Okla. 741,129, can. Cl. 6.
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 Cook, W. Roland, Associates, Inc., d.b.a. Cook's Pipe Great Co., Greenwich, Conn. 863,710, Cl. 8.
 Copystatles Mfg. Corp., Miami Lakes, Fla. 844,985, cor. Cl. 26.
 Copystatles Mfg. Corp., Miami Lakes, Fla. 852,118, cor. Multiple Class (Classes 6 and 37).
 Copystatles Mfg. Corp., Miami Lakes, Fla. 853,610, cor. Multiple Class (Classes 26 and 37).
 Corbett Industries, Inc., Dallas, Tex. 863,496-7, pub. 10-29-68, Cl. 23.
 Corson, G. & W. H., Inc., Plymouth Meeting, Pa. 863,369-70, pub. 10-29-68, Cl. 12.
 Cosmetically Yours, Inc., Yonkers, N.Y. 863,728-32, Cl. 51.
 Cossman & Levine, Inc., Los Angeles, Calif. 863,461, pub. 10-29-68, Cl. 22.
 Cossnov & Cie: See—
 Whitehall Co., Ltd.
 Costa Brothers, Stockton, to Felix Costa & Sons, Lodi, Calif. 248,493, ren. 1-14-69, Cl. 40.
 Costa, Felix & Sons: See—
 Costa Brothers.
 Cowen, Edward L., Inc., New York, N.Y., to Colton Razor Blade Co., Boston, Mass. 255,541, ren. 1-14-69, Cl. 23.
 Cranstun Industries, Inc., New York, N.Y. 863,473, pub. 10-29-68, Cl. 22.
 Crinostat Corp., Miami, Fla. 863,431, pub. 10-29-68, Multiple Class (Classes 18 and 51).
 Crinos Industria Farmacobiologica S.p.A., Milan, Italy. 741,172, can. Cl. 18.
 Crown Zellerbach Corp.: See—
 Glass, Jackson C. E.
 Crown Zellerbach Corp., San Francisco, Calif. 741,136, can. Cl. 6.
 Curtis, Helene, Industries, Inc., Chicago, Ill. 863,571, pub. 10-29-68, Cl. 40.
 Curtis, Helene, Industries, Inc., Chicago, Ill. 863,659, pub. 10-29-68, Cl. 51.
 D.I.J. Industries Inc., New York, N.Y. 863,707, pub. 10-29-68, Cl. A.
 D-M-E Corp., Madison Heights, Mich. 863,495, pub. 10-29-68, Cl. 23.
 Dahlberg Electronics, Inc., Minneapolis, Minn. 863,587, pub. 10-29-68, Cl. 44.
 Dallas Ceramic Co., Dallas, Tex. 863,367, pub. 10-29-68, Cl. 12.
 Dams, Shibil S., d.b.a. United Citrus Growers, Redlands, Calif. 863,608, pub. 10-29-68, Cl. 46.
 Dana Corp., Toledo, Ohio. 863,527, pub. 10-29-68, Cl. 35.
 Davidson Bros. Corp., The, to Mary Barron Lingerie Corp., New York, N.Y. 500,288, ren. 1-14-69, Cl. 39.
 Davisbilt Steel Joist, Inc., Washington, D.C. 503,812, ren. 1-14-69, Cl. 12.
 Daytona Beach Electrical Joint Apprenticeship & Training Committee, Daytona Beach, Fla. 863,701, pub. 10-29-68, Cl. 107.
 Delta Drug Corp., Jacksonville, Fla. 863,419, pub. 10-29-68, Cl. 18.
 De Luxe Topper Corp., Elizabeth, N.J. 863,463, pub. 10-29-68, Cl. 22.
 Demister Aktiebolag, Malmö, Sweden. 741,198, can. Cl. 21.
 Dentists' Supply Co. of New York, The, York, Pa. 863,588, pub. 10-29-68, Cl. 44.
 De Rosa M., Inc., Mount Vernon, N.Y. 863,606, pub. 10-29-68, Cl. 46.
 Design International Corp., New York, N.Y. 741,297, can. Cl. 32.
 Desmond's, to Desmond's, Inc., to Desmond's Inc., Los Angeles, Calif. 441,194, ren. 1-14-69, Cl. 39.
 Desmond's Inc.: See—
 Desmond's.
 De Vazelles, Ferdinand, Bouglival, France. 863,470, pub. 10-29-68, Cl. 22.
 Dewey Portland Cement Co., Kansas City, Mo., to Martin-Marietta Corp., New York, N.Y. 506,050, gen. 1-14-69, Cl. 12.
 Diamond National Corp., New York, N.Y. 741,108, can. Cl. 2.
 Dickinson Leaf Tobacco Co., Inc., Richmond, Va. 863,399, pub. 10-29-68, Cl. 17.
 Director Publishing Co., Minneapolis, Minn. 863,554, pub. 10-29-68, Cl. 38.
 Discos Fuentes, S.A., Medellin, Colombia. 863,534, pub. 10-29-68, Cl. 36.
 Dole Refrigerating Co., Chicago, Ill. 741,287, can. Cl. 31.
 Doo-Dee Pins, Inc., Round Brook, N.J. 741,250, can. Cl. 24.
 Dow Badische Co., Williamsburg, Va. 863,342-6, pub. 10-29-68, Cl. 1.
 Dow Chemical Co., The, Midland, Mich. 741,354-5, can. Cl. 40.
 Dresser Industries, Inc., Dallas, Tex. 863,375, pub. 10-29-68, Cl. 12.
 Drexel Enterprises, Inc., High Point, N.C. 741,304, can. Cl. 32.
 Dullam Harvesting Co.: See—
 Dullam, John F.
 Dullam, John F., d.b.a. Dullam Harvesting Co., Oxnard, Calif. 863,631, pub. 10-29-68, Cl. 46.
 Dunhill, Alfred, Ltd., London, England. 863,403, pub. 10-29-68, Cl. 17.
 Dunn & McCarthy, Inc., Auburn, N.Y. 863,566, pub. 10-29-68, Cl. 39.
 Durisol AG Fur Leichtbaustoffe, Dietikon, Switzerland. 440,075, ren. 1-14-69, Cl. 12.
 Dutton, Coline T., d.b.a. Space and Form Hair Design School, Amarillo, Tex. 741,417, can. Cl. 107.

Dynacor Mfg. Co., Evanston, Ill. 863,558, pub. 10-29-68, Cl. 39.
 Dynamic Classics, Ltd., New York, N.Y. 863,472, pub. 10-29-68, Cl. 22.
 Eastman Kodak Co., Rochester, N.Y. 504,059, ren. 1-14-69, Cl. 6.
 Eastern Shore Laboratories, Inc., Laurel, Del. 863,409, pub. 10-29-68, Cl. 18.
 Ecoff & James & Battle, Inc., Philadelphia, Pa. 741,331, can. Cl. 38.
 Edison Bros. Stores, Inc., St. Louis, Mo. 863,688, pub. 10-29-68, Cl. 101.
 Electro-Mechanical Enterprises, Inc., Westerly, R.I. 863,350, pub. 3-5-68, Cl. 13.
 Electrospace Corp., Glen Cove, N.Y. 863,446, pub. 10-29-68, Multiple Class (Classes 21 and 26).
 Elizabeth Toys: See—
 Leigh, Lawrence E.
 El-Tronics, Inc., Warren, Pa. 741,261-2, can. Cl. 26.
 Eadlcott Johnson Corp., Endicott, N.Y. 741,351, can. Cl. 39.
 Enterprise Aluminum Co., The, Massillon, Ohio. 741,151, can. Cl. 13.
 Era Industries, New York, N.Y. 741,303, can. Cl. 32.
 Er-Rol Articulator Mfg. Co.: See—
 Segal, E. H.
 Erving Paper Mills, Erving, Mass. 863,501, pub. 10-29-68, Cl. 23.
 Esquire, Inc., New York, N.Y. 863,713, Cl. 19.
 Evans-Aristocrat Industries, Inc.: See—
 Aristocrat Leather Products, Inc.
 FMC Corp., San Jose, Calif. 741,268, can. Cl. 26.
 Fairway Foods, Inc., St. Paul, Minn. 863,640, pub. 10-29-68, Cl. 46.
 Faison & Twedt, Inc., Chicago, Ill. 741,407, can. Cl. 100.
 Famous Recipe Fried Chicken, Inc., Lima, Ohio. 863,674, pub. 9-10-68, Cl. 100.
 Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany. 863,336, pub. 10-29-68, Cl. 1.
 Farmland Industries, Inc., Kansas City, Mo. 863,594, pub. 10-29-68, Cl. 46.
 Fashion Tress, Inc., Miami Beach, Fla. 863,570, pub. 10-29-68, Cl. 40.
 Fashioncraft-Excelllo, Brooklyn, N.Y. 741,211, can. Cl. 22.
 Federated Department Stores, Inc., Cincinnati, Ohio. 741,179, can. Cl. 18.
 Ferrari S.p.A. Esercizio Fabbriche Automobili e Corse, Modena, Italy. 863,434, pub. 10-29-68, Cl. 19.
 Ferruccio Giovanni, Inc., Chicago, Ill. 863,600, pub. 10-29-68, Cl. 46.
 Fiberfil: See—
 Rexall Drug & Chemical Co.
 Finger Tip Check Protection Co.: See—
 Workman, James.
 Fisher & Ludlow Ltd., Birmingham, England. 741,223, can. Cl. 23.
 Fisher Radio Corp., Long Island City, N.Y. 863,456, pub. 10-29-68, Cl. 21.
 Fisher Scientific Co., Pittsburgh, Pa. 863,503, pub. 9-24-68, Cl. 26.
 Flavor Tree Co.: See—
 Morris, Philip, Inc.
 Ford Motor Co., Dearborn, Mich. 249,345, ren. 1-14-69, Cl. 25.
 Foremost Dairies, Inc.: See—
 Foremost-McKesson, Inc.
 Foremost-McKesson, Inc., New York, N.Y., from Foremost Dairies, Inc., San Francisco, Calif. 863,595, pub. 10-29-68, Cl. 46.
 Franklin Mint, Inc., The, from General Numismatics Corp., Yonkers, Pa. 863,468, pub. 10-29-68, Multiple Class (Classes 22 and 38).
 Fringe Benefit Co.: See—
 Raimond, Frank.
 Fromson Orban Co., Inc., New York, N.Y. 741,157-8, can. Cl. 14.
 Fundacion Rivero, Inc., Saaturce, Puerto Rico. 863,506, pub. 10-29-68, Cl. 26.
 Galas, Theodore D., d.b.a. Taxpert Income Tax Services, Tinley Park, Ill. 863,686, pub. 8-20-68, Cl. 101.
 Gav Togs, Inc., Inwood, N.Y. 863,561, pub. 5-28-68, Cl. 39.
 Gelzy Chemical Corp., Ardsley, N.Y. 863,426, pub. 10-29-68, Cl. 18.
 Gem, Inc., Bynalla, Miss. 863,660, pub. 10-29-68, Cl. 51.
 General Dynamics Corp.: See—
 Liquid Carbonic Corp., The.
 General Electric Co., to General Electric Co., Schenectady, N.Y. 255,108, ren. 1-14-69, Cl. 14.
 General Foods Corp., White Plains, N.Y. 863,612, pub. 10-29-68, Cl. 40.
 General Foods Corp., White Plains, N.Y. 863,726, Cl. 46.
 General Numismatics Corp.: See—
 Franklin Mint, Inc., The.
 General Tire & Rubber Co., The: See—
 Regional Services Corp.
 Georgia-Pacific Corp., Portland, Ore. 863,358, pub. 10-29-68, Cl. 6.
 Georgia-Pacific Paper Corp., Crossett, Ark., from Triangle Bag Co., Covington, Ky. 741,109, can. Cl. 2.
 Germain's, Inc., Los Angeles, Calif. 863,362, pub. 10-29-68, Cl. 7.
 Gilmour Mfg. Co.: See—
 Gilmour, Robert A.
 Gilmour, Robert A., d.b.a. Gilmour Mfg. Co., Somerset, Pa. 863,382, pub. 10-29-68, Cl. 13.
 Giovanni Jewelry Co., from Venice, Inc., Providence, R.I. 863,507, pub. 10-29-68, Cl. 25.
 Giving Cards, Inc., Lafayette, Calif. 863,551, pub. 10-29-68, Cl. 35.
 Glass, Jackson C. E., d.b.a. Glass Sales Agency, Oakland, to Crown Zellerbach Corp., San Francisco, Calif. 254,779, ren. 1-14-69, Cl. 37.
 Glass Sales Agency: See—
 Glass, Jackson C. E.
 Glaxo-Allenburys (Canada) Ltd.: See—
 Allen & Habburns, Ltd.
 Glissade, Inc., Brooklyn, N.Y. 741,295-6, can. Cl. 32.
 Golden Gate Salami Co., San Francisco, Calif. 863,632, pub. 10-29-68, Cl. 46.
 Goodway Printing Co., Inc., Philadelphia, Pa. 863,543, pub. 10-29-68, Cl. 38.
 Goodyear Tire & Rubber Co., The, Akron, Ohio. 251,857, ren. 1-14-69, Cl. 35.
 Gordon & Ferguson Co. (Inc.): See—
 Northbilt Mfg. Co.
 Goteborgs Kemisk-Tekniska Fabrik Vasco Aktiebolag, Gothenburg, Sweden. 741,402, can. Cl. 52.
 Gourmand's, Inc., Abilene, Tex. 863,671, pub. 9-10-68, Cl. 100.
 Graver Tank & Mfg. Co., Inc., East Chicago, Ill., to Union Tank Car Co., Chicago, Ill. 503,686, ren. 1-14-69, Cl. 23.
 Great Scot Timber Co., Englewood, Colo. 863,377, pub. 10-29-68, Cl. 12.
 Greene, Tweed & Co., Inc., North Wales, Pa. 863,530, pub. 10-29-68, Cl. 35.
 H.E.B. Food Stores: See—
 Butt, H. E., Grocery Co.
 Haas Brothers, San Francisco, Calif. 508,700, ren. 1-14-69, Cl. 49.
 Haas Display, Inc., The, Minneapolis, Minn. 741,386, can. Cl. 50.
 Hagan Chemicals & Controls, Inc., Pittsburgh, Pa. 741,374, can. Cl. 46.
 Halls Gaskets Ltd., Buckinghamshire, England. 863,526, pub. 10-29-68, Cl. 35.
 Hamm, Theo., Brewing Co., St. Paul, Minn. 863,642, pub. 10-29-68, Cl. 48.
 Hansen, Morten M., Jr., Brielle, N.J. 741,212, can. Cl. 22.
 Harquahala Packing Co.: See—
 O'Brien, William H.
 Harris Caloric Co., The, Cleveland, Ohio. 863,519, pub. 10-29-68, Cl. 34.
 Harris, P. E., & Co., to Peter Pan Seafoods, Inc., Seattle, Wash. 255,737, ren. 1-14-69, Cl. 46.
 Harrold, W. L., Co.: See—
 Harrold, Willis L.
 Harrold, Willis L., d.b.a. W. L. Harrold Co., Mishawaka, Ind. 741,204, can. Cl. 21.
 Harte & Co., Inc., New York, N.Y. 441,303, ren. 1-14-69, Cl. 42.
 Hauck Mfg. Co., Lebanon, Pa. 863,520, pub. 10-29-68, Cl. 34.
 Hayden House Foods: See—
 Ocean Foods Co.
 Heddon's, James, Sons, Dowagiac, Mich., to Victor Comptometer Corp., Chicago, Ill. 507,613, ren. 1-14-69, Cl. 22.
 Heddon's, James, Sons, Dowagiac, Mich., to Victor Comptometer Corp., Chicago, Ill. 508,247, ren. 1-14-69, Cl. 38.
 Hercules Inc., Wilmington, Del. 863,338, pub. 9-3-68, Cl. 1.
 Hereford Heaven Brands: See—
 Hereford Heaven Brands, Inc.
 Hereford Heaven Brands, Inc., d.b.a. Hereford Heaven Brands, Oklahoma City, Okla. 741,424, can. Cl. 46.
 Hermosa Industries, Inc., Sedalia, Mo. 863,648, pub. 10-29-68, Cl. 50.
 Hershey Chocolate Corp.: See—
 Hershey Foods Corp.
 Hershey Foods Corp., from Hershey Chocolate Corp., Hershey, Pa. 863,592, pub. 10-29-68, Cl. 46.
 Hershey Foods Corp., from Hershey Chocolate Corp., Hershey, Pa. 863,607, pub. 10-29-68, Cl. 46.
 Hickam, Dow B., Inc., Houston, Tex. 863,432, pub. 10-29-68, Cl. 18.
 Hi-Craft Clothing Co.: See—
 Sterenberg, Samuel.
 Hide & Leather Publishing Co., now by change of name The Rumpf Publishing Co., to The Rumpf Publishing Co., Chicago, Ill. 508,333, ren. 1-14-69, Cl. 38.
 Hill, H. J., Co.: See—
 Perlov, Raymond.
 Hilby Medicinal Products, East Pasadena, Calif. 741,175, can. Cl. 18.
 Hiotronics, Inc., Brewster, N.Y. 863,450, pub. 10-29-68, Multiple Class (Classes 21 and 26).
 Hodson Corp., The, Chicago, Ill. 507,305, ren. 1-14-69, Cl. 15.
 Holland-Rantos Co., Inc., New York, N.Y. 505,674, ren. 1-14-69, Cl. 18.
 Holmes, Lorraine, Inc., Denver, Colo. 741,394, can. Cl. 51.
 Honeycomb Products, Inc., Miami, Fla. 863,339, pub. 10-29-68, Cl. 1.
 Hooker Chemical Corp., Niagara Falls, N.Y. 863,373, pub. 10-29-68, Cl. 12.
 Hooker Chemical Corp., Niagara Falls, N.Y. 863,398, pub. 10-29-68, Cl. 16.
 Howland, Dean W., Deltona, Fla. 863,651, pub. 10-29-68, Cl. 50.
 Hy-Torg Corp., Portland, Ore. 863,498, pub. 10-29-68, Cl. 23.
 I-T-E Imperial Corp., Philadelphia, Pa., from Imperial-Eastman Corp., Chicago, Ill. 863,450, pub. 1-2-68, Cl. 23.
 Ideal Toy Corp., Hollis, N.Y. 863,467, pub. 7-2-68, Cl. 22.
 Ideas for Industry: See—
 Johnson, Harold D.
 Ileo Corp.: See—
 Independent Lock Co.
 Imperial-Eastman Corp.: See—
 I-T-E Imperial Corp.

Independent Lock Co., to Ilico Corp., Fitchburg, Mass. 442,422, ren. 1-14-69. Cl. 13.
 Infra-Red Systems, Inc., Riverdale, N.J. 863,448, pub. 10-29-68. Cl. 21.
 Infra-Red Systems, Inc., Riverdale, N.J. 863,454, pub. 10-29-68. Cl. 21.
 Institute for Language Study, Montclair, N.J. 741,327, canc. Cl. 38.
 Interlake Steel Corp., Chicago, Ill. 863,646, pub. 10-15-68. Cl. 50.
 International Cardiology Foundation, Boston, Mass. 863,670, pub. 10-29-68. Cl. 100.
 International Escort Ltd.: See—
 International Escort & Secretary Ltd.
 International Escort & Secretary Ltd., from International Escort Ltd., Zurich, Switzerland. 863,673, pub. 8-13-68. Cl. 100.
 Israel Publishing Co., Philadelphia, Pa. 863,722, Cl. 38.
 Jacques Pan Cakes, Inc., Cleveland Heights, Ohio. 863,596, pub. 10-29-68. Cl. 46.
 Jensen, Arden T.: See—
 Battles, Otto V.
 Johnson, Glenn F., Northbrook, Ill. 741,210, canc. Cl. 22.
 Johnson, Harold D., d.b.a. Ideas for Industry, Sycamore, Ill. 863,356, pub. 7-8-68. Cl. 6.
 Johnson & Johnson, d.b.a. Permacel, New Brunswick, N.J. 863,715, Cl. 23.
 Johnson, T. C.: See—
 Johnson, Theodore C.
 Johnson, Theodore C., d.b.a. T. C. Johnson Co., Chagrin Falls, Ohio. 741,159, canc. Cl. 14.
 Johnson, Walter N., Boyceville, Wis. 863,485, pub. 10-29-68. Cl. 23.
 Jobbil Mfg. Co., Inc., New York, N.Y. 863,559, pub. 10-29-68. Cl. 39.
 Kappen, John W., d.b.a. Kappen Sales Co., Dayton, Ohio. 741,183-4, canc. Cl. 19.
 Kappen Sales Co.: See—
 Kappen, John W.
 Kee Lox Mfg. Co., to Kee Lox Mfg. Co., Rochester, N.Y. 508,594, ren. 1-14-69. Cl. 11.
 Kelco Co., San Diego, Calif. 863,355, pub. 10-29-68. Cl. 6.
 Keller, Wm. J., Inc., Buffalo, N.Y. 863,684, pub. 10-29-68. Cl. 101.
 Kendall Co., The, Walpole, Mass. 508,593, ren. 1-14-69. Cl. 44.
 Kendall Co., The, Walpole, Mass. 863,576, pub. 10-29-68. Cl. 42.
 Kerrigan Lewis Mfg. Co., Chicago, Ill. 863,449, pub. 10-29-68. Cl. 21.
 Kester Solder Co., to Kester Solder Co., Chicago, Ill. 502,628, ren. 1-14-69. Cl. 6.
 Keys, Jack, East Whittier, Calif. 741,110, canc. Cl. 3.
 Kiedrowski, David J., d.b.a. Renfro-Franklin Co., Baldwin Park, Calif. 863,650, pub. 10-29-68. Cl. 50.
 Kimberly-Clark Corp.: See—
 Neenah Paper Co.
 Kresge, S. S., Co., Detroit, Mich. 863,563, pub. 10-29-68. Cl. 39.
 Kronseder, Hermann, d.b.a. Herman Kronseder Maschinenfabrik, Bavaria, Germany. 863,487-90, pub. 10-29-68. Cl. 23.
 Kronseder, Hermann, Maschinenfabrik: See—
 Kronseder, Hermann.
 Kroydon Co., Inc., Boston, Mass. 741,220-1, canc. Cl. 22.
 Laboratoires Lutsia, Rouen (Seine-Maritime), France. 863,656, pub. 10-29-68. Cl. 51.
 Lake Superior Pulp & Paper Inc., Chicago, Ill. 863,341, pub. 10-29-68. Cl. 1.
 Lancaster Pump & Mfg. Co. Inc., Lancaster, Pa. 741,247, canc. Cl. 23.
 Laufer Gummiwarenfabrik, Schwerdt & Renner, Hanover, Germany. 863,537, pub. 10-29-68. Cl. 37.
 Lee, Laura, Candles, Inc., Miami, Fla. 863,630, pub. 10-29-68. Cl. 46.
 Leesona Corp., Cranston, R.I. 741,201, canc. Cl. 21.
 Lehon Co., The, Chicago, Ill., to Philip Carey Corp., Cincinnati, Ohio. 505,023, ren. 1-14-69. Cl. 12.
 Leigh, Lawrence E., d.b.a. Elizabeth Toys, Overland Park, Kans. 741,217, canc. Cl. 22.
 Lektron Corp., The, assor. to Lektro Products, Inc., to Sperry Rand Corp., New York, N.Y. 441,201, ren. 1-14-69. Cl. 23.
 Leopold Bros. Furs Inc., New York, N.Y. 741,343, canc. Cl. 39.
 Les Fabriques d'Assortiments Reunies, Le Locle, Switzerland. 741,277, canc. Cl. 26.
 Levin, Zal, Lincolnwood, Ill. 863,720, Cl. 38.
 Libbey-Owens-Ford Glass Co., Toledo, Ohio. 741,309, canc. Cl. 33.
 Licoreria Trigo: See—
 Licoreria Trigo, Inc.
 Licoreria Trigo, Inc., d.b.a. Licoreria Trigo, San Juan, Puerto Rico. 741,383, canc. Cl. 49.
 Life Center, Inc., Denver, Colo. 863,676, pub. 10-29-68. Cl. 100.
 Liggett & Myers Inc., New York, N.Y. 863,406, pub. 10-29-68. Cl. 17.
 Llack, O. E., Co., Inc., Clifton, N.J. 741,387, canc. Cl. 50.
 Liquid Carbonic Corp., The, to General Dynamics Corp., Chicago, Ill. 501,339, ren. 1-14-69. Cl. 6.
 Loren Cook Co., Berea, Ohio. 863,522-3, pub. 10-29-68. Cl. 34.
 Lucas, George A. & Sons, Earlimart, Calif. 863,635, pub. 10-29-68. Cl. 46.
 M.G. Textiles, Inc., Paterson, N.J. 863,573, pub. 10-29-68. Cl. 42.
 MacAndrews & Forbes Co., Camden, N.J. 863,340, pub. 8-13-68. Cl. 1.
 MacDonald Honey Co., Inc., Sauquoit, N.Y. 863,620, pub. 10-29-68. Cl. 40.
 Mackinnon & Coelho Limitada Compania Yerbatera Sociedad Anonima Comercial, Industrial O Agropecuaria: See—
 Mackinnon, E. & Coelho.
 Mackinnon, E. & Coelho, to Mackinnon & Coelho Limitada Compania Yerbatera Sociedad Anonima, Comercial, Industrial O Agropecuaria, Buenos Aires, Argentine Republic. 249,052, ren. 1-14-69. Cl. 46.
 Mackinnon, E. & Coelho, to Mackinnon & Coelho Limitada Compania Yerbatera Sociedad Anonima, Comercial, Industrial O Agropecuaria, Buenos Aires, Argentine Republic. 251,758, ren. 1-14-69. Cl. 46.
 MacMillan Ring-Free Oil Co., Inc., Los Angeles, Calif. 741,161, canc. Cl. 15.
 Macy, R. H. & Co., Inc., New York, N.Y. 246,282, ren. 1-14-69. Cl. 39.
 Macy, R. H. & Co., Inc., New York, N.Y. 249,093, ren. 1-14-69. Cl. 22.
 Magnifico Records: See—
 Trifletti, Don.
 Malco Mfg. Co., Inc., Chicago, Ill. 863,459, pub. 10-29-68. Cl. 21.
 Manufacturers Marketing Association, Inc., Chicago, Ill. 741,101, canc. Cl. 21.
 Manufactures Reunies De Cigares "Marec," Sint-Amansberg, Belgium. 741,169, canc. Cl. 17.
 Mar-Gold Corp., The, Atlanta, Ga. 863,605, pub. 10-29-68. Cl. 21.
 Marine Development & Research Corp., New York, N.Y. 863,305, pub. 10-29-68. Cl. 16.
 Marine Electrolysis Eliminator Co., to Marine Electrolysis Eliminator Co., Seattle, Wash. 442,411, ren. 1-14-69. Cl. 52.
 Marine Engine Specialties, New York, N.Y. 863,486, pub. 10-29-68. Cl. 23.
 Marley Scientific Corp., Brooklyn, N.Y. 741,200, canc. Cl. 21.
 Marsh, Jordan, Co., Boston, Mass. 863,687, pub. 10-29-68. Cl. 101.
 Martell, J. & F., Inc., New York, N.Y. 863,644, pub. 10-29-68. Cl. 49.
 Martini-Marletta Corp.: See—
 Dewey Portland Cement Co.
 Masonite Corp., Chicago, Ill. 863,371, pub. 10-29-68. Cl. 12.
 Matsushiro USA, Inc., Bellevue, Wash. 863,474, pub. 10-29-68. Cl. 22.
 Maxon Premix Burner Co., Inc., Muncie, Ind. 863,381, pub. 10-29-68. Multiple Class (Classes 13 and 34).
 Maytag Co., The, Newton, Iowa. 741,248, canc. Cl. 24.
 Mead Johnson & Co., to Mead Johnson & Co., Evansville, Ind. 504,836, ren. 1-14-69. Cl. 46.
 Medallions, Inc., Greenwood, S.C. 863,702, pub. 10-29-68. Cl. 107.
 Merck & Co., Inc., Rahway, N.J. 863,418, pub. 10-29-68. Cl. 18.
 Merck & Co., Inc., Rahway, N.J. 863,422, pub. 10-29-68. Cl. 18.
 Merzma, Inc., Hingham, Mass. 863,379, pub. 10-29-68. Cl. 12.
 Metal & Thermit Corp.: See—
 Procter & Gamble Co., The.
 Metric Hosiery Co., Inc., New York, N.Y. 741,346, canc. Cl. 39.
 Michigan Chemical Corp., St. Louis, Mich. 440,847, ren. 1-14-69. Cl. 12.
 Michigan Research Corp., Ann Arbor, Mich. 863,585, pub. 10-29-68. Cl. 44.
 Middleton, John, Inc., King of Prussia, Pa. 863,405, pub. 10-29-68. Cl. 17.
 Midwest Mutual Insurance Co., Des Moines, Iowa. 863,694, pub. 10-29-68. Cl. 102.
 Miles Laboratories, Inc., Elkhart, Ind. 863,424, pub. 10-29-68. Cl. 18.
 Miller, Inc., Philadelphia, Pa. 863,699, pub. 10-29-68. Cl. 103.
 Miller Publishing Co., The, Minneapolis, Minn. 863,550, pub. 10-29-68. Cl. 38.
 Mint-Mark of Dallas, Inc., Dallas, Tex. 863,546, pub. 10-29-68. Cl. 38.
 Mister Teeny-Bopper, Inc., New York, N.Y. 863,569, pub. 10-29-68. Cl. 40.
 Mitchell, Donald H., Pittsfield, N.H. 863,514, pub. 10-29-68. Cl. 32.
 Mitchell, John E., Co., Inc., Dallas, Tex. 863,590, pub. 7-23-68. Cl. 45.
 Modern Living, Inc., Hollywood, Calif. 741,254, canc. Cl. 20.
 Modern Products, Inc., Kansas City, Mo. 863,464, pub. 10-29-68. Cl. 22.
 Moffitt, Roy M., Co., The, Schiller Park, Ill. 863,539, pub. 10-29-68. Cl. 37.
 Montana Pharmaceuticals, Inc., Miami, Fla. 863,412, pub. 10-29-68. Cl. 18.
 Moore, E. R., Co., Niles, Ill. 863,683, pub. 10-29-68. Cl. 100.
 Mooresville Mills, Mooresville, to Burlington Industries, Inc., Greensboro, N.C. 506,785, ren. 1-14-69. Cl. 42.
 Moran Shoe Co., Carlyle, Ill. 741,339, canc. Cl. 39.
 Morat, Franz, G.m.b.H., Stuttgart-Vaihingen, Germany. 863,483, pub. 10-29-68. Cl. 23.
 Morris, Philip, Inc., d.b.a. Flavor Tree Co., New York, N.Y. 863,598, pub. 7-2-68. Cl. 46.
 Musical Instrument Corp. of America, Hicksville, N.Y. 863,536, pub. 10-29-68. Cl. 36.
 Mutual Buying Syndicate Inc., New York, N.Y. 503,035, ren. 1-14-69. Cl. 38.
 Mutual Sales Associates, Inc., West Springfield, Mass. 863,697, pub. 10-29-68. Cl. 103.

Myerberg, Michael, New York, N.Y. 741,299, canc. Cl. 32.
 Mystic Farms, Inc., Onset, Mass. 863,591, pub. 10-29-68. Cl. 45.
 N.V. Koninklijke Veenendaalsche Sijet-en Vijfschachtfabriek V/H Wed. D. S. Van Schuppen & Zoon, Zandstraat, Veenendaal, Netherlands. 863,582, pub. 10-29-68. Cl. 43.
 National Business Services Inc., Treviso, Pa. 863,552, pub. 10-29-68. Cl. 38.
 National Clean Mart Corp., Denver, Colo. 741,249, canc. Cl. 24.
 National Food Products, Inc., New Orleans, La. 863,623, pub. 10-29-68. Cl. 46.
 National Heater Co., Minneapolis, to National Heater Co., Inc., St. Paul, Minn. 440,528, ren. 1-14-69. Cl. 34.
 National Heater Co., Inc.: See—
 National Heater Co.
 Nationwide Engineering Service, Inc., Culver City, Calif. 741,193, canc. Cl. 21.
 Natone Co., Los Angeles, Calif. 741,399, canc. Cl. 51.
 Neenah Paper Co., to Kimberly-Clark Corp., Neenah, Wis. 507,009, ren. 1-14-69. Cl. 37.
 Neptune Microdoc, Inc., Corvallis, Ore. 863,510, pub. 10-29-68. Cl. 31.
 Nicholas International Ltd., Toronto, Ontario, Canada. 741,177, canc. Cl. 18.
 Nocona Athletic Goods Co.: See—
 Nocona Leather Goods Co.
 Nocona Leather Goods Co., d.b.a. Nocona Athletic Goods Co., Nocona, Tex. 863,477, pub. 10-29-68. Cl. 22.
 Norden Laboratories, Inc., Lincoln, Nebr. 863,415, pub. 10-29-68. Cl. 18.
 Norstar Corp., Bronx, N.Y. 863,478, pub. 10-29-68. Cl. 22.
 North American Rockwell Corp., El Segundo, Calif. 863,442, pub. 10-29-68. Cl. 19.
 Northblit Mfg. Co., Minneapolis, to Gordon & Ferguson Co. (Inc.), St. Paul, Minn. 503,611, ren. 1-14-69. Cl. 39.
 Nutheme Co., The, from The Nutheme Co., Chicago, Ill. 741,123, canc. Cl. 6.
 O'Brien, William H., d.b.a. Harquahala Packing Co., Phoenix, Ariz. 863,636, pub. 10-29-68. Cl. 40.
 Occidental Petroleum Corp., Los Angeles, Calif. 863,365, pub. 10-29-68. Cl. 10.
 Occidental Petroleum Corp., Los Angeles, Calif. 863,675, pub. 10-29-68. Cl. 100.
 Oceoma Foods Co., d.b.a. Hayden House Foods, Omaha, Nebr. 863,616, pub. 10-29-68. Cl. 46.
 Ohio Brass Co., The, Mansfield, Ohio. 504,732, ren. 1-14-69. Cl. 21.
 Omega Research Products, Inc., Baltimore, Md. 741,103, canc. Cl. 1.
 Onondaga County Savings Bank, The, d.b.a. Onondaga Savings Bank, Syracuse, N.Y. 863,695, pub. 10-29-68. Cl. 102.
 Onondaga Savings Bank: See—
 Onondaga County Savings Bank, The.
 Ontario Tobacco Co. Ltd., Toronto, Ontario, Canada. 863,404, pub. 10-29-68. Cl. 17.
 Opticart-Verlag Carl Weigang: See—
 Weigang, Carl.
 Orchard, Joseph T., d.b.a. Pecan Joe's Country Store, Texarkana, Ark. 741,370, canc. Cl. 46.
 Ore-Lube Corp., The, College Point, N.Y. 863,712, Cl. 15.
 Orlando, C., Corp., New York, N.Y. 863,628, pub. 10-29-68. Cl. 46.
 Overhead Door Corp., Dallas, Tex. 863,435, pub. 10-29-68. Cl. 10.
 Owens Plastic Products Corp.: See—
 APA Corp. of Florida, The.
 PPG Industries, Inc., from Pittsburgh Plate Glass Co., Pittsburgh, Pa. 863,524, pub. 10-29-68. Cl. 34.
 Pacific Container & Supply, Inc., Idaho Falls, Idaho. 863,363-4, pub. 10-29-68. Cl. 7.
 Page Milk Co., The, to The Page Milk Co., Tulsa, Okla. 506,592, ren. 1-14-69. Cl. 46.
 Page Milk Co., The, Merrill, Wis., to The Page Milk Co., Tulsa, Okla. 508,436, ren. 1-14-69. Cl. 46.
 Pagliani & Provenza S.p.A., Turin, Italy. 863,475-6, pub. 10-29-68. Cl. 22.
 Palmer Chemical & Equipment Co., Inc., Atlanta, Ga. 741,219, canc. Cl. 22.
 Parachuting Associates, Inc., Los Angeles, Calif. 863,549, pub. 10-29-68. Cl. 38.
 Paramount Poultry, Inc., Harbeson, Del. 863,614, pub. 10-29-68. Cl. 46.
 Park and Hagna, New York, N.Y. 741,381, canc. Cl. 46.
 Parker Pen Co., The, Janesville, Wis. 863,540, pub. 10-29-68. Cl. 37.
 Parker-Hannifan Corp., Cleveland, Ohio. 863,383, pub. 10-29-68. Cl. 13.
 Parodi Cigar Corp.: See—
 Tampa Cigar Co., Inc.
 Pecan Joe's Country Store: See—
 Orchard, Joseph T.
 Penick & Ford, Ltd., to R. J. Reynolds Foods, Inc., New York, N.Y. 250,951, ren. 1-14-69. Cl. 46.
 Penton Publishing Co., The, Cleveland, Ohio. 508,187-90, ren. 1-14-69. Cl. 38.
 Perlov, Raymond, d.b.a. H. J. Hill Co., Los Altos, Calif. 741,174, canc. Cl. 18.
 Permacel: See—
 Johnson & Johnson.
 Perma-Power Co.: See—
 Chamberlain Mfg. Corp.
 Peter Pan Seafoods, Inc.: See—
 Harris, P. E. & Co.
 Petrak, Peter N., d.b.a. "Rel-eeze" Laboratory, Durate, Calif. 863,408, pub. 0-10-68. Cl. 18.
 Petty Geophysical Engineering Co., San Antonio, Tex. 863,655, pub. 10-29-68. Cl. 101.
 Pfizer, Chas. & Co., Inc., New York, N.Y. 863,658, pub. 10-29-68. Cl. 51.
 Pita Gol S.A., Barcelona, Spain. 863,597, pub. 10-29-68. Cl. 46.
 Pittsburgh Plate Glass Co.: See—
 PPG Industries, Inc.
 Plastilite Corp., Omaha, Nebr. 863,462, pub. 10-29-68. Cl. 22.
 Plaza Inn Co., The, Kansas City, Mo. 863,681, pub. 10-29-68. Cl. 100.
 Polynastics Corp., Croydon, Pa. 863,397, pub. 10-29-68. Cl. 10.
 Poupon, Merre, Bourgogne, France. 863,641, pub. 10-29-68. Cl. 47.
 Precision Dynamics Corp., Burbank, Calif. 863,350, pub. 10-29-68. Cl. 3.
 Precision Lock Mfg. Co., Inc., Brooklyn, N.Y. 741,251, canc. Cl. 25.
 Premax Laboratories, Inc., Oakland, Calif. 863,662, pub. 4-16-68. Cl. 52.
 Prescott, J. L., Co., from Rose-X Chemical Co., Inc., Passaic, N.J. 863,353, pub. 10-29-68. Multiple Class (Classes 6 and 52).
 Private Enterprise, Inc., Wichita, Kans. 741,410, canc. Cl. 102.
 Procter & Gamble Co., The, Cincinnati, Ohio, from Metal & Thermit Corp., Woodbridge, N.J. 741,128, canc. Cl. 6.
 Procter & Gamble Co., The, Cincinnati, Ohio, from Metal & Thermit Corp., Woodbridge Township, Middlesex County, N.J. 741,170, canc. Cl. 18.
 Product Brokers, Inc., Sewickley, Pa. 741,231, canc. Cl. 23.
 Progressive Laboratory Specialties Corp., Woodbury, N.Y. 863,661, pub. 10-29-68. Cl. 52.
 Purdue Frederick Co., The, Yonkers, N.Y. 863,410, pub. 8-13-68. Cl. 18.
 Purdue Frederick Co., The, Yonkers, N.Y. 863,414, pub. 8-13-68. Cl. 18.
 Purdue Frederick Co., The, Yonkers, N.Y. 863,416, pub. 8-6-68. Cl. 18.
 Purdue Frederick Co., The, Yonkers, N.Y. 863,423, pub. 10-29-68. Cl. 18.
 Puritan Chemical Co., Atlanta, Ga. 863,664, pub. 10-29-68. Cl. 52.
 Puroator Products (Canada) Ltd., Toronto, Ontario, Canada. 741,286, canc. Cl. 31.
 Raab-Meyerhoff, M. H., Co.: See—
 Tyson Shirt Co.
 Raymond Silver Mfg. Co., Inc., Chelsea, Mass. 863,538, pub. 10-29-68. Cl. 37.
 Raymond, Frank, d.b.a. Fringe Benefit Co., New York, N.Y. 863,555, pub. 10-29-68. Cl. 39.
 Ramey-Tyson Shirt Corp.: See—
 Tyson Shirt Co.
 Randolph-Rand Corp., New York, N.Y. 863,384, pub. 6-18-68. Cl. 13.
 Rapid-American Corp., New York, N.Y. 863,567, pub. 10-29-68. Cl. 39.
 Rebents: See—
 Brown, Richard E.
 Reeves Brothers, Inc., New York, N.Y. 863,575, pub. 10-29-68. Cl. 42.
 Reeves Food Co.: See—
 Reeves, R. E.
 Reeves, R. E., d.b.a. Reeves Food Co., Rosemead, Calif. 741,377, canc. Cl. 46.
 Regional Services Corp., Washington, D.C., from The General Tire & Rubber Co., Akron, Ohio. 863,452, pub. 10-29-68. Multiple Class (Classes 21 and 31).
 "Rel-eeze" Laboratory: See—
 Petrak, Peter N.
 Renfro-Franklin Co.: See—
 Kiedrowski, David J.
 Rex Chainbelt Inc., Milwaukee, Wis. 863,484, pub. 9-17-68. Cl. 23.
 Rexall Drug & Chemical Co., d.b.a. Fibersil, Los Angeles, Calif. 863,335, pub. 8-20-68. Cl. 1.
 Reynolds R. J., Foods, Inc.: See—
 Penick & Ford, Ltd.
 Richardson-Merrell Inc., New York, N.Y. 863,420-1, pub. 10-29-68. Cl. 18.
 Rich-Flex Mfg. Corp., Central Falls, R.I. 863,584, pub. 10-29-68. Cl. 43.
 Roberts Co., Sanford, N.C. 863,494, pub. 10-29-68. Cl. 23.
 Robins, A. H., Co., Inc., Richmond, Va. 508,653, ren. 1-14-69. Cl. 18.
 Rosenstock, H. & Sons, Inc., Ellenville, N.Y. 741,230, canc. Cl. 23.
 Rose-X Chemical Co., Inc.: See—
 Prescott, J. L. Co.
 Ross Operating Valve Co., Detroit, Mich. 741,149, canc. Cl. 13.
 Ross-Meehan Foundries, Chattanooga, Tenn. 509,029, ren. 1-14-69. Cl. 14.
 Roto-Pak Inc., Cleveland, Ohio. 741,229, canc. Cl. 23.
 Royal River Packing Co., Yarmouth, Maine. 863,614, pub. 10-29-68. Cl. 46.
 Rumpf Publishing Co., The: See—
 Hyde & Leather Publishing Co.
 S.A.R.L. Manufacture d'Articles de Puericulture du Sud-Ouest-M.A.P.S.O., Biarritz, Basses-Pyrenees, France. 863,564, pub. 10-29-68. Cl. 39.
 Safaritou, Inc., Hollywood, Calif. 741,415, canc. Cl. 105.
 Sala A.G., Murten, Fribourg, Switzerland. 863,445, pub. 10-29-68. Multiple Class (Classes 21 and 26).

- St. Louis Shoe Corp., St. Louis, Mo. 863,565, pub. 10-29-68. Cl. 39.
- St. Regis Tobacco Corp. Ltd., Zurich, Switzerland. 863,400-1, pub. 10-29-68. Cl. 17.
- Sattinger, Marianne, Forest Hills, N.Y. 741,150, can. Cl. 13.
- Samsel, Ralph, d.b.a. Ralph Samsel Co., El Centro, Calif. 863,634, pub. 10-29-68. Cl. 46.
- Samsel, Ralph, Co.: See—
Samsel, Ralph.
- Sanders, Robert E., d.b.a. Sandy's Spiedle Shoppes, Johnson City, N.Y. 863,601, pub. 10-29-68. Cl. 46.
- Sands, Taylor & Wood Co., Somerville, Mass. 502,240. Am. 7(d). Cl. 46.
- Sandy's Spiedle Shoppes: See—
Sanders, Robert E.
- Santa Fe Vintage Co., Los Angeles, to United Vintners, Inc., Sao Francisco, Calif. 506,044-5, ren. 1-14-69. Cl. 47.
- Sealy, Inc., Chicago, Ill. 741,293, can. Cl. 32.
- Sears, Roebuck & Co., Chicago, Ill. 863,368, pub. 8-20-68. Cl. 12.
- Segal, E. H., d.b.a. Er-Rol Articulator Mfg. Co., Los Angeles, Calif. 863,589, pub. 10-29-68. Cl. 44.
- Seismograph Service, from Seismograph Service Corp., Tulsa, Okla. 863,700, pub. 10-29-68. Cl. 104.
- Seismograph Service Corp., from Seismograph Service Corp., Tulsa, Okla. 863,505, pub. 10-29-68. Cl. 26.
- Seismograph Service Corp.: See—
Seismograph Service.
- Seltz Packing Co., Inc., St. Joseph, Mo. 741,375, can. Cl. 46.
- Serabbe Mfg. Co., Chicago, Ill. 741,213, can. Cl. 22.
- Service Broadcasting Co., Modesto, Calif. 741,414, can. Cl. 104.
- Schlumberger Ltd. (Schlumberger N.Y.), New York, N.Y., from Schlumberger Technology Corp., Houston, Tex. 863,677-80, pub. 10-29-68. Cl. 100.
- Schlumberger Technology Corp.: See—
Schlumberger Ltd. (Schlumberger N.Y.).
- Schuyler, Keith C., Berwick, Pa. 863,545, pub. 10-29-68. Cl. 38.
- Shatterproof Glass Corp., Detroit, Mich. 505,682, ren. 1-14-69. Cl. 33.
- Shaw-Walker Co., The, Muskegon, Mich. 863,513, pub. 10-29-68. Cl. 32.
- "She" Cosmetic Co.: See—
Redwell, Clifford O.
- Sheffield Watch, Inc., New York, N.Y. 741,278, can. Cl. 27.
- Sherwood Medical Industries Inc., from Brunswick Corp., Chicago, Ill. 863,586, pub. 10-29-68. Cl. 44.
- Simplot, J. R., Co., Boise, Idaho. 863,622, pub. 10-29-68. Cl. 46.
- Smith Co., The: See—
Smith-Schreyer & Associates.
- Smith, D. B., & Co., Inc., Utica, N.Y. 252,792, ren. 1-14-69. Cl. 23.
- Smith-Schreyer & Associates, d.b.a. The Smith Co., Canoga Park, Calif. 863,453, pub. 10-29-68. Cl. 21.
- "Societe Metallurgique Hainaut-Sambre," Societe Anonyme, Conillet, Belgium. 863,366, pub. 10-29-68. Multiple Class (Classes 12 and 14).
- Societe pour l'Exploitation et la Vente des Produits "Eva" et "Fruite," Evian-les-Bains (Haute-Savoie), France. 863,619, pub. 10-29-68. Cl. 46.
- Sokol & Co.: See—
California Vegetable Products Co.
- Somaco Co.: See—
Somerville, Robert S., and Gilbert S. Magraw.
- Somerville, Robert S., and Gilbert S. Magraw, d.b.a. Somaco Co., St. Clair Shores, Mich. 741,214, can. Cl. 22.
- Sound One, Ltd., Los Angeles, Calif. 863,451, pub. 10-29-68. Cl. 21.
- Southport Paint Co., Inc., Savannah, Ga. 368,671-2, cor. Cl. 12.
- Southport Paint Co., Inc., Savannah, Ga. 403,765, cor. Cl. 16.
- Southport Paint Co., Inc., Savannah, Ga. 404,659, cor. Cl. 12.
- Southport Paint Co., Inc., Savannah, Ga. 566,894, cor. Cl. 16.
- Space and Form Hair Design School: See—
Dutton, Collene T.
- Spadea Syndicate, Inc., Milford, N.J. 863,553, pub. 10-29-68. Cl. 38.
- Speedamat Addressing Machinery, Inc.: See—
Speedamatic Co., The.
- Speedamatic Co., The, now by change of name Speedamat Addressing Machinery, Inc., to Speedamat Mfg. Co. of Chicago, Ill., Chicago, Ill., to Addressograph-Multigraph Corp., Cleveland, Ohio. 253,798, ren. 1-14-69. Multiple Class (Classes 23 and 50).
- Sperry Rand Corp.: See—
Lectroon Corp., The.
- Splindler & Sapppe, Glendale, Calif. 863,716, Cl. 26.
- Spokane Film, Inc., Spokane, Wash. 863,548, pub. 10-29-68. Multiple Class (Classes 38 and 106).
- Spurgeon Hosley Corp., Philadelphia, Pa., to Vale Hosley Corp., Lincolnton, N.C. 503,647, ren. 1-14-69. Cl. 39.
- Stacks, Irving H., d.b.a. Beacon Pharmaceutical Co., Boston, Mass. 741,400, can. Cl. 51.
- Stacy Fabrics Corp., New York, N.Y. 863,578, pub. 10-29-68. Cl. 42.
- Standard Elektrik Lorenz Aktiengesellschaft, Stuttgart-Zuffenhausen, Germany. 741,205, can. Cl. 21.
- Stanley Home Products, Inc., Westfield, Mass. 863,709, Cl. 6.
- Stauffer Chemical Co., New York, N.Y. 502,508, ren. 1-14-69. Cl. 6.
- Sterenber, Samuel, d.b.a. Ill-Craft Clothing Co., Philadelphia, Pa. 741,338, can. Cl. 39.
- Stevconk Textile Co., New York, N.Y. 863,572, pub. 10-1-68. Cl. 42.
- Stevens, J. P., & Co., Inc., New York, N.Y. 863,581, pub. 10-29-68. Cl. 43.
- Stene Conveyor Co., Inc., Honeoye, N.Y. 863,481, pub. 10-29-68. Cl. 23.
- Stone-Cline Curtain Co., Inc., to Bay State Curtain Mfg. Co., Inc., Fitchburg, Mass. 503,851, ren. 1-14-69. Cl. 42.
- Stratton, George E., San Francisco, Calif. 863,542, pub. 10-29-68. Cl. 38.
- Strouse, Adler, Co., The, New Haven, Conn. 863,562, pub. 10-29-68. Cl. 39.
- Struhl, Morris, Inc., New York, N.Y. 863,499, pub. 10-29-68. Cl. 23.
- Sturkie, Maxie L., d.b.a. Color Care Television, West Columbia, S.C. 863,696, pub. 10-29-68. Cl. 103.
- Subscription Television, Inc., New York, N.Y. 863,491, pub. 10-29-68. Cl. 23.
- Sundstrand Corp., Rockford, Ill. 741,253, can. Cl. 26.
- Sup-Vic Controls Ltd., to Associated Electrical Industries Ltd., London, England. 440,287, ren. 1-14-69. Cl. 21.
- T.F.H. Publications, Inc., Jersey City, N.J. 863,509, pub. 10-29-68. Cl. 31.
- Talo Buyers, Inc., Little Rock, Ark. 863,460, pub. 10-29-68. Cl. 22.
- Tampa Cigar Co., Inc., Tampa, Fla., to Parodi Cigar Corp., Evansville, Ind. 504,630, ren. 1-14-69. Cl. 17.
- Tamura Jishodo Co., Ltd., Sumiyoshi-Ku, Osaka, Japan. 863,653, pub. 10-29-68. Cl. 51.
- Taxpert Income Tax Services: See—
Galas, Theodore D.
- Taylor Brothers, Inc., Winston-Salem, N.C. 240,956, ren. 1-14-69. Cl. 17.
- Technical Rubber, Inc., West Haven, Conn. 863,649, pub. 10-29-68. Cl. 50.
- Tectronics Mfg. Corp., Bremen, Ind. 863,458, pub. 10-29-68. Cl. 21.
- Tenoco, Inc., Nashville, Tenn. 863,502, pub. 10-29-68. Multiple Class (Classes 24 and 34).
- Textroon, Inc., Providence, R.I. 863,711, Cl. 13.
- Thiokol Chemical Corp., Bristol, Pa. 863,438, pub. 10-29-68. Cl. 19.
- Thomas, Susan, New York, N.Y. 741,422, can. Cl. 39.
- Tonka Corp., Mound, Minn. 863,465-6, pub. 10-29-68. Cl. 22.
- Tower Press, Inc., Danvers, Mass. 863,721, Cl. 38.
- Toyo Rayon Co., Ltd., Chuo-Ku, Tokyo, Japan. 863,560, pub. 10-29-68. Multiple Class (Classes 39 and 43).
- Tri-Co Almonds, Inc., Chico, Calif. 863,638, pub. 10-29-68. Cl. 46.
- Trifiletti, Don, d.b.a. Magnifico Records, Mamaroneck, N.Y. 741,316, can. Cl. 36.
- Trustees of Mount Holyoke College, The, South Hadley, Mass. 863,547, pub. 10-29-68. Cl. 38.
- Tuoz-Sol Lamp Works, Inc., to Wagner Electric Corp., Newark, N.J. 441,094, ren. 1-14-69. Cl. 38.
- Tyson Shirt Co., Norristown, to M. H. Raab-Meyerhoff Co., d.b.a. Ramey-Tyson Shirt Corp., Philadelphia, Pa. 248,694-5, ren. 1-14-69. Cl. 39.
- UBS Fund of Canada, Ltd., Montreal, Quebec, Canada. 741,411, can. Cl. 102.
- USS Agri-Chemicals, Inc., Pittsburgh, Pa., from Armour Agricultural Chemical Co., Chicago, Ill. 863,359, pub. 9-10-68. Cl. 6.
- USS Agri-Chemicals, Inc., Pittsburgh, Pa., from Armour Agricultural Chemical Co., Atlanta, Ga. 863,672, pub. 10-29-68. Cl. 100.
- USV Pharmaceutical Corp., New York, N.Y. 863,429-30, pub. 10-29-68. Cl. 18.
- Uddeholms Aktiebolag, Uddeholm, Sweden. 863,391, pub. 10-29-68. Cl. 14.
- Ugine Kuhlmann, Paris, France. 863,354, pub. 10-29-68. Cl. 6.
- Ulano Products Co., Inc., Brooklyn, N.Y. 863,347-9, pub. 10-29-68. Cl. 1.
- Unarco Industries, Inc., Chicago, Ill. 863,433, pub. 10-29-68. Cl. 19.
- Underground Contractors Association, Chicago, Ill. 863,706, pub. 10-29-68. Cl. 200.
- Union Fork & Hoe Co., The, Columbus, Ohio. 863,443, pub. 10-29-68. Cl. 19.
- Union Lumber Co., San Francisco, Calif. 863,333, pub. 10-29-68. Multiple Class (Classes 1, 10, and 12).
- Union Tank Car Co.: See—
Graver Tank & Mfg. Co., Inc.
- Uniroyal, Inc., New York, N.Y. 863,574, pub. 10-29-68. Cl. 42.
- United Citrus Growers: See—
Damus, Shibli S.
- United Grocers, Ltd., Richmond, Calif. 863,704-5, pub. 10-29-68. Cl. 200.
- United Merchants & Manufacturers, Inc., New York, N.Y. 863,334, pub. 8-20-68. Cl. 1.
- United Silver & Cutlery Co., Los Angeles, Calif. 863,517, pub. 10-29-68. Cl. 34.
- United Vintners, Inc.: See—
Santa Fe Vintage Co.
- United States Baking Co., Inc., Carrollton, Mo. 863,617, pub. 10-29-68. Cl. 46.
- U.S. Industries, Inc., New York, N.Y. 741,194-5, can. Cl. 21.
- Urbana Laboratories, Inc., The: See—
Whitting, Albert L.
- Usines Vander Elst Freres Societe Anonyme, Antwerp, Belgium. 863,402, pub. 10-29-68. Cl. 17.

- Vale Hosley Corp.: See—
Spurgeon Hosley Corp.
- Valhar Chemical Corp., Greenwich, Conn. 863,407, pub. 10-29-68. Cl. 18.
- Van Wyck International Corp., New York, N.Y. 863,714, Cl. 23.
- Vandever Tire Co., Inc., Joplin, Mo. 863,528, pub. 10-29-68. Cl. 35.
- Venice, Inc.: See—
Glo-ann Jewelry Co.
- Victor Comptometer Corp., from Comptometer Corp., Chicago, Ill. 741,318, can. Cl. 37.
- Victor Comptometer Corp.: See—
Heddon's, James, Sons.
- Vistron Corp., Cleveland, Ohio. 863,378, pub. 10-29-68. Cl. 12.
- Vistron Corp., Cleveland, Ohio. 863,385, pub. 10-29-68. Cl. 13.
- Vocational Footwear, Inc., Lutesville, Mo. 741,342, can. Cl. 39.
- Wagman, Charlotte, d.b.a. Context Ltd., Philadelphia, Pa. 863,557, pub. 10-29-68. Cl. 39.
- Wagner Electric Corp.: See—
Tung-Sol Lamp Works, Inc.
- Wallace Davis Co., The: See—
Wallace-Davis Mfg. Co.
- Wallace-Davis Mfg. Co., Woodbridge, to The Wallace Davis Co., Hamden, Conn. 440,723, ren. 1-14-69. Cl. 32.
- Warco Patent Bed Co., Delaware, Ohio. 741,302, can. Cl. 32.
- Webb, Floyd L., San Francisco, Calif. 863,610, pub. 10-29-68. Cl. 46.
- Webb, Jervis B., Co., Detroit, Mich. 863,437, pub. 10-29-68. Cl. 19.
- Weigang, Carl, d.b.a. Opticart-Verlag Carl Weigang, Hauptstrasse, Neubiberg, Germany. 863,541, pub. 10-29-68. Cl. 38.
- Weinschel Engineering Co., Inc., Kensington, Md. 741,275, can. Cl. 26.
- West Point-Pepperell, Inc., West Point, Ga. 863,577, pub. 10-29-68. Cl. 42.
- Western Electric Co., Inc., to Western Electric Co., Inc., New York, N.Y. 249,185, ren. 1-14-69. Cl. 38.
- Wham-O Mfg. Co., San Gabriel, Calif. 863,470-1, pub. 10-29-68. Cl. 22.
- White Trading Corp., New York, N.Y. 441,542, ren. 1-14-69. Cl. 42.
- White, Walter F., Cleveland, Ohio. 863,504, pub. 10-29-68. Cl. 26.
- Whitehall Co., Ltd., d.b.a. Cossnov & Co., Allston, Mass. 863,643, pub. 10-29-68. Cl. 49.
- Whitting, Albert L., to The Urbana Laboratories, Inc., Urbana, Ill. 238,391, ren. 1-14-69. Cl. 10.
- Wilbur-Ellis Co., San Francisco, Calif. 863,627, pub. 10-29-68. Cl. 46.
- Willsey-Bennett Co., San Francisco, Calif. 863,011, pub. 10-29-68. Cl. 46.
- Wilson's, William M., Sons, Inc., Lansdale, Pa. 863,493, pub. 10-29-68. Cl. 23.
- Winchell Service Corp., Burbank, Calif. 741,382, can. Cl. 46.
- Woburn Chemical Corp., Harrison, N.J. 863,394, pub. 10-29-68. Cl. 16.
- Worham, Antony, Ltd., London, England. 863,609, pub. 10-29-68. Cl. 46.
- Workman, James, d.b.a. Finger Tip Check Protection Co., Santa Ana, Calif. 741,325, can. Cl. 38.
- Yawnman & Erbe Mfg. Co., Inc., Rochester, N.Y. 741,306, can. Cl. 32.
- Youngstown Sheet & Tube Co., The, Youngstown, Ohio. 863,374, pub. 10-29-68. Multiple Class (Classes 12 and 13).
- Zinc-Lock Co., Oakland, Calif. 863,392-3, pub. 10-29-68. Cl. 16.

PATENTS
NOTICES

Board of Appeals Decisions Rendered in the Month of
October 1968

Examiner affirmed	151
Examiner affirmed in part	30
Examiner reversed	48
Total	229

3,300,739.—*Wilfrid Sinden Mortley*, Great Baddow, England.
FREQUENCY-DISPERSIVE ELECTROMECHANICAL
DELAY CELL UTILIZING GRATING. Patent dated
Jan. 24, 1967. Disclaimer filed Dec. 5, 1968, by the as-
signee, *The Marconi Company Limited*.

Hereby enters this disclaimer to claims 1, 2, 3, 4 and 8 of
said patent.

Defensive Publication Program

The notice of October 1, 1968 (855 O.G. 1109) which ex-
tended the open season of the New Defensive Publication
Program until January 1, 1969, is hereby modified to further
extend the open season indefinitely. Accordingly, until further
notice any patent application which has not been given a first
action may be entered in the Defensive Publication Program.

RICHARD A. WAHL,
Assistant Commissioner.

Dec. 20, 1968.

Disclaimers

3,239,403.—*Frank R. Williams* and *Richard S. Neely*, Erie,
Pa. METHOD OF JOINING TWO MEMBERS BY
MEANS OF AN ADHESIVE COATED CARBON CLOTH
RESISTANCE MEMBER. Patent dated Mar. 8, 1966.
Disclaimer filed Dec. 6, 1968, by the assignee, *Lord Cor-
poration*.

Hereby enters this disclaimer to claims 1 to 4, 7, 8 and 10
of said patent.

Certificates of Correction for the Week of Jan. 21, 1969

3,122,508	3,350,790	3,358,502
3,170,912	3,350,795	3,359,081
3,200,603	3,351,462	3,359,146
3,244,058	3,352,229	3,359,285
3,294,778	3,352,849	3,359,320
3,314,154	3,353,637	3,359,466
3,318,822	3,353,766	3,359,542
3,329,637	3,353,990	3,359,764
3,336,198	3,354,076	3,359,782
3,336,367	3,354,724	3,359,787
3,340,260	3,355,368	3,360,294
3,340,261	3,355,596	3,360,397
3,340,268	3,356,781	3,360,449
3,341,524	3,357,177	3,360,456
3,342,778	3,357,251	3,360,481
3,342,803	3,357,254	3,360,497
3,343,095	3,357,283	3,360,502
3,345,136	3,357,717	3,360,523
3,349,433	3,357,986	3,360,560
3,350,023	3,357,989	3,360,572
3,350,248	3,358,445	3,360,720
	3,358,491	

New Applications Received During October 1968

Patents	8383
Designs	463
Plant Patents	10
Reissues	38
Total	9081

Issue—January 21, 1969

Patents	1300—No. 3,422,458 to No. 3,423,757, incl.
Designs	12—No. 213,247 to No. 213,258, incl.
Plant Patents	3—No. 2,856 to No. 2,858, incl.
Reissues	1—No. 26,520
Total	1316

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF DECEMBER 16, 1968

PATENT EXAMINING OPERATIONS AND GROUPS	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
* Denotes date of oldest application for each Operation.		
CHEMICAL EXAMINING OPERATION		
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director.....	8-06-66	3-04-64
Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.		
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director.....	6-20-66	7-10-63
Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Hericides; Poisons; Medicines; Cosmetics; Steroids; Oxid and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.		
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING, GROUP 140—L. J. BERCOVITZ, Director.....	8-11-66	3-04-64
Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Fore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.		
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—J. R. LIBERMAN, Director.....	*4-14-66	*7-03-63
Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.		
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director.....	9-26-66	5-07-64
Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.		
ELECTRICAL EXAMINING OPERATION		
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—W. S. COLE, Director.....	1-30-67	4-06-64
Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.		
SECURITY, GROUP 220—S. BOYD, Director.....	8-18-67	6-01-65
Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.		
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—M. L. LEVY, Director.....	*1-19-66	*11-21-62
Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.		
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director.....	4-08-66	10-24-63
Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.		
PHYSICS, GROUP 280—R. L. EVANS, Director.....	1-11-67	4-28-65
Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.		
DESIGNS, GROUP 290—S. BOYD, Director.....	3-04-68	8-02-67
Industrial Arts; Household, Personal and Fine Arts.		
MECHANICAL EXAMINING OPERATION		
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director.....	8-17-67	1-24-66
Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.		
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—N. BEROER, Director.....	4-03-67	2-26-65
Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.		
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGO, Director.....	*3-22-67	12-08-64
Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Trolley; Printing; Typewriters; Stationery; Information Dissemination.		
HEAT AND POWER ENGINEERING, GROUP 340—C. F. OAREAU, Director.....	11-20-67	1-13-67
Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.		
FIXED CONSTRUCTIONS, SUPPORTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Director.....	8-28-67	6-07-65
Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures.		
TEXTILES, CLEANING AND FLUID HANDLING, GROUP 360—F. H. BRONAUGH, Director.....	4-15-67	*2-21-64
Fluid Handling, including Valves; Conduits; Filling Receptacles; Lubrication; Joint Packing; Bathroom Fixtures; Centrifugal Separators; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes and their Manufacture; Sewing Machines; Winding and Reeling.		
Total number of pending applications (excluding Designs).....		186,959
Total number of Design applications pending.....		2,837

Expiration of patents: The patents within the range of numbers indicated below expire during January 1969, except those which may have expired earlier due to shortened terms under the provisions of Public Law 600, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 619, 83rd Congress, approved August 23, 1954 (68 Stat. 784), or which may have had their term curtailed by disclaimer under the provisions of 35 U.S.C. 253.

Patents..... Numbers 2,580,379 to 2,584,101, inclusive
Plant Patents..... Numbers 1,069 to 1,070, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE MILTON E. HERR

No. 7751. Decided May 11, 1967

[54 CCPA 1315; 377 F.2d 610; 153 USPQ 548]

1. RES JUDICATA—IDENTICAL CLAIMS—APPLICATION DISCLOSURE AND RECORD DIFFERENT.

"Granted the instant parties and claims [rejected on *res judicata*] are identical with those of the parent Herr application and, in a broad sense, the issue in the original appeal was, as here, whether those claims were allowable in view of the prior art. More to the point, however, the precise issue in the prior Herr appeal was whether appellant was entitled to allowance of his claims in the application and record then on appeal [where evidence was based on undisclosed properties]. The precise issue here is whether appellant has legally established his right to those claims in the application and record now before [us where the properties relied on have been disclosed]. We think he has."

APPEAL from the Patent office. Serial No. 223,816.
REVERSED.

Eugene O. Retter, The Upjohn Company, Gerard A. Blaufarb for appellant.

Joseph Schimmel for the Commissioner of Patents.

Before WORLEY, Chief Judge, RICH, SMITH, and ALMOND, Associate Judges, and WILLIAM H. KIRKPATRICK¹

WORLEY, Chief Judge, delivered the opinion of the court.

This appeal is from the decision of the Board of Appeals affirming the *res judicata* rejection of claims 1-3 of appellant's application² for "Organic Compounds," wherein the Board stated:

The sole rejection is on the ground of *res judicata* arising from the prosecution of appellant's parent application, Serial No. 583,923, culminating in a decision by the United States Court of Customs and Patent Appeals, *In Re Herr*, 50 CCPA 705, * * * 304 F.2d 906, 134 USPQ 176. Claims 1, 2 and 3, here on appeal correspond exactly to claims 1, 4 and 3, respectively, adjudicated in the prior application. The claims of the parent application were held to be obvious from a cited reference and the attempted showing of unexpected androgenic and anabolic activity was refused consideration because that application did not disclose such activity.

The Examiner holds that inasmuch as the instant claims are identical with the claims previously held unpatentable in the parent application, *res judicata* bars the allowance of the claims herein. [Emphasis supplied.]

Before termination of proceedings in appellant's parent application,³ the present application was filed, disclosing that the claimed compounds do possess anabolic and androgenic activity. In a sense, appellant has purged the prior application of the defects in the disclosure which we found dispositive in our earlier Herr opinion, thus laying the foundation for admission of the Stafford affidavit referred to in that opinion, 50 CCPA at 707. Additional affidavits of Stafford and one Lyster were submitted to detail and confirm the results described in the earlier affidavit.

¹ Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

² Serial No. 223,816, filed September 14, 1962.

³ This court issued its final order to the Patent Office on November 2, 1962.

Although the Examiner held that appellant's new evidence of non-obviousness overcame the original rejection under 35 U.S.C. 103,⁴ he nevertheless invoked the doctrine of *res judicata* as a bar to appellant's claims. The Board affirmed, apparently feeling that principles derived from its own decisions, as well as those of this and other courts,⁵ required application of *res judicata*. We do not agree.

[1] Granted the instant parties and claims are *identical* with those of the parent Herr application and, in a *broad* sense, the issue in the original appeal was, as here, whether those claims were allowable in view of the prior art. More to the point, however, the precise issue in the prior Herr appeal was whether appellant was entitled to allowance of his claims in the *application* and *record then* on appeal. The precise issue here is whether appellant has legally established his right to those claims in the *application* and *record now* before us. We think he has.

That *different* issues of patentability are indeed presented by the two records is evident from the totally different treatment accorded appellant's claims by the Patent Office. On the *original* record, including the defective specification and inadmissible Stafford affidavit, the claims were found *unpatentable* over the prior art. On the *present* record, including the amended specification and now admissible affidavit, the identical claims are found *patentable* over the prior art.⁶

The Patent Office, in discharging its duties to the public, has commendably required applicants for patents to provide an adequate quid pro quo in exchange for the monopoly sought. It should be equally alert in protecting the rights of applicants who have legally and properly established such a right.⁷ To do otherwise would be to unjustly enrich the public at the expense of the inventor, a result we feel confident Congress could not have intended.

We appreciate, but are inclined to discount, the somewhat exaggerated fears of the Patent Office of the potential procedural bedlam resulting from our holding here. In the first place, we fail to see why, as a practical matter, an applicant would deliberately embark on a procedure necessarily involving the time, trouble, expense, risks,

⁴ "In view of the difference of kind disclosed in the affidavit," said the Examiner, "the rejection predicated upon the Herr and Sondheimer *et al.* references is no longer applicable."

The Board agreed:

"... In essence, appellant urges that he has a new application which entitles him to a new adjudication of the patentability of the appealed claims, including consideration of the evidence previously refused consideration in his parent application. Upon such new adjudication, the appealed claims must be found patentable over the art, the Examiner having withdrawn the references. [Emphasis supplied.]

⁵ Numerous decisions are cited, pro and con, involving the doctrine of *res judicata*, a creature of the courts, not of Congress. We have examined them all, including *In re Swarc*, 50 CCPA 1571, 319 F.2d 277, 138 USPQ 208, so heavily relied on by the Solicitor, without finding any one so directly in point with the facts here as to be controlling. The Board, while regarding *In re Lundberg*, 47 CCPA 1140, 280 F.2d 865, 126 USPQ 412, as "most authoritative and best expressing the principles which should guide us," found no case expressly in point, stating:

Factually, the *Gustafson et al.* [14 USPQ 332] and *Schott* [136 USPQ 383] cases, supra, cited by appellant, and the *Itiner* [85 USPQ 24] and *Prutton* [40 CCPA 975, 204 F.2d 291, 97 USPQ 447] cases, supra, included in our list, come closest to the facts of the present case, although none is identical in every respect. In these cases, new evidence was introduced in the second proceeding to support the patentability of the appealed claims. In the two cases relied upon by appellant, the rejection was reversed; in the other two cases, the rejection was affirmed. [Emphasis supplied.]

We note that the Board, sitting en banc, declined to follow *Schott* in *Ex parte Budde*, 150 USPQ 469.

⁶ We note the somewhat irreconcilable provisions of The Manual of Patent Examining Procedure, § 706.03(w), as applied to the facts here:

A prior adjudication against the inventor on the same or similar claims constitutes a proper ground of rejection as *res judicata*. Where a different question of patentability is presented the rejection of *res judicata* does not apply.

It should be readily apparent that the mere fact the present claims are identical to those sought to be patented earlier is not, of itself, necessarily determinative of whether the same issue, cause of action, or "question of patentability" is involved in the two proceedings.

⁷ Theories and assumptions of what appellant *might* have done before appealing to this court are not for us to pass on. Our concern is with what he actually *has* done in seeking to establish and protect his rights. The Patent Office has not challenged appellant's right to proceed as he has.

delays and uncertainties attendant thereon. The second, and overriding, reason is that Congress has authorized⁸ the course appellant has followed, and doubtless expects compliance by the Patent Office and the courts. That is what we seek to do here.

The decision is reversed.

REVERSED.

RICH, J., concurring.

The Board of Appeals wrote a carefully reasoned opinion (Mar. 29, 1965) in this case and, a year afterward, gave extensive *en banc* consideration to the problem of *res judicata* in the Patent Office. *Ex parte Budde*, 150 USPQ 469 (Mar. 14, 1966).⁹ The *en banc* consideration was stated to have been "because of the importance of the legal issue," and it is indeed important. It is also a question of some difficulty and much confusion.

In deciding this case the board majority placed primary reliance on two of our decisions, *Lundberg* and *Prutton*. As to the first it said:

In our opinion, the case of *In re Lundberg et al.*, 47 CCPA 1140, 1960 O.D. 478, 761 O.G. 582, 280 F.2d 865, 126 USPQ 412, is most authoritative and best expresses the principles which should guide us.

As to the other it said:

In re Prutton, supra [40 CCPA 975, 204 F.2d 291, 97 USPQ 447], is, in our opinion, extremely pertinent * * *.

It is our view that the case of *In re Prutton* dictates affirmation of the *res judicata* rejection in the present case.

In *Budde* the Board again felt itself bound by *Lundberg* and *Prutton*. The Solicitor's brief likewise relies on these cases.

I am glad to have had the opportunity to consider the extensive dissenting views of Judge Almond who also seems to feel that *Lundberg* and *Prutton* have controlling effect here, along with others of our decisions.

Thus the question before us is, to a large extent, whether *Lundberg* and *Prutton* control or whether they are distinguishable and should be distinguished. When we decide, as we do, that a holding of *res judicata* herein is improper, we at least owe the Board, which has tried to follow those precedents, and the bar, some explanation of why we so hold. It does not seem to me sufficient to say merely that neither case is identical in every respect or directly in point. The Board thought they were authoritative, pertinent, and controlling, and said so. Herein I try to say why I do not agree. As the author of the *Lundberg* opinion I feel that I in particular owe an explanation of why I think it does not compel an affirmation here.

As I have often found it necessary to point out, what is *said* in an opinion is the result of the questions raised and argument made in the case being discussed. While what is said may make sense in that context it does not necessarily do so when lifted therefrom and applied to a different situation. That is what appellee attempts here with respect to *Lundberg*. As is being so vociferously pointed out by all those opposed to the result which we of the majority here reach,

⁸ See, for example, 35 U.S.C. 120.

⁹ Thirteen members of the board participated, lacking but one member who disqualified himself. Three opinions were written, the two members who had been on the board deciding *Ex parte Schott*, 136 USPQ 383, disagreeing with the repudiation of that case by the majority. A third member appears to have felt that *Schott* should have been distinguished on its facts.

Lundberg does talk about the *claims* determining whether the issue in the second case is the same as it was in the first case because in *Lundberg* that *was* what determined it. What was said in the opinion was in answer to the appellants' contention that there was a different issue *because* the claims were different and in the opinion we were engaged in demonstrating that that particular argument was unsound. No other argument was made to show that there was a different issue.

In *Lundberg* what the appellants were trying to get us to do was to *reconsider* the patentability of the invention over the prior art and reverse ourselves on the same question, using as an excuse that there were differences in the claims which made new issues. What we were doing in the opinion was analyzing their arguments and pointing out that despite verbal changes the same patentability issue was still being presented for our consideration in view of the same prior art. Our attention was focused on the claims because the argument was based on them and so, in consequence, was our opinion. Such statements as "If the claimed subject matter is the same, the prior adjudication is binding" were made about the fact situation before us in *Lundberg* and were not being uttered as rules of general applicability to other fact situations, certainly not as guiding "principles," which the Board appears to have taken them to be.

The net effect of the *Lundberg* decision was that we *will* refuse to *reconsider* the *same* question of patentability *merely* because a few immaterial language changes have been made in the claims. Likewise, for the same reasons we felt the Examiner and the Board were justified in not reconsidering their decisions. The application of the principle of res judicata was but a convenient and conventional legal way of saying that we would not go over the *same* arguments we had already been over, as though on a rehearing, and that the like view of the Patent Office was justifiable.

The present case does not present a comparable situation. The question now is whether the claimed invention is patentable in view of evidence of unexpected advantageous properties we felt we should not consider in the prior case (whether rightly or wrongly I do not say), plus additional evidence. The issue in the prior case was section 103 obviousness in view of closeness of structure to the reference compound without that evidence. The holding was that the attempted showing of properties did not overcome the obviousness rejection because there was no disclosure of such properties in the specification, for which reason the evidence would not be considered. On this second application the specification *does* contain the disclosure, the Patent Office *has* looked at the evidence, and has decided that the claimed compounds are *not* obvious. The Patent Office has already reviewed the question of patentability on the merits but, having done so, says its former stand, now changed, must be adhered to only because decisions of this court compel it. On this second application, the Patent Office has been entirely satisfied that Herr is entitled to his patent *under the patent statute* but takes the position that this court says he must not have it. I find nothing in *Lundberg* to compel such an anomalous result.

I do not mean to imply that the fact the Patent Office has already considered the merits of the rejection has anything to do with our decision here. I shall discuss later its obligation to do so.

In *re Prutton*, the other case principally relied on below and in the dissent, was cited in *Lundberg*. The question in *Prutton* was whether

the *issue* was the same as the issue passed on by the Court of Appeals for the District of Columbia on a parent application, of which the application on appeal was a continuation-in-part. As Judge Almond's dissenting opinion tends to indicate, the facts in *Prutton* are much closer to those here than the facts of *Lundberg*. As here, on the second application the Board accepted affidavit evidence not before it on the first application and reversed a rejection on a reference while sustaining the res judicata rejection.¹⁰ This court approved. The *Prutton* opinion, citing a number of cases, seems to derive from them a rule, which it followed, to the effect that the claims of the second application must be "patentably different" from the claims previously adjudicated in order to avoid a holding of res judicata. It then embarked on a determination of whether the claims were patentably different and, finding they were not, affirmed the res judicata rejection, notwithstanding the opinion of the Board that the claims were patentable over the reference. I cannot clearly distinguish *Prutton* from this case and therefore I have great sympathy with the view of the Board that it dictates an affirmance. I likewise necessarily sympathize with the dissent. My position on *Prutton*, after giving it and the precedents it relies on in turn careful study, is that it reached the wrong conclusion and should be overruled. In my opinion, at least with respect to the reference the Board found to be overcome by the affidavit evidence on the new application, a *new issue* of patentability was presented and a decision thereon in applicant's favor would not "nullify the decision of the Court of Appeals in the earlier case." That court had a different issue before it, a different patentability problem.

As the opinion of the Board here, with its reference to many cases pro and con, and any independent examination of the question, will amply demonstrate, the past history of res judicata in ex parte Patent Office cases is a history of inconsistency. The fourth edition of McCrady's Patent Office Practice deals with the subject in sec. 138, amply footnoted with citations, the general tenor of which is that the Patent Office may or may not apply res judicata in any given situation, prefacing the discussion with the statement that

The Patent Office is not a "court," and because it is not a court it cannot render a "judgment," hence its decisions or other actions cannot give rise to "res judicata" in the strict legal sense of that term.

There next follows a quotation from one of the earliest cases in the field, *Barratt v. Duell*, 14 App. D.C. 255, 1899 C.D. 320 (cited by Judge Almond as "In re Barratt's Appeal") which set at an early date the noncommittal tone of the subsequent accumulated decisions on this subject. Therein the court concluded by saying:

In what we have said we do not desire it to be understood that the Patent Office may not, if it thinks proper so to do, *entertain and adjudicate a second application* for a patent after the first application has been rejected. What we decide is, that it is not *incumbent* upon the office as a duty to entertain such applications, and that, if it refuses to entertain them, it has a perfect legal right so to do. [Emphasis added.]

I suggest, in passing, that the statement is meaningless unless taken to mean that on a new application the Office need not *reconsider on the merits* the same *arguments* previously made on an earlier application since I know of no way in which it can refuse to "entertain and adjudicate" any complete application filed with the prescribed

¹⁰ There were two additional rejections on separate prior art references, besides the one the Board reversed, which the court did not reach because of its affirmance of the res judicata rejection.

fee. It is necessary, even to arrive at a res judicata rejection, to "enter-tain" an application and consider it to the extent of carefully determining its relation to the previous application. By the time an examiner has finished consideration of this point, as illustrated by what happened in both this case and *Pruett*, he may very well be in a position to say that on the record the claims are patentable under the statute and that he would allow them but for decisions of the court that he should apply "res judicata" to deny them.

Res judicata is a judicial doctrine the purpose of which is to settle disputes and put an end to litigation, enforcing ultimate repose. This is a matter of public policy, and a good one when applied to the situations for which it was designed. But the ex parte prosecution of patent applications cannot properly be characterized as either dispute or litigation. Moreover, there is another public interest to be considered, inherent in the patent laws, which is to bring patentable inventions into the open through granting patents on them.¹¹ And in addition to the technological disclosure aspect of the patent grant is the further service to the public it performs in providing an incentive to commercialize the invention, thereby giving the public not only knowledge but usable commodities. Society stands to lose when a patent is refused on an invention patentable under the statute.

This patenting process has little in common with the settlement of disputes between wrangling private parties and certainly its object is not to bring about peaceful repose in society. Its object is, on the contrary, to produce industrial and economic ferment and to goad inventors and entrepreneurs into activity through basic psychological appeals to self-interest. The public interest calls for the grant of patents on every invention patentable according to the tests laid down in the patent statutes. The Patent Office has ruled that such an invention is present here and has raised only the legal theory of res judicata as an obstacle to its patenting. In doing so I think it misapplies the theory.

The *Pruett* opinion rests on the following precedents as authority, which I list and shall discuss in chronological order: *Blackford v. Wilder*, 28 App. D.C. 535, 1907 C.D. 491; *In re Edison*, 30 App. D.C. 321, 1908 C.D. 327; *In re Ellis*, 24 CCPA 759, 86 F.2d 412, 31 USPQ 380 (1936); and *Hemphill Co. v. Coe*, 74 App. D.C. 123, 121 F.2d 897, 49 USPQ 484 (mis-cited in the opinion as 48 USPQ 501) (1941). Citing *Ellis* three times, *Hemphill* twice, and the others once, the court appears to derive its "Patentably different" rule merely from certain words in those opinions without too much thought for their context, a rule clearly in conflict with the result we now reach. Since *Barratt v. Duell*, supra, is referred to in each of the above cases except *Ellis*, and in Judge Almond's dissent, I will first comment on it.

Barratt was a case in the Court of Appeals for the District of Columbia in 1899 when that court was the sole reviewing court for the Patent Office. The same court had previously considered an earlier application on the same invention. *Barratt v. Seymour*, 11 App.

¹¹ In this connection I cannot refrain from commenting on the following incredible passage at the end of the Solicitor's brief:

At the present time no patent exists on the claimed compounds. If appellant obtains the relief he seeks, namely a patent on those compounds, the public right to be free of the patent monopoly is surely impaired. [Emphasis added.]

The public has no right to be free of a patent monopoly on the compounds unless it has a right to the compounds. The determination of the Patent Office in this very case that they are patentable, in the absence of a holding of res judicata, is proof enough that the public has no right to them, that they are not in the public domain. Why, then, has the public a "right to be free of the patent monopoly"? If the Solicitor means that res judicata gives the public the right to them, then he is assuming the very point he is trying to prove.

D.C. 177, 1897 C.D. 506. In that first case the court's opinion had suggested that the applicant file a bill in equity under R.S. 4915, a procedure then permitted even after appeal. Instead, he filed a new application "for the same subject matter * * * with more full and ample specifications and drawings, a more thorough showing of the prior condition of the art, and evidence bearing on the patentability of the alleged invention." The Commissioner rejected on the ground of "res adjudicata" by reason of the court decision and also for "want of patentable novelty." The court affirmed. The court's inconclusive view of the binding effect of its prior decision has been quoted above. What seems to impress the author of the dissenting opinion here is the series of questions the court asked itself:

(1) * * * after exhaustion of the manifold right of appeal allowed to him by the great liberality of the patent laws [there were more appeals then than now], why should a second application be allowed or entertained? (2) Is there any reason why the determination of the matter should not be regarded as conclusive? (3) If a second application could be regarded as proper, why not ten or twenty successive applications? (4) Where are the applications to stop, and what would become of the public business, if it were in the power of one person to obstruct the operations of the Patent Office by repeated and persistent applications? These questions answer themselves.

Far from being an able expression of the public policy considerations which should apply, this impresses me as a burst of rhetoric considerably removed from reality. Answering these questions in sequence, (1) Allowing and entertaining an application must be distinguished. The Patent Office has to entertain every application. Allowance depends on compliance with the statutory prerequisites. The second application may comply whereas the first did not. If I apply for a driver's license, I have to pass eye and driving tests. I may fail. If I come back with glasses and the requisite skill, should my new application be entertained and allowed? Or am I forever barred because I appealed the first denial? (2) Yes, there is every reason why the first determination should not be conclusive. The applicant may be bringing the required statutory quid pro quo which he did not bring before. (3) Why not ten or twenty? To be realistic, why not two or three? Is this not authorized practice? (4) The applications will stop when the application offers nothing new and the applicant is merely repeating himself, whereupon the Office will be justified in merely denying them for the same reasons as previously stated. No applicant will keep this up very long. As for what will become of the public business, one applicant filing a new application every year or two, out of 90,000 a year, will not much impede the business of the Office, especially when the Examiner need not make a new search. These seem to me to be the answers to the court's questions in *Barratt* and I do not find much support in them for application of res judicata. It seems to me a proper function of the Patent Office to send applicants away patentless until they have learned what they must do to comply with the law. They do not always know. It is sometimes unclear. The law has a way of changing. *Ex parte Budde*, supra, *Brenner v. Manson*, 383 U.S. 519.

There is no law to prevent filing applications and every application filed is required by law to be examined. 35 U.S.C. 131. What is there to be gained by telling an examiner—who has perhaps not been to law school—to reject a second application which is not materially different from one previously rejected, whether or not appealed, for "res judicata" instead of for the same reasons applied in the first case,

whatever they may have been? See 35 U.S.C. 132. Apparently the Patent Office has never made up its mind on this point. Compare MPEP 201.07, 201.11, and 706.03(w). If the same reasons do *not* apply because the *situation* is different in some legally critical way, perhaps the application should be allowed. The matter is not one which can be suitably controlled by a single general rule, such as "patentably different" claims, whatever that means.

Blackford v. Wilder was an interference, an *inter partes dispute* over priority. So was another case decided by the same court shortly thereafter, *Horine v. Wende*, 29 App. D.C. 415, 1907 C.D. 615. That there is an essential difference between *ex parte* and *inter partes* cases with respect to *res judicata* in the Patent Office was long ago recognized. Emerson Stringham in "Patent Office Rejections as *Res Judicata*," 9 JPOS 399 (1927), said:

It will be appreciated that these two questions are entirely distinct. An interference proceeding has determined for at least some purposes the rights of two parties who have in effect been involved in litigation with each other. The question of whether to reopen a decision that has been made in a contest between private parties is altogether different from the question of the extent to which an applicant for a patent should be regarded as having lost his right to a patent, because he discontinued his efforts to obtain a patent in *ex parte* proceedings.

In *Horine* the court, in applying the "principle of estoppel by former adjudication" said (emphasis mine) it was "equally applicable to proceedings of a *judicial nature* in the Patent Office." An interference is of such a nature. What is said in opinions in such cases should not be applied unthinkingly to *ex parte* cases.

In *re Edison*, decided within two years after the *Blackford* and *Horine* cases in the same court, was an *ex parte* case involving a second application containing claims at least some of which the Patent Office had held differed only in scope from claims of the earlier application which had been appealed twice to the Examiners-in-Chief and the Commissioner, as was then permitted. The second application had of course been through the same two appeals before reaching the court and had been rejected *both* for *res judicata* and unpatentability over the prior art. The court affirmed the former rejection, citing *Barratt*, *Blackford*, and *Horine*, saying "any changes merely broadening claims that have been once determined, do not affect the conclusiveness of the former adjudication." Apparently there was no change other than the changes in the claims. The case resembles *Lundberg*. There was no apparent reason for a different decision than on the first application.

In *re Ellis* does not clearly indicate the legal basis of the affirmance. The claims stood rejected as unpatentable "over subject matter held unpatentable in the abandoned application" of the appellant, prosecuted through the Patent Office, an action under R.S. 4915 having been commenced but dropped. Referring to the Board decision on the abandoned case, the court said "as to all subject matter actually contained in any of its claims, * * * appellant is bound thereby," citing *In re Becker*, 22 CCPA 843, 74 F.2d 306, 24 USPQ 120 (1934). The latter case involved *res judicata* as to some claims, the court, in affirming, relying on *Barratt*, *Edison*, and in addition an *inter partes* trademark cancellation case. At the same time, the case was before the court on a rejection based on the same references used in the former case and the claims in question were substantially the same. The court in *Ellis* also cited *In re Cole*, 23 CCPA 1057, 82 F.2d 405, 29 USPQ 137, which was not a *res judicata* situation but a rejection

on counts of a dissolved interference and prior art. At best, *Ellis* is a somewhat ambiguous precedent.

Hemphill v. Coe was first adjudicated in this court under the name *In re Lawson*, 21 CCPA 1091, 70 F.2d 373, 21 USPQ 390, one holding of the court being that the disclosure in the parent application was inoperative. A second application was filed but was subjected to an intervening bar by public use unless the filing date of the parent was available. In considering the new rejection of the second application on the public use bar, the Court of Appeals for the District of Columbia refused to *reconsider* the question of inoperativeness which had been decided by this court, a question which related, of course, to the identical application on which this court had ruled. In effect, its decision was to accept as final the decision of this court on the inadequacy of the *parent* application as a disclosure. This seems to be a proper and reasonable application of *res judicata* principles having little or no bearing on an issue of patentability resting on the adequacy of the *later* application.

Having reviewed the precedents relied on in *Prutton* and returning to the decision in that case, it does not seem to me that the precedents support the test there applied of "patentably different" claims or the refusal to accept the finding of the Board on new evidence that the claimed invention was a statutorily patentable invention. On policy and sound reasoning, I consider the result in *Prutton* to have been erroneous, putting aside, of course, the rejections on references which were not passed upon. I would overrule it and I consider that the majority decision here implicitly does so.

There are other decisions with which Judge Smith is dealing in his concurring opinion and which I therefore am not discussing, being content to express agreement with his views.

"A person shall be entitled to a patent unless—." So begins 35 U.S.C. 102 wherein certain statutory conditions for patentability are recited. Similarly, section 101 says that "Whoever invents or discovers" certain kinds of inventions "may obtain a patent therefor, subject to the requirements and conditions of this title." An applicant for patent is entitled to a patent as a matter of statutory *right* when he meets the "requirements and conditions."

Chapter 11 of Title 35 states how application for patent shall be made and chapter 12 opens with section 131 which says:

The Commissioner shall cause an examination to be made of the application and the alleged new invention; and if on such examination it appears that the applicant is entitled to a patent under the law, the Commissioner shall issue a patent therefor. [Emphasis added.]

Sections 120 and 121 expressly recognize the long-standing practice of filing successive applications.

Since every application has to be examined anyway, it does not seem that the doctrine of *res judicata* or the principles which underlie it have much practical application to *ex parte* practice in the Patent Office. The dissent herein suggests there is some significance to the fact that appeals have been taken outside the Patent Office to "a Federal appellate tribunal," seeming to concede that below this level or prior to taking such appeal a different situation may prevail. I am unable to see significance in this distinction. If an applicant is entitled to the examination of a new application, as he certainly is under the statute, it seems to me he is entitled to the concomitant rights

of review which go with it. It must be remembered that we have a limited jurisdiction. We never decide the *right to a patent*. All we decide is whether a particular *rejection* was right or wrong. Our decision governs "further proceedings in the case." 35 U.S.C. 144. *In re Johnsen*, 53 CCPA 1401, 359 F.2d 905, 149 USPQ 630. We cannot tell the Commissioner to issue a patent. Similarly, the courts of the District of Columbia, under 35 U.S.C. 145, when they disagree with the rejection, can do no more than "authorize the Commissioner to issue such patent on compliance with the requirements of law." [My emphasis.] They cannot compel him to issue it and they do not direct him to. After a judgment authorizing grant, he may refuse it for new reasons, and sometimes does. Decisions on either type of review do not, therefore, finally settle the right to a patent so far as the Patent Office is concerned. So why should they settle it so far as the applicant is concerned?

To summarize my views on the applicability of res judicata principles to ex parte patent prosecution, hoping thereby to reduce some of the inconsistencies, I do not regard the principles as wholly inapplicable. Where an appellate court has decided a *specific* question, for example that the disclosure of an application is inoperative as in *Hemphill v. Coe* and *In re Lawson*, or that claims are not supported by the disclosure of an application within the meaning of 35 U.S.C. 112, as was the case with product claims 36, 38, and 39 in *In re Szwarc* discussed in Judge Smith's opinion, the doctrine of collateral estoppel should normally prevent relitigation of that issue. The broader, all-inclusive issue of the patentability of claims, however, depends on numerous factors which may be found in the words of the claims themselves, in the disclosures of the specification, in extraneous evidence, in factors relating to the admissibility of evidence, and possibly elsewhere. A change in any one of these considerations may make the difference between patentability and unpatentability and no simple general rule, such as whether the claims alone are "patentably different," can be controlling.

Res judicata is not the simple principle it may appear to be on first acquaintance and was devised in connection with the litigation of disputes, not with respect to the application for government grant of statutory rights dependent for issuance on compliance with stated conditions. The several policies which underlie it such as putting an end to controversy, conserving the time of the courts, avoiding inconsistent decisions, and encouraging the making of the best case the first time, must be balanced against the policies underlying the patent laws, particularly bringing about the disclosure of technology in issued patents and encouraging the investment of risk capital by granting patent rights, whenever inventions patentable under the statutes are presented. It is not in the public interest to prevent the issuance of patents on such inventions. In the administrative process of patent granting, including appellate review of rejections, estoppel by prior judgment should be applied only in the clearest cases of attempted reargument of previously decided issues.

I vote to reverse in the present case because the issue here is different from that decided on the prior application.

SMITH, J., concurring.

The opinion written by the Chief Judge reaches a result with which I am in full accord. Since the decision in the present case will

materially affect future rejections predicated on res judicata, it seems desirable to amplify the statement of facts on which the present decision is predicated and to add some additional observations as to rationale which should govern its application in administrative proceedings.

The facts here do not warrant the application of res judicata

The pertinent facts of record may be briefly summarized. Appellant Herr filed application No. 583,923 on May 10, 1956, as a division of a parent application which had been filed August 8, 1955. The rejection of claims in the divisional application was affirmed in our prior decision, *In re Herr*, 50 CCPA 705, 304 F.2d 907, 134 USPQ 176. The issue before us in this decision arose from the Examiner's rejection of all claims as being "unpatentable over" a patent to Herr and Heyl, No. 2,769,019, filed July 9, 1953 and issued on October 30, 1956. The Examiner stated, "in view of the absence of a showing of unexpected results the action is made Final." Thereafter appellant appealed the rejection and filed an affidavit of one Stafford allegedly demonstrating unexpected results.

Following receipt of the affidavit, the Examiner, by letter of August 1, 1958, advised the case was "in condition for allowance." The pending appeal was dismissed by order of the Board but applicant was advised that "the case cannot be passed to issue due to a possible interference." Interference No. 89,720 was declared which was later resolved in favor of appellant.

Following resumption of ex parte prosecution, the Examiner, by letter of December 28, 1959, rejected the claim "as lacking invention over Herr." The previous allowance over Herr was said to be "improper and inadvertent." At this time the Examiner took the position that the previous affidavit "cannot be accepted." On March 16, 1960, the Examiner made the rejection final, and stated that the specification does not "provide a clear unequivocal disclosure that the compounds originally claimed are anabolic agents." Appellant appealed.

Appellant petitioned the Board for an early hearing pointing out that the only objection to the appealed claims was based on Herr, the single reference cited in the first office action of January 24, 1957. Appellant pointed out that after once successfully removing any objection based on Herr and also succeeding in an interference, he now finds himself returned to the same position he once occupied over 3 years previously, namely, the rejection made in the first office action. Appellant pointed out that during the interim certain of the appealed claims were relevant to two pending interferences. Appellant stated:

• • • The picture as a whole is one in which applicant's rights will be irreparably damaged unless an early decision is rendered by the Board of Appeals in this application. Moreover, the general public will suffer irreparably if patents are issued to others or delayed to applicant because of the patent confusion which is bound to result if the patentability of the claims in this case is not determined promptly.

The arguments before the Board may be summarized as follows. The Examiner argued:

• • • In the absence of a showing of both new and unexpected results the instant claims are not seen to define patentably over the present state of the art. See *In re Hass* 1944 C.D. 242. The affidavit submitted under Rule 132 filed May 1, 1958 (Paper No. 6), is not seen to overcome the rejection because it disclosed a utility for the compounds which is not alleged within the specification. • • •

Appellant argued:

The reason for the incorrect position of the Patent Office is not known. * * *

The statement of usefulness as "novel androgens and anabolic agents" is clearly directed to the compounds claimed in this application. The fact that it also applies to the compounds claimed in the parent application is immaterial. The statement is certainly not exhausted merely because it applies to two different individual products, both disclosed in the same case as novel compounds.

The Board affirmed the Examiner's rejection and its opinion is adequately discussed in our previous opinion, *supra*. In our opinion, three judges joining, the issue was stated to be one of obviousness under 103. In resolving this issue, we considered the Patent Office's argument that the *structure* of the claimed compounds was obvious in view of the prior art. Appellant argued that the claimed compounds were not obvious in view of the prior art when their *properties* were considered. We did not consider appellant's argument as we determined that the specification did not teach one of ordinary skill in the art that the claimed compounds possessed oral anabolic and androgenic activity. We concluded, in view of the fact that testosterone and 17-methyltestosterone were known "standards," that the 17-methyl derivative of Herr would have been an "obvious structural change to a chemist of ordinary skill in that field."

Our opinion appears to proceed on the basis that the chemical compounds in issue may be "prima facie" obvious from a consideration of their structure and the structure of prior art compounds. It has been said that where the claimed compounds are "prima facie" obvious it is "incumbent" upon the applicant to submit evidence of an "unexpected" property or result, see, e.g., *In re Heyna*, 53 CCPA 1331, 360 F.2d 222, 149 USPQ 692. The inquiry under section 103 requires, however, a consideration of the *claimed invention as a whole*. A property of or a result attained by a chemical compound which is not communicated by its chemical structure, may be persuasive of either nonobviousness or obviousness. Thus, properties and results are factual evidence concerning the invention which must be considered in resolving the issues arising under section 103. The *invention* is not simply the chemical structure. To support a section 103 rejection the public must be shown to be in constructive possession of the *invention* by evidence that the *invention* would be obvious to one of ordinary skill in the art. Thus the inventor who discovers a chemical compound, albeit closely related structurally to the prior art compounds, which possesses unexpected properties or attains unexpected results may have made a patentable invention.

Our previous decision held that the specification considered there did not teach one of ordinary skill in the art that the claimed compounds possessed the properties relied on by appellant. These facts which appellant sought to supply by affidavit, and the issue arising thereunder, were therefore not properly before us for consideration in our previous inquiry. In the present appeal a basis has been laid and the facts are properly before us as evidence to be considered in resolving the issue under section 103. In addition, the present record shows the Patent Office agrees that the claimed compounds are *new* and *unobvious*.

The Board, however, affirmed the Examiner's rejection of the appealed claims "on the ground of res judicata." The claims presented here are identical to those before us in our previous opinion. The Board was apparently of the view that presenting the same claims

was per se conclusive of the applicability of res judicata. The Board in its opinion reasoned in part as follows:

* * * it is impossible for appellant to argue any unobvious difference in the claims. The identical claims do not acquire a *different meaning or scope* merely because the new application contains additional disclosure of properties and utility.

Insofar as appellant now relies upon the newly disclosed androgenic and anabolic activity and utility, he must appropriately restrict himself, as by the presentation of claims in *method of use* form, if he wishes to argue that he has now made a new contribution which is not subject to res judicata. We repeat, appellant's problem is created by his determination to obtain claims of the identical *meaning and scope* as the claims of his parent application, albeit the disclosures of the two applications are not identical.

In the sense that the claims are identical and therefore define the same compound, they do not "acquire a different meaning" or "scope." However, I fail to appreciate the significance of the Board's reasoning in view of the inquiry required under section 103. Chemical compounds may be "claimed," that is, defined, by a recitation of formula, structure, properties, or the process of making the compound. Had appellant chosen to "claim" his *invention* by reciting properties or utilizing a product-by-process claim, instead of relying on the same claim, it could not be maintained that these claims did not take on a "different meaning" as they would define subject matter which is admittedly unobvious in view of the prior art. Appellant would appear to avoid the reasoning of the Board by merely utilizing a different form of claim. It does not seem to me that the form of claim used is either relevant or controlling. The subject matter sought to be patented, the *invention*, must be considered, not the form of claim utilized.

The Board was also of the opinion that appellant should restrict himself to "claims in method of use form." From this statement I assume the Board intended that appellant claim a process of using the claimed products, section 100(b). This type of reasoning was presented in *In re Papesch*, 50 CCPA 1084, 315 F.2d 381, 137 USPQ 43. Therein the Examiner reasoned, "The obvious compound is not made less obvious by its properties in an art use. * * * It appears that if * * * [a patentable] invention is present, it resides in the use of the claimed compounds as anti-inflammatory agents and should be claimed as such." 50 CCPA at 1088, 137 USPQ at 45. We disagree with this reasoning. We quoted the following, 50 CCPA at 1095, 137 USPQ at 50, from *In re Larsen*, 49 CCPA 711, 292 F.2d 531, 130 USPQ 209:

* * * the allowance of the claims to the compounds was based on the fact that they possessed unique, and presumably unexpected, properties. *Since there was nothing to indicate that the compounds, when made, would have these properties, it was not obvious to make the compounds.* In such a case the allowance of claims to the compounds must depend on the proposition that it *was unobvious to conceive the idea of producing them*, within the meaning of Title 35 U.S.C., section 103. [Emphasis added.]

As to "structural obviousness" the opinion in *Papesch* quotes the following, 50 CCPA at 1096, 137 USPQ at 50, from *In re Lambooy*, 49 CCPA 985, 300 F.2d 950, 133 USPQ 270:

A comparison of the structural formulas of these two compounds shows clearly that there is substantial *structural* similarity. But more appears from the facts of this case than structural similarity, facts which raise genuine questions as

to the real significance of such bare *structural* similarity, whatever label may be attached to it.

* * * There is no evidence in the record which would lead one skilled in this art to expect that the differences in molecular structure between riboflavin and appellant's compound would cause this difference in properties.

In *In re Petering*, 49 CCPA 993, 1002, 301 F.2d 676, 133 USPQ 275, 281, we stated:

* * * Although it is also true that some of the specific compounds of Karrer [the reference] * * * are *structurally rather similar* to the compounds defined in claims 5, 11 and 12, * * * there is a *significant difference in properties* between appellants' compounds and Karrer's compounds. [Emphasis added.]

We do not agree with the Board that the unexpected properties of the compounds defined in claims 5, 11 and 12 should not be considered in determining the patentability of these claims. The compounds are not *described* in Karrer within the meaning of 35 U.S.C. 102(b). In determining whether the claimed compounds are *obvious* within the meaning of 35 U.S.C. 103, we think their properties may and should be considered, and having considered the properties, we are convinced the compounds * * * are patentable over Karrer.

We concluded in *Papesch*, 50 CCPA at 1097, 137 USPQ at 51:

From the standpoint of patent law, a compound and all of its properties are inseparable; they are one and the same thing. The graphic formulae, and the chemical nomenclature, the systems of classification and study such as the concepts of homology, isomerism, etc., are mere symbols by which compounds can be identified, classified, and compared. But a formula is not a compound and while it may serve in a claim to *identify* what is being patented, as the metes and bounds of a deed identify a plot of land, the *thing* that is patented is not the formula but the compound identified by it. And the patentability of the thing does not depend on the similarity of its formula to that of another compound but of the similarity of the former compound to the latter. There is no basis in law for ignoring any property in making such a comparison. An assumed similarity based on a comparison of formulae must give way to evidence that the assumption is erroneous.

It seems to me that the Board here, in effect, but reargues the reasoning advanced and rejected in *Papesch*, namely, that unexpected properties of a chemical compound should be claimed in the form of a process, see 50 CCPA at 1088, 137 USPQ at 46. Whether appellant seeks a patent to new and unobvious compounds or to a new and unobvious process of using these compounds is irrelevant to the determination of whether the present rejection on *res judicata* is proper. Properties inhere in the compound as in *Papesch* and must be considered.

The problem in applying *res judicata* to *ex parte* Patent Office proceedings has been considered by the Board of Appeals in several cases.

Thus, in *Ex parte Gustavson*, 14 USPQ 332 (1932) the Board overruled a rejection based on *res judicata* stating:

We have considered our former decision and are of the opinion that these claims were not held unpatentable on their merits but on the ground that they were not supported by the original disclosure and further that certain affidavits which were relied on by the appellant did not establish comparative facts which would show wherein the construction by the rejected claims possessed certain advantages over the art cited as alleged in the arguments for their allowance. Appellant has now filed a new application Serial No. 502,350, December 15, 1930, in which the construction claimed is adequately disclosed and has supported his contentions relative thereto by new affidavits, thus *prima facie* overcoming the grounds upon which the former decision was based. Under these conditions we are of the opinion that the rejection on the ground of *res judicata* should not be insisted on.

In *Ex parte Jameson*, 23 USPQ 179 (1934), the Board considered a problem very analogous to that here before us. In resolving it, the Board stated:

After our decision in application No. 161,463, appellants filed the present application on appeal in which the specification was enlarged to describe the use of pectin and sugar and the value of such ingredients as incorporated with the fruit juice solids in the production of a powder was emphasized. We note that application No. 161,463 has become abandoned. We feel therefore that the question of *res adjudicata* as here raised is unwarranted inasmuch as the present application overcomes the lack of disclosure in the prior application and that our decision was rendered principally because of the lack of disclosure in the former application.

In *Ex parte Schott*, 136 USPQ 383 (1962), claims to a new abacus useful as a calculating device were previously rejected under section 103. This rejection was affirmed on appeal. Appellant filed a second application with claims to a new abacus useful as a teaching device for small children learning the decimal system. These claims were also rejected under section 103. After comparing the claims the Board's conclusion was "that the two claims define precisely the same structure,"¹² although using somewhat different verbiage." 136 USPQ at 385. The Examiner was of the view that the obviousness of the claimed abacus was *res judicata* in view of the previous Board decision. The Board stated:

* * * the evidence in the instant appeal * * * presents the *entirely new issue, namely of subject matter* which, because of its novelty, permits effectuation of a new utility in teaching, this being a concept foreign to the reference devices.

Thus, although the claim covers precisely the same physical structure, a different issue of patentability is presented for consideration.

We were unable to find any decision by this Board or any court reviewing a decision of this Board on analogous facts, namely where the claim is identical as to structure but new evidence and new issues of patentability are presented for consideration. [Emphasis added.]

Res judicata was held inapplicable. The Board clearly felt it was its duty and function to consider the obviousness of the *invention*, the subject matter sought to be patented since this had *not* been considered previously. Cf. *Weeks v. Warp*, 221 F.2d 108, 105 USPQ 55 (D.C. Cir. 1955) ("same subject matter" and "same disclosure"). Identity of claim language was not controlling. As one writer has indicated:¹³

The comparison of claims, however, does not totally resolve the issues of the applicability of *res judicata*. Rather, the same question of patentability or issue must appear, *and the claims must be considered in this context*. If, in this area, there is the confusion that has been evidence in case law terminology, it is submitted that clarity and uniformity would be promoted if the rejection specified the precise statutory grounds of rejection. Even if the *same* statutory ground of rejection is relied upon in the second application, for example, section 112 of the act, the *issue* as to different or even the same claims may not have been previously litigated. [Citations omitted.]

Additionally, the issue of obviousness of an invention under section 103 may require consideration of such matters as commercial success, long felt but unsolved needs, failure of others, etc. * * * to give light to the circumstances surrounding the origin of the subject mat-

¹² The Board opinion acknowledges, 136 USPQ at 385: In the parent application the abacus was disclosed as oriented with the rods arranged one under the other so that the numbers represented on the rods by the counters would be in an array at right angles to the normal arrangement when written. This is in contrast to the instant case which discloses precisely the same means as oriented with the rods at 90° to that of the parent case so that the numbers represented by the counters on the rods would be in horizontal array consonant with the mode of writing numbers under our system of notation. This mode of use correlates the written system of numbers with their representation on the abacus.

¹³ Kananen, Comments and Observations on *Res Judicata* and Patent Law, 18 W. Res. L. Rev. 103, 115 (1966).

ter sought to be patented. As indicia of obviousness or nonobviousness, these inquiries may have relevancy. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966).

In *Ex parte Osborn*, 25 USPQ 260, a claim to an airplane construction was rejected, and affirmed by the Board, as "devoid of invention [obvious]." However, the Board refused to be bound by its prior decision, stating:

• • • We believe that on the record of the other application, that decision was justified, but since that time a historical event has occurred which we think furnishes evidence materially affecting the situation. • • •

The "historical event" was that the airplane so constructed won a \$100,000.00 first prize in the Guggenheim competition. The Board observed:

In the face of such overwhelming proof of lack of appreciation of the usefulness of floating ailerons with the slotted wing and trailing edge flaps, it seems rather presumptuous for this Office to insist any longer that the combination was obvious. Perhaps there never has been a better opportunity to demonstrate that those most highly skilled in an art had not thought of adding two improvements together to get a result that seemed to involve nothing more than the sum of the advantages. • • •

The factual requirements which the Supreme Court has recognized as being an essential part of the determinations under section 103 seem to me to require that proceedings at the administrative level must not be unduly foreclosed so as to deny applicants the opportunity to supply the factual materials required to determine these issues.

While the *Schott* decision was not followed by a majority of the board sitting en banc in *Ex parte Budde*, 150 USPQ 469 (1966), I find it significant that the majority decision does not discuss or overrule the *Gustavson*, the *Jameson* or the *Osborn* cases, supra, although all were referred to in the first of the concurring opinions. Neither does the majority opinion in *Budde* refer to the factual aspects of section 103 issues discussed by the Supreme Court in *Graham*, a little less than a month earlier than the *Budde* decision.

The present case, however, requires that we consider the res judicata issue which is here presented in the light of the Supreme Court's latest pronouncement as to the nature of the determinations which must be made under section 103. When this is done, I think the *Jameson*, *Osborn* and *Schott* decisions provide a more rational basis for resolution of the res judicata issue in section 103 rejections than does the *Budde* decision. In passing, I express my agreement with the views of the concurring board members in *Budde*. I do not think the fact situation in *Budde* required overruling *Schott*.

It is clear the majority in *Budde* felt compelled to the result there reached by the decisions of this court in *In re Prutton*, 40 CCPA 975, 204 F.2d 291, 97 USPQ 447; and in *In re Lundberg*, 47 CCPA 1140, 280 F.2d 865, 126 USPQ 412. However, as Judge Rich has pointed out in his concurring opinion, *Prutton* is of questionable value as a precedent and I agree with him that it should be overruled. It seems to me also that the practical effect of the majority opinion here is to do so. *Lundberg*, as a precedent, is viable only within its particular fact framework as Judge Rich has demonstrated in his concurring opinion. Thus, neither *Prutton* nor *Lundberg* requires an affirmance of the res judicata rejection here.

Three other decisions of this court, while not controlling on the present fact situation, contain general observations concerning the problem of applying res judicata to Patent Office proceedings and

should be briefly considered. These cases are: *In re Fried*, 50 CCPA 954, 312 F.2d 930, 136 USPQ 429 (1963); *In re Szwarc*, 50 CCPA 1571, 319 F.2d 277, 138 USPQ 208 (1963) and *In re Hitchings*, 52 CCPA 1141, 342 F.2d 80, 144 USPQ 637 (1965).¹⁴

In *In re Fried*, 50 CCPA 954, 312 F.2d 930, 136 USPQ 429, we reviewed the requirements of res judicata. The first application there ended in an unappealed Examiner's rejection, which, under present office practice is not considered as giving rise to res judicata. Be that as it may, the first application involved support for those claims, section 112, and the second application also involved support for different claims which were narrower in scope, section 112 via section 120, the purpose being to gain the benefits of an earlier filing date. While we affirmed the decision of the Board, we did so on the basis of the merits of the case and not res judicata. We said different claims presented a different issue. *Nothing was said about any converse.* The plain fact is that every application usually presents a range as to subject matter that may be claimed and to that end many types of claims exist. Claims may be either too broad or too narrow to satisfy section 112 for a given specification. Each claim must be examined in light of the specification. The "scope" or "form" of claim is no conclusive guideline or solution to determining "issues" and whether res judicata is applicable, as this appeal demonstrates. Insofar as the alternative provided by section 120 and office practice is concerned, discussed in *Fried*, there was no intention there to decide cases in the future involving different fact situations. And the "alternative" here, discussed supra, appears to have been something less than a free choice.

In *In re Szwarc*, 50 CCPA 1571, 319 F.2d 277, 138 USPQ 208, we again were concerned with section 120. Therein we held, as to certain product claims, that collateral estoppel existed as to whether the specification satisfied section 112 in view of the fact that the form of claim employed include a specific product upon which a federal court had previously held the specification was deficient under section 112 as to that specific product. The "scope" or "form" of claim was immaterial. The issue whether the specification taught "how to use" that compound had been previously decided.

Whether the claimed *invention* here is "obvious," in my view, has not been decided. In view of all of the facts of record, there is a lack of *identity of issues*, not simply *different evidentiary facts*.

Sections 120 and 112 were also involved in *In re Hitchings*, 52 CCPA 1141, 342 F.2d 80, 144 USPQ 637. Like *Fried*, an unappealed examiner's rejection was relied on as being res judicata. We held res judicata inapplicable, 52 CCPA at 1147, 144 USPQ at 641, stating:

• • • For if unappealed final rejections are uniformly held to be res judicata, the applicant has no choice other than appeal or abandonment of his case. But if time and energy are to be expended, even unnecessarily, it is much more desirable that such expenditure should occur at administrative levels. On balance, we believe that an applicant should be encouraged to, rather than penalized for, promptly filing a better application after final rejection instead of appealing, especially where so much of the procedural machinery of the Patent Office is designed to permit just such a remedy.

The trials of the everyday practice of patent prosecution are here poignantly demonstrated. *Hitchings* was allegedly wrong for not appealing (continuation application filed March 1, 1960) while here

¹⁴ See 33 Geo. Wash. L. Rev. 1149 (1965).

Herr is allegedly wrong for appealing (final rejection March 16, 1960). We would all do well to heed the Commissioner's admonition, *infra*, to help inventors.

Before *res judicata* can be applied in any situation, the initial consideration is to determine precisely what issue was previously adjudicated in making the further determination as to whether *res judicata* is applicable. In the present case, we previously decided that the 17-methyl derivative of Herr "would be an obvious structural change to a chemist of ordinary skill in that field," cf. *Papesch*, *supra*, and that since the specification did not teach anabolic and androgenic activity, we could not consider the evidence of the unexpected properties of the claimed compounds.

While we are here dealing with the same compound as before and with an issue which also arises under section 103, it is apparent that patentability of the compound has taken on a new light for the "structurally obvious" compound, when considered as a whole, has been shown to possess new and unobvious properties. Thus, under *Papesch*, we are here dealing with a new issue notwithstanding the fact that the same patent claims are again before us. It is but coincidental that the same combination of words assembled in the form of a patent claim can define to one of ordinary skill in the art subject matter that is "structurally obvious" but which may well be patentable under the tests of obviousness enunciated in *Graham v. John Deere Co.*, *supra*. "Structural obviousness" is simply not the obviousness required by section 103 to render an invention unpatentable.

While I appreciate the dissenter's position here in asking why we, a federal appellate court, should again consider matters arising under section 103, this is not the entire problem. The dissent characterizes the problem here as being merely one of evidence and seems to consider that appellant created the problem by choosing to appeal the earlier Board decision. The dissent also portrays, as contrary to some undefined public policy, "endless litigation," creating commercial markets, and attorneys putting their worst foot forward for the best interest of their clients.

The record does not establish or even intimate any wrong doing on appellant's part. He is but pursuing the procedures afforded him by the patent statute. In fact, the record establishes that appellant had something less than a "free choice" concerning his first appeal and filing a second application in the Patent Office, a situation quite common in the practice of patent law. The facts set forth, *supra*, speak for themselves. Appellant had overcome the only reference cited by the examiner, and had been successful in an interference. Only after this was the allowance of his claims withdrawn and an old rejection reinstated as a final rejection. At this time appellant was involved in two other interferences. As appellant's brief states:

• • • The priority of the disclosure of the subject matter sought to be patented as oral androgenic and anabolic agents has been adjudged not to reach to his parent case, and applicant must be content to whatever priority benefit otherwise accrues to him from that disclosure.

Appellant probably could have filed a second application and sought a determination whether the requirements of sections 120 and 112 were satisfied in order to secure priority benefits. However, the better course of action in appellant's view was to seek an early determination, in view of the pending interferences, whether the properties relied on to establish unobviousness were supported by the speci-

fication there involved. We held support was lacking and appellant sought a new filing date. It is interesting to note that the Examiner in this case relied on a patent having a filing date *after* the filing date of the parent application. Thus, the issue of obviousness was considered under totally different circumstances.

It is precisely because of the complex nature of patent prosecution, where one act may affect several rights, that the statute has provided for the filing of continuing applications. Appellant but followed a prescribed course of action, sanctioned by law, in filing a second application with a second fee which entitled him to a new determination of his right to a patent.

Should the fact that the Board and this court had become involved in the first application act as a bar which negates this statutory right? I think not, especially where the only basis advanced for such a bar is *res judicata*. Such an indiscriminate application of *res judicata* could wreak havoc on the present system of examining applications and could lead to *prolonged* prosecution in the Patent Office. While piecemeal litigation is certainly to be avoided, much is to be said for the taking of appeals which may serve to simplify future litigation.

There is no question but that the single interest of administrative expediency will be served by a broad application of the doctrine of *res judicata* and would have the salutary effect of removing a few appeals from our docket. The more important issue, however, is whether such an application of the doctrine serves any public purpose in so doing. I am convinced that the savings in time in the Patent Office would be very small indeed, and that the injustices possible under it are too large a price to pay. While we sit as a federal appellate court wherein a broad reach may be the general rule as to the *res judicata* doctrine, that is not to say that we are *obligated* to act accordingly particularly in view of the nature of the issues which come before us. As a doctrine, *res judicata* is to be applied in the public interest. It is paramount to the public interest that *issues* once litigated be closed to relitigation. It is, however, also in the public interest that applicants for patents be protected in their rights to secure patents according to the Patent Act of 1952. The duty of the Commissioner of Patents under this Act was stated by him, quoted in *In re Gustafson*, 51 CCPA 1358, 1366, 331 F.2d 905, 141 USPQ 585, 590, as follows:

The main operations of the Patent Office are, of course, the examination of patent applications and the granting of patents on patentable inventions. Promptness of examination is an important element of our work. Further, in addition to our responsibility of protecting the public by refusing to grant patents on unpatentable inventions, we should also make it our job to assist the inventor or his attorney in a positive manner to arrive at proper claims covering his invention where the invention is patentable, and I wish to request that we give greater emphasis in the future towards fulfilling this key function. [Our emphasis.]

I therefore concur in the majority opinion and express my substantial agreement with the pertinent observations contained in Judge Rich's concurring opinion.

ALMOND, J., dissenting, with whom KIRKPATRICK, J., joins.

In the commendable pursuit of an abstract ideal known as perfect justice, the majority seemingly attempts in this case to abolish the legal doctrine of *res judicata* in ex parte patent cases. If the majority decision is allowed to stand, then the legal doctrine of *res judicata*

will be essentially abolished in ex parte patent cases. Obviously, if *res judicata* is inapplicable as a ground of rejection when patentability of the same claims to the same applicant has been previously adjudicated adversely to the applicant in a final decision on the merits by a Federal appellate court, as the majority here decides, then similar decisions of lower tribunals, e.g. the Patent Office Board of Appeals, could not possibly give rise to a *res judicata* rejection. Likewise, a final decision on the merits adverse to patentability of slightly different, but patentably indistinct, claims could not possibly lay a foundation for a *res judicata* rejection.

I am thoroughly convinced that the rules of law and underlying rationales expressed by the Supreme Court, this court, and the District of Columbia courts in numerous opinions involving the application of the *res judicata* doctrine to patent cases should govern here. The sound public policy considerations which form the basis for the doctrine are especially convincing. On the negative side, I am not at all persuaded by the arguments advanced by the majority and appellant, which arguments I shall subsequently analyze, after presentation of the case law which formerly prevailed in this court prior to the present majority decision.

One of the leading cases on application of the *res judicata* doctrine to ex parte patent cases is that of the Court of Appeals for the District of Columbia, our jurisdictional predecessor in such cases, in *In re Barratt's Appeal*, 14 App. D.C. 255 (1899). There, as here, the same claims had previously been held unpatentable on the merits by the Federal appellate court which at the time reviewed Patent Office decisions on the record established in the Office. Subsequent to the final (court) decision, as here, the same applicant presented the same claims in a second application, which contained additional specification disclosures not present in the parent application. Likewise, the meager record in the prior case was enlarged by additional evidence, especially with regard to the state of the art, in Barratt's second case. Speaking of the new evidence in the second record, and the expanded application disclosures, the court stated, 14 App. D.C. at 259:

The new application does not make a different case. The case is the same precise case. The subject matter of invention is the same. The claim is the same. Only the specifications and drawings are more full; and the state of the art at the time of the alleged invention is more fully and satisfactorily shown. But all this . . . at the utmost amounts to no more than a clearer and better declaration or additional proof of the alleged invention. It does not make any new case; and it does not justify the filing of any new application.

The above-quoted language is fully as applicable to the facts of the present case as it was to the quite similar facts of the second Barratt case in 1899. The Court of Appeals also ably expressed the sound public policy considerations which provide the foundation for *res judicata* rejections in ex parte patent cases, 14 App. D.C. at 258:

When, on the other hand, an application for a patent is after due examination rejected, and finally determined against the applicant after exhaustion of the manifold right of appeal allowed to him by the great liberality of the patent laws, why should a second application be allowed or entertained? Is there any reason why the determination of the matter should not be regarded as conclusive? If a second application could be regarded as proper, why not ten or twenty successive applications? Where are the applications to stop, and what would become of the public business, if it were in the power of one person to obstruct the operations of the Patent Office by repeated and persistent applications? These questions answer themselves. . . .

To which I can only add my agreement that these questions certainly do answer themselves. Yet the majority is "inclined to discount, the somewhat exaggerated fears of the Patent Office of the potential procedural bedlam resulting from our holding here."

The Barratt case was cited and quoted from with evident approval by the Supreme Court in *Overland Motor Co. v. Packard Motor Co.*, 274 U.S. 417, 420, wherein the Court stated:

It is quite true that, after such [unappealed final] rejection, the Commissioner of Patents might have refused to consider his divisional application, as he made it without suggestion or consent by the Patent Office. In a qualified and limited sense, a claim rejected as this was constitutes *res judicata* in favor of the Government and against the applicant. . . .

The Court then quoted, 274 U.S. at 421, with approval the following language from the Barratt case, 14 App. D.C. at 257, with regard to the reasons why the *res judicata* doctrine should apply to ex parte patent cases:

While the rules that govern the finality and conclusiveness of adjudications at the common law do not apply, in the strict sense, to administrative or quasi-judicial action in the Executive Departments of Government, yet in administrative action, as well as in judicial proceeding, it is both expedient and necessary that there should be an end of controversy. . . . Especially is this principle applicable to the proceedings of the Patent Office, which are so nearly akin to judicial proceedings as to be most appropriately designated as quasi-judicial.

The Supreme Court then quoted with approval, 274 U.S. at 421, an important qualification on the doctrine of *res judicata* in Patent Office proceedings, i.e. the waiver principle, as stated by the Court of Appeals in Barratt, 14 App. D.C. at 261:

In what we have said we do not desire it to be understood that the Patent Office may not, if it thinks proper so to do, [favorably] entertain and adjudicate a second application for a patent after the first application has been rejected. What we decide is, that it is not incumbent upon the office as a duty to [favorably] entertain such applications, and that, if it refuses to [favorably] entertain them, it has a perfect legal right so to do. An applicant is not legally aggrieved by such refusal [to waive the *res judicata* doctrine].

In the Overland case, the Supreme Court held that the Patent Office had waived its *res judicata* objection as to presentation of the same, previously finally adjudicated claim in the second case by granting the patent including said claim. In the present case, the Patent Office has certainly not waived its available *res judicata* objection, and I do not read the majority opinion as holding that the Office has in fact so waived it. As is well known, a waiver is a voluntary or intentional relinquishment of a known right. There is absolutely nothing in the record or briefs which might establish such a waiver, either express or implied. The appellant does not even argue the possibility of such a waiver. The Examiner asserted the *res judicata* doctrine as a ground of rejection in each of the four Office actions and his answer before the Board in this case, and the Board and the Solicitor, on behalf of the Commissioner, state that *res judicata* is the sole remaining ground of rejection here. Thus, there clearly has been no waiver by the Patent Office of the doctrine, and this court manifestly has no more authority to waive it on behalf of the Patent Office than we have authority to waive any other rights to which the parties before this court are entitled.

The Barratt and Overland cases were both cited and followed by this court in *In re Prutton*, 40 CCPA 975, 204 F.2d 291, 97 USPQ 447 (1953), shortly after the January 1, 1953, effective date of the Patent Act of 1952, Title 35 U.S.C. In the Prutton case, the claims in

a parent application had previously been held obvious and unpatentable on the merits over a single prior art reference, Downing Patent No. 2,285,853, by the Court of Appeals for the District of Columbia. A continuation-in-part application with additional disclosure and different, broader claims was subsequently filed by the same applicant. Although the claims of the new application were held by the Board to be unobvious in view of, and patentable over, the same reference on the *new* record established in the Patent Office in the second case, as is the case here, the Board nevertheless affirmed the Examiner's *res judicata* rejection, while reversing the prior art rejection on the merits. With regard to this apparent anomaly, this court stated, 40 CCPA at 980, 204 F.2d at 295, 97 USPQ at 450:

We think this simply means that the present Board thought the claims in the earlier [parent] application were erroneously held unpatentable over Downing The Board clearly considered this to be immaterial insofar as the question of *res judicata* was concerned, and properly so. *Res judicata* applies whether the final decision in the earlier application was right or wrong, or was induced by want of the particular evidence offered to the Board in this case, *Blackford v. Wilder*, 28 App. D.C. 535, unless the appealed claims are patentably different from those refused in that application. *In re Ellis*, supra [24 CCPA 759, 86 F.2d 412, 31 USPQ 380].

Moreover the Board's reversal of the prior art rejection on Downing and its affirmation of the rejection of *res judicata*, is not in fact anomalous, although seemingly so at first impression. It was necessary for the Board to have ruled on the merits of the prior art rejection based on Downing, in view of the possibility that the rejection on *res judicata* might be reversed on appeal. Otherwise, the former rejection, not having been expressly overruled by the Board, would be regarded by this court as having been affirmed. . . .

The application of these principles to the facts of the case at bar is as follows. *Res judicata* applies here even though the final decision on the merits in the parent Herr application *may possibly* have been induced by failure to consider the first Stafford affidavit offered to the Examiner in this case. In fact, the decision was probably not so induced. Appellant took the position that, if the Stafford affidavit of May 1, 1958 had been considered in his parent case, the claimed subject matter would have been held unobvious and patentable on the original record. Yet, when the present continuation-in-part application was filed, thereby laying a foundation for the affidavit showing, the Examiner still contended that the claims were obvious and unpatentable over Herr et al. Patent No. 2,769,019, the reference applied against the same claims in the parent case which was previously before this court. The Examiner adhered to this position on reconsideration of the matter. *Only after* two additional affidavits were filed on June 25, 1964, did the Examiner, on July 28, 1964, withdraw the obviousness rejection factually based on the Herr et al. patent and rely solely on the *res judicata* doctrine as a ground of rejection. Prior to that time, the Examiner consistently applied both grounds of rejection, *res judicata* and obviousness under 35 U.S.C. 103 in view of the Herr et al. reference, against appellant's claims.

Since the claims of the present continuation-in-part application are *identical* to the previously adversely adjudicated claims, there can be no serious question that the appealed claims are not different at all, let alone "patentably different," from the claims held by this court to be obvious and unpatentable under 35 U.S.C. 103 in the first Herr case. Also, the Examiner's reconsideration of the claims on the merits in light of the new record established in this second case, and his holding that the claims define unobvious subject matter on the present enlarged record, clearly do not amount to waiver of the *res*

judicata doctrine, which he continued to repeatedly assert, just as the Board's similar reconsideration and holding of unobviousness in view of the new record established in the second *Prutton* case, supra, did not amount to a waiver of *res judicata*. In reconsidering the issue of obviousness of the previously adjudicated claims in light of the new record, the Examiner was merely following the guidelines set forth by this court in *Prutton*, "in view of the possibility that the rejection on *res judicata* might be reversed on appeal," as in fact has occurred here. It was "necessary" for the Examiner to act as he did in order to avoid undesirable piecemeal examination. See also Judge Rich's concurring opinion in the instant case.

The only significant differences between the *Prutton* case, which likewise involved a continuation-in-part application, and the present one are that (1) the prior decision in the first *Prutton* case was by the Court of Appeals for the District of Columbia, while the prior decision in the first Herr case was by this court; and (2) the claims in the second *Prutton* case were different, but not patentably so, from the previously adversely adjudicated claims, while here the claims in the two cases are identical. With regard to the latter difference, this should present an *a fortiori* case in view of the *Prutton* rationale requiring patentably distinct claims.

With regard to the former matter, this is also a difference without a distinction. While I am fully aware that this court was once regarded as equivalent to an administrative agency, and that there is a school of thought to the effect that *res judicata* should not apply to administrative agency decisions, it is now well settled that this tribunal is an Article III court, not an administrative agency or an Article I court. *Brenner v. Manson*, 383 U.S. 519, 148 USPQ 689 (1966). Thus a final decision on the merits by this court adverse to the patentability of an appellant's claims should be held to give rise to a proper *res judicata* rejection, when the same applicant presents either the same, or patentably indistinct, claims in a subsequently filed application,¹⁵ just as a similar final decision by the Court of Appeals for the District of Columbia Circuit makes proper such a *res judicata* rejection by the Patent Office. *In re Prutton*, supra. Even if this court were still considered to be an administrative agency, which clearly it is not, the following recent statement by the Supreme Court in *United States v. Utah Construction & Mining Co.*, 384 U.S. 394, 421-2 (1966), is pertinent:

Occasionally courts have used language to the effect that *res judicata* principles do not apply to administrative proceedings, but such language is certainly too broad. When an administrative agency is acting in a judicial capacity and resolves disputed issues of fact properly before it which the parties have had an adequate opportunity to litigate, the courts have not hesitated to apply *res judicata* to enforce repose. [Cases cited.] . . .

The *Prutton* case was cited and followed by this court in *In re Lundberg*, 47 CCPA 1140, 1143-4, 280 F.2d 865, 867-8, 126 USPQ 412, 414 (1960), wherein the following pertinent guidelines were set forth:

The starting point is a comparison of what is claimed here *with the relevant claims in the prior case*. If the claimed subject matter is the same, the prior adjudication is binding

Patentability over prior art is not reconsidered as a virgin problem. On the contrary, the prior decision stands, right or wrong, for all disputed issues there

¹⁵ And it has been so held. See *Weeks v. Warp*, *infra*.

decided. *In re Prutton*, 40 CCPA 975, 980, 204 F.2d 291, 295, 97 USPQ 447, 450, and we determine patentability of the new claim over the adjudicated claim, considering prior art, if necessary, only if substantial differences between the claims exist. The public policy which is implemented by this rule is that there shall be an end to litigation, that when one has exhausted the remedies provided by law he shall not be permitted to go through the process all over again. * * *

In cases appealed to this court, or taken to the District of Columbia courts under 35 U.S.C. 145, involving the *ex parte* prosecution of patent applications what must be borne in mind with respect to *res judicata* is the distinction between claims to different inventions on the one hand and different claims to the same invention on the other. Where different inventions are claimed, *res judicata* does not preclude a new consideration; but where an applicant is merely presenting new claims to the same invention, the patentability of which he has already argued before the court, reconsideration of the issue of patentability is proscribed by the doctrine of *res judicata*.

As here, the prior decision on the merits adverse to patentability in the first *Lundberg* case was by this court. Although the second *Lundberg* case involved a continuation application with the same specification and different, but patentably indistinct, claims, while the present case involves a continuation-in-part application with a slightly different specification and the same claims that were previously adversely adjudicated on the merits under 35 U.S.C. 103 by this court in the first *Herr* case, the above-quoted guidelines set forth by this court in *Lundberg* are equally applicable to the present case, which, like *Prutton*, involves a continuation-in-part application.

Since "the claimed subject matter is the same" here as in the first *Herr* case, "the prior adjudication is binding," and "the prior decision stands, right or wrong, for all disputed issues there decided," including the ultimate issues of whether these claims are patentable to appellant and whether these presently appealed, and previously adversely adjudicated, claims are obvious and unpatentable under 35 U.S.C. 103 in view of the disclosures of *Herr et al.* Patent No. 2,769,019. The new claims are manifestly not patentable "over the adjudicated claim[s]," since the two sets of claims are identical, and no differences whatsoever, let alone "substantial differences between the claims exist." Appellant does not even present new and different claims to the same invention, but rather presents for a second full day in court the same old claims to the same invention, certain chemical compounds claimed as compositions of matter, the claims being unrestricted by any use, or method of preparation, limitations.

Although appellant is reduced to the necessity of contending in his brief that "the patentability of the claims was not considered by the court [in the first *Herr* case], and appellant could not argue it as an issue," examination of the court's opinion in that case reveals that "[a]ppellant contends here, as below, that (1) the claimed compounds would not be obvious to a person of ordinary skill in the art * * *." 50 CCPA at 708, 304 F.2d at 909, 134 USPQ at 178. Since appellant "has already [unsuccessfully] argued before the court" the issue of patentability of the same claims to the same invention, "reconsideration of the issue of patentability is proscribed by the doctrine of *res judicata*." *In re Lundberg*, supra.

With regard to the matter of whether the invention is the same or different here from that in the first *Herr* case, appellant makes these manifestly fallacious arguments in his brief:

And if the invention is different by virtue of a more complete and full disclosure of it then *res judicata* is no bar.

* * *

Even though the wording of the claims is the same as before, the invention they represent, i.e. certain particular unobvious substances, is not the same as before. * * *

Obviously, if "the wording of the claims is the same as before," which is the case here, then "the invention they represent," i.e. certain chemical compounds unrestricted as to use or method of preparation, must necessarily be "the same as before." These compounds remain the same compositions of matter per se regardless of whether they are disclosed in the specification to possess properties giving rise to 1, 10, 100, or 1,000 uses, and regardless of whether 1, 10, 100, or 1,000 methods of preparing the compounds are disclosed in the specification. The "more complete and full disclosure," contrary to appellant's argument, certainly does not make the claimed compounds themselves any different, when considered as compositions of matter per se, as they are claimed.

The opinion of this court in *In re Fried*, 50 CCPA 954, 957, 312 F.2d 930, 931, 136 USPQ 429, 431 (1963), stresses that "[s]ince different claims are here presented the issues decided in the parent application and those to be here decided are not the same." In contrast, the issue presented in this case is identical to the issue presented, and decided adversely to appellant, in the first *Herr* case, namely, whether the subject matter of the appealed claims is obvious under 35 U.S.C. 103 in view of the disclosures of *Herr et al.* Patent No. 2,769,019. The claims, prior art reference, and statutory ground of rejection (section 103) are the same in both cases. In *Fried*, this court declined to follow the *Overland* case, supra, on the grounds that (1) different (narrower) claims were before this court in *Fried*, whereas the same claims were involved in *Overland*, and (2) the *Overland* case was decided 26 years prior to enactment of the Patent Act of 1952.

In the present case, where the claims are identical to the previously adversely adjudicated claims, as in *Overland*, the majority simply omits all mention of this Supreme Court case, which cannot be distinguished so easily here as in *Fried*. I would respectfully suggest to the majority that, if *Overland* is to be overruled, expressly or impliedly, then either the Supreme Court itself or Congress should do it. Basic Supreme Court decisions such as *Overland* and *Brenner v. Manson*, supra, should not be so narrowly construed (as to be virtually limited to their own particular facts) by lower Federal courts, including this one, in deciding patent cases. See *Hazeltine Research, Inc. v. Brenner*, 382 U.S. 252, 147 USPQ 429 (1965).

With regard to the effect of the Patent Act of 1952, this court stated in *Fried*, 50 CCPA at 959, 312 F.2d at 933, 136 USPQ at 432:

It seems to us the clear intent of 35 U.S.C. 120 and of the present procedures in the Patent Office relative thereto have established a practice under which an applicant may (1) appeal an examiner's adverse ruling or (2) acquiesce in the ruling and file a continuation application with new claims therein.

The alternative in *Fried* has now become the conjunctive in the present case. After appealing the Examiner's adverse ruling to the Board of Appeals and then to this court in the first *Herr* case, appellant refused to acquiesce in this court's ruling on the merits adverse to patentability of the previously adjudicated, and presently appealed, claims under 35 U.S.C. 103, and filed a continuation-in-part application with the same old claims therein. The majority says that we must approve this unorthodox procedure, or else be guilty of "unjustly enrich[ing] the public" by applying the well-established legal doctrine of *res judicata* in favor of the Patent Office, which

represents the public interest. See, generally, "Developments in the Law—Res Judicata," 65 Harv. L. Rev. 818, 882-4 (1952).

I simply cannot agree. Even though the present Board decision is reversed, this does not necessarily mean, of course, that appellant will obtain a patent on these claims, since it is well settled that *res judicata* does not apply in the usual sense against the Patent Office. See, e.g., *Jeffrey Mfg. Co. v. Kingsland*, 179 F.2d 35, 83 USPQ 494, (D.C. Cir. 1949).¹⁸ Thus, the public may yet be "unjustly enrich[ed]," not withstanding the majority effort to prevent it, and *litigation* in the Federal courts to obtain these claims *in dispute* may truly become virtually "endless."

In *In re Szwarc*, 50 CCPA 1571, 1575-6, 319 F.2d 277, 280-1, 138 USPQ 208, 211 (1963), this court stated the twofold requirements of *res judicata* as follows:

The first requirement of *res judicata* is that the second suit must involve the same parties or their privies. *Commissioner v. Sunnen*, 333 U.S. 591, 77 USPQ 29. . . .

The second requirement of *res judicata* is identity of issues. If the second action between the same parties or privies is upon the same claim or demand, the judgment in the prior action operates as an absolute bar to relitigation not only of those matters actually determined in the prior suit but also any other matter which might have been acted upon in the prior suit. *Cromwell v. County of Sac*, 94 U.S. 351. . . .

In the case at bar, we obviously have the same parties as those before this court in the first *Herr* case. The ultimate issues of patentability on the merits of the presently appealed, and previously adversely adjudicated, claims to appellant and obviousness of the claimed subject matter in view of the *Herr* et al. Patent No. 2,769,019 under 35 U.S.C. 103 are the identical ultimate issues which were presented to, and finally decided by, this court in the first *Herr* case. Thus both requirements of the legal doctrine of *res judicata* are fulfilled in this case, and the Patent Office refusal to grant appellant a patent on these previously adversely adjudicated claims should be sustained by this court, unless the "identity of issues" requirement means that the specific issues of evidentiary fact must be identical, as well as the general issues of ultimate fact and law. This would transform the second requirement of *res judicata* into an identity of *records* requirement, as opposed to the identity of *issues* requirement. As I read the majority opinion, this is exactly the interpretation placed on the second requirement, which effectively destroys the doctrine of *res judicata* insofar as *ex parte* patent cases are concerned. If *res judicata* requires identity of *records*, rather than merely identity of issues of ultimate fact and law, then the effect of the doctrine may always be overcome by filing, in conjunction with a new application, an affidavit showing commercial success or satisfaction of a long-felt need or want, or even merely filing copies of new patents or publications to show more completely the state of the art at the time the claimed invention was made.

If this is the majority view, I cannot agree that the issues of ultimate fact and law presented by the record of a case are inherently limited by that record, so that changing the record, even ever so slightly, necessarily changes the ultimate fact issues per se so that they are no longer identical, just as the specific issues of evidentiary

¹⁸ See also *In re Citron*, 51 CCPA 869, 326 F.2d 418, 140 USPQ 220 (1964). If the Patent Office had lost the first *Herr* case, however, rather than won it, then *res judicata* would indeed apply against the Office with respect to a rejection involving the same claims, the same prior art reference, and the same statutory ground of rejection, such as we have here.

or mediate fact are no longer identical because of the different record. See *The Evergreens v. Nunan*, 141 F.2d 927 (2d Cir. 1944). See also *Baenitz v. Ladd*, 148 USPQ 187 (D.C. Cir. 1966).

The public policy rationale expressed in the dissenting opinion in *Szwarc*, 50 CCPA at 1585, 319 F.2d at 288, 138 USPQ at 217, is fully applicable here:

He [appellant] has had his day in court. . . . He now seeks a second day in court, urging us to set what would be an intolerable precedent of legal chaos and uncertainty by reviewing, indeed by reversing, a question which has already been decided by a court of competent jurisdiction. That we cannot do.

The case of *Ex parte Gustavson*, 14 USPQ 332 (Bd. Apls. 1932), relied on heavily by appellant below and to a lesser extent here, is similar to the *Fried* and *Szwarc* cases in that the issue in the first case was sufficiency of disclosure to support the claims of the parent application. As the Board pointed out, the claims of the first *Gustavson* case "were not held unpatentable on their merits but on the [formal] ground that they were not supported by the original disclosure." In contrast, there was no issue under 35 U.S.C. 112 as to sufficiency of the specification disclosure to support the *claims* (as distinguished from the affidavit showing of unobviousness) of the first *Herr* case. The ultimate issue in that case was obviousness of the claimed subject matter under 35 U.S.C. 103. That issue has been finally determined adversely to appellant and the determination may not be legally questioned unless the Patent Office waives its *res judicata* objection, which it has not chosen to do here.

Unlike the *Fried*, *Szwarc* and *Gustavson* cases, and like the *Barratt*, *Prutton*, and *Lundberg* cases, the issue in the first *Herr* case was one of patentability of the claims on the merits under 35 U.S.C. 103, not sufficiency of supporting disclosure for the claims under 35 U.S.C. 112. The rules and underlying public policy rationales of the latter group of precedents clearly dictate an affirmance in the present case on the ground of *res judicata*.

The "defects in the disclosure" of appellant's parent case, to which the majority refers, were certainly not defects under 35 U.S.C. 112, in the ordinary patent sense of the word. The only "defect" was that the specification did not lay a foundation for consideration of the first *Stafford* affidavit, not that the original specification did not adequately support the *claims* under 35 U.S.C. 112. As the Board correctly pointed out in its opinion for the case at bar:

In the parent of the present application, on the other hand, there was never any question concerning the sufficiency of the disclosure of the claimed compounds. The claimed compounds were adequately disclosed, as well as the method of making them and their utility. It was a complete disclosure forming ample basis for adjudicating the patentability of the claims presented therein.

The majority stresses that none of the cited cases "is identical in every respect" to the present case. I do not find this particularly surprising, because of the extreme fact situation here. It is staggering to think that an applicant, subsequent to a final adjudication on the merits by a Federal appellate court adverse to patentability of his claims, would then proceed to file another application with the *same identical claims* in the Patent Office. What is even more staggering, however, is that the majority effectively waives the Patent Office right to reject these identical claims on the ground of *res judicata*. Perhaps not since the *Barratt* case at the turn of the century has a case appeared before a Federal appellate court presenting such an extreme fact situation with regard to applicability of the *res judicata*

doctrine to ex parte patent cases. At least, in the *Prutton*, *Lundberg*, *Fried* and *Szwarc* cases, different claims were presented for adjudication in the continuation or continuation-in-part applications, although these cases mostly involved claims which were patentably indistinct from the claims previously adversely adjudicated in the respective parent cases, either on the merits with respect to the issue of obviousness under 35 U.S.C. 103, or with regard to the formal issue of sufficiency of supporting disclosure for the claims under 35 U.S.C. 112.

With respect to the *Gustavson* and *Schott* cases, the latter being no longer a viable precedent since it was "expressly repudiate[d]" and overruled by the Board, sitting *en banc*, in *Ex parte Budde*, 150 USPQ 469 (1966), it is possible that the Board, as an appellate tribunal within the Patent Office, may possess the requisite authority to waive *res judicata* rejections on behalf of the Office. Even if this should prove to be the case, the rationale would not apply to this court, which is in no way, shape, or form part of the Patent Office and has no authority from either Congress or the Commissioner to waive rights to which the Patent Office may be entitled, such as the right to rely on the well-established legal doctrine of *res judicata* as a defense for its refusal to grant a patent in an appropriate case coming within the doctrine, such as this one.

While the majority speaks in terms of appellant's "right" to a patent on the presently appealed, and previously adversely adjudicated, claims, it is clear to me that this so-called "right" is barred by the final judgment of this court in the first *Herr* case. The different record, and especially the fact that the Patent Office now temporarily considers the claims to be unobvious in view of the new and different record in this case, is "immaterial." *In re Prutton*, supra. In the words of the famous Latin maxim of which *res judicata* are the opening words:

Res judicata facit ex albo nigrum; ex nigro, album; ex curvo, rectum, ex recto, curvum. A thing adjudged makes white, black; black, white; the crooked, straight; the straight, crooked. 1 Bouv. inst. no. 840.

While the majority views the provisions of the Manual of Patent Examining Procedure, § 706.03(w) as "irreconcilable," it is clear that the same, or substantially the same, claims do not present a significantly different issue of patentability, which is presented only when the new claims are patentably distinct from the old claims previously adversely adjudicated on the merits by an appellate tribunal. See *In re Prutton*, *In re Lundberg*, supra.

The majority expresses the view that affirmance of the *res judicata* rejection in this case would "unjustly enrich the public at the expense of the inventor, a result we feel confident Congress could not have intended." I am not at all confident about the Congressional intent to which reference is made, in the absence of items of legislative history, of which the majority cites none. It is interesting to note that this court, which recently possessed only limited appellate jurisdiction, has now, by majority fiat, become a court of general jurisdiction with inherent equity powers to prevent unjust enrichment.

I am firmly of the opinion that waiver of *res judicata* is discretionary with the Commissioner and that he may delegate this discretion in the first instance to the primary examiners. If the Examiner abuses his discretion by refusing to waive the doctrine in an appropriate case calling for such waiver, then the remedy lies in a petition to the Commissioner to exercise his supervisory authority over the exam-

iner. Ultimate review of the Commissioner's discretionary actions, upon eventual exhaustion of available administrative remedies, may be had in District Court under the Administrative Procedure Act, 5 U.S.C. 1009. My point is that waiver of, or refusal to waive, the *res judicata* doctrine is a discretionary matter, reviewable by equitable petition and not by legal appeal. Thus neither the Board nor this court should consider the equitable issue of whether the circumstances of this case make the Examiner's refusal to waive the doctrine of *res judicata* an abuse of discretion on his part. Although no express or implied waiver of the doctrine by the Patent Office can possibly be found on the record of this case, the majority effectively holds that the Commissioner or his authorized representative, the primary examiner, ought to have waived the doctrine, and that their refusal to do so in effect amounts to an arbitrary and capricious abuse of discretion, since it leads to unjust enrichment of the public. I do not think that this court should consider such issues as abuse of discretion and associated unjust enrichment, since such questions are clearly beyond the scope of our strictly limited jurisdiction. See *In re Wiechert*, 54 CCPA 957, 370 F.2d 927, 152 USPQ 247.

The "somewhat exaggerated fears of the Patent Office" which the majority is "inclined to discount" are well and appropriately stated by the Board as follows:

Moreover, if appellant's position were adopted, it would permit an applicant to present a claim to a compound based upon a particular disclosure of properties and utility and, upon rejection in view of prior art, to prosecute such claim to an appellate decision. If unsuccessful, he could then file a new case with the identical compound claim but disclosing additional properties and utility and insist on unobviousness by virtue of this added material. Unsuccessful in his second attempt to obtain a patent, he could then file a third application with the same claim but with new disclosure of properties and utility. This procedure could be continued until he finally found some aspect which would serve to [patentably] distinguish from the prior art. We do not regard this recital as a *reductio ad absurdum*, but as a practical illustration of the endless litigation which *res judicata* is designed to prevent.

The majority is unable "to see why, as a practical matter, an applicant would deliberately" resort to the procedure here authorized. The most obvious reason is to delay issuance of the patent as long as possible, in order to complete testing and development work on the new invention and establish a commercial market therefor. As stated in Woodling, "Inventions and Their Protection," second edition (1954), pp. 312-3:

There are some inventors who purposely seek delay. At first glance such a course may seem ill-advised in view of the fact that there is no protection until the patent is granted. * * * However, there actually are many advantages to be gained in protracting the prosecution which may greatly outweigh the disadvantages of not being able to sue infringers during the pendency of the application. The most obvious reason for delay is to cause the 17-year term of the patent to coincide with the manufacturing period which will produce the maximum financial return. This observation is particularly true where the invention is born before its time.

Another reason for delay is to give the inventor sufficient time for experiment and consultation before his patent issues. * * *

* * * * *

Besides affording an opportunity for experiment, delay makes it possible for the inventor to analyze the construction of competing devices and to make his patent cover features of the competitor's device which are common to those shown in his application. * * *

As a classic example of an invention "born before its time," for which deliberately delayed prosecution in the Patent Office was most advantageous, Woodling states the following at pp. 306-7:

The longest prosecution on record took 36 years. On October 22, 1880, Charles F. Fritts, an inventor, filed a patent application for a method of recording and reproducing sound (the modern sound movie) by a photographic process * * *. It was a meritorious invention. On October 31, 1916, after a period of more than 36 years, the Patent Office granted the Letters Patent.

Obviously, there was a much greater market imminent for sound movies in 1916 than in 1880. I do not believe that sound public policy favors encouraging an attorney to put his *worst* foot forward in representing his clients' interests in the initial stages of patent application prosecution. Yet this is exactly what the majority decision encourages. Attorneys will now be well advised to hold back their best evidence in reserve until it is in their clients' interests to allow their patents to issue, after a sufficient period of deliberate delay in prosecution. In the interim, attorneys may present first their *weakest* evidence of patentability to the Patent Office, and remain safe and secure in the knowledge that, even if an appellate court decision adverse to patentability of the claims on the merits under 35 U.S.C. 103 is obtained, a new application may still be filed with the same identical claims and somewhat stronger evidence of patentability submitted, retaining the best evidence thereof in reserve until it is in the clients' best interests to allow patents to issue on their applications.

The "overriding reason" stated by the majority for reaching the result here "is that Congress has authorized the course appellant has followed, and doubtless expects compliance by the Patent Office and the courts," citing 35 U.S.C. 120.

I am sure it would come as quite a surprise to the drafters of the Patent Act of 1952 to learn that section 120 must be interpreted as abolishing the *res judicata* doctrine in ex parte patent cases. In identical language the House Report No. 1923, 82nd Congress, 2d Session (1952), p. 20, and Senate Report No. 1979, 82nd Congress, 2d Session (1952), p. 20, both read as follows with respect to section 120:

This section represents present law not expressed in the statute, except for the added requirement that the first application must be specifically mentioned in the second.

The Reviser's Note, 35 USCA 120, reads the same as above. See also Federico, "Commentary on the New Patent Act," 35 USCA, pp. 31-3 (1954).

In view of the clear legislative history of section 120 to the effect that it is mere codification of "present [case] law" which prior to 1952 was "not expressed in the statute," it is beyond my comprehension how the majority can possibly interpret this section as evidence of Congressional intent to abolish the well-established legal doctrine of *res judicata* in ex parte patent cases. Obviously, a new application may be filed with *new* claims which are patentably distinct from the previously adversely adjudicated claims. See *In re Prutton*, *In re Lundberg*, supra. Likewise, if an adverse appellate tribunal decision on the merits is avoided, a new application may be filed with new evidence of patentability for the *same* claims that were finally rejected by the Examiner in the previous case. Appellant could have pursued this procedure *instead* of taking an appeal in his first case. *In re Fried*, supra. But the doctrine of *res judicata*, if not waived, manifestly precludes the obtaining of a patent on a new application with the *same*

claims which were previously adversely adjudicated in a final decision on the merits under 35 U.S.C. 103 by a Federal appellate court, as here, regardless of whether the new case is a continuation, *In re Lundberg*, supra, or continuation-in-part application, *In re Prutton*, supra, and regardless of whether new evidence of patentability is made of record in the second or continuation-in-part application. *In re Barratt's Appeal*, *In re Prutton*, supra. Since the above-cited cases, especially *Barratt* and *Overland*, reflect "present [case] law" at the time of enactment of the Patent Act of 1952, I am unable to read 35 U.S.C. 120 as abolishing the then existing case law on the applicability of the *res judicata* doctrine to ex parte patent cases. See *Weeks v. Warp*, 221 F.2d 108, 105 USPQ 55 (D.C. Cir. 1955), which, like *Prutton* and *Lundberg*, was decided subsequent to enactment of the 1952 Act.

I also note with interest the following statement which appears in *In re Lundberg*, 47 CCPA at 1148-9, 280 F.2d at 872, 126 USPQ at 417:

With respect to appellants' general allegation that they were entitled to have their [continuation] application passed on according to the law as set forth in the Patent Act of 1952, our review convinces us that the applications have been so treated at all times subsequent to the effective date [January 1, 1953] of that act. The applications formerly before us were certainly so treated in this court [in accord with the "present law"]. However, we did not always agree with appellants on the construction of various provisions of that act, nor do we now.

Apparently, the majority view of this court as to the effect of the Patent Act of 1952 on applicability of the legal doctrine of *res judicata* to ex parte patent cases has completely changed since the *Lundberg* case was decided in 1960. In contrast, the position of the Court of Appeals for the District of Columbia Circuit with regard to this doctrine has remained substantially constant, at least from the 1899 *Barratt* case to the 1955 *per curiam* decision in *Weeks v. Warp*, supra.

For the reasons stated above, I would affirm the decision of the Board on the ground of *res judicata*.

PATENT SUITS

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2,192,532. (See 3,210,767.)

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Re. 25,737. (See Re. 25,812.)

Re. 25,740. (See 3,210,767.)

Re. 25,812, M. Morgan, AUTOMATIC MACHINE TOOL; Re. 25,737, Brainard, Hansen, Sedgwick, Sipek and Baechle, MACHINE TOOL WITH MECHANICAL CUTTING TOOL CHANGER, filed Sept. 25, 1968, D.C., N.D.N.Y. (Utica), Doc. 68-CV-337, *Kearney & Trecker Corporation v. Monarch Machine Tool Company*.

Re. 25,996. (See 3,164,479.)

D. 202,878, Burke and Kingdon, BUILDING, filed Oct. 10, 1968, D.C., S.D. Ohio (Dayton), Doc. 3604, *Pizza Hut, Inc. v. Jar of Ohio, Inc.*

D. 204,121, F. P. Briando, BICYCLE SEAT, filed Apr. 10, 1968, D.C., S.D. Fla. (Miami), Doc. 68-403-C-TC, *Schwinn Bicycle Company v. G. Joannou Cycle Co., Inc.* Consent judgment, said design patent valid; defendants permanently enjoined, June 14, 1968.

D. 210,842, R. Gentia, TOY CEMENT MIXER, filed Sept. 26, 1968, D.C., S.D.N.Y., Doc. 68-C-3831, *Child Guidance Toys, Inc. v. R. H. Macy & Co., Inc.*

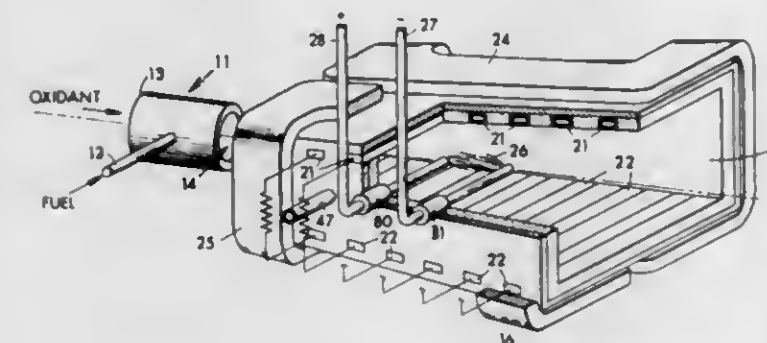
DEFENSIVE PUBLICATIONS

PUBLISHED JANUARY 21, 1969

Published at the request of the applicant or owner in accordance with Notice of Apr. 11, 1968, 849 O.G. 1221. The abstracts are identified by serial number of the applications and arranged in chronological order. The heading of each abstract of application published herein indicates the number of pages of specification, including claims and sheets of drawing contained in the application as originally filed. The files of these applications are available to the public for inspection and reproduction may be purchased for 30 cents a sheet.

Applications published under the Defensive Publication Program have not been examined as to the merits of alleged invention. The Patent Office makes no assertion as to the novelty of the disclosed subject matter.

612,523
MAGNETOHYDRODYNAMIC POWER GENERATION SYSTEM
David N. Stoneback, 191-2 Gibson Blvd.,
Clark, N.J. 07066
Filed Jan. 30, 1967. Published Jan. 21, 1969
Class 310-11
1 Sheet Drawing. 16 Pages Specification

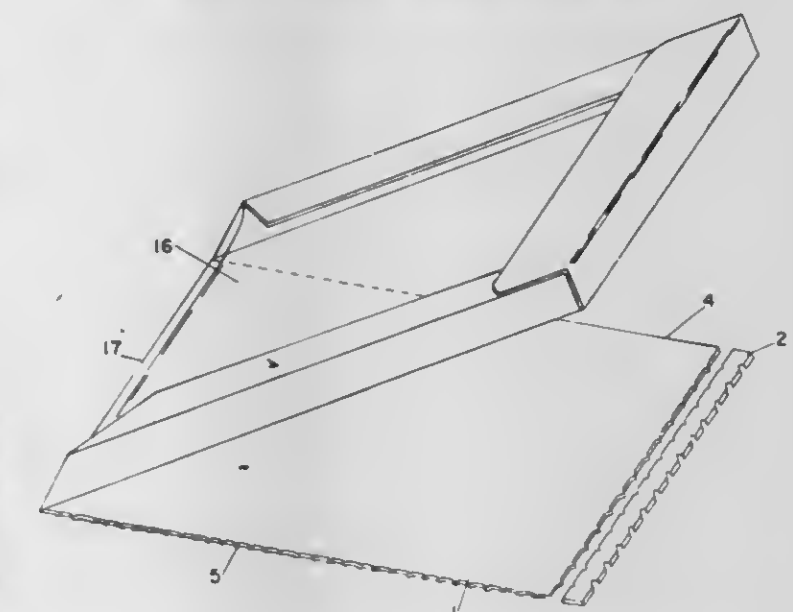


A magnetohydrodynamic (MHD) system comprising a pair of magnets for setting up a magnetic field of high flux density, a refractory lined gas conduit extending through said field and adapted to carry a stream of conveyed gas through a duct which is arranged transversely to the flux of the magnetic field, thereby to generate an electric current, a combustion zone for burning fuel and producing high temperature gas at the entrance to said conduit and supplemental heating means, such as an electric arc or an oxygen stream for combustion of unburned fuel components carried in said gas stream, for adding further heat to the gas, thereby maintaining a gas ionization temperature completely through the magnetic field and wherein said supplemental heat is preferably added along the longitudinal axis of flow of the gas within said conduit.

624,687
POLYCARBONATE ESTER LUBRICANTS
Winston J. Jackson, Jr., and John W. Thompson, both
of P.O. Box 511, Kingsport, Tenn. 37662
Filed Mar. 21, 1967. Published Jan. 21, 1969
Class 260-463
No Drawing. 10 Pages Specification

A new class of carbonate esters has been found which are useful as high-temperature lubricants and functional fluids. The carbonate esters may be prepared from the chloroformate of a saturated primary 2,2-dialkyl alcohol having about 5 to 14 carbon atoms and a saturated primary polyhydric alcohol having no beta-hydrogen atoms and containing about 5 to 10 carbon atoms. Some examples of the carbonate esters include 1,1,1-trimethylolpropane tris (2,2,4-trimethylpentyl carbonate), 2,2-dimethyl-1,3-propanediol bis(2,2,4-trimethylpentyl carbonate), 2-butyl-2-ethyl-1,3-propanediol bis(2,2-dimethyloctyl carbonate), and pentaerythritol tetra(2,2-dimethylpentyl carbonate). The stability of these carbonate esters may be further enhanced by incorporating therein small amounts of an aromatic amine antioxidant.

635,174
PACKAGE AND PROCESS USING HOT MELT CURTAIN COATING OF ARTICLES ON FOLDED SUBSTRATE
Rex Eells and Ted L. Douglas, both of P.O. Box 511,
Kingsport, Tenn. 37662
Filed May 1, 1967. Published Jan. 21, 1969
Class 99-174
2 Sheets Drawing. 9 Pages Specification



An improved packaging method and package for an article such as bacon in which the article is placed on a porous substrate having fold and weakened lines thereon, the substrate and article are then coated with a molten curtain of a thermoplastic resin, the package is folded along the fold lines on top and around the edge while the coating is still sufficiently adherent so as to retain the folded substrate in position. The folding is such that a window is formed on the top of the package through which the article can be viewed. In using the package, the substrate is torn along the perforations on three sides thereof, the folded over portion becoming a lid and the fourth untorn side of the substrate becoming a hinge in which the curtain secures the lid to the substrate supporting the article.

651,683
HEAT SEALABLE HOT MELT COATING COMPOSITIONS
Kenneth W. Hyche, P.O. Box 511,
Kingsport, Tenn. 37662
Filed July 7, 1967. Published Jan. 21, 1969
Class 260-28.5
No Drawing. 13 Pages Specification

Heat sealable hot melt coating compositions made from petroleum waxes such as a paraffin wax present in the amount of about 10-80 percent by weight having a melting point of about 130 to 160° F. and maleic-modified polyethylene in the amount of about 2 to 40 percent by weight having a molecular weight of from about 1500 to

about 10,000, a density of from about 0.890 to about 0.920, and a saponification number from 2 to 15 combined with copolymers in the amount of 10 to 40 percent by weight selected from ethylene-ethyl-acrylate and ethylene-isobutyl-acrylate, said copolymers having a melt index of from 2 to 250 acrylate and ethylene-isobutyl acrylate. These compositions may be modified with other waxes such as microcrystalline wax, Fischer-Tropsch hydrocarbon waxes and some natural waxes. Also modifying resins such as terpenes, modified terpenes, rosins, rosin esters, hydrocarbons and styrene-modified resins may be added to gain desired characteristics. The compositions may also have incorporated therein slip agents such as oleo-amides and antioxidants such as di-lauryl-thio-di-propionate.

662,288

COATED POLYMERS

Harold Boardman, P.O. Box 523, R.D. 1, Fairville Road, Chadds Ford, Pa. 19317

Filed Aug. 22, 1967. Published Jan. 21, 1969

Class 101—453

No Drawing. 13 Pages Specification

Polyolefins, polystyrene, styrene copolymers, blends of polystyrene with styrene-butadiene copolymers, poly(vinylidene chloride), vinyl chloride-vinylidene chloride copolymers, poly(vinyl chloride) and poly[bis(chloromethyl)oxetane] can be made antistatic, less permeable to gases, more receptive to printing and adherent to coatings by vacuum depositing a coating, less than about 3×10^{-6} inch in thickness, of silicon dioxide on their surface. The thus coated polymers are particularly useful as lithographic plates provided the polymer is in the form of a smooth sheet and the silicon dioxide coating is of a thickness between about 3×10^{-6} inch and about 0.1×10^{-6} inch. The thus coated polymer can also be top coated with an aqueous dispersion of an alkali metal silicate, boric acid and a finely divided metallic agent. Depending upon the size of the particles in the dispersion and resulting roughness, top-coated sheets can be used as lithographic plates, abrasive sheets, etc. In vacuum depositing the silicon dioxide onto the surface of the polymer, a high temperature such as provided by electron beam heating will be required.

664,925

MULTIFUNCTIONAL POLYMERIC ADDITIVE FOR MINERAL OILS

Norman Jacobson, 34 Peach Orchard Drive, East Brunswick, N.J. 08816

Filed Sept. 1, 1967. Published Jan. 21, 1969

Class 252—51.5

No Drawing. 31 Pages Specification

A hydrocarbon-oil-soluble polymeric additive having multifunctional qualities including viscosity-index-improving properties and sludge-dispersing properties is prepared by reacting an oil-soluble polymeric material, which contains acid or acid anhydride groups randomly distributed along the polymer chain, with a heterocyclic amino compound under conditions which cause the formation of an amide or imide linkage between carboxyl or carboxyl anhydride groups of the polymer and the amino groups of the heterocyclic amino compound. The latter is characterized as a heterocyclic amino compound of the pseudo-aromatic type that has either oxygen or nitrogen in the ring, has only one group with an active amino hydrogen, contains no other active hydrogen groups, and has the amino group separated from the ring by from one to five carbon atoms. Representative additives include: the reaction product of either furfurylamine or 3-(amino methyl) pyridine with a copolymer of vinyl acetate, maleic anhydride and mixed di-esters of fumaric acid and mixed C_6 to C_{18} aliphatic alcohols; and the reaction product of 2-amino-propyl 4-ethyl pyridine with

a copolymer of mixed C_8 - C_{12} methacrylates and itaconic acid.

670,053

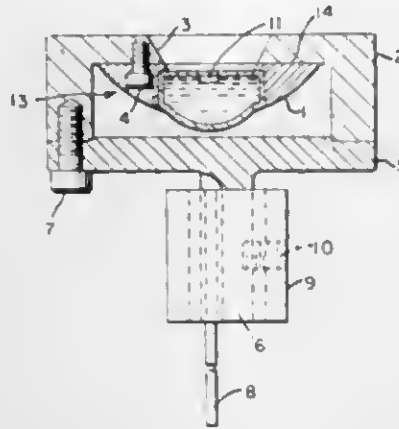
GAGE FOR INDICATING THE DEVIATION OF A HOLE FROM A PERPENDICULAR

Paul William McKee, Jr., Martinsville, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Sept. 25, 1967. Published Jan. 21, 1969

Class 33—180

1 Sheet Drawing. 5 Pages Specification



A gage for indicating the vertical deviation of an elongated hole in a plate for example, a spinneret blank, from a selected flat horizontally aligned surface of the plate. A level indicator having an elongated stem, adapted for a precise engaging fit in the hole, is used to indicate longitudinal axial deviations from vertical of the hole when the stem is engaged in the hole.

696,062

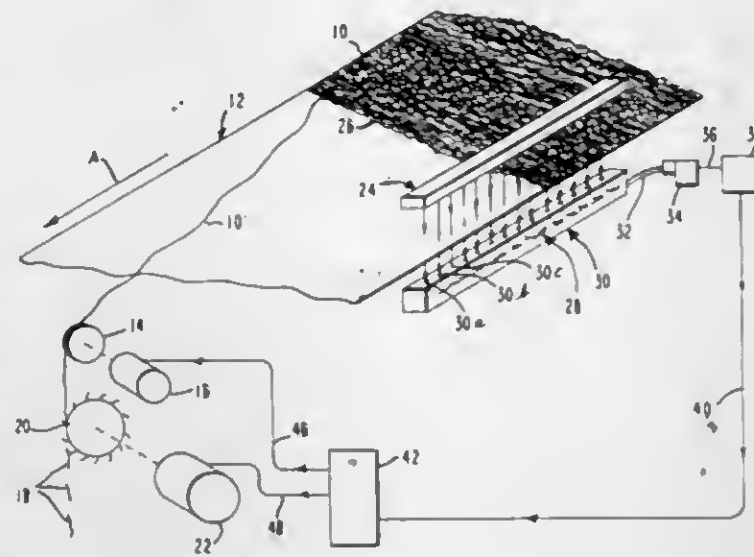
TOW DRYER CONTROL APPARATUS

Anthony R. Leana, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Jan. 5, 1968. Published Jan. 21, 1969

Class 250—227

1 Sheet Drawing. 10 Pages Specification



An apparatus for monitoring the position of an edge formed by a continuously moving sheet of textile material and proportionately regulating the rate of withdraw of the material. The "edge" may be the end of a sheet or the lowest portion of a tension-free loop. The apparatus includes an elongated light source (e.g., a fluorescent lamp), to illuminate the forward traverse sheet edge, and a multiplicity of fiber optic elements, the light transmitted to the spatially positioned input ends of the fiber optic

elements being determined by the position of the sheet edge. The output ends of the fiber optic elements are brought together adjacent a photoelectric device, which, based upon the sum of the illumination transmitted thereto, produces an electrical signal proportional to the position of the sheet edge. This electrical signal, by conventional circuitry regulates the rate of withdraw of the textile material, by control of a withdrawal means (e.g., pull-rolls). The apparatus has particular utility as a tow dryer control.

707,485

ORIENTED FILMS AND FIBERS OF ASPHALT AND A PROPYLENE POLYMER

James A. Kerns, 116 Rockrose Drive, Newark, Del. 19711

Filed Feb. 23, 1968. Published Jan. 21, 1969

Class 260—28.5

No Drawing. 6 Pages Specification

Preparation of oriented films and fibers containing a major portion of asphalt and a minor portion of a crystallizable, orientable polymer of propylene is taught. The orientable composition containing about 7 to 25% propylene polymer can be drawn up to about 700% to effect orientation. The polymer can be a propylene homopolymer or copolymer containing up to about 25% of a comonomer. Any extrudable polymer can be used if the IV is 1.3 or higher. Blown or unblown asphalt can be employed. Uniform mixing of the polymer and asphalt is necessary and can be accomplished by comminution of a mixture of polymer and asphalt frozen with Dry Ice, followed by extrusion wherein melt blending is effected. Drawing can be accomplished at room temperature. Utility is in film and fiber applications where a cheap product is desired and black coloration is not a bar, such as binder twine, barrel liners, or vapor barrier membranes.

720,492

PROCESS FOR PREPARING FLEXIBLE POLYURETHANE FOAMS

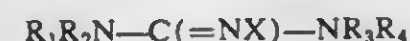
Adolf Wojciech Fogel, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Apr. 11, 1968. Published Jan. 21, 1969

Class 260—2.5

No Drawing. 25 Pages Specification

A prepolymer or quasi-prepolymer process for making non-discoloring flexible polyurethane foams from an aliphatic polyisocyanate, a polyalkyleneether or polyester polyol having a molecular weight of at least 750 and water wherein the isocyanato group/water reaction is catalyzed by a substituted guanidine



R_1 , R_2 , R_3 and R_4 being unsubstituted or alkoxy substituted C_1 - C_4 alkyl or the pairs R_1 - R_2 and/or R_3 - R_4 forming 5 to 7 membered rings consisting of carbon atoms and not more than 2 hetero atoms, including the guanidine nitrogen, from the group of nitrogen, sulfur and oxygen and X being hydrogen or a carbamoyl radical, $-C(=O)-NHZ$, wherein Z is the radical remaining after the removal of one isocyanato group from an organic isocyanate. Prior to the foam-forming reaction, at least half of the polyol is converted to prepolymer by reaction with an excess of 100-950% of polyisocyanate. 1,1,3,3-tetra-methylguanidine and its 2-carbamoyl derivatives are preferred catalysts. A preferred polyisocyanate is a mixture of stereoisomers of 4,4'-methylenebis(cyclohexyl isocyanate) which is liquid at 25° C.

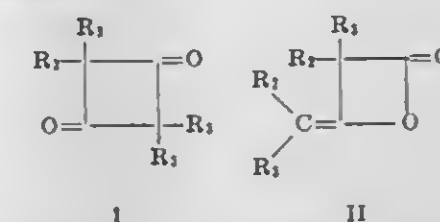
755,456

PHOTOCHEMICAL PURIFICATION OF KETONES
George B. Vermont, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Continuation of application Ser. No. 484,446, Sept. 1, 1965. This application Aug. 26, 1968. Published Jan. 21, 1969

Class 204—158

No Drawing. 10 Pages Specification

A process for purification of an ultraviolet light stable reaction product of ketenes which contains diketone and B-lactone impurities that have the following respective structural formulas:



in which R_2 and R_3 are individually selected from the group consisting essentially of H and a lower alkyl group by exposing the reaction product to an ultraviolet light source of 2000 to 3000 angstroms until the above impurities are photochemically decomposed into gaseous products.

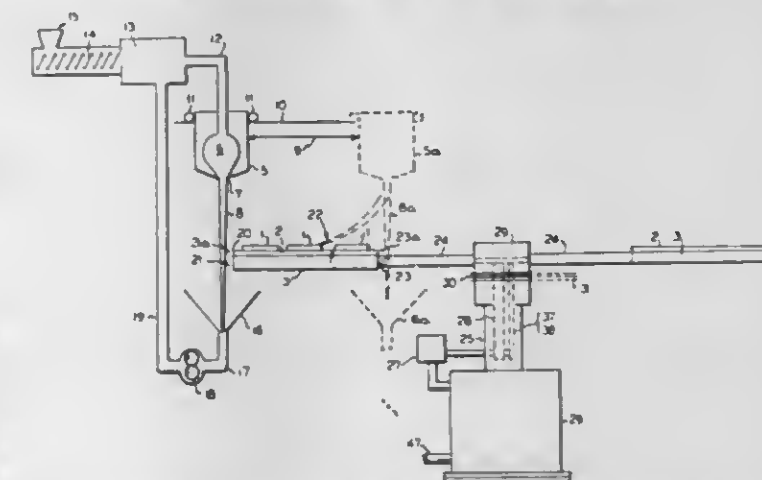
767,043

CURTAIN COATING METHOD FOR PACKAGING AN ARTICLE

John L. Cameron, P.O. Box 431, Kingsport, Tenn. 37662
Continuation of application Ser. No. 531,274, Mar. 2, 1966. This application Sept. 24, 1968. Published Jan. 21, 1969

Class 264—90

3 Sheets Drawing. 13 Pages Specification



Apparatus for coating an article, as illustrated in FIGURE 1, including a plurality of receiving elements for supporting an article to be coated extending radially outward from a central support column. The receiving elements can be indexed around the support column to any of several stations one of which includes a movable nozzle for extruding a curtain of molten material onto the article. A vacuum is created beneath the article to hold it in place during indexing and to draw the molten curtain into secure contact with the article during coating. The method of utilizing this apparatus includes the steps of (a) placing the article to be coated on one of the receiving elements, (b) reducing the air pressure beneath the substrate to hold the article in place, (c) indexing the article into a coating station, (d) moving a curtain of molten thermoplastic across the article, (e) indexing the coated article away from the coating station and (f) removing the coated article from the receiving element.

REISSUES

JANUARY 21, 1969

Matter enclosed in heavy brackets [] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

26,520

TRAINING CHAIR

James F. Sellars, Jr., Corning, N.Y., and Reynold C. King, Jasper, Ind., assignors to Hamilton Cosco, Inc., Columbus, Ind., a corporation of Indiana

Original No. 3,343,179, dated Sept. 26, 1967, Ser. No. 441,116, Mar. 19, 1965. Application for reissue Mar. 6, 1968, Ser. No. 711,144

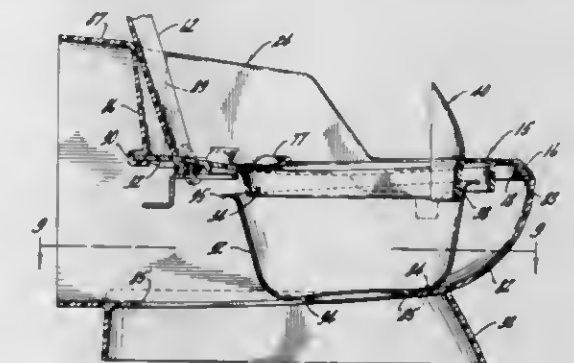
U.S. Cl. 4-134

Int. Cl. A47k 13/06, 11/06

18 Claims

An infant's training device having a seat portion and usable selectively on a conventional toilet seat and upon its own supporting base structure. Locating means are provided on said seat portion for removably mounting and fixedly locating the device in operative position on said toilet seat and base structure. A receiving vessel is

usable with said device when it is used on said base structure, and means are provided on said seat portion for



locating said vessel in alignment with an opening formed in said seat portion.

PLANT PATENTS

GRANTED JANUARY 21, 1969

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,856

ROSA FLORIBUNDA PLANT
Edward Burton Le Grice, North Walsham,
Norfolk, England

Filed Jan. 6, 1967, Ser. No. 607,865

U.S. Cl. Plt.—28

Int. Cl. A01h 5/02

1 Claim

1. The new and distinct variety of *Rosa floribunda* plant herein shown and described.

bination of a hardy, vigorous, upright, well-branched habit, abundant, glossy, attractive Spinach Green foliage which matures to a Parsley Green color, having average disease resistance, abundant, continuous, large clusters of blooms of good size and which have exceptionally long lasting qualities, a distinctive and attractive flower color ranging between Rose Red and Cherry and which holds up well, and a light tea flower fragrance.

2,857

ROSE PLANT
Marie Louise Meilland, Cap d'Antibes, Alpes Maritimes,
France

Filed July 7, 1967, Ser. No. 651,961

Claims priority, application France, July 29, 1966,
47,598

U.S. Cl. Plt.—28

Int. Cl. A01h 5/02

1 Claim

1. A new and distinct variety of rose plant of the floribunda class, substantially as herein shown and described, characterized particularly as to novelty by the unique com-

2,858

PLUM TREE

John M. Garabedian, Fresno, Calif., assignor to Peach
& Willow Farms, Fresno, Calif., a corporation of
California

Filed July 19, 1967, Ser. No. 654,665

U.S. Cl. Plt.—38

Int. Cl. A01h 5/08

1 Claim

A new and distinct variety of plum tree which bears large, freestone fruit having straw-yellow flesh shading to red, and skin having a yellow ground color substantially entirely overspread with deep red shading to black.

PATENTS

GRANTED JANUARY 21, 1969

GENERAL AND MECHANICAL

3,422,458 FLEXIBLE STRUCTURE FOR PRESSURIZED GARMENTS

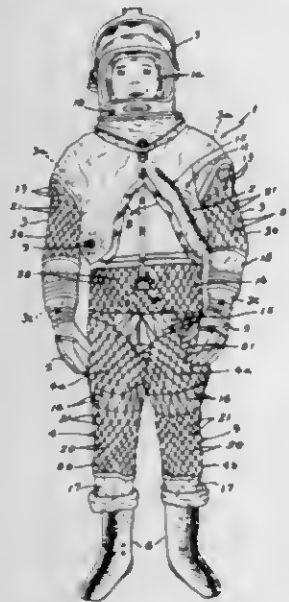
Otto Schueller, Dayton, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force

Filed Aug. 6, 1963, Ser. No. 300,383

U.S. Cl. 2-2.1

Int. Cl. B63c 11/00; A41d 13/00

16 Claims



1. A flexible high altitude pressure garment for maintaining the wearer thereof under greater fluid or mechanical pressure than the surrounding fluid pressure exterior of the garment, including a limb and trunk receiving enclosure having an extensible flexible portion therein to permit substantially universal bending, swinging and torsional movements of the articulated limb and trunk portions of a wearer enclosed therein comprising, cylindrical universally flexible enclosures adapted to extend longitudinally beyond the opposite sides of the joints of the wearer's limbs and trunk, a multitude of substantially uniformly spaced cable guide members fixed relatively to the outer surface of said flexible enclosure in positions around and along the same in spaced transverse vertical and horizontal rows, and a plurality of substantially non-extensible flexible endless cords slidably extending in opposite directions around said flexible enclosure in zig-zag fashion between the upper and lower rows in angularly intersecting slidable relation to each other through said guide members between the upper and lower ends of said limb or trunk enclosures to encompass the exterior of said flexible limb and trunk enclosure from end to end and resist elongation thereof due to greater internal relative pressure within said enclosure while slippage of the cables through the rings permit bending of the limb and trunk receiving enclosures.

3,422,459 PROTECTIVE HEAD COVERING

Charles E. Bowers, Jr., Newtown Square, Pa., assignor to The Fibre-Metal Products Company, Chester, Pa., a corporation of Pennsylvania

Filed Dec. 9, 1966, Ser. No. 600,571

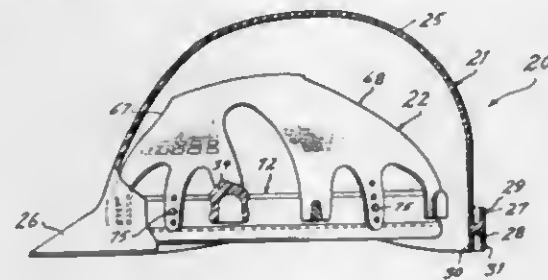
U.S. Cl. 2-3

Int. Cl. A42b 3/00; A42c 5/04

2 Claims

The device disclosed in this application consists essentially of a relatively hard outer shell for spacedly covering a wearer's head, and a flexible yieldable inner liner

for seating on the wearer's head and suspending the shell in its spaced relation, wherein the liner is provided over



substantially its entire area with a multitude of thru apertures for increased yieldability of the liner and enhanced ventilation to the wearer's head.

3,422,460 STATIC-INHIBITING GARMENT

James E. Burke, St. Aurora, and Thomas L. Rusk, Oak Park, Ill., assignors to Sears, Roebuck and Co., Chicago, Ill., a corporation of New York

Filed Oct. 17, 1966, Ser. No. 587,008

U.S. Cl. 2-73

Int. Cl. A41d 9/00

1 Claim



An article of underwear for females, having a reduced capacity for accumulating a static charge, said article formed of textile material of a character customary in such apparel except for the incorporation therein of filaments consisting at least partly of electrically conductive strands of extremely fine denier of the order of about 1-25 microns. Such conductive elements may be incorporated in the fabric itself and/or in the seaming and/or decoration, such as lace.

3,422,461 BAND REINFORCING MEANS FOR GARMENTS

Monroe Froehlich, Jr., South Salem, N.Y., assignor to DHJ Industries, Inc., New York, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 523,155, Jan. 26, 1966, This application Nov. 16, 1966, Ser. No. 604,098

U.S. Cl. 2-236

Int. Cl. A41d 27/00

1 Claim



A plurality of stiffening members in a band zone which

JANUARY 21, 1969

GENERAL AND MECHANICAL

729

are disposed at an angle with the horizontal and which end of an elongated flexible tube. The other end of the tube is positioned in a disposable plastic drainage bag, attached to the garment.

3,422,462 PROSTHETIC LEG HAVING ADJUSTABLE ALIGNMENT MEANS

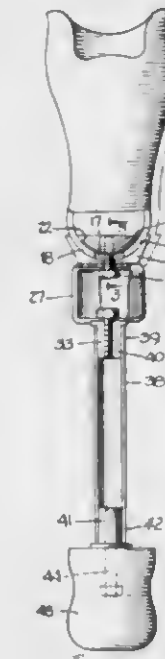
Alan R. Finneston, 1901 NW. 17th Ave., Miami, Fla. 33125

Filed Sept. 7, 1966, Ser. No. 577,684

U.S. Cl. 3-21

Int. Cl. A61f 1/08, 1/02

5 Claims



1. Prosthetic apparatus comprising a socket member adapted to receive a human stump in conforming relationship, said socket member being generally rounded at its lower closed end and having a hole in said end, a cup member having an inner generally concave surface adapted to receive said closed end of said socket member, said cup member having a bottom with a bottom ridge thereon, lateral adjustment means including a pair of anchor plates supported at spaced positions and having respective slotted portions therethrough, one said anchor plate having a grooved portion in its outer surface aligned with said slotted portion and dimensioned to receive said ridge of said cup bottom, the other said anchor plate having a similar grooved portion in its outer surface aligned with its said slotted portion, a first bolt means for securing said socket and cup in an aligned position to said one anchor plate, a first plug member having a head adapted for slideable engagement in the groove in said other anchor plate, second bolt means extending through said slotted portion in the latter said plate for securing said plug to said plate in a laterally aligned position, an intermediate extension member joined at one end to said first plug member, a second plug member secured to the other end of said extension member and a foot member joined to said second plug member.

3,422,463 URINAL ASSEMBLY

Clyde E. Lowry, P.O. Box 2900, Little Rock, Ark. 72203

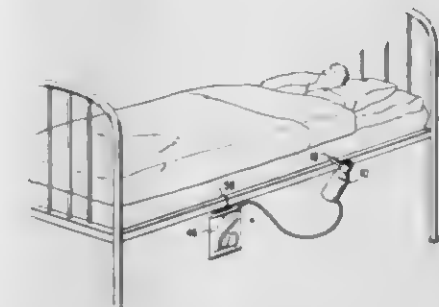
Filed Oct. 27, 1966, Ser. No. 589,880

U.S. Cl. 4-110

Int. Cl. A47g 9/00; A47k 11/12

5 Claims

A disposable urinal assembly including a molded plastic receptacle having an opening in the lower side wall thereof supporting a fitment for releasably retaining one



and the entire assembly is adapted to be supported on the rail of a bed.

3,422,464 SHOWER ENCLOSURE TRACK ASSEMBLY

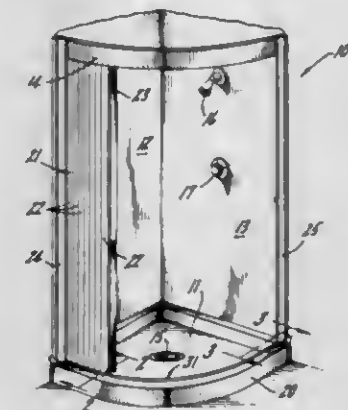
George A. O'Brien, Chicago, Ill., assignor to Kinthead Industries Incorporated, Chicago, Ill., a corporation of Illinois

Filed Mar. 11, 1966, Ser. No. 533,608

U.S. Cl. 4-154

Int. Cl. A47k 3/22

5 Claims



A shower enclosure assembly of a base, rail member and sliding panel in which the base has a wall recessed along its top edge and the rail member fits in and fills the recess. The rail member is extruded and formed with a flange hooked over a lip on the base, a groove guiding a panel guide element, and fastener receiving grooves for mounting pilot plates.

3,422,465 PREFABRICATED SAUNA ROOM

Robert H. Jones and Lennard E. Nylin, San Jose, Calif., assignors to Viking Sauna Company, San Jose, Calif., a partnership

Filed Dec. 10, 1965, Ser. No. 513,019

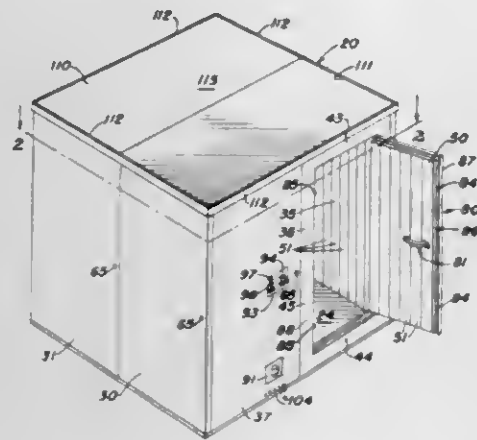
U.S. Cl. 4-160

Int. Cl. A61b 33/06

15 Claims

A prefabricated sauna room for ready assembly and disassembly with a single tool. A floor unit, made up of panels hinged together by a carpet covering, has upstanding strips adjacent each edge, and a series of vertical wall panels are secured together (as by clamps) and keyed to the floor unit. Each wall panel has an outer portion having insulated hollow chambers between inner and outer skins and an inner portion of tongue-and-groove redwood boards covering substantially the interior surface thereof. The keying is done by a bottom channel in the outer portion of each panel for engagement with and alignment by the floor unit strips. A plurality of ceiling panels like the wall panels are secured together and have

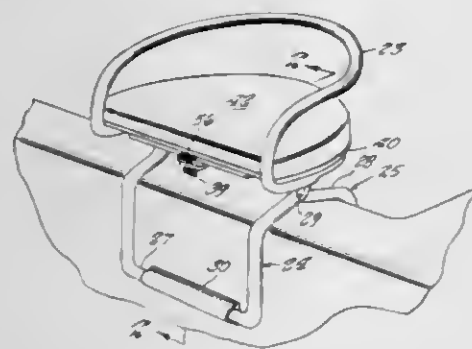
grooves for engaging the top edges of the wall panels. One wall panel comprises a door frame and a hinged door therethrough. Another wall panel has electrical wiring comprising electrical input means, a mechanical timer, switch means controlled by the timer for turning on and off the electrical circuit and a lighting fixture inside said room near an upper portion of the same panel. An electrical heating unit, having a vertical air-flow pattern with



means for sending air from an intake on its lower end up through electrical heating elements to an outlet on its upper end, is supported by a wall panel adjacent the wired wall panel and is connected to the switch means. A wall panel near the heating unit is provided with a series of restricted openings to admit a small amount of air adjacent the bottom intake of the heating unit. Benches are supported by at least two wall panels against one side of the room.

3,422,466
BATHTUB STOOL WITH SAFETY HAND RAIL
Joseph A. Banoczy, 82 West Ave.,
Darien, Conn. 06820
Filed Jan. 9, 1967, Ser. No. 608,136
U.S. Cl. 4-185
Int. Cl. A47k 3/12

1 Claim



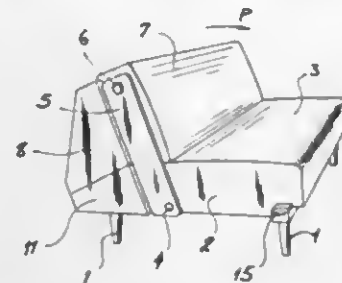
A bathroom stool having clamping legs that are securable over the upper edges of a bathtub, the stool having a seat that is pivotable into the bathtub when not in use, and the seat also being rotatable, so to permit an older or otherwise handicapped person to easily enter or leave the bathtub.

3,422,467
CONVERTIBLE COUCH
Ole Wiberg, Voldumvej 21, Vanlose, Denmark
Filed Feb. 24, 1967, Ser. No. 618,437
Claims priority, application Austria, Feb. 25, 1966,
A 1,815/66; Feb. 28, 1966, A 1,826/66, A 1,827/66
U.S. Cl. 5-12
Int. Cl. A47c 17/16, 21/02

5 Claims

Convertible piece of furniture with a seat and a backrest swingably interconnected by a pair of pivoted arms

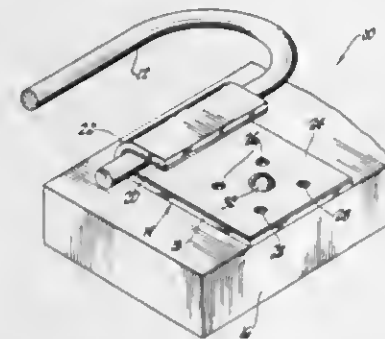
which allow the backrest to be swung across the seat into a position coplanar therewith in which legs secured to the rear surface of the backrest come to rest on the



floor, the backrest also carrying a spring-loaded windup roller from which a cover sheet anchored to the rear edge of the seat is unwound to stretch across the coplanar seat and backrest surfaces.

3,422,468
SPRING CLIP
Erich H. Schutz, Fraser, Mich., assignor, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware
Filed Sept. 13, 1966, Ser. No. 579,163
U.S. Cl. 5-259
Int. Cl. A47c 23/26

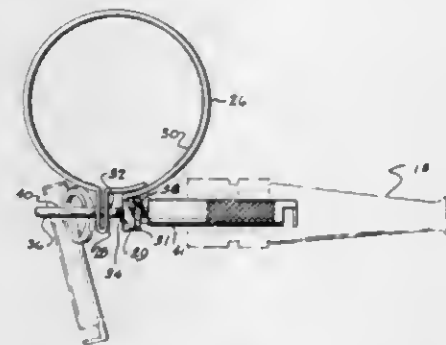
9 Claims



A cushion assembly comprising at least one spring, a clip supporting the end of the spring and a frame for supporting the clip. The clip has a substantially U-shaped metallic body including a pair of generally opposed first and second flanges joined by a central web portion. The first flange has a pair of holes therethrough and a fifth hole. Either a staple is disposed in each of the two pairs of holes or a screw, nail or the like is disposed in the fifth hole, or both.

3,422,469
HOSE COUPLING TOOL
Wilfred Tunstall, 12874 2nd St., Yucaipa, Calif. 92399,
and Albert Wegner, 223 Syllmr Court, Calimesa, Calif. 92320
Filed Feb. 7, 1966, Ser. No. 525,679
U.S. Cl. 7-1
Int. Cl. B25f 1/00; B67b 7/00

1 Claim

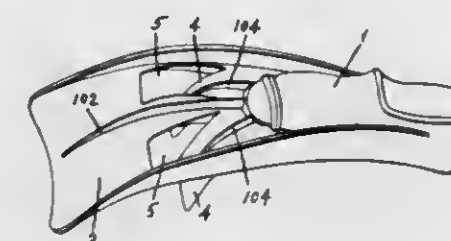


1. A hose and faucet coupling tool assembly including a clamping ring having apertured ends for a connecting bolt, one of said ends being formed as a nut clamp;

a threaded connecting eye bolt for said clamping ring extending through said apertured ends;
a nut on said bolt and contained in said clamp;
a separable elongated lever of small diameter having a longitudinally threaded recess capable of attachment to the threaded portion of said bolt so as to support a nozzle passed over itself, said lever having a smaller dimension than the dimension of the opening in said bolt eye so as to be capable of extending therethrough whereby leverage may be applied to tighten or release the hose coupling and faucet connection to prevent leakage; and
a washer removing slot on the outer end of said lever.

3,422,470
SWIMMING FIN
Lodovico Mares, Via Cerisola Borghetto,
Rapallo, Italy
Filed Sept. 7, 1967, Ser. No. 666,136
Claims priority, application Italy, Sept. 13, 1966,
21,033/66
U.S. Cl. 9-309
Int. Cl. A63b 31/10

4 Claims



A swimming fin comprising a shoe adapted to be worn on the foot and a web extending forwardly from the toe end of said shoe. In said web at least one flap is formed, directed in the same direction as said web and flexible in both directions from the web plane.

3,422,471
SURFBOARD WITH REMOVABLE SKEG
Thomas H. Morey, 36 Lincoln Drive, and Karl D. Pope III, 6377 Clemens St., both of Ventura, Calif. 93003
Filed Apr. 3, 1967, Ser. No. 628,070
U.S. Cl. 9-310
Int. Cl. A63c 15/06

6 Claims

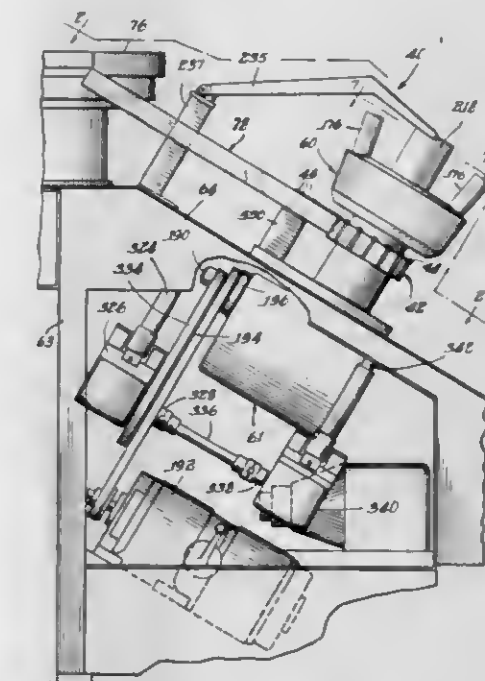


This disclosure relates to a surfboard structure for enabling easy insertion and removal of a skag such that shipping of boards is facilitated and easy replacement of a damaged skag can be effected. The rear under surface of the board includes an elongated channel receiving the base portion of the skag, one end of the channel being undercut to define a sloping surface and one end of the base portion of the skag having a similarly sloping surface to wedge with the channel sloping surface. A suitable expanding means in the form of a threaded bolt and socket is provided between the other end of the channel and base portion such that after the base portion of the skag has been received in the channel, the expanding means is actuated to urge the sloping front portion of the base portion against the undercut sloping wall of the channel thereby wedging the skag tightly in the channel. The design also is such that a downward component of

force is provided on the other end of the skag base portion against which the expanding means acts. The side walls of the channel and side walls of the base portion are tapered to take advantage of the downward force component and thereby effect further wedging of the skag along its sides as well as at its opposite ends.

3,422,472
METHOD AND APPARATUS FOR MAKING DRILLING SCREW
Henry Pomernacki, Northbrook, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed Aug. 5, 1966, Ser. No. 570,622
U.S. Cl. 10-10
Int. Cl. B23g 9/00

31 Claims



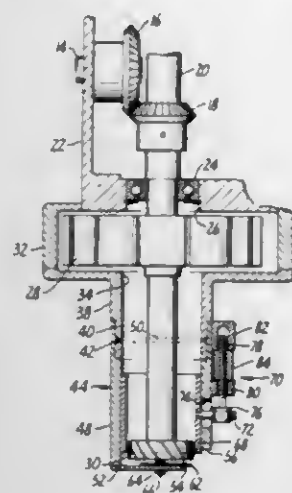
1. In an apparatus for forming shank tip portions of fastener devices, the combination comprising means for continuously conveying fastener devices having shanks along a predetermined path of travel, means for supporting a rotary slotting tool mounted at a work station for generally back and forth movement in a predetermined direction adjacent a first portion of said path of travel, said conveying means and said tool supporting means being mounted for relative movement toward each other at said first portion of travel for engaging a tool on the supporting means against a fastener device shank and forming a slot in said shank while the fastener device is continuously moving with the conveying means, and means for actuating said conveying means and said tool supporting means in timed relationship.

3,422,473
ROTARY CUTTER AND ADJUSTABLE SHIELD THEREFOR
James A. Keifer, 2138 Irving St., San Francisco, Calif. 94122
Filed May 26, 1967, Ser. No. 641,588
U.S. Cl. 12-91
Int. Cl. A43d 27/00

5 Claims

An assembly comprising, as its basic elements, a circular cutting wheel and tubular housing received thereover to selectively limit the degree to which a work piece may be directed into contact with the wheel. The housing has a lateral opening therein designed for the direction of a work piece therethrough into contact with

the wheel and the limit function of the assembly is provided by a screw operated closure member cooperating



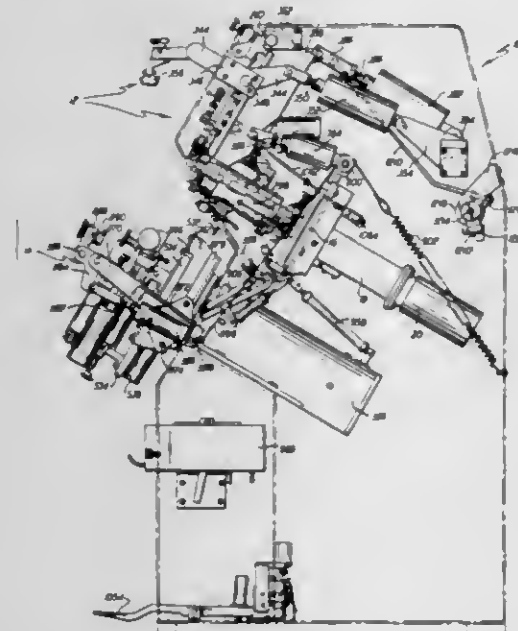
with the opening to selectively vary the exposure of the wheel therethrough. In the preferred embodiment, the housing communicates interiorly with a vacuum source.

3,422,474

METHOD AND APPARATUS FOR USE IN LASTING SHOES

Jacob S. Kamborian, Boston, Allen C. Harriman, Brockton, Geoffrey T. Jones, Walpole, and Karl F. Vornberger, Tewksbury, Mass., assignors to Jacob S. Kamborian, Boston, Mass.

Filed Feb. 18, 1966, Ser. No. 528,430
U.S. Cl. 12-145 157 Claims
Int. Cl. A43d 25/02, 21/08



There is disclosed herein a machine for applying cement to the periphery of an insole that is located on a last bottom and for wiping the entire margin of an upper mounted on the last against the insole to thereby adhesively secure the entire upper margin to the insole.

3,422,475

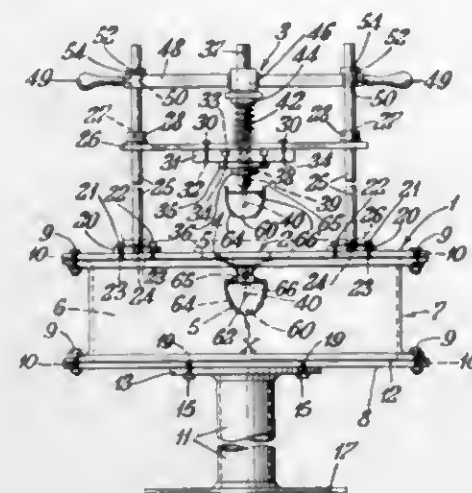
PROCESS AND APPARATUS FOR SHAPING A SHOE UPPER AND BONDING A SHOE UPPER TO AN INSOLE

Henry H. Hart, St. Albans, W. Va., assignor to Union Carbide Corporation, a corporation of New York

Filed Apr. 1, 1966, Ser. No. 539,430
U.S. Cl. 12-145 4 Claims
Int. Cl. A41d 21/12, 29/10, 89/00

In bonding a shoe upper to an insole, an insole is positioned on a shoe last mounted on a movable support and formable shoe upper material is placed about

the last. The last is forced against an elastomeric diaphragm supported by fluid pressure and by the differential pressure applied to the diaphragm it is caused to



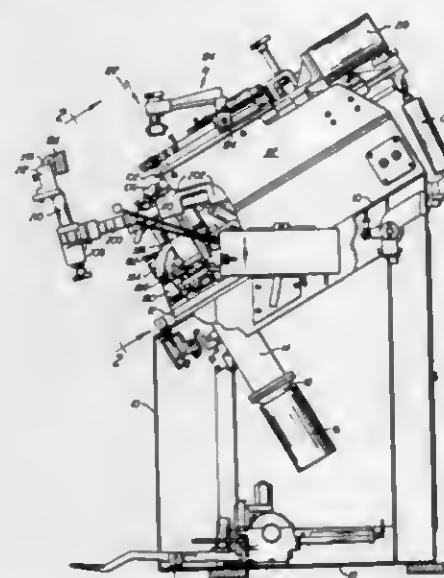
envelope the last, to conform the upper material to it and to fold marginal edges thereof over the insole to which it may be adhesively bonded.

3,422,476

METHOD AND APPARATUS FOR CLAMPING AN END OF A SHOE ASSEMBLY

Michael M. Becka, Cambridge, Mass., assignor to Jacob S. Kamborian, West Newton, Mass.

Filed Apr. 19, 1967, Ser. No. 632,032
U.S. Cl. 12-145 8 Claims
Int. Cl. A43d 21/00



The disclosure is concerned with a machine for stretching a shoe upper about the toe end of the last and then wiping the upper to the toe end of an insole that is located on the last bottom by means of conventional wipers having a flat wiping surface. The machine includes a number of clamping instrumentalities adapted to clamp the shoe assembly in a predetermined configuration with respect to the wipers as well as devices for gripping and stretching the shoe upper about the last.

3,422,477

TELESCOPING CONVEYANCE LOADER

William M. Riggles, Jr., Hialeah, Fla., assignor, by mesne assignments, to Wollard Aircraft Equipment, Inc., Miami, Fla., a corporation of Washington

Filed July 14, 1966, Ser. No. 565,188
U.S. Cl. 14-71 4 Claims
Int. Cl. B65g 69/28

Tunnel-type telescoping conveyance loader or gangway in which a first tunnel section supports in telescoping

relation therewith, a second tunnel section by means of a plurality of spaced, parallel, tubular structural members carried by the first tunnel section and a plurality of



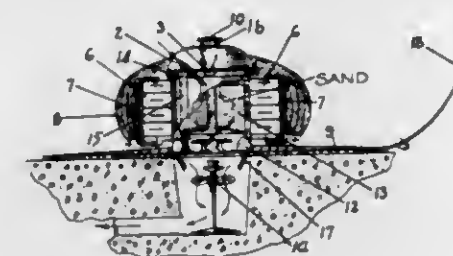
spaced, parallel, structural members carried by the second tunnel section and telescopically received within the tubular structural members.

3,422,478

SUBMERSIBLE AUTOMATIC SOLID SURFACE CLEANER

Bodwell D. Osborne, 53 James Ave., Atherton, Calif. 94025

Filed Oct. 22, 1965, Ser. No. 502,078
U.S. Cl. 15-1.7 8 Claims
Int. Cl. E04h 3/20



1. A submersible automatic solid surface cleansing apparatus for swimming pools and the like comprising: a cleansing means; a rotary impeller rotatably coupled to said cleansing means; an electric motor operably coupled to said impeller; an electrical storage battery positioned on said apparatus and connected to said motor; expansible gas containers positioned on said apparatus to effect a variable, positive buoyancy thereof; means for supplying and removing gas from said containers; filter means interposed between said cleansing means and said rotary impeller; means for conducting a flow of fluid between said cleansing means and the center of said rotary impeller through said filter means; means for removing a flow of fluid from the periphery of said impeller in a predetermined direction to effect an axial thrust on said apparatus.

3,422,479

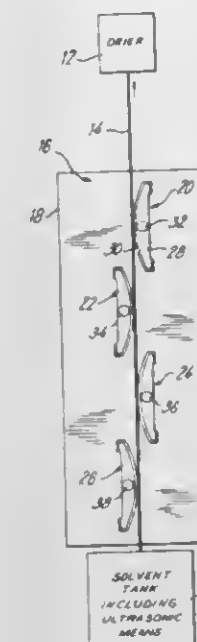
APPARATUS FOR PROCESSING FILM

Saul Jeffee, 619 W. 54th St., New York, N.Y. 10019

Filed Dec. 29, 1964, Ser. No. 421,913
U.S. Cl. 15-100 2 Claims
Int. Cl. G03d 5/06

A film processing apparatus comprising a solvent tank including ultrasonic means and a drier spaced from said tank. The film advances along a vertical path from the tank to the drier. Two pairs of pads are disposed on opposite sides of the film in staggered relationship along the

path to wipe off solvent from the film. Each pad includes a core of solid material which is inert and impermeable



to the solvent; an absorbent cover is provided on the core to engage the film. The cover includes a base with a cut pile on the base to engage the strip.

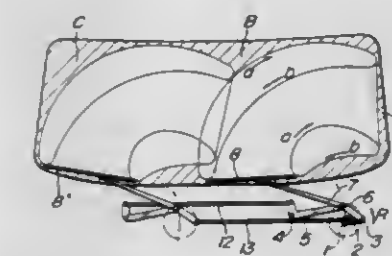
3,422,480

WINDSHIELD WIPER APPARATUS

Masumi Kato, Aichi-ken, Japan, assignor to Nippon Denso Company Limited, Kariya-shi, Japan, a corporation of Japan

Filed Nov. 30, 1967, Ser. No. 686,866
Claims priority, application Japan, Dec. 2, 1966, 41/79,110 3 Claims

U.S. Cl. 15-250.21
Int. Cl. A47l 1/03; B60s 1/32, 1/36



A windshield wiper apparatus having a wiper arm pivotally connected at a point to an oscillation lever and at another point to a rotary crank arm or to a slide member slidable on a rotary crank arm and guided by a cam groove whereby the wiper blade fixed to the foremost end of the wiper arm is moved along a loop-shaped path to wiper a quasi-rectangular area on the windshield upon rotation of the crank arm.

3,422,481

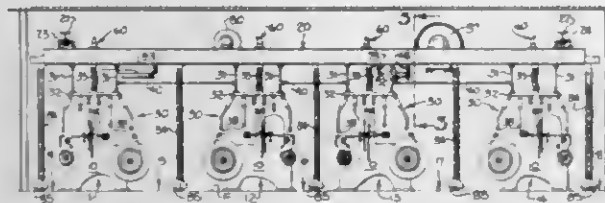
CRANE MOUNTED LOOM CLEANER WITH SYNCHRONIZED OSCILLATION

Robert L. Black, Jr., Charlotte, N.C., assignor to Parks-Cramer Company, Fitchburg, Mass., a corporation of Massachusetts

Filed Aug. 23, 1966, Ser. No. 574,443
U.S. Cl. 15-312 20 Claims
Int. Cl. A47l 5/38; B08b 5/04

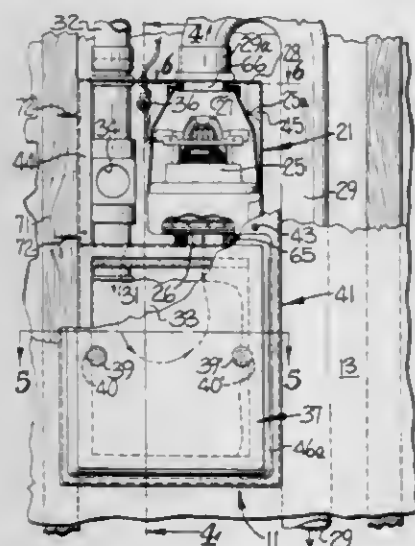
Apparatus for removing lint from looms, in which a plurality of blowing-air units, provided with respective downwardly directed outlets, are carried by a bridge and

travel forwardly and rearwardly in alternation above and along respective rows of looms therebeneath, and wherein means are provided for oscillating the outlets of at least those blowing-air units above an adjacent pair of loom rows in substantially synchronous parallel in-phase relation so as to prevent substantial interference between the air streams issuing from oscillating outlets of those



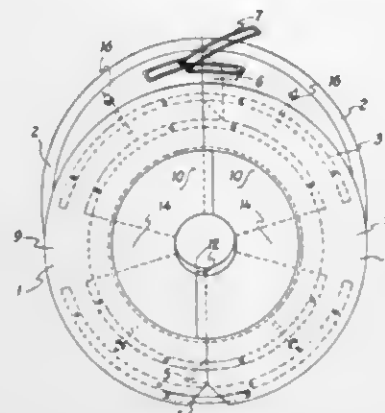
blowing air units above adjacent loom rows. The bridge also carries dependent suction sleeves for sucking lint from the floor in the aisles between adjacent loom rows, and the flow of air from the outlets is controlled such that blowing-air streams are directed downwardly against the looms solely during forward travel of the bridge, and blowing air is directed upwardly against overhead areas solely during reverse travel of the bridge.

3,422,482
WALL-MOUNTED VACUUM CLEANER UNIT
James C. Hamrick, Matthews, N.C., assignor to Jet Line Products, Inc., Matthews, N.C., a corporation of North Carolina
Filed July 25, 1966, Ser. No. 567,615
U.S. Cl. 15-314
Int. Cl. A47I 5/38, 9/10; B60s 1/64



A vacuum-cleaner unit adapted to be positioned largely within a hollow vertical building wall for vacuum cleaning areas in a room and wherein the unit is compactly arranged within a casing for permitting an exhaust conduit to be confined within the wall and hidden from view for exhausting to a point exteriorly of the room and wherein additional inlet conduits may extend from the compact unit to other rooms, with such additional conduits being so arranged to the casing as to permit their also being hidden from view in a hollow wall, and wherein the vacuum compartment is sealably closed independently of the cover for the casing and is so arranged to the power compartment as to permit a filter bag in the vacuum compartment to become substantially filled with dirt without interfering with the vacuum-cleaning action.

3,422,483
PIPE WIPER
Orville L. Craycraft, 113 Michael Court, Kennar, La. 70062
Filed May 2, 1966, Ser. No. 546,850
U.S. Cl. 15-210
Int. Cl. A47I 13/42



A wiper device to be detachably secured to a string of pipe, or the like, at a well head, for cleaning the pipe as it is withdrawn from the well bore having a hinged framework and plural wiping elements releasably held therein for removal of the wiping elements from the device when an obstacle is encountered that would otherwise damage said element, said elements being designed for easy reattachment in the device after such removal.

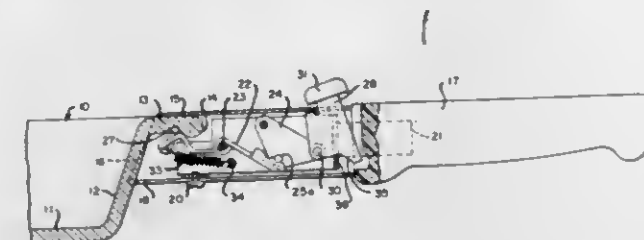
3,422,484
WASHER ARM
Keith H. Carpenter, Kettering, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 1, 1966, Ser. No. 569,456
U.S. Cl. 15-250.04
Int. Cl. A47I 1/02



In a preferred form, this disclosure relates to a wiper-washer arm assembly for use in cleaning a window of a vehicle. The wiper-washer arm assembly comprises a first arm section which is adapted to be drivingly connected with a drive member for imparting movement thereto, a second arm section pivotally connected to the first arm section for movement toward and from the window and which is adapted to carry a wiper blade for wiping the window, and an elongated, resilient tubular member in engagement with the first and second arm sections.

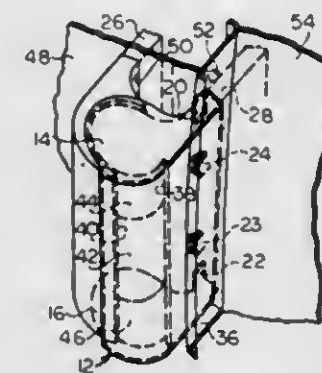
sections and which functions both as a spring to bias the second arm section toward the window to hold the wiper blade in pressure engagement therewith and as a conduit for directing washing fluid toward a dispensing nozzle carried by the wiper-washer arm assembly.

3,422,485
DETACHABLE HANDLES
Vaughn K. Pryce, 417 4th St., Derry, Pa. 15627
Filed Apr. 18, 1966, Ser. No. 543,131
U.S. Cl. 16-114
Int. Cl. E05b 1/00; A47I 45/10; A47b 95/02



A detachable handle is provided for cooking vessels having a projecting lug made up of a hand gripping portion including a gripping jaw, a movable gripping jaw pivoted intermediate its ends on the hand gripping portion, a rib on one end of the movable jaw, a stepped cam on the movable gripping jaw opposite the rib and adjacent the hand gripping portion, lever means having a cam engaging means adapted to ride on a stepped cam on the gripping jaw and provided with a vertical lever extending through the fixed gripping jaw adapted to move horizontally and vertically to move the end of the movable jaw toward and away from the projecting lug, resilient means biasing the movable jaw to an open position and dog means on the lever releasably engaging the fixed jaw when the movable jaw is moved toward the fixed jaw.

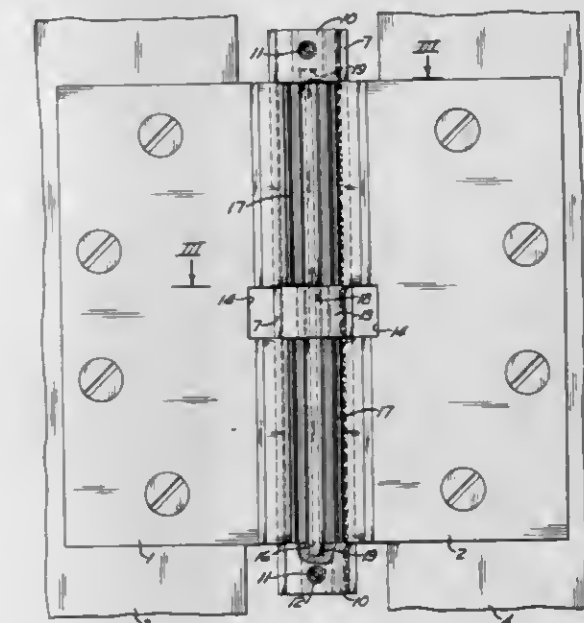
3,422,486
AUTOMOTIVE VEHICLE DOOR HINGE COVER MEMBER
Henry Thomas, Jr., 16275 Kennedy, Roseville, Mich. 48066
Filed May 23, 1966, Ser. No. 552,309
U.S. Cl. 16-148
Int. Cl. E05d 11/00



An automotive vehicle door hinge cover member is disclosed for use on an automotive vehicle exterior side door hinge, said hinge having a pair of forward and rearward hinge arms extending outwardly from the vehicle body and a hinge pin pivotally joining said hinge arms and forming a hinge joint exterior of the vehicle, the forward hinge arm stationary and the rearward hinge arm moveable with the vehicle door, said hinge cover member constructed to be detachably affixed to the forward hinge arm when the vehicle door is opened and so that it cannot be removed therefrom when the vehicle door is closed, said hinge cover member having a main panel which covers the front face of said forward hinge arm, the inner edge of said main panel contoured to conform to the exterior of the vehicle body over the height of said hinge cover member, the outer portion of said main panel extending arcuately outwardly and rearwardly to cover the front half of said hinge joint, said hinge cover member having top and bottom panels integral with said main panel and at right angles thereto which cover at least in part the top and bottom faces, respectively, of said forward hinge arm, a rearwardly extending bend-over fastener spring clip on each of said top and bottom panels for detachably fastening said hinge cover member to said forward hinge arm, said main panel having forwardly projecting pressure spring clips which prevent rattling of said hinge cover member when in place on said forward hinge arm covering the front face of said forward hinge arm and the front half of said hinge joint.

hinge arm when the vehicle door is opened and so that it cannot be removed therefrom when the vehicle door is closed, said hinge cover member having a main panel which covers the front face of said forward hinge arm, the inner edge of said main panel contoured to conform to the exterior of the vehicle body over the height of said hinge cover member, the outer portion of said main panel extending arcuately outwardly and rearwardly to cover the front half of said hinge joint, said hinge cover member having top and bottom panels integral with said main panel and at right angles thereto which cover at least in part the top and bottom faces, respectively, of said forward hinge arm, a rearwardly extending bend-over fastener spring clip on each of said top and bottom panels for detachably fastening said hinge cover member to said forward hinge arm, said main panel having forwardly projecting pressure spring clips which prevent rattling of said hinge cover member when in place on said forward hinge arm covering the front face of said forward hinge arm and the front half of said hinge joint.

3,422,487
GEARED HINGE WITH FLOATING RACK BAR
Lloyd R. Dickinson, Moscow, and Mario J. Brancati, Scranton, Pa., assignors to McKinney Manufacturing Company, Scranton, Pa., a corporation of Pennsylvania
Filed Dec. 9, 1966, Ser. No. 600,545
U.S. Cl. 16-163
Int. Cl. E05d 7/00

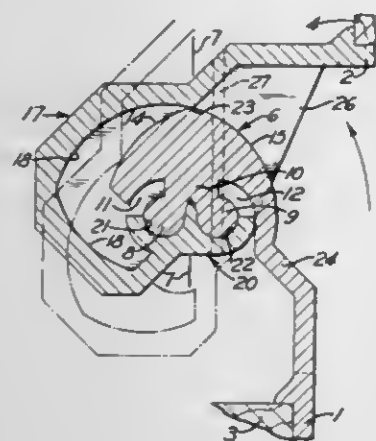


The two leaves of a hinge turn on spaced parallel axes in a channel member and are provided with gear teeth that mesh with a floating rack bar between them, whereby the bar moves back and forth as the hinge is operated.

3,422,488
TWO PART HINGE WITH TWO HINGE PINS
Robert L. Horstman, Clarks Summit, Pa., assignor to McKinney Manufacturing Company, Scranton, Pa., a corporation of Pennsylvania
Filed Mar. 2, 1967, Ser. No. 619,971
U.S. Cl. 16-165
Int. Cl. E05d 3/06

A hinge is formed from only two parts, aside from the bearings. One part includes a channel provided with a pair of parallel hinge pins spaced from the inner surface of the channel and connected to its central portion by a longitudinal web. The other part of the hinge includes an open loop having curved inner surfaces fitting against outer arcuate surfaces of the channel. Extending along

one edge of the loop is a rocker member provided with a pair of parallel concave recesses positioned to receive



both pins at the same time when the hinge is open about 90°. The rocker member fits part way around one pin while the hinge is closed and fits part way around the other pin when the hinge is fully open.

3,422,489

MULTI-CHANNEL STUFFING SYSTEM

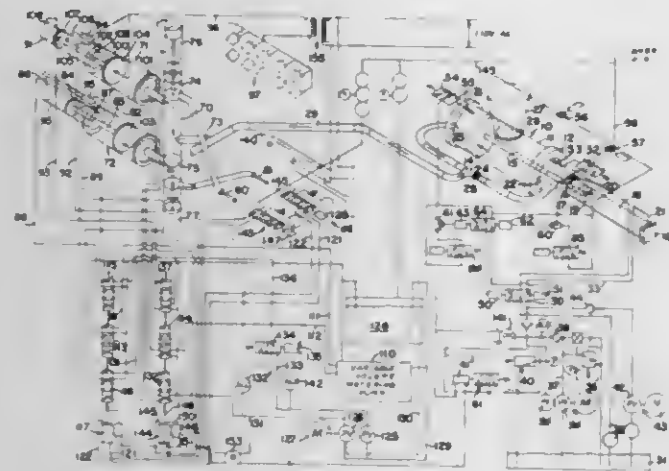
Frederick H. Middleton, Madison, Wis., assignor to Oscar Mayer & Co., Inc., Chicago, Ill., a corporation of Illinois

Filed Mar. 10, 1966, Ser. No. 533,359

U.S. Cl. 17-35

8 Claims

Int. Cl. A22c 11/02



A closed system for handling meat products and the like wherein a transfer pump which receives a meat product, such as pork sausage batter, is driven by a two-way hydraulic power cylinder in a hydraulic circuit having electro-pneumatic controls so as to advance the product upon demand through a manifold to a two-way meat valve which is adapted to alternately feed the product to a pair of meat cylinders constituting metering stuffer and to connect the discharge ports of the metering stuffers to stuffing horns for filling casings placed thereon, the operation of the meat valve and the stuffers being controlled by hydraulic power cylinders in a hydraulic circuit having electro-pneumatic controls which may be manually actuated to operate the apparatus for stuffing the casings simultaneously or alternatively at a predetermined and uniform rate. The system is adapted to be employed with some modification to operate a larger number of stuffers with a single transfer pump supplying the product.

3,422,490
METHOD AND APPARATUS FOR DEFEATHERING POULTRY

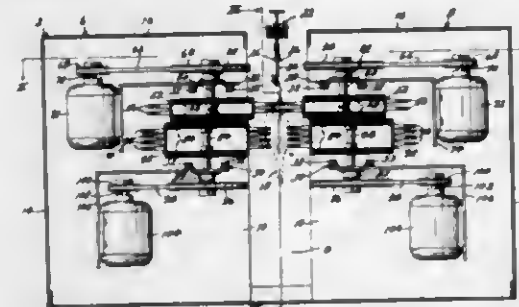
Ralph S. Zebarth and Henry E. Frederick, Kansas City, Mo., assignors to Ralph Zebarth, Inc., Kansas City, Mo., a corporation of Missouri

Filed Jan. 13, 1966, Ser. No. 520,450

U.S. Cl. 17-45

21 Claims

Int. Cl. A22c 21/02



The method of defeathering poultry comprising suspending a bird whereby it hangs vertically and the grain of its feathers extends generally vertically, moving said bird along a predetermined path of travel, and applying a series of forces to said bird to remove feathers therefrom, said forces being applied along lines generally parallel to the path of travel of the bird and hence transverse to the grain of the feathers thereof, and apparatus for performing said method.

3,422,491

APPARATUS FOR STRETCHING SYNTHETIC FIBERS

Toshihiko Kihara, Kazuo Jono, and Noboru Fukuma, Nobeoka-shi, Japan, assignors to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan, a corporation of Japan

Filed Sept. 7, 1965, Ser. No. 485,272

Claims priority, application Japan, Sept. 9, 1964, 39/51,834

U.S. Cl. 18-1

1 Claim

Int. Cl. D02j 1/22



Apparatus for periodically varying the denier of fiber by stretching the fiber, without slippage, when contacted by the mirror surface of a stretching roll and then stretching the fiber substantially less when contacted by an aventurine surface of the stretching roll. A broad, axially extending segment of the stretching roll is provided with an aventurine finish and the remaining narrower segment has a mirror finish.

3,422,492

APPARATUS FOR STRETCHING AND CRIMPING FIBERS

Charles E. Gorecki, Paoli, Pa., assignor to Heplon Inc., Wilmington, Del., a corporation of Delaware

Filed Feb. 23, 1965, Ser. No. 434,303

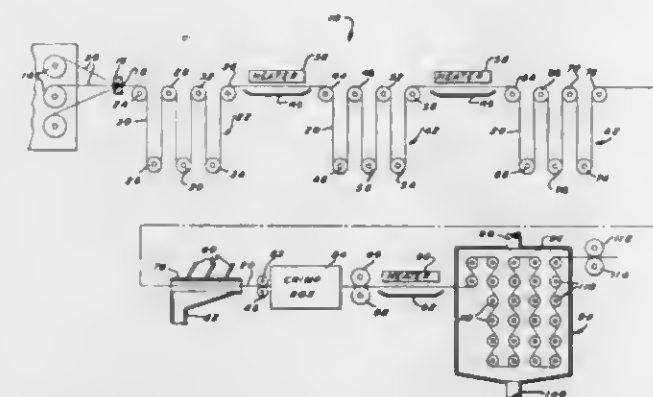
U.S. Cl. 18-1

5 Claims

Int. Cl. B29c 24/00

Apparatus are disclosed for stretching and crimping synthetic fibers so that the crimp will have a sharp defini-

tion and the fibers will have a uniform dye index. The tow of fibers is alternately subjected to stretching and plasticizing, then crimped, and then the crimp is set in



a steam chamber having idler rollers. The number of idler rollers used determines the time to which the fibers are exposed to the steam without reducing the speed of production.

3,422,493

ROTARY INDUCTION HEATED EXTRUSION DIE

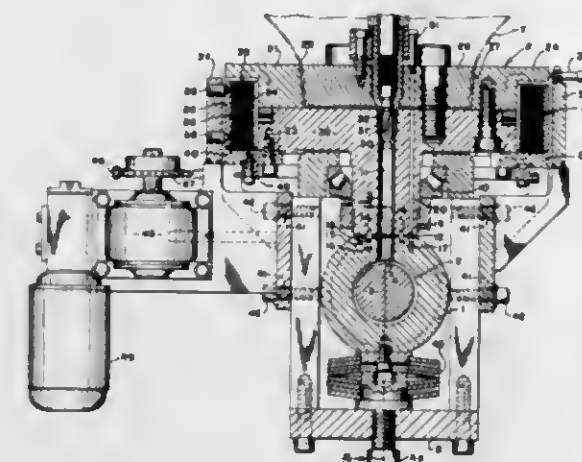
Eugene E. Heston, Akron, Ohio, assignor to NRM Corporation, Akron, Ohio, a corporation of Ohio

Filed Aug. 26, 1966, Ser. No. 575,276

U.S. Cl. 18-14

12 Claims

Int. Cl. B29d 3/04



An extruder having a rotatable extrusion die at the extruder outlet and stationary heating means coaxially disposed with respect to the axis of rotation of the extrusion die to evenly heat the die during rotation thereof with respect to the heating means.

3,422,494

APPARATUS FOR FORMING LAYERS

Jack C. Cambl, Springfield, Pa., and Donald E. Hackney, New Castle, and Thomas Glenn Lewis, Jr., Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

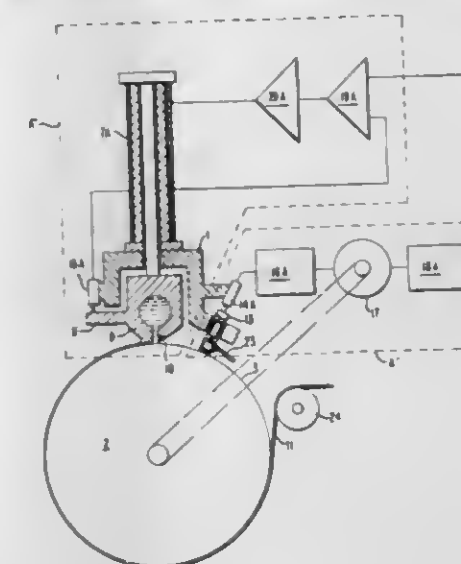
Filed Oct. 19, 1964, Ser. No. 404,698

U.S. Cl. 18-15

7 Claims

Int. Cl. B29d 7/10

An apparatus and process for maintaining a uniform thickness of continuously cast film to compensate for variations due to distortions caused by cyclic heating and cooling of a casting wheel and imperfections in the wheel. The cast film thickness is maintained uniformly by controlling the distance between the film extrusion hopper and the surface of the casting wheel by a floating sensing device which senses the surface of the casting



for raising or lowering the hopper so that the thickness of the cast film is uniform.

3,422,495

MEANS FOR MAKING CURVED OPTICAL AND REFLECTIVE SURFACES

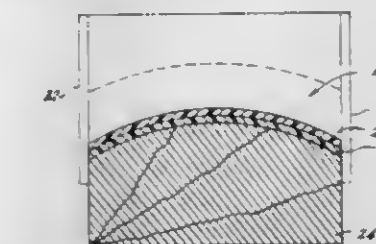
Harold A. Jones, Oildale, Calif., assignor to Fortin Plastics, Inc., Saugus, Calif., a corporation of California

Original application June 22, 1964, Ser. No. 376,669, now Patent No. 3,317,640, dated May 2, 1967. Divided and this application Nov. 15, 1966, Ser. No. 608,472

U.S. Cl. 18-47

5 Claims

Int. Cl. B29c 1/02; B28b 7/34



A mold for making plastic parts having curved optical surfaces comprising a shaped base, a resilient, finely-celled foam or rubber layer placed over the mold base, and a plastic sheet placed over the resilient layer and having at least one glass-polished surface for contact with a plastic material which is to be molded.

3,422,496

METHOD FOR MANUFACTURING TAMPONS

Justus Wolff and Bernd Messing, Wuppertal-Barmen, Germany, assignors to Dr. Carl Hahn KG, Dusseldorf, Germany, a corporation of Germany

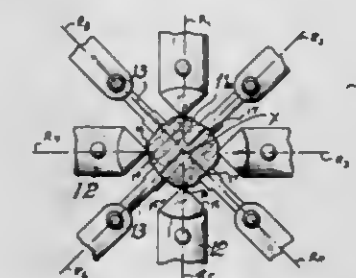
Filed Sept. 13, 1965, Ser. No. 487,095

Claims priority, application Netherlands, Sept. 14, 1964, 6410706

U.S. Cl. 19-144.5

4 Claims

Int. Cl. A61h 15/00; A61f 13/00



Method for manufacturing tampons from substantially cylindrical tampon blanks in apparatus provided with a plurality of edge bearing pressing jaws and a plurality of arcuate surface pressing jaws alternately disposed about

the axis of the blank comprising: initially closing all of the pressing jaws to center the blank thereamong; and then compressing the blank to its final diameter, preferably first with the edge bearing pressing jaws and then with the arcuate surface pressing jaws.

3,422,497 GUN SLING

Donald F. Lyons, Madison, Wis., assignor of one-half to Steve F. Varesi, Madison, Wis.
Filed June 12, 1967, Ser. No. 645,206
U.S. Cl. 24—3
Int. Cl. F41c 29/00; A45f 5/00

4 Claims

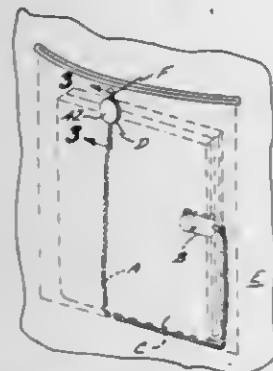


A flexible gun sling releasably gripping the stock of a shoulder weapon for supporting the weapon in a substantially upright non-firing position. The gun sling comprises a generally U-shaped portion having a pair of side sections connected at their lower ends by an arcuate end section, loop members at the upper ends of the side sections for suspending the sling from the belt of the wearer, and a flexible cross-member connecting the side sections between their upper and lower ends for supporting the butt end of the stock of the shoulder weapon.

3,422,498 BILLFOLD SAFETY GUARD

Ronald G. Carlson, 30 W. Del Amo, Long Beach, Calif. 90805
Filed July 27, 1967, Ser. No. 656,481
U.S. Cl. 24—3
Int. Cl. A45f 5/02; A45c 13/20

8 Claims



Lightweight inconspicuous device that may be used to secure a billfold within predetermined limits of movement relative to a pocket of a man's garment, or to secure a billfold within like limits to a woman's handbag.

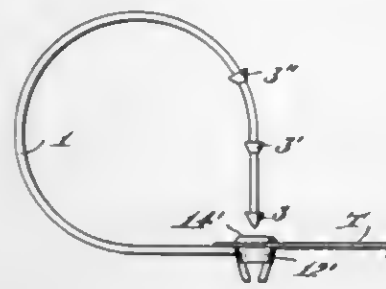
3,422,499 TAG-ATTACHING OR BUNDLE-FASTENING DEVICE

Francis G. Merse, Framingham, Mass., assignor to Denison Manufacturing Company, Framingham, Mass., a corporation of Nevada
Continuation-in-part of application Ser. No. 633,782, Apr. 26, 1967. This application Nov. 21, 1967, Ser. No. 684,685
U.S. Cl. 24—16
Int. Cl. A44b 21/00

2 Claims

A fastening device for attaching, bundling, affixing or

other holding of one or more articles, the device comprising a filament, a socket on the filament and one or



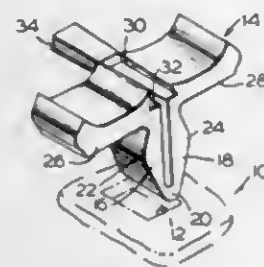
more heads on one end of the filament adapted to snap into the socket.

3,422,500

PLASTIC ANCHORING FASTENER

Robert A. Munse, Perrysburg, Ohio, assignor, by mesne assignments, to The Bishop and Babcock Corporation, Toledo, Ohio, a corporation of Ohio
Filed Jan. 14, 1963, Ser. No. 251,219
U.S. Cl. 24—73
Int. Cl. A44b 21/00; A47f 3/12; F25d 23/00

2 Claims



A molded plastic fastener for securing a molding strip to an apertured supporting panel. The fastener has a yieldable bifurcated shank portion engageable with the panel aperture and provided with aligned oppositely extending arm portions engageable with intumed edges of the molding. A laterally slidable wedge is driven in a direction normal to the longitudinal axis of the shank to force the outer edges of the shank into frictional engagement with the aperture and to force the arm portions into frictional engagement with the intumed edges of the molding.

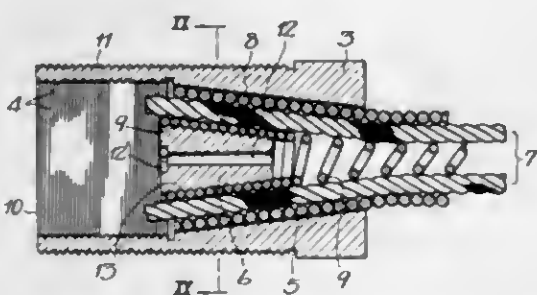
3,422,501

END ANCHORAGE FOR PRESTRESSING STEEL STRANDS FOR USE IN PRESTRESSED CONCRETE STRUCTURES

Kimio Yoshimura, Shimizu 2-17-3, Suginami-ku, Tokyo, Japan
Filed Feb. 15, 1966, Ser. No. 527,444
Claims priority, application Japan, Feb. 20, 1965, 40/9,655

U.S. Cl. 24—122.6
Int. Cl. F16g 11/04

7 Claims



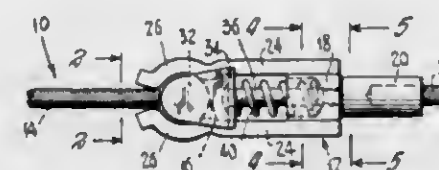
A device for prestressing and anchoring steel strands having a rigid support formed with a tapered, open-ended bore therethrough, tapered outer and inner helical coils and a conic wedge member.

3,422,502

OVERLOAD-RELEASE COUPLING

John J. McCarthy, Weston, Conn., assignor to Norco, Inc., Ridgefield, Conn., a corporation of Connecticut
Filed Aug. 25, 1967, Ser. No. 663,383
U.S. Cl. 24—123
Int. Cl. F16g 11/02; A44b 19/00

10 Claims



An overload-release coupling for releasably securing two members together, comprising a shank having at one end an enlargement, and a receiver part having two opposed, spaced yieldable jaws which yieldably grip the enlargement and yield away from each other to release the enlargement and shank when excess force is applied to the shank. Access side openings at the jaws permit the insertion of the enlargement between the latter without requiring them to be sprung apart. A manually operable slide normally covers the side openings, and can be retracted to permit the insertion of the enlargement.

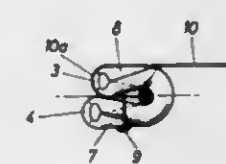
3,422,503

COVERED WATERTIGHT SLIDE FASTENER

Hans Porepp, Am Rebberg, Wangen (Bodensee), Germany
Filed Nov. 14, 1966, Ser. No. 593,959
Claims priority, application Germany, Nov. 30, 1965, P 38,234

U.S. Cl. 24—205.1
Int. Cl. A44b 19/34

4 Claims



A slide-fastener half for a covered or watertight slide-fastener stringer in which a continuous synthetic-resin thread forms the coupling element and is bent in a uniform meander of figure-8 profile with respective rows of bights, coined and bent about a longitudinal axis of the meander between the body offset from the median longitudinal centerline whereby one set of bights projects beyond the other set of bights and the stringer tape is received between the bights and is stitched to the shanks or legs of the projecting set of bights, while the tape is turned back over the other set of bights whose coined heads are practically contiguous to form a continuous backing strip for the bend of the tape. A bead may be provided along the edge of the tape received between the sets of bights.

3,422,504

SUSPENDER CLIP

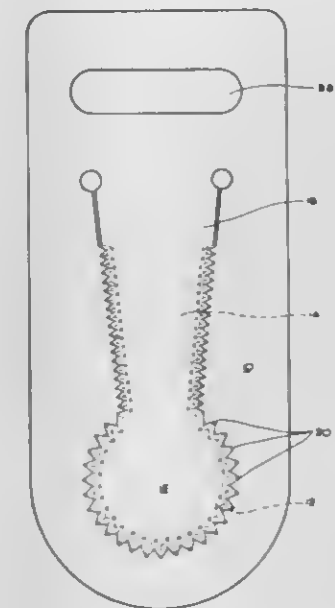
Thomas Wagg Brown, 2 Langham Road, Maitland, Cape Town, Cape Province, Republic of South Africa
Filed May 9, 1967, Ser. No. 637,104
Claims priority, application Republic of South Africa, May 16, 1966, 66/2,836

U.S. Cl. 24—245
Int. Cl. A44b 17/00

1 Claim

This invention relates to clips, and more particularly suspender clips suitable to be used on suspender belts for holding up ladies' stockings.

A suspender clip according to the invention is preferably made of plastic, such as nylon, is substantially flat and comprises a flat base part with an aperture, and a flat tab with an enlarged but flat engagement head. The base part and the tab are disposed co-planar or in super-



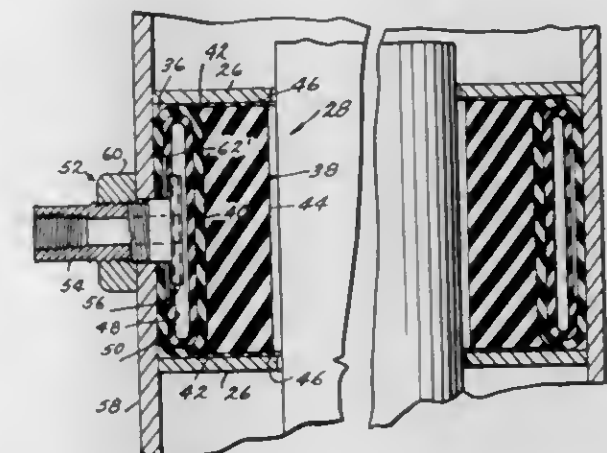
imposed relationship. The edges of both the aperture and the head are serrated, and the head is slightly larger than the aperture, so that its serrated edge will project beyond the periphery of the aperture to engage a stocking between the engagement head and the aperture.

3,422,505

TWO-PIECE RELEASABLE GRIPPER

Charles O. Slemmons, Akron, Ohio, assignor to De Long Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 3, 1967, Ser. No. 680,575
U.S. Cl. 24—263
Int. Cl. E04b 1/56; F16b 9/02

1 Claim



A gripping assembly, for use in releasably securing a well-drilling platform or the like to a supporting leg, consists essentially of an inwardly facing annular channel member, an inflatable annular tube in the channel member and a separate resilient annular gripping member in the channel adapted to be contracted inwardly about the supporting leg upon inflation of the tube. The periphery of the annular resilient member is contoured to fit the wall of the inflatable tube so that the latter will expand uniformly thereby avoiding local areas of high stress which are likely to cause blowout of the tube after continued use.

3,422,506

CONVERTIBLE ELEVATOR

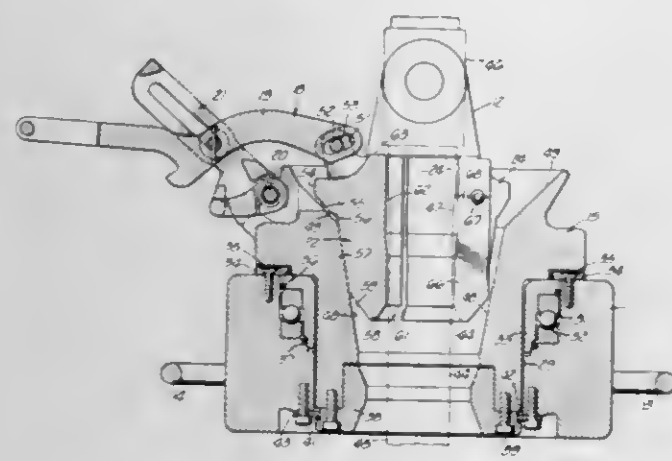
Joha W. Turner, Jr., Houston, Tex., assignor to Byron Jackson, Inc., Long Beach, Calif., a corporation of Delaware

Filed Dec. 26, 1967, Ser. No. 693,350

U.S. Cl. 24—263

Int. Cl. A44b 21/00; B66c 1/22

9 Claims



An elevator slip assembly wherein the slips have smooth pipe engaging surfaces, with pipe collar supporting top lands, each slip having a tapered back surface adapted to mate with a correspondingly tapered bowl inner wall while the slips are being seated in pipe supporting position in the slip bowl, and each slip having a radially outwardly extending tapered flange adapted to engage a tapered ramp on the slip bowl, whereby the flanges of the slips will assume and support the entire pipe load, will move the slips radially inward to substantially disengage the back of each slip from the slip bowl and tilt the slips to grip the pipe adjacent its collar.

3,422,507

BAND PROVIDED WITH A BUCKLE FOR LOOSE AND TIGHT FASTENING

Hideo Ikeda, 14—9, 5-chome, Nishi-Nippori, Arakawaku, Tokyo, Japan

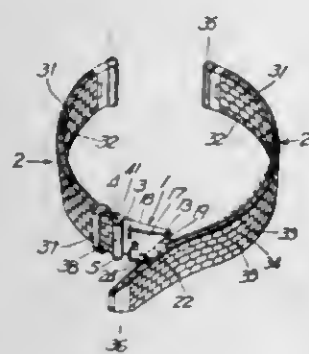
Filed Sept. 1, 1967, Ser. No. 665,034

Claims priority, application Japan, Oct. 13, 1966, 41/67,111

U.S. Cl. 24—265

Int. Cl. A44b 11/22; A44c 5/18

2 Claims



A band provided with a buckle for loose and tight fastening, said band being capable of being fastened by (1) inserting check pieces provided, facing opposite to each other, along the edges at both sides of an openable plate fitted openably to said buckle into grooves provided in the edges at both sides of said band so that said check pieces can slide along said grooves, (2) setting a supporting plate formed by bending an end of said openable plate into depressions of the base plate of said buckle and (3) thrusting a click at the top of a spring plate fitted to said base plate into one of said tightening grooves of said band through the small hole provided in said openable plate.

3,422,508

FITTING FOR CARGO TIEDOWN GEAR

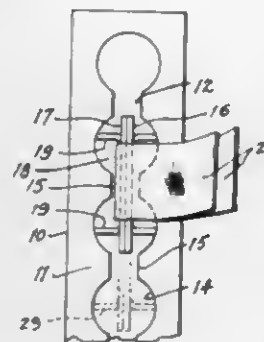
Nori Higuchi, Northport, N.Y., assignor to Davis Aircraft Products, Inc., Northport, N.Y., a corporation of New York

Filed June 22, 1967, Ser. No. 647,988

U.S. Cl. 24—265

Int. Cl. B65j 1/22

6 Claims



Cargo tiedown fitting made up of anchor plates which can be separately engaged in back-to-back relation in the channel of a cargo tiedown track and which when so engaged will be locked in place in the track.

3,422,509

GUITAR VIBRATO DEVICE

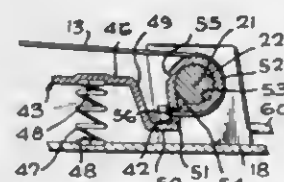
Donald S. Porter, 4728 Pal Mal Ave., El Monte, Calif. 91731

Filed Oct. 22, 1965, Ser. No. 501,710

U.S. Cl. 84—313

Int. Cl. C10d 3/04, 3/14

13 Claims



A vibrato device for a guitar or other stringed instrument, including a string anchoring unit to be connected to the strings, and mounted for resilient pivotal movement to vary the tension on the strings and thereby change their pitch slightly to give a vibrato effect, a handle for actuating the anchoring unit pivotally about its axis, and a friction connection between the handle and the anchoring unit for transmitting pivotal motion from the handle to the anchoring unit to vary the pitch, but with the friction connection being of limited torque transmitting capacity adapted to be overcome by the handle to swing the handle to different settings relative to the anchoring unit, so that the device can produce a vibrato effect in any of various different positions of the handle.

ERRATUM

For Class 26—16 see:
Patent No. 3,422,512

3,422,510

APPARATUS AND METHOD FOR PRODUCING A NON-WOVEN FABRIC

Malcolm R. Livingston, Charlotte, N.C., and Roland Frate, Covington, Va., assignors to Celanese Corporation, a corporation of Delaware

Filed Dec. 30, 1964, Ser. No. 422,264

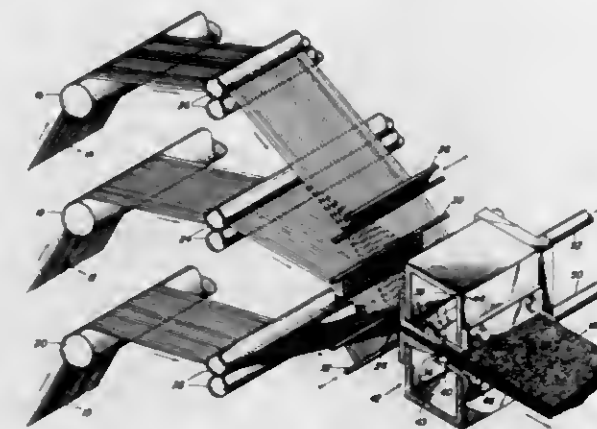
U.S. Cl. 28—1

Int. Cl. D02g 1/16; D04b 17/00; D03d 3/04

15 Claims

Apparatus and method for producing a non-woven fabric, said method comprising feeding at a low overfeed a first sheet of warp yarns to the inlet slit of a bulking zone; simultaneously feeding to the inlet slit at an angle to the feed of the first sheet at least one other sheet of

warp yarns at a higher feed rate than the first, said sheets being in at least partially superimposed relationship; oscillating the other sheet with respect to the first sheet prior to entry into the inlet slit; bulking the combined warp



yarns in the bulking zone with a fluid medium under pressure whereby adjacent yarns are entangled to form a non-woven fabric; and withdrawing the resulting fabric from the outlet slit of the bulking zone.

3,422,511

METHOD AND APPARATUS FOR MAKING A NON-WOVEN FABRIC

Pierre Seguin, Chavanoz, Isere, France, assignor to Moulinage et Retorderie de Chavanoz, Chavanoz, Isere, France, a corporation of France

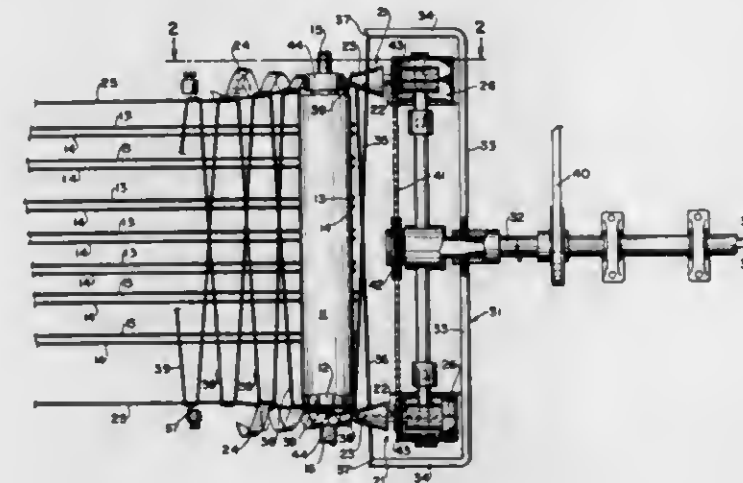
Filed Oct. 7, 1966, Ser. No. 585,016

Claims priority, application France, Oct. 20, 1965, 35,566, 35,576

U.S. Cl. 28—1

Int. Cl. D02g 3/40

18 Claims



Apparatus for making a composite non-woven fabric web with interleaved loops of weft yarns in which at least some of these loops have straight side edges including a pair of feed rolls between which upper and lower webs of parallel yarns are passed, and helical strips disposed in advance of the nip of the feed rolls on opposite sides of said web. Selvage yarns are passed through the helical members and weft yarns are wrapped in the form of loops around the helical members. The rotation of the helical members advances the weft yarns to the nip of the rolls between said webs. The weft yarns extending between the selvage yarns are fed between the webs of parallel yarns and all of the yarns are adhesively secured together to form a non-woven web.

3,422,512

METHOD OF MODIFYING THE APPEARANCE OF A PILE FABRIC

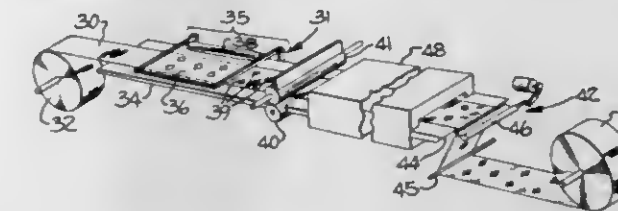
Marvin A. Law, Spray, N.C., assignor to Fieldcrest Mills, Inc., Spray, N.C., a corporation of Delaware

Filed Mar. 8, 1966, Ser. No. 532,690

U.S. Cl. 26—16

Int. Cl. D06c 23/00, 23/02

2 Claims



A method of enhancing the appearance of a pile fabric wherein a printing paste is applied thereto in a decorative pattern, with the printing paste containing an adhesive constituent for restraining the printed portions of the pile at a lower level than the remaining pile upon the fabric being subjected to a pile compressive force in conjunction with the printing thereof. Thereafter the non-printed portions of the pile fabric extending above the printed portions are sheared, after which the adhesive constituent is removed permitting the non-sheared printed areas to extend above the sheared portions to form a colored pattern in relief.

3,422,513

REED THREADING AID MEANS

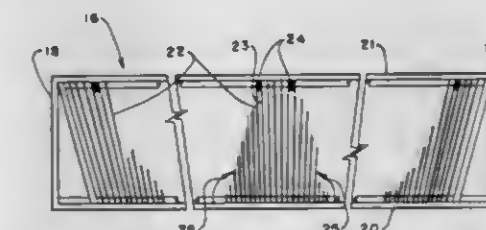
Harold F. Anderson, Frostburg, Md., assignor to Celanese Corporation, New York, N.Y., a corporation of Delaware

Filed Oct. 18, 1965, Ser. No. 496,789

U.S. Cl. 28—54

Int. Cl. D02h 13/20; D01d 11/04; D01h 13/04

2 Claims



A reed for threading yarn wherein certain dents of the reed are predestinated in accordance with groupings of the yarn being threaded whereby errors in thread-up of the reed are avoided.

ERRATUM

For Class 28—72 see:
Patent No. 3,422,516

3,422,514

APPARATUS FOR MANUFACTURING ALIGNED-GRIDS ELECTRON DISCHARGE DEVICE

James C. Munday and Junius B. Neale, Owensboro, Ky., assignors to General Electric Company, a corporation of New York

Original application Oct. 14, 1963, Ser. No. 315,920, now Patent No. 3,364,379, dated Jan. 16, 1968. Divided and this application May 15, 1967, Ser. No. 649,401

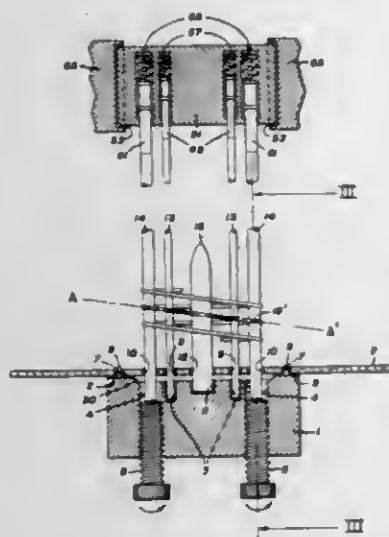
U.S. Cl. 29—25.19

Int. Cl. H01j 9/02

3 Claims

A method and apparatus for aligning and mounting grid electrodes of an aligned-grids electron discharge device is provided in which support rods of the first and second grid electrodes are preliminarily positioned on a reference plate, one of the grid electrodes is then displaced relative to the other by movement of its associated support rods, and thereafter the support rods of each of the grids

are deformed to provide integral projections thereon overlying both the top and bottom surfaces of a plate sup-



ed. A fluidic diverting valve having two intersecting output ports opening into the confined zone form part of the apparatus. A source of treating fluid is supplied to an input port of the valve. A tapered block is positioned internally of the block for splitting the fluid alternately delivered from the input port to the two output ports. Means are associated with the valve for rapidly oscillating substantially the complete flow of the fluid from one output port to the other output port to intermittently deliver treating fluid to the yarn as the same moves axially through the zone.

3,422,517

METHOD OF WELDING

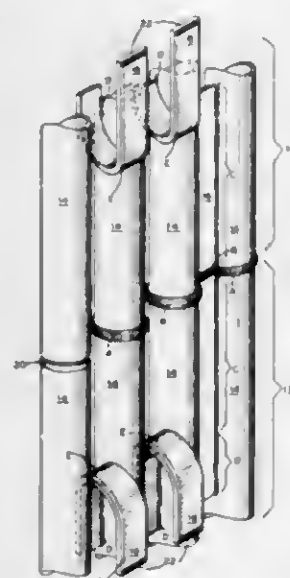
Gerald A. Profta, Doylestown, Ohio, assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey

Filed Oct. 20, 1965, Ser. No. 498,228

U.S. Cl. 29—157.4

Int. Cl. B21d 53/00

5 Claims



A method of butt welding tubulous furnace wall panels comprising a plurality of tubes and webs welded to one another so that the tubes are spaced from one another and web fills the space between the neighboring pairs of tubes. The tubes and webs are joined to one another by welding a portion of the length of each web to its adjoining tubes, and bending the remaining portion of each web out of the plane of the panels to provide ready access to the adjoining tube ends for welding them to a similar panel section.

3,422,518

METHOD OF REFORMING TUBULAR METAL BLANKS INTO INNER-FIN TUBES

Fred W. French, Morris, Conn., assignor, by mesne assignments, to Valley Metallurgical Processing Company, a corporation of Connecticut

Continuation-in-part of application Ser. No. 314,580,

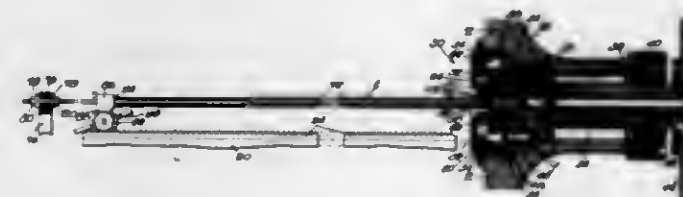
Oct. 1, 1963. This application Oct. 20, 1967, Ser.

No. 676,961

U.S. Cl. 29—157.3

Int. Cl. B21d 53/06; B23p 15/26; B21c 1/24

9 Claims



The disclosure pertains to a method according to which a tubular blank is fed over an axially fixed mandrel having peripheral grooves to the mandrel end from which the passing tube departs, and the blank is on its pass over

3,422,515

METHOD FOR MAKING POROUS ELECTRODES COMPRISING FREEZING WET POWDER AND SINTERING

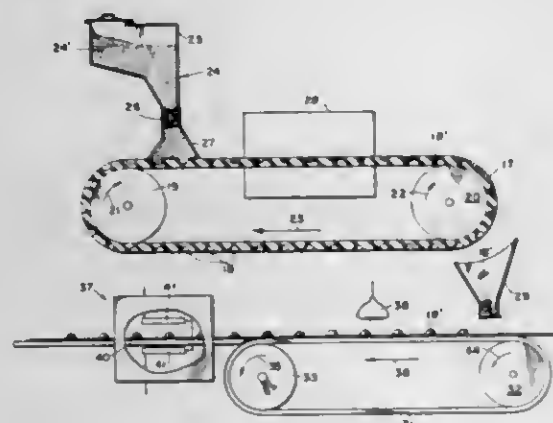
Gerhart P. Klein, Manchester, Mass., assignor to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware

Filed May 23, 1966, Ser. No. 552,312

U.S. Cl. 29—25.41

Int. Cl. H01g 13/00

23 Claims



A method for making porous anodes suitable for use in capacitors which involves forming moistened metal powder into a mass, freezing the moistened mass thereby bonding the metal powder together and sintering the mass to convert it to a porous pellet suitable for use as an anode for a capacitor.

3,422,516

YARN-TREATING PROCESS

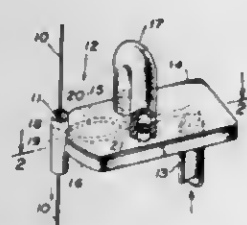
Paul D. Barlow and John L. Marshall, Jr., Pensacola, Fla.; said Barlow assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed Sept. 25, 1967, Ser. No. 670,137

U.S. Cl. 28—72

Int. Cl. D02g 1/16

3 Claims



A jet device for treating yarn in various ways is provided. The jet includes a tube defining a confined zone for yarn passage therethrough and wherein the yarn is treat-

the mandrel subjected to blows from the hammering dies of a rotary swaging machine, with the dies displacing the blank metal into the mandrel grooves and thereby also reducing the thickness of the peripheral tube wall so that the reformed blank emerging from the mandrel is an inner-fin tube.

3,422,519

LINEUP CLAMP FOR PIPE

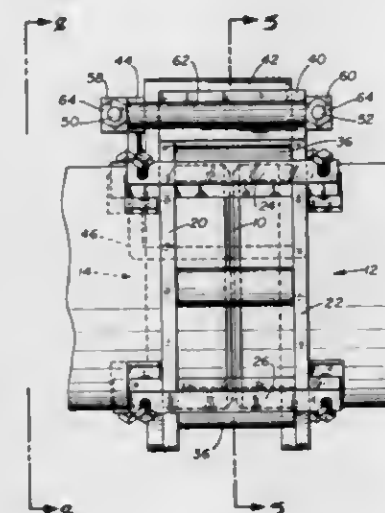
Barry F. Fehlman, 144 Thomas Jefferson Drive, San Antonio, Tex. 78228

Filed Aug. 31, 1966, Ser. No. 576,466

U.S. Cl. 29—200

Int. Cl. B23p 19/02; B25b 1/08, 5/08

4 Claims



1. An abutting pipe lineup clamp comprising first and second hingeably connected arcuate portions each comprising parallel arcuate members supported by longitudinal crossbars, and
- a plurality of longitudinal rollers supported by said pipe when said arcuate portions are circumferentially clamped about said pipe joint,
- a semi-circular segment across said members at the unhinged end of said first segment and facing outward therefrom,
- a sleeve across said members at the unhinged end of said second segment and including a rotatable shaft therein, a handle attached to said shaft,
- a U-shaped yoke element, the free ends of which are pivotally attached to the ends of said sleeve off-center therefrom, the bight portion of said element adaptable to be received over and into said semi-circular segment whereby rotative movement of said handle will cause said arcuate portions to clamp about said pipe joint and align same for welding.

3,422,520

APPARATUS FOR MAKING A ROD END BEARING

George Irving Bannister, Orange, Calif., assignor, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware

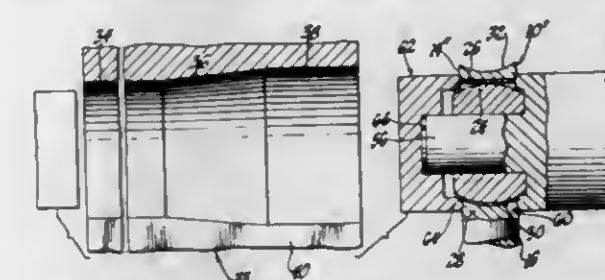
Application Feb. 20, 1967, Ser. No. 617,419, now Patent No. 3,358,347, dated Dec. 19, 1967, which is a continuation of abandoned application Ser. No. 470,375, July 8, 1965. Divided and this application Nov. 1, 1967, Ser. No. 679,725

U.S. Cl. 29—200

Int. Cl. B23p 19/04; B21d 53/10

11 Claims

In a preferred form the present invention relates to apparatus that is particularly adapted for assembling a substantially spherical ball member to a bearing race member or rod end member so that the internal diameter of the race member substantially conforms to the outside diameter of the ball member, and the outside diameter



said swaging die for receiving a portion of the race member, said swaging die including a stop coacting with a ram to finally form the race member relative to the ball member after the race member has been pushed to the end of the elongated slot.

3,422,521

DEVICE TO DISASSEMBLE CONNECTOR ASSEMBLIES

Ernest L. Beinbaur, Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.

Original application Jan. 28, 1964, Ser. No. 340,737, now Patent No. 3,268,991, dated Aug. 30, 1966. Divided and this application May 16, 1966, Ser. No. 550,296

U.S. Cl. 29—203

Int. Cl. B21d 9/08

6 Claims



A device to disassemble connector assemblies comprises jaw members having engaging surface areas in opposed relationship for engagement with respective parts of an assembled connection assembly and handle means pivotally connected to the jaw members to move the jaw members relative to each other in a substantially parallel manner.

3,422,522

METHOD AND APPARATUS FOR MAKING CAPS

Albert B. Mojonner, Chicago, Ill., assignor to Albert Mojonner Inc., Franklin Park, Ill., a corporation of Illinois

Filed Feb. 14, 1966, Ser. No. 527,155

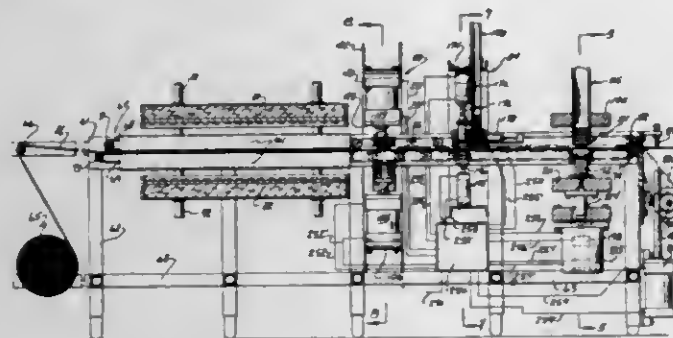
U.S. Cl. 29—412

Int. Cl. B23p 17/04, 23/04

5 Claims

A method and apparatus for forming plastic caps with disk inserts in which the caps are thermoformed in the sheet of plastic material with a mouth-spanning portion, an upwardly and inwardly inclined annular sealing wall around the mouth-spanning portion, an outwardly extending rim on the upper end of the sealing wall, and a depending skirt on the outer edge of the rim having its lower end integrally joined with the sheet at a level adjacent

the level of the mouth-spanning portion, a diametrically stiff disk is pressed into the annular sealing wall while the



cap remains attached to the sheet, and the caps are thereafter severed from the sheet adjacent the juncture of the skirt and cap.

3,422,523

PROCESS FOR FABRICATING NUCLEAR REACTOR FUEL ELEMENTS

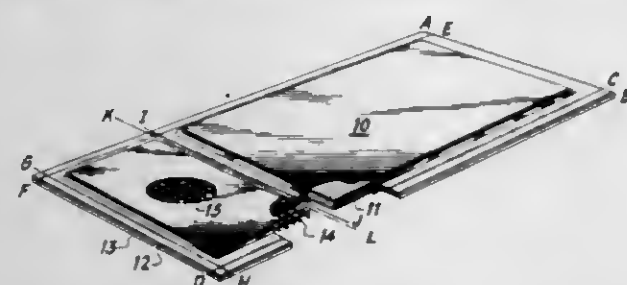
Harry P. Kling, Glenarm, Md., assignor to Martin-Marietta Corporation, New York, N.Y., a corporation of Maryland

Filed June 26, 1963, Ser. No. 290,852

U.S. Cl. 29—420.5

Int. Cl. B22f 3/24; B23k 31/02; G21c 3/30

10 Claims



Nuclear fuel elements are prepared by encapsulating a sintered fuel material in a foil envelope, evacuating the envelope, forming the sealed envelope into tube, cladding the tube, drawing the assembly to a desired smaller sized tube.

3,422,524

METHOD OF HANDLING A WELL PIPE

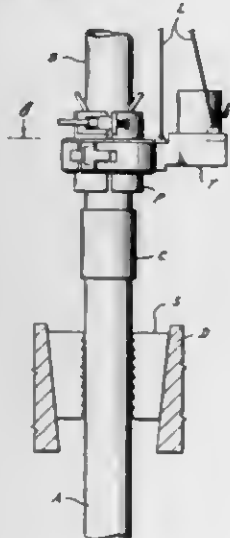
Archie Durwood Timmons, Morgan City, La., assignor to Tri-State Oil Tool Industries, Inc., Bossier City, La., a corporation of Delaware

Filed Aug. 27, 1965, Ser. No. 483,194

U.S. Cl. 29—429

Int. Cl. B23p 19/00; E21b 33/03

4 Claims



1. The method of handling a well pipe string consisting of pipe sections connected by threading sections together during its lowering into a well including the steps of,

supporting the well pipe string at the well surface with the upper end of the pipe string above the point of support, positioning the next section of pipe to be connected to said pipe string above the upper end of the pipe string, securing a force-transmitting unit around said next section, securing tongs to said force-transmitting unit, and rotating the tongs and the force-transmitting unit to thread said next section of pipe into said pipe string, said force-transmitting unit gripping said next pipe section at a substantially greater number of points than usual circumferentially around the pipe section to uniformly distribute the torque force applied upon rotation of said unit to prevent deformation of said section.

4,422,525

MANUFACTURING TUBULAR DUCT SECTIONS

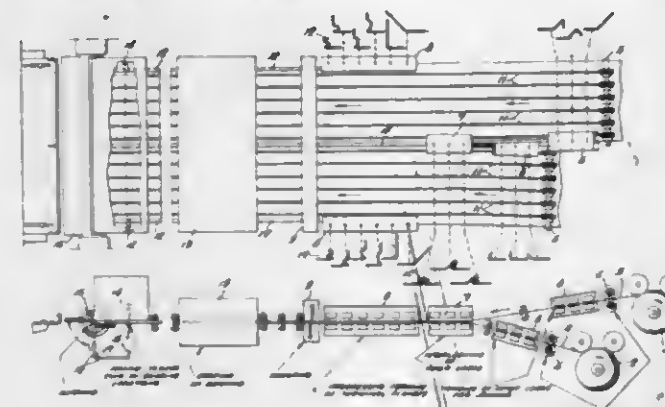
Allan Jeppsson, Jarna, Sweden, assignor to Aktiebolaget Svenska Flaktfabriken, Stockholm, Sweden

Filed June 13, 1966, Ser. No. 557,022

U.S. Cl. 29—429

Int. Cl. B23p 19/00; B21d 19/04

5 Claims



A method of manufacturing tubular sections continuously in a sheet metal working machine, wherein a plurality of webs are advanced into edge-overlapping relation and are joined at the overlapping edge to form a composite web having a width corresponding to the desired length of duct section. The inner edges of the plural webs are folded and interlocked continuously with their advance and the outer edges of the composite web are formed into profiled flanges. The advancing composite web is intermittently sheared to provide plate blanks having a length corresponding to the circumference of the tubular duct, and, during the advance of the plate blanks from the shearing operation, the blanks are scored transversely and folded about a transverse axis to permit joining of the opposite ends of each blank into a tubular duct. The profiled flanges at the outer edges of the blank are cut out in registry with the score lines, so that the completed duct section has discontinuous profiled connecting flanges at each end thereof.

3,422,526

METHOD OF MAKING A BALL JOINT HOUSING

Andreas Schmidt, Osterath-Bovert, Germany, assignor to A. Ehrenreich & Cie, Dusseldorf-Oberkassel, Germany

Original application Sept. 19, 1963, Ser. No. 310,101, now Patent No. 3,284,115, dated Nov. 8, 1966. Divided and this application June 23, 1966, Ser. No. 559,853

Claims priority, application Germany, Sept. 27, 1962, E 23,598

U.S. Cl. 29—441

Int. Cl. B23p 11/00

2 Claims

1. In a method of providing a ball joint housing with a sealing bellows and with annular means for resting a

sealing bellows thereon, which includes the steps of: producing annular means in the form of a ring member separate from said housing, fitting said ring member on a portion of said housing near said opening, folding



portions of said housing near said ring member against the latter so as to flange-in said ring member and firmly connecting said ring member to said housing, and securing said sealing bellows to said housing and against said sealing member.

3,422,527

METHOD OF MANUFACTURE OF HIGH VOLTAGE SOLAR CELL

John M. Gault, Manhattan Beach, Calif., assignor to International Rectifier Corporation, El Segundo, Calif., a corporation of California

Filed June 21, 1965, Ser. No. 465,542

U.S. Cl. 29—572

Int. Cl. H01g 9/20; H01l 15/02, 5/00

1 Claim



A high voltage output solar cell is formed by stacking at least 100 wafers, each of which contains a junction and each of which has a thickness of about 0.004 inch, and soldering the wafers together with the P-N junctions therein having the same direction. The assembled stack is then longitudinally sliced to form a plurality of slabs having leads connected to the ends thereof, with each slab having a transverse thickness of about 0.12 inch.

3,422,528

METHOD OF PRODUCING SEMICONDUCTOR DEVICES

Tomisaburo Okumura, Kyoto, Japan, assignor to Matsushita Electronics Corporation, Osaka, Japan, a corporation of Japan

Filed Mar. 20, 1967, Ser. No. 624,478

Claims priority, application Japan, Mar. 28, 1966, 41/19,501

U.S. Cl. 29—584

Int. Cl. H01l 7/54, 7/24; B44d 1/20

1 Claim



A method of producing a semiconductor device by applying, prior to depositing a metal electrode onto the semiconductor, a D.C. field to an insulating film to transfer ions present in said insulating film to the surface portion thereof, and thereafter removing the portion of film where ions are collected, whereby a semiconductor device having an insulating film and stabilized characteristic is obtained due to elimination of ions such as alkali ions responsible for the unstable characteristic of semiconductor devices.

3,422,529

METHOD OF MAKING A SUPERCONDUCTIVE JOINT

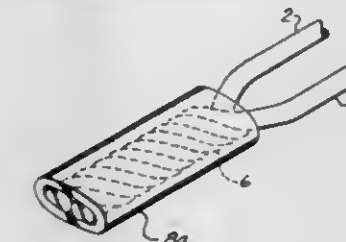
James M. Nuding, Canoga Park, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware

Filed Dec. 9, 1963, Ser. No. 329,311

U.S. Cl. 29—599

Int. Cl. H01s 4/00; H01r 43/04

6 Claims



1. A method of forming a superconductive joint between pieces of superconductive wire, which comprises twisting the ends of said wire together, inserting the resulting twisted pair into a small metal sleeve, and cold pressing the resulting assembly at a pressure approximately equal to the tensile strength of both the sleeve and superconductive wires until firm contact is made between the twists of wire and the sleeve.

3,422,530

CENTRALLY SUPPORTED GUARD FOR AN ELECTRIC DRY SHAVER

Luigi Ottina, Quartiere Diaz 20, Viareggio, Lucca, Italy

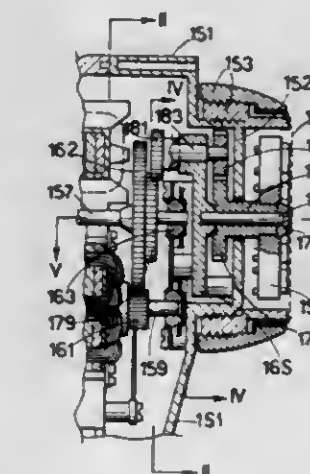
Filed Sept. 18, 1967, Ser. No. 668,584

Claims priority, application Italy, Sept. 23, 1966, 22,077/66

U.S. Cl. 30—43.6

Int. Cl. B26b 19/16

2 Claims



A dry shaver, of a type having a perforated guard peripherally supported on the shaver housing, and a cutter rotatable in engagement with the inside face of the guard, is provided with a stationary column which extends through the cutter into stationary supporting engagement with the central portion of the guard to reduce deformation of the guard during shaving.

3,422,531

HEDGE TRIMMER

Etchison G. Lill, Wheaton, Ill., and William J. Bandy, Jr., Akron, Ohio, assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois

Filed Jan. 10, 1967, Ser. No. 608,373

U.S. Cl. 30—210

Int. Cl. B26b 19/02

11 Claims

An electrically operated hedge trimmer having an elongated stationary comb and a reciprocable cutter with a

tension plate which is curved prior to assembly so that when assembled to the comb at points only near each



end, the tension plate establishes a uniform shearing force between the comb and cutter.

3,422,532

ADJUSTABLE COMPOUND SHEARS

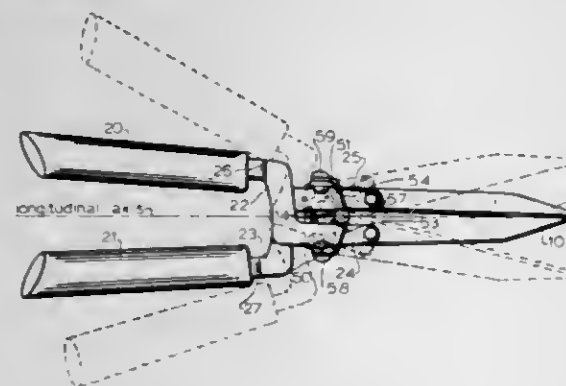
Robert L. Ballard, Pittsburgh, Pa., assignor to H. K. Porter Company, Inc. (Delaware), Pittsburgh, Pa., a corporation of Delaware

Filed Feb. 1, 1967, Ser. No. 613,325

U.S. Cl. 30-252

Int. Cl. B26b 13/04

7 Claims



Compound shears having a pair of cutting blades with a connecting pivot and a pair of handles having crossing handle extensions with a separate connecting pivot are constructed such that one of such pivots is an adjustable pivot which is adapted to selectively change the mechanical advantage between the pair of cooperating handles and the pair of cutting blades. By moving the adjustable pivot the mechanical advantage may be changed so as to have either a narrow blade opening with a high mechanical leverage for limbs and the like or a wide blade opening with a low mechanical leverage for thin hedges and the like.

3,422,533

DENTAL PLATE KNIFE

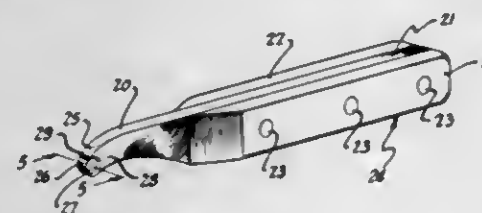
Robert D. Keller, 163 Nueva Ave., Redwood City, Calif. 94061

Filed Aug. 22, 1966, Ser. No. 574,002

U.S. Cl. 30-278

Int. Cl. B26b 3/00

7 Claims



A knife of improved construction having a blade secured at one end to a handle and provided with an opening therethrough at the opposite end thereof. A cutting edge is disposed on at least one side of the opening and the blade itself has longitudinal edges which are shaped to allow the cutting edge to reach relatively inaccessible

areas for cutting or trimming purposes. The opening may have any one of a number of different configurations as desired.

3,422,534

DENTAL BRIDGE

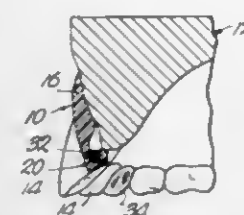
Glenn A. Bahm, Independence, La., assignor to Institute of Cosmetic Dentistry, Incorporated, Tangipahoa, La., a corporation of Louisiana

Filed June 14, 1965, Ser. No. 463,539

U.S. Cl. 32-5

Int. Cl. A61c 13/22, 13/10

1 Claim



A dental bridge for positioning one or more pontics in the mouth, the bridge including a bar spanning the distance between a pair of spaced abutments and a sleeve which is adapted to embrace the bar, the pontics being carried by the sleeve. The bar and the sleeve are of complementary, curvilinear configuration, the bar being rectangular in transverse cross section, the sleeve being U-shaped in transverse cross section. At least one of each of the pair of faces which are in engagement when the bar is embraced by the sleeve is provided with a plurality of longitudinally extending serrations whereby the bar and the sleeve are retained in engagement.

3,422,535

DENTAL SHELL CROWN

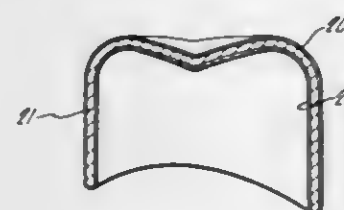
Frank W. Johnson, Monrovia, Calif., assignor to Unitek Corporation, Monrovia, Calif., a corporation of California

Filed Oct. 19, 1965, Ser. No. 497,622

U.S. Cl. 32-12

Int. Cl. A61c 5/08

6 Claims



A dental shell crown for temporary protection of a tooth. The crown is formed of a soft, malleable metal such as aluminum, and the metal surfaces are covered by an electrically insulating dielectric layer or coating. Preferably, the dielectric coating is an anodized layer on the aluminum surface. The anodized layer can be dyed to provide a pleasing color, and the crown preferably has a preformed occlusal surface and pretrimmed sides.

3,422,536

TYPDONT

Carl Homer Garson, 9201 Sunset Blvd., Los Angeles, Calif. 90069

Filed Sept. 13, 1966, Ser. No. 578,621

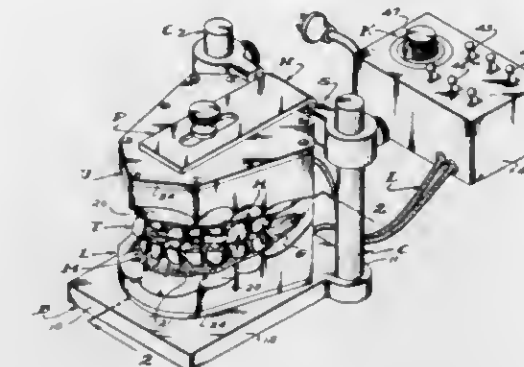
U.S. Cl. 32-71

Int. Cl. A61c 19/00; G09b 19/00, 23/28

10 Claims

1. In a typodont of the character referred to a simulated jawbone having an inwardly opening U-shaped cavity extending about the line along which teeth are arranged, a

wax matrix in and projecting inwardly from the cavity and a plurality of simulated teeth with root portions in said matrix and crown portions projecting substantially inwardly from the matrix, heating means carried by certain of said teeth and including electrical heating elements



at the root portions of said teeth, electrical power supply means connected with the heating elements and control means remote from the typodont and connected with and controlling the supply of power through said supply means and the electrical heating elements.

3,422,537

COMPUTING PERSPECTIVE DRAFTING MACHINE

Donald E. Dewey, Charles H. Hartman, Robert D. Horn, and Talmadge O. McCartney, Seattle, Wash., assignors to Perspective Inc., Seattle, Wash., a corporation of Washington

Continuation-in-part of application Ser. No. 378,272,

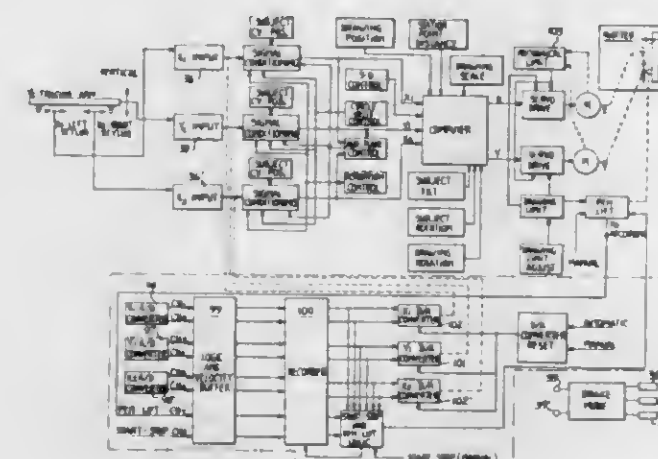
June 26, 1964. This application May 19, 1965, Ser.

No. 456,995

U.S. Cl. 33-18

Int. Cl. B43l 13/00

73 Claims



1. A drafting machine, said machine comprising:
 - (a) a tracing board on which a source drawing view can be mounted;
 - (b) an upright drawing board above said tracing board;
 - (c) means mounting said drawing board for movement across said tracing board;
 - (d) drawing means movable over said drawing board;
 - (e) drive means movable to effect such movement of said drawings means;
 - (f) tracing means movable over said tracing board; and
 - (g) computer means operable in response to movement of said tracing means over said tracing board to effect movement of said drive means for moving said drawing means over said drawing board.

3,422,538

MOTION GENERATING MECHANISM

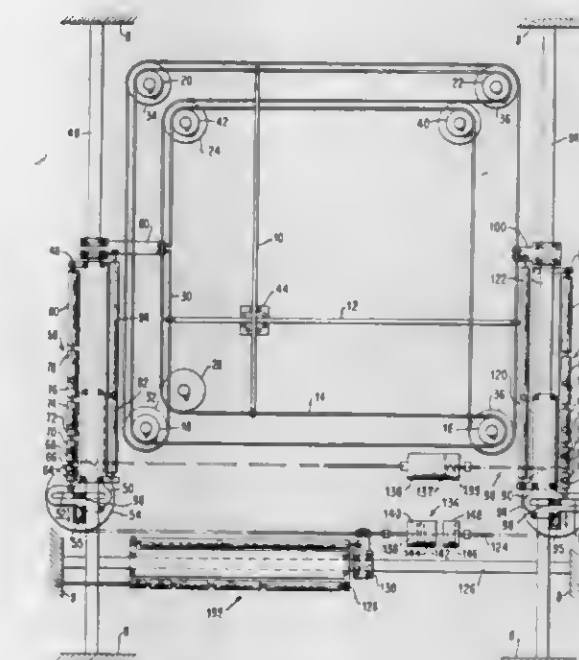
Hugo A. Panissidi, Peekskill, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Nov. 18, 1965, Ser. No. 508,516

U.S. Cl. 33-26

Int. Cl. B43l 11/00

19 Claims



A drafting machine has a combined X and Y coordinate line plotter driven by separate hydraulic piston adders. Separate Scotch yoke devices are mounted between the ends of each of the piston adders and a fixed frame of the machine. Adjustable pins on each of the Scotch yokes vary the amplitude of the harmonic thrust given thereby in the X and Y directions. A third hydraulic piston adder is mounted between the two Scotch yokes to arcuately adjust one relative to the other to set the phase relationship so that variously slanted lines or ellipses may be drawn as well as the regular lines, circles, and ellipses.

3,422,539

BLOCK OR BRICK LAYING GUIDE

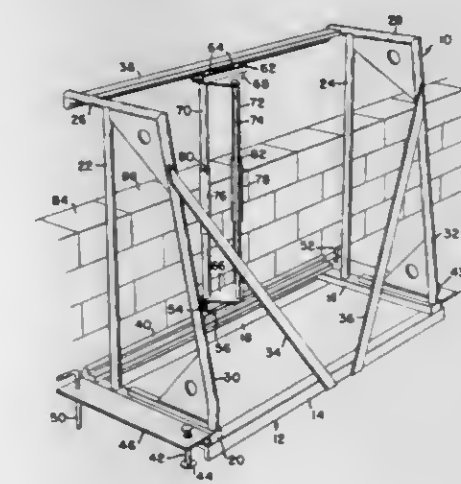
Joseph Schnelder, 5710 Raleigh St., Hollywood, Fla. 33021

Filed Jan. 26, 1968, Ser. No. 700,853

U.S. Cl. 33-85

Int. Cl. G01c 15/10

10 Claims



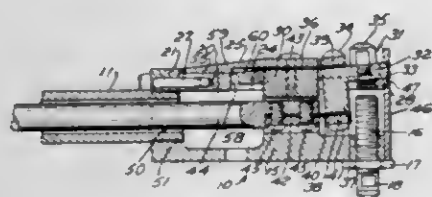
A device in which carriages riding on vertically spaced horizontal and parallel tracks carry one or more guide

members movable horizontally with the carriages to position the guide member or members in abutment with blocks or bricks being layed to render them plumb. The guide member or members may be adjustable vertically to different positions to abut blocks or bricks in vertically successive courses of a wall.

3,422,540

BORE GAGE

John H. Worthen, Providence, R.I., assignor to Federal Products Corporation, a corporation of Rhode Island
Filed Feb. 17, 1967, Ser. No. 616,923
U.S. Cl. 33-143 3 Claims
Int. Cl. G01b 5/00

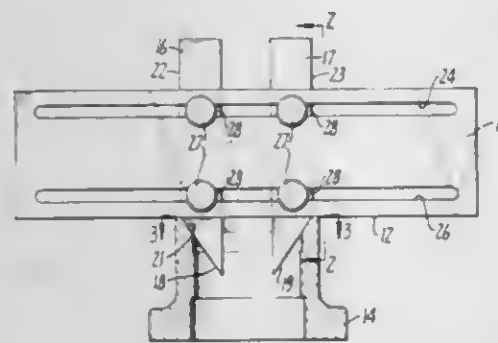


A more gage having an indicator and a work contacting head with a frictionless mounting for a movable contact therein and a frictionless connection to a motion transmitting means for transmitting motion from the work contacting head to an indicator actuating member.

3,422,541

MEASURING INSTRUMENT

Victor Ott, 555 Eddy St., San Francisco, Calif. 94109
Filed Oct. 25, 1967, Ser. No. 678,055
U.S. Cl. 33-158 11 Claims
Int. Cl. G01b 5/08, 3/38



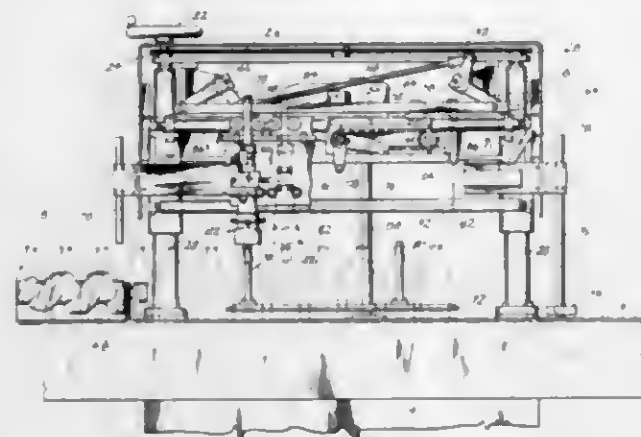
An instrument for measuring the diameter of the theoretical line of intersection between the flat end face of a die and a conical chamfer formed thereat. A pair of feelers are carried for sliding movement toward and away from each other on a slotted bar and each feeler has an inclined edge extending past a straight reference edge of the bar and inclined the same amount in an opposite direction to the inclined edge of the other feeler. Each feeler has a measurement face perpendicular to the reference edge and intersecting the inclined edge at the plane of the reference edge so that the distance between the measurement faces will accurately reflect the diameter of the apexes.

3,422,542

CONTAINER INSPECTION MACHINE

Robert Spurr, West Hartford, Conn., assignor to Embart Corporation, Bloomfield, Conn., a corporation of Connecticut
Filed Sept. 1, 1965, Ser. No. 484,190
U.S. Cl. 33-174 12 Claims
Int. Cl. G01b
A machine for inspecting containers, especially glass bottles, while they are being transported in a line on a

conveyor. Inspection is made for defects in height and the inner and outer dimensions of the necks and for "leaners." The machine includes a mechanism which reciprocates over the conveyor and longitudinally thereof, this mechanism having a plurality of testing devices which

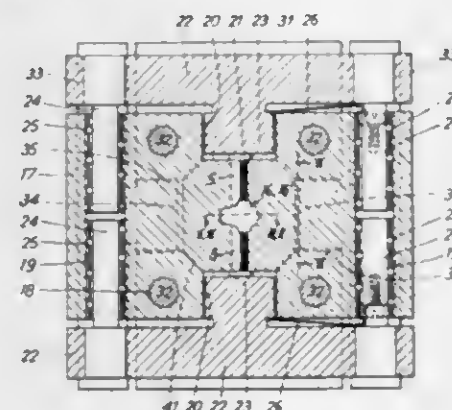


are lowered automatically to engage and test a series of bottles simultaneously while the mechanism is moved in the direction of the conveyor, and then the mechanism is returned to engage the next equal series of bottles on the conveyor.

3,422,543

FEELING HEAD FOR MEASURING A PLURALITY OF DIMENSIONS OF A WORKPIECE

David M. A. Charpillot, 7 Chemin de Perreaz, Prilly, Vaud, Switzerland
Filed Apr. 24, 1967, Ser. No. 633,072
Claims priority, application Switzerland, Apr. 26, 1966, 6,052/66
U.S. Cl. 33-174 10 Claims
Int. Cl. G01d 18/00



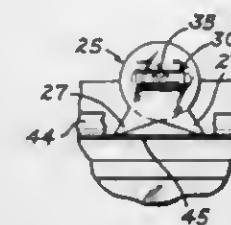
A travelling path is provided along which a workpiece to be gauged and the feeling head can be moved relative to each other. Feelers are arranged on the head along this path in order to engage the workpiece at the points where it has to be gauged. The feelers which can engage the workpiece by approaching the same from one and the same side are parallel to each other and they are associated with one and the same shiftable sole piece. Upon moving the workpiece and the feeling head relative to each other along said predetermined path, the feelers associated with the same sole piece successively engage the workpiece and displace the sole piece thus permitting the different dimensions of the workpiece to be successively measured.

3,422,544

AUTOMOBILE SAFETY LEVEL INDICATOR

David S. Wyse, % Projects Unlimited, Inc., 1926 E. Siebenthaler Ave., Dayton, Ohio 45414
Filed Jan. 16, 1967, Ser. No. 609,490
U.S. Cl. 33-207 3 Claims
Int. Cl. G01c 9/02
A safety level device adapted to be utilized in connec-

tion with a vehicle having booster type shock absorbers and enabling the owner of the vehicle to level the vehicle plastic, the coils at that end of the device being adjustable to permit alteration of the position of the spring to dis-

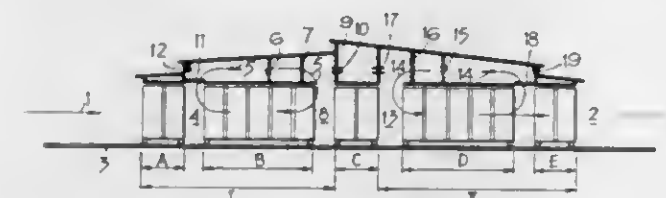


regardless of the load so that the vehicle handles properly and the headlights are properly directed.

3,422,545

TIMBER DRYING PROCESS AND APPARATUS

Leslie F. Wilson, Johannesburg, Transvaal, Republic of South Africa, assignor, by mesne assignments, to Nukor (Proprietary) Limited, Johannesburg, Transvaal, Republic of South Africa
Filed July 5, 1967, Ser. No. 651,246
Claims priority, application Republic of South Africa, July 8, 1966, 66/4,069
U.S. Cl. 34-16.5 16 Claims
Int. Cl. F26b 5/04, 25/06



Timber is tunnel-dried in two successive drying zones preferably separated by a moisture equilibration zone. The parameters of the drying air streams in the two zones are monitored and adjusted completely independently from one another, the two air streams being introduced and withdrawn separately and without intermixing to achieve optimal rapid drying to near the fibre saturation point in the first zone and optimal gentler drying in the second zone.

3,422,546

PROCESS OF DRYING FILM

Lloyd W. Crawford, Cookeville, Tenn., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Oct. 19, 1966, Ser. No. 587,654
U.S. Cl. 34-25 1 Claim
Int. Cl. F26b 3/02

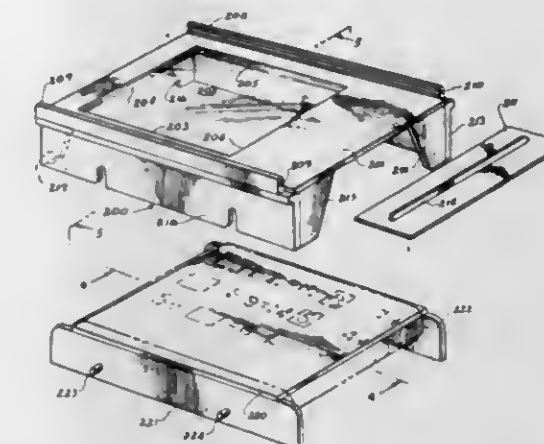
Process of drying polyamide-acid/imide gel film by sensing thickness deviations, then selectively prethickening lanes of inadequate thickness to result in film of improved thickness uniformity.

3,422,547

EDUCATIONAL DEVICE

Richard O. Heine, 30 Wall Ave., Valhalla, N.Y. 10595
Filed Mar. 25, 1966, Ser. No. 537,523
U.S. Cl. 35-9 2 Claims
Int. Cl. G09b 3/04, 1/02; G09f 11/24

A device for displaying information for teaching purposes comprising a structure characterized by its providing a slot to receive an elongated plastic coil spring which carries the information so that the spring can be held partially open to display information carried on the face of the

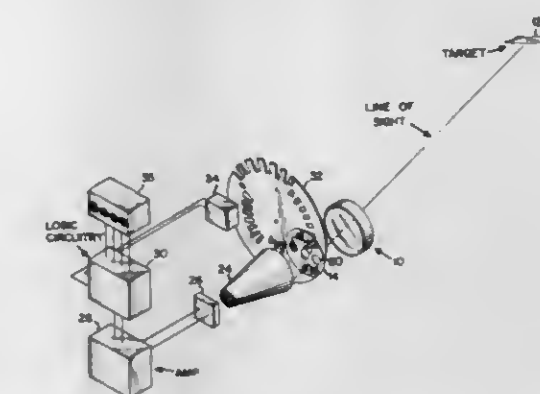


play different sections thereof in the display of information.

3,422,548

CONTROL APPARATUS

Charles H. Waldbauer, Jr., Glendora, Calif., assignor to Honeywell Inc., a corporation of Delaware
Filed May 12, 1965, Ser. No. 455,199
U.S. Cl. 35-25 6 Claims
Int. Cl. F41g 3/26, G01j 1/20; A63f 9/02

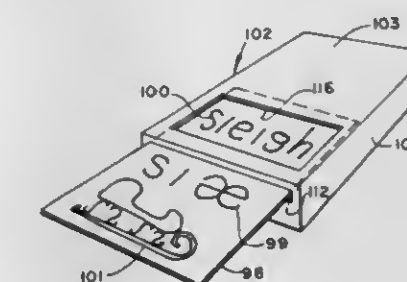


An aiming evaluation device wherein a rotating perforated disc is positioned at the focal plane of a target viewing optical system to modulate the received target radiation in accordance with how closely the optical system aligned with the target. An internally reflecting hollow cone gathers the modulated radiation onto a single detector.

3,422,549

SPELLING AND READING AID GAME

George H. Grangaard, Winona, Minn., assignor to itaCo, Farmington, Minn., a corporation of Minnesota
Filed June 20, 1966, Ser. No. 558,886
U.S. Cl. 35-71 3 Claims
Int. Cl. A63b 33/04; G09b 17/00



The disclosure relates to a spelling and reading aid device including a plurality of blocks each having a plurality of sides and opposed ends. On one end of each of the

blocks is a single sound symbol of a non-traditional alphabet, and one or more of the sides of the blocks has formed thereon a traditional alphabetical letter or combination of letters having the same speech sound as the symbol on the end of the member. Also included are a plurality of cards and a container for supporting the cards in stacked condition, each of the cards bearing indicia including a picture, a word including the symbols on the ends of the members identifying the picture and a word including the traditional alphabetical letter on the sides of the members identifying the picture. The container is formed with an inspection window.

3,422,550

DISPOSABLE SHOE COVER

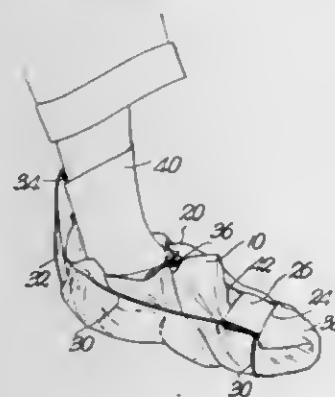
Ralph R. Robinson, 322 Englewood Road,
Middlesboro, Ky. 40965

Filed July 28, 1967, Ser. No. 656,923

U.S. Cl. 36—7.1

Int. Cl. A43b 3/16; H05f 3/00

1 Claim



A disposable, universal shoe cover comprising a flexible bag for covering a shoe of a person such as a doctor participating in surgery. The bag includes a forward toe portion adapted to be folded over the top of the shoe and having a pair of resilient bands coupled thereto for respective looping around the ankle of the wearer and the bottom of the shoe to yieldably hold the bag in place.

3,422,551

SHOE CONSTRUCTION

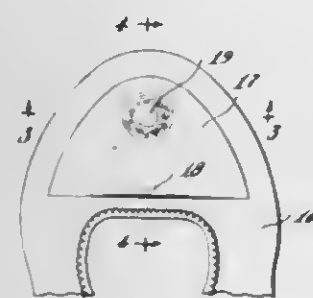
Aaron P. Blank, Dorchester, Mass., assignor to
Jacob S. Kamborian, West Newton, Mass.

Filed Mar. 16, 1965, Ser. No. 440,088

U.S. Cl. 36—77

Int. Cl. A43b 23/17

8 Claims



A composition for stiffening shoe parts comprising a major portion of a copolymer formed from ethylene and vinyl acetate, ethyl acrylate or isobutyl acrylate, the copolymer having a melt index of at least 20 and a softening point of at least 170° F. and a minor portion of a wax compatible with the copolymer and having a melting point of at least 190° F. and a penetration less than about 25. The wax is added to the copolymer to increase its stiffness properties.

3,422,552

PLOW TRUCK EQUIPMENT

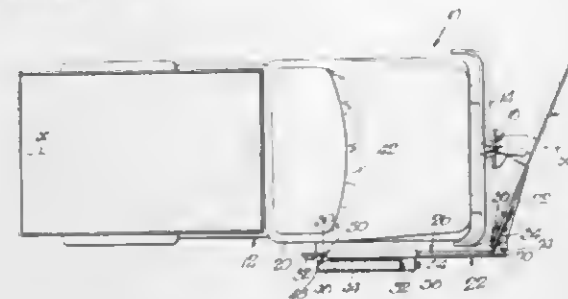
Lewis Gabel, 337 Wilnot Road, New Haven,
Conn. 06515

Filed Nov. 25, 1966, Ser. No. 596,985

U.S. Cl. 37—42

Int. Cl. E01h 5/06

1 Claim



Provided on a truck with a front snow-plowing blade is a plate which on one side of the truck is projectible into and retractable from a position in which to form with the blade a V-like snow pocket open in forward direction of the truck.

3,422,553

SNOW BLADE ATTACHMENT

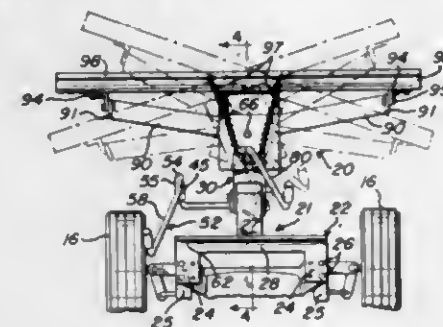
Richard D. Holloway, Dayton, Ohio, assignor to The
Huffman Manufacturing Company, Miamisburg, Ohio,
a corporation of Ohio

Filed Jan. 26, 1966, Ser. No. 523,214

U.S. Cl. 37—50

Int. Cl. E01h 5/06; A01b 59/048

3 Claims



A snowplow attachment for a riding type lawn mower which can be easily secured to and removed from the lawn mower. The attachment includes a mounting bracket on the frame of the lawn mower, an intermediate bracket on the forward end of the mounting bracket, and a forward bracket which supports the blade for pivotal movement on a vertical axis to change the angle of attack. A blade is pivotally supported on a horizontal axis on the forward bracket to allow pivotal movement of the blade as it rides over obstructions on the surface being plowed. The upwardly extending handles adjust the angular position of the blade and move it between a lowered plowing position and a raised retracted position.

3,422,554

FRAMES FOR USE IN SERIGRAPHIC PROCESSES

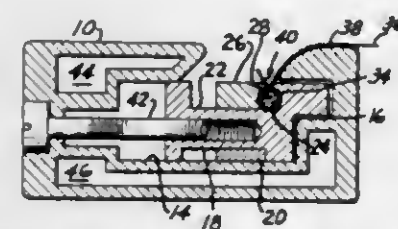
Ernest F. J. Prinzborn, 439 Cherry Drive,
Pasadena, Calif. 91105

Filed Jan. 23, 1967, Ser. No. 610,932

U.S. Cl. 38—102.1

Int. Cl. D06c 3/08

11 Claims



This invention relates to frames for stretching screen for use in serigraphic processes. A frame according to the

present invention comprises a plurality of support members defining a periphery. Clamp means comprising a first and a second clamp member and a securing means therebetween, is attached to at least one of the support members by an adjustment means. The screen intended to be stretched is placed within the periphery defined by the support members, and a margin of it is sandwiched between the securing means and the clamp members. An opposite margin of the screen is secured to an opposite support member, and the adjustment means is operated to provide adjustment of the position of the assembled clamp means, thereby providing adjustment for the tension in the screen.

3,422,555

ADVERTISING-DISPLAY CARD

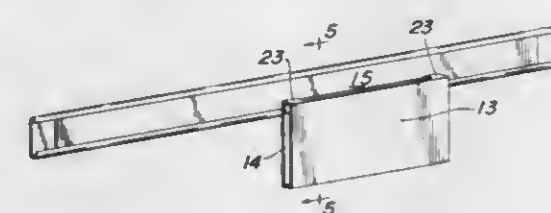
Irving Woolf, 510 N. Dearborn St., Chicago, Ill. 60610

Filed Aug. 8, 1966, Ser. No. 571,126

U.S. Cl. 40—10

Int. Cl. G09f 3/18, 1/10, 23/06

4 Claims



An advertising display card in the form of a planar piece of flexible material which permits all printing to be effected on one face thereof, the card being so scored, slitted and cut-out as to define portions for subsequent folding into parallel relationship and perimetrical contact as to constitute an integrated depending pocket for containing supplemental literature for free access to patrons.

3,422,556

IDENTIFICATION MARKER

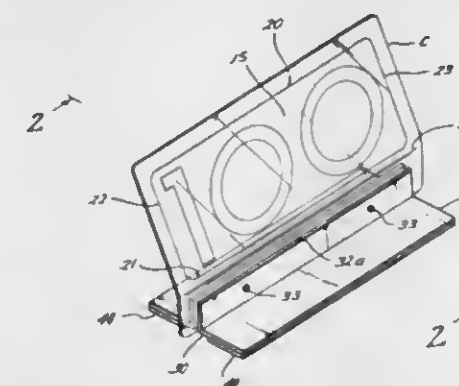
Delbert T. Lyons and Wallace F. Manning, both of 6318
Groewood, Houston, Tex. 77008

Filed Dec. 29, 1966, Ser. No. 605,672

U.S. Cl. 40—10

Int. Cl. G09f 3/18, 7/02, 7/16

2 Claims



An identification marker for use on automobiles or other magnetic objects comprising an elastically hinged upstanding portion having indicia thereon, and a magnetized base member on which such upstanding portion is mounted.

3,422,557

ALBUMS FOR PHOTOGRAPHS OR THE LIKE

James G. Peters, 1 Penrose Lane, Broadmoor,
Colorado Springs, Colo. 80906

Filed Jan. 16, 1967, Ser. No. 609,577

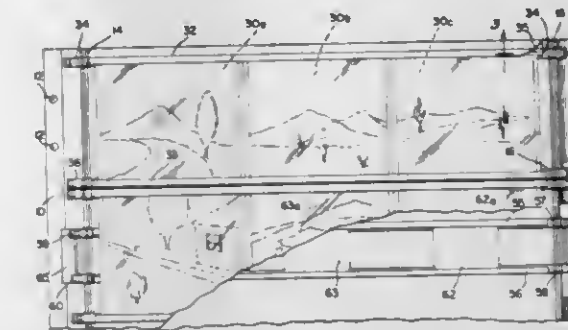
U.S. Cl. 40—158

Int. Cl. G09f 1/10, 11/06; B42f 5/02

7 Claims

A photograph album is provided with a plurality of movable horizontal fastening bars for gripping a row of photo-

graphs by their tops and bottoms, and releasable means securing pairs of each fastening bars together permitting



removal of an entire row of photographs intact. Means are provided for fastening the negative behind its print.

3,422,558

FOOD CAN, REMINDER TAG AND HOLDER THEREFOR

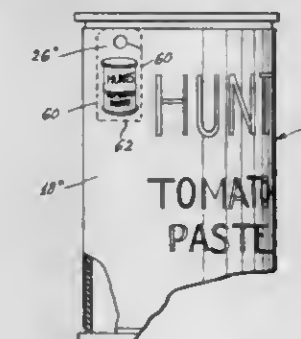
Willard E. Fee, 1 W. Santa Inez Ave.,
San Mateo, Calif. 94402

Filed Jan. 3, 1967, Ser. No. 606,953

U.S. Cl. 40—306

Int. Cl. G09f 3/00, 3/08

1 Claim



A food can with a pocket for removably supporting a reminder tag having means for readily and removably supporting the tag on a hook or file to remind the viewer that the supply or stock of such food is exhausted and needs replenishment. A holder for the removed tag is provided.

3,422,559

HANDGRIP OPERATED SAFETY MECHANISM FOR HANDGUNS

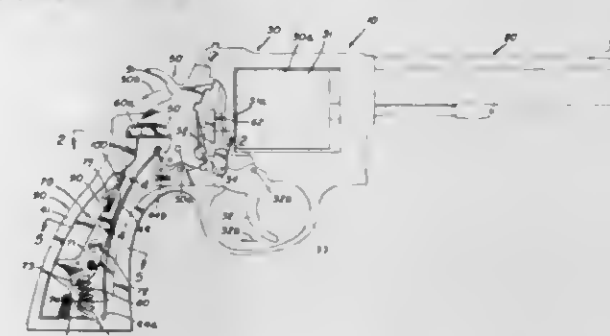
David S. Woloch, 522 Overwood Road,
Akron, Ohio 44313

Filed June 13, 1967, Ser. No. 645,656

U.S. Cl. 42—66

Int. Cl. F41c 17/04

5 Claims



A handgrip operated safety mechanism carried by the handgrip portion of a revolver, and including a spring-loaded stop member which is normally automatically urged into locking relationship with the hammer mechanism of the weapon upon loading to prevent normal functioning of the hammer. The safety mechanism and stop member are connected to the wooden portions of the handgrip and may be moved out of engagement with the slide by pivoting the wooden portions of the handgrip thereby permitting normal operation of the hammer and normal firing of the revolver.

3,422,560

ADJUSTABLE GUN TRIGGER LOCKS

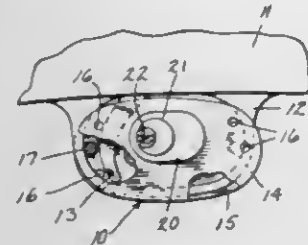
Timothy C. Foote, Brookfield, and Kenneth H. Buchmann, Menomonee Falls, Wis., assignors to Master Lock Company, Milwaukee, Wis., a corporation of Wisconsin

Filed May 25, 1966, Ser. No. 552,759

U.S. Cl. 42-70

3 Claims

Int. Cl. F41c 17/02



A gun trigger lock having a pair of opposed plates to engage and cover opposite faces of a gun trigger guard with a key controlled, spring loaded cylinder lock extending transversely into the trigger guard and releasably connecting intermediate portions of said plates. An interchangeable transverse pin of a selected diameter releasably connects the rear portions of said plates and extends through the trigger guard, the gun trigger being confined between said pin and the lock.

3,422,561

TROLLING DEVICE FOR FISHING

David A. McLean, 248 Hibiscus Ave.,
Lauderdale-by-the-Sea, Fla. 33308

Filed Apr. 5, 1967, Ser. No. 628,775

U.S. Cl. 43-19.2

6 Claims

Int. Cl. A01k 87/00



A trolling device for attachment to a boat and having a shaft carrying a rotor which is disposed in the water and as the boat moves forwardly the shaft is rotated by the action of the water on the rotor. A fishing rod is carried by supporting means located on a slotted and pivoted bar, and a crank arm extends between the slot in said bar and the upper end of the shaft for oscillating the bar and fishing rod.

3,422,562

TOY THEATER

Joseph Green, Hewlett, N.Y., assignor to Miner Industries Inc., New York, N.Y., a corporation of Delaware

Filed Apr. 6, 1966, Ser. No. 540,582

U.S. Cl. 46-13

9 Claims

Int. Cl. A63h 33/42, 33/26

A toy theater is provided with a folded cardboard stage having a back portion with a layer of magnetizable mate-

rial thereof and openings adjacent the side edges of the back portion, a number of cardboard figures each having at least one magnet by which it may be held to the front surface of the back portion of the stage and each dimensioned to enter and exit through the openings, and at least



one actuating member movable over the rearwardly facing surface of the back portion of the stage and having a magnet to magnetically attract the magnet of a figure held to the front surface for effecting selected movements of such figure.

3,422,563

ELEMENTS WITH BASE HAVING RECESSES FOR STORING OR STANDING SAME

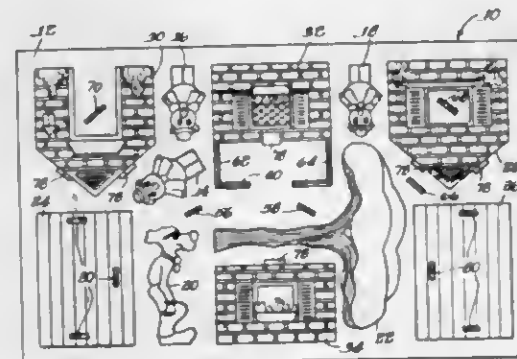
Renée S. Kiley, 600 E. Chicago St.,
Elgin, Ill. 60120

Filed Oct. 19, 1964, Ser. No. 404,749

U.S. Cl. 46-17

2 Claims

Int. Cl. A63h 33/06; A63f 9/10



1. A toy comprising: toy elements formed and decorated to represent parts of a scene from a children's story; and a base member having first and second groups of recesses, each of said first group of recesses having first recess wall means shaped to fittingly receive said toy element in a prostrate position, at least one of said first group of recesses having second recess wall means, said first and second recess wall means of said one recess being joined and jointly shaped to fittingly engage and retain a first predetermined group of said toy elements in a predetermined upright relationship relative to each other to form a three-dimensional component of a scene for a children's story, said second group of recesses having recess wall means dimensioned to retain a second predetermined group of said toy elements in an upright position spaced apart from the three-dimensional component of the scene from a children's story.

3,422,564

INTERCONNECTABLE MODULAR CONNECTORS FOR TUBULAR ELEMENTS

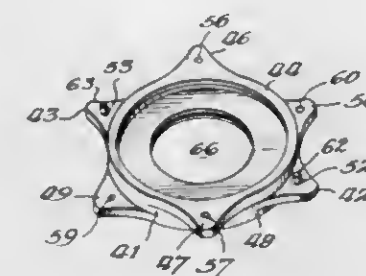
John Y. Izumi, 10919 S. Eberhart,
Chicago, Ill. 60628

Filed May 26, 1964, Ser. No. 370,321

U.S. Cl. 46-22

4 Claims

Int. Cl. A63h 33/00, 33/04



1. A modular construction for assembling tubular sections in cooperating relationship composed of a plurality of modules, each of said modules comprising:

- a substantially flat center portion having a substantially circumferential outer edge of finite radius;
- two diametrically opposing flanges depending from said center portion, each of said flanges generated by two arcs drawn tangent to said center portion edge, each of said arcs having a radius equal to that of said center portion edge, the arcs generating each said flange being generated from centers 60° apart;
- a first lip having an outside radius equal to that of said center portion edge, said first lip integrally projecting from one side of said center portion;
- two diametrically opposing flanges depending from said first lip and generated by two arcs drawn tangent to said first lip, each of said last recited arcs having a radius equal to the radius of said center portion edge, the arcs generating each said first lip flange being generated from centers 60° apart;
- a second lip having an outside radius equal to that of said center portion edge, said second lip integrally projecting from the other side of said center portion;

- two diametrically opposing flanges depending from said second lip and generated by two arcs drawn tangent to said second lip, each of said last recited arcs having a radius equal to the radius of said center portion edge, said arcs being generated from centers 60° apart;
- said center portion, said first lip and said second lip disposed so that they are substantially centered about one axis with the depending flanges spaced at 60° intervals about said axis;
- said first lip and said second lip having inside edges of diameters substantially equal to the outside diameter of said tubular sections, said inside edges adapted to receive said tubular sections; and
- means for maintaining said modules in nesting alignment.

3,422,565

TUBE, PLUG AND RESILIENT LINK CONSTRUCTION DEVICE

Lucius H. Kentfield, 132 W. Bellevue Ave. 94402, and Jack Dreyfuss, 407 Turner Terrace 94401, both of San Mateo, Calif.

Filed Jan. 4, 1965, Ser. No. 423,059

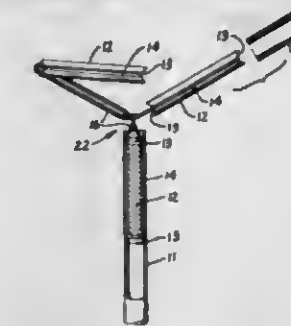
U.S. Cl. 46-22

13 Claims

Int. Cl. A63h 33/00; G09b 23/04; F16b 1/00

A plurality of construction members having openings,

plugs fitting into the openings, adjacent plugs are joined by elastic links which thus flexibly connect the members



to form various geometrical shapes. The angles may be rigidified by inserting rigid angled pins in the joints.

3,422,566

MINIATURE RINGING AND TALKING TELEPHONE

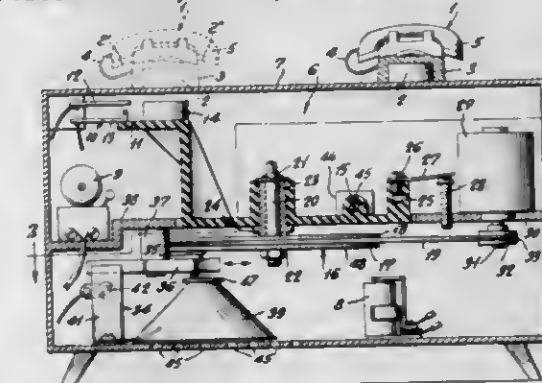
Tobia Wolf, 447 Essex Ave., Bloomfield, N.J. 07003

Filed Mar. 29, 1965, Ser. No. 443,407

U.S. Cl. 46-33

17 Claims

Int. Cl. A63h 33/03, 33/26; G11b 3/00



A toy comprising a casing for supporting a telephone in two zones thereon. In one zone a magnet carried by the telephone raises a lever to close a switch and ring a bell. Raising the lever also releases the tone arm of a phonograph mounted in the casing for closing a second switch to operate the motor of the phonograph. Movement of the phone to a second zone allows the lever to drop under the influence of gravity to open the circuit to the bell and to engage a record carried by the lever and a needle carried by the tone arm to play the recording.

3,422,567

AUTOMATIC LANDING GEAR FOR A MODEL AIRCRAFT

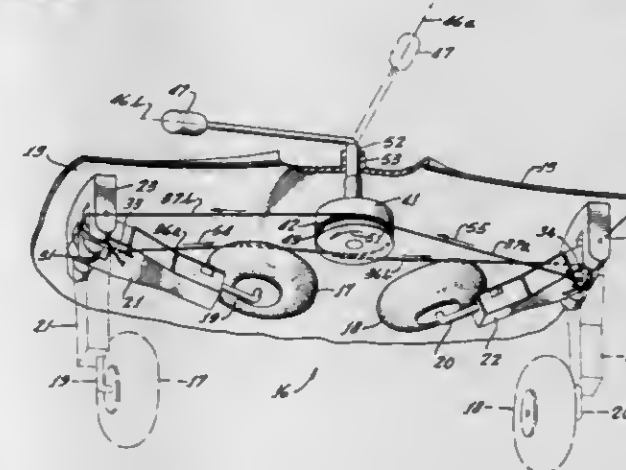
Norman E. Farb, 2106 Denis Ave., and Norman D. Harris, 2545 E. Walnut Ave., both of Orange, Calif. 92667

Filed Oct. 18, 1965, Ser. No. 497,265

U.S. Cl. 46-77

3 Claims

Int. Cl. A63h 27/04



A landing gear assembly for a guided model aircraft which includes a pair of wheels which are joined by

pulley means which cause movement of one of the wheels in a vertical plane by similar movement of the other wheel. The weight is responsive to centrifugal force exerted when the aircraft is in flight causing the arm to rotate about the axis of the pulley and in turn rotating the pulley.

3,422,568

SPINNING TOY

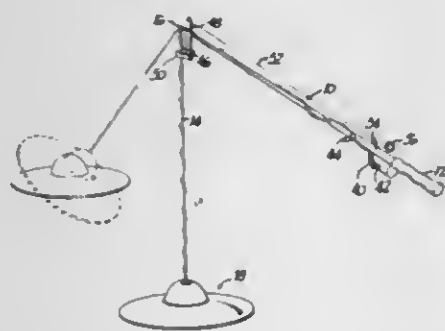
Steve P. Vorves, 20970 Delaware, Southfield, Mich. 48075

Filed Oct. 17, 1966, Ser. No. 587,144

U.S. Cl. 46-243

Int. Cl. A63h 1/32, 27/06, 33/26

3 Claims



1. A spinning toy comprising a wand having a handle at one end and an electric motor suspended from its other end, said motor having a stator coupled to one end of said wand and a rotor, electric power means mounted on said wand adjacent said handle, switch means electrically coupling said power means to said motor means and operable to selectively energize said motor means, a rod member pivotally coupled at one end to said other end of said wand, link means coupled at the other end of said rod member and to the stator of said motor means for resisting counterrotation of said stator during operation of said motor means while accommodating substantially unrestricted swinging movement of said motor means on said other end of said rod member and an annular disc member fixedly secured to said rotor for rotation therewith.

3,422,569

MULCH AND COATED SEED COMPOSITION COMPRISING HUMATES, HEAT ABSORBENT PARTICLES, BITUMEN, AND AN EMULSIFIER

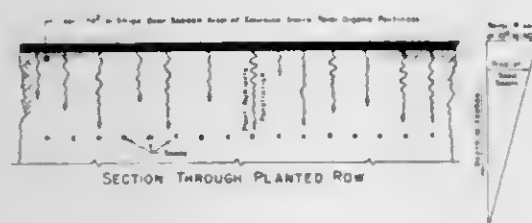
Lloyd B. Lyon, Salt Lake City, Utah, assignor to American Hydrocarbon Company, Salt Lake City, Utah, a corporation of Nevada

Filed Aug. 19, 1964, Ser. No. 390,546

U.S. Cl. 47-9

Int. Cl. C05f 11/02; A01g 7/00, 13/00

10 Claims



A composition comprising humates, bitumen, an emulsifier, and black particles, such as, carbon black is disclosed. The composition can be used as a mulch or a seed coating.

3,422,570
METHOD FOR PREVENTING THE SPLITTING OF THE CALYX OF FLOWERS E.G. OF CARNATIONS

Herman Louis Vorst, Merellaan 1, The Hague, and
Gijbertus Hendricus Borst, Langeraarseweg 31,
Langeraar, Netherlands

Filed Oct. 21, 1966, Ser. No. 588,364

U.S. Cl. 47-55

Int. Cl. A01g 5/00, 1/00

2 Claims



A ribbon of metal having one face covered with a lining of a foam plastic or the like material with the extremities of the ribbon being provided with cooperating locking means in the form of a hook on one extremity and openings in the other extremity. The hook-shaped end and cooperating openings enables the ribbon to be placed around a flower bud in order to prevent bursting of the bud with the diameter of the encircling ribbon being adjustable to conform to the size of the bud.

3,422,571

LIVESTOCK CONTROL GATE

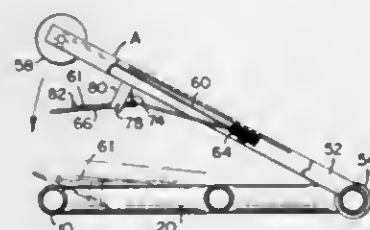
Andrew J. Flocchini, 7078 Lakeville Highway,
Petaluma, Calif. 94952

Filed Jan. 24, 1967, Ser. No. 611,444

U.S. Cl. 49-31

Int. Cl. E05f 15/20

5 Claims



A livestock control gate having a sensing arm mounted on the gate to physically contact the animal passing through the gate opening, the arm having a roller at one end to contact the side of the animal and a cable which is rolled up by the roller to actuate a switch which closes the gate.

3,422,572

VEHICLE BODY CLOSURE OPERATOR

Walter Pollak, Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Sept. 21, 1966, Ser. No. 580,991

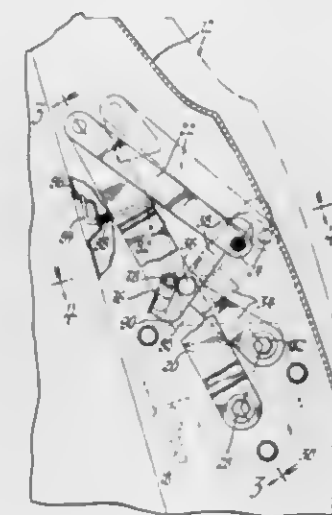
U.S. Cl. 49-280

Int. Cl. E05f 15/00; B60j 5/10

7 Claims

A closure operating arrangement for the tailgate of a stationwagon style vehicle body includes linkage connected between the body and the tailgate for effecting movement of the latter between fully open and fully closed positions, a combined latch and pull-close member mounted on the body for movement to an extended position engageable with a striker on the tailgate in a partially open position of the latter and movable to a retracted position pulling the tailgate fully closed, with a power-operated drive unit being mounted on the body and arranged to drive the linkage simultaneously with a cam and cam follower connected with the combined latch and pull-close member and operable in timed relation

with the linkage to cause such member to intercept the tailgate during its movement from fully open to partially open position and thereafter assist the linkage means in moving the tailgate to fully closed position. The cam means further coordinates the combined latch and pull-



close member with the linkage for initial unlatching movement in the opening cycle of the tailgate, and independent manually operable means are provided for selective unlatching of the combined latch and pull-close member independently of operation of the drive unit.

3,422,573

DOOR CONTROLLING DEVICE

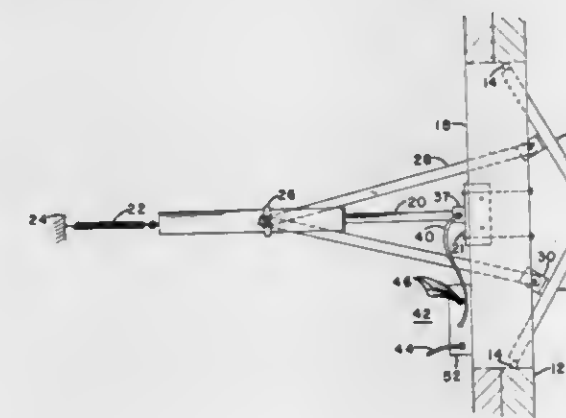
Warren E. Rich, R.D., Centre Hall, Pa. 16828

Filed June 1, 1966, Ser. No. 554,503

U.S. Cl. 49-340

Int. Cl. E05f 15/04

9 Claims



This invention is a vacuum operated door controlling mechanism adapted for dairy barns, mountable above and extending outwardly, from the door to be controlled. The device is comprised of a cylinder, a piston within the cylinder, a hollow push rod attached to said piston and mounted above the door to be controlled, a push rod attached to said cylinder and the door, a bias spring attached to the cylinder adapted to bias rod cylinder from the door, a hollow push rod having a passage extending therethrough to within the cylinder, a vacuum source attached to the passage of the hollow push rod and a button controlled vacuum control positioned between the vacuum source and the passage of the hollow push rod. The vacuum control allows the cylinder to be evacuated causing it to press the door open. When the vacuum is broken by the vacuum control, the bias spring draws the door closed.

3,422,574

VEHICLE QUARTER WINDOW ARRANGEMENT

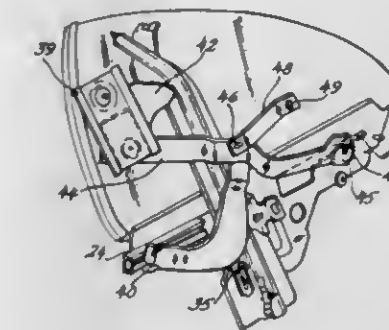
Jack E. Martens, Bloomfield Hills, Mich., assignor to American Motors Corporation, Kenosha, Wis., a corporation of Maryland

Filed Nov. 30, 1967, Ser. No. 687,058

U.S. Cl. 49-351

Int. Cl. E05f 11/44, 11/52

10 Claims



An arrangement including a support panel, a pair of guide members mounted on the panel, a window regulator mechanism mounted on the panel, and a window inter-connected between the regulator mechanism and one of the guide members for movement between an open and closed position.

3,422,575

CLOSURE OPERATOR

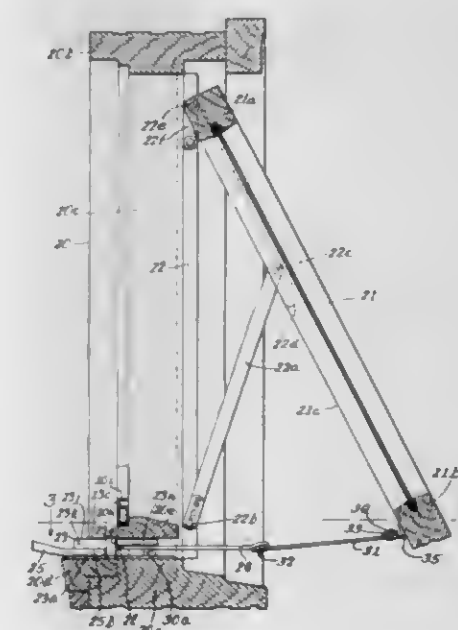
Henry P. Armstrong, Islington, Ontario, Canada, assignor to Truth Tool Company, a corporation of Minnesota

Filed Aug. 22, 1966, Ser. No. 574,188

U.S. Cl. 49-356

Int. Cl. E05f 11/22

12 Claims



A closure operator for a window sash in which a frame has two interconnected parts and an opening therein. An operating arm is connected to the window sash and is mounted on an arm pivot on the frame and extends therefrom for swinging movement relative to the frame. A manual member is pivotally mounted on the frame for oscillatory rotation between limit positions of less than one complete turn about an axis parallel to but spaced from the operating arm pivot, with a portion of the manual member positioned in the opening in the frame and closing the opening at all times. A link means pivotally connects the manual member to the swinging operating arm and includes a crosshead within the frame movably supported by the frame and guided by the frame for

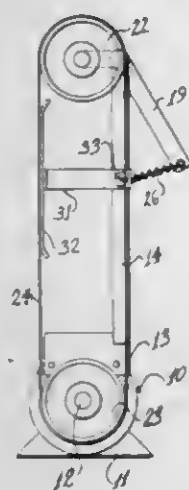
linear translatory oscillation as the manual member is oscillated. The operating arm has a short portion extending inwardly from its pivot and having a slot therein for receiving a cam roller on the crosshead to provide greater sash moving forces in initially opening and finally closing the sash.

3,422,576

BELT SANDER OR GRINDER

Ira L. Hubble, Box 9681, Birmingham, Ala. 35215
Filed Mar. 19, 1965, Ser. No. 441,073
U.S. Cl. 51—148
Int. Cl. B24b 23/06, 21/00; F16h 7/08

1 Claim



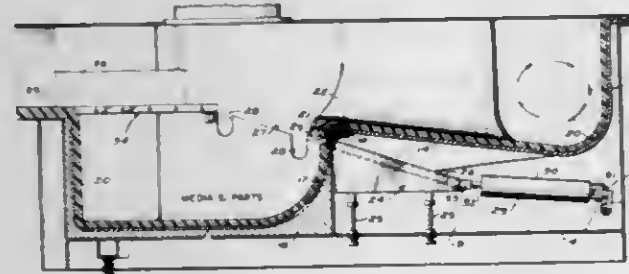
A self-contained, portable, light-weight belt sander or grinder in which the entire apparatus is mounted on and supported from the motor itself and having means to maintain the belt in tension, which means also permits ready changing of the belt when necessary.

3,422,577

SELF-DISCHARGING FINISHING MILL

Richard K. McKibben, La Canada, Calif., assignor to Southwestern Engineering Company, Los Angeles, Calif., a corporation of California
Filed Feb. 7, 1966, Ser. No. 536,492
U.S. Cl. 51—163
Int. Cl. B24b 31/00; B02c 17/08; B01f 11/00

8 Claims



A vibratory mill having an annular container and means for vibrating the container. The bottom of the container includes a ledge, and a ramp is extensible from the ledge to convey media and work pieces beyond the ledge for enabling discharge of at least the work pieces.

3,422,578

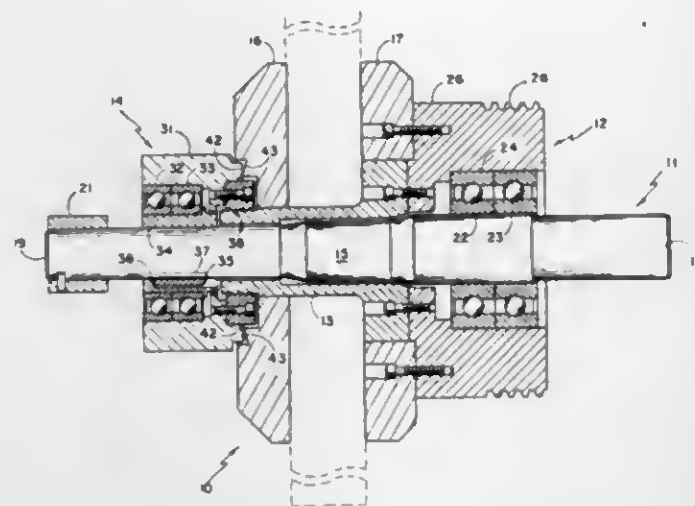
DEAD SHAFT SPINDLE ASSEMBLY FOR REDUCED APERTURED GRINDING WHEELS

Henry L. Mossman, Northborough, and Douglass A. McDonald, Westborough, Mass., assignors to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Jan. 19, 1966, Ser. No. 521,726
U.S. Cl. 51—168
Int. Cl. B24b 41/00

6 Claims

This invention relates to a spindle assembly for grinders and in particular to a dead shaft spindle assembly for reduced apertured grinding wheels. A rotatable arbor

mounted on a dead shaft is provided in a spindle assembly. A pair of spaced bearing assemblies couple the arbor to the dead shaft. One of the bearings is detachable from the arbor. The outside diameters of the bearings are larger than the outside diameter of the arbor. A pair of flanges each associated with one of the bearings are also mounted on the arbor between the bearings and in a spaced rela-



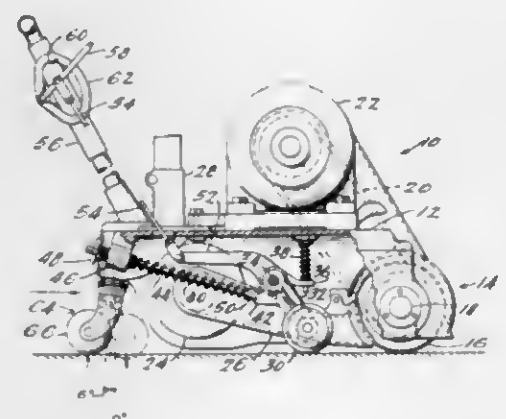
tionship. One of the bearing assemblies and its adjacent flange include cooperating spherical surfaces to compensate for non-parallel sides of grinding wheels. The above-described assembly is adapted to mount and secure a grinding wheel on the arbor between the flanges and the bearings.

3,422,579

FLOOR MACHINE

John C. Rogge and George W. Walther, Toledo, Ohio, assignors, by mesne assignments, to The Scott & Fetzer Company, Lakewood, Ohio, a corporation of Ohio
Filed Nov. 7, 1966, Ser. No. 592,388
U.S. Cl. 51—176
Int. Cl. B23b 23/00

7 Claims



1. A floor sanding machine having a sanding unit at one portion, a caster spaced from said one portion, and resiliently mounted wheels therebetween, the weight of said sanding machine being supported on all three of said sanding unit, caster, and wheels, said caster moving 180° between a position away from said wheels and a position nearer said wheels when the direction of the sander is reversed, said caster including a caster wheel, a yoke rotatably carrying said caster wheel, and an axle carrying said yoke for pivotal movement relative to said machine, said axle lying in a vertical plane extending longitudinally through the sanding machine but tilting at an angle toward said wheels so that said caster wheel is higher when

pivoted away from said wheels than when pivoted nearer said wheels.

ERRATUM

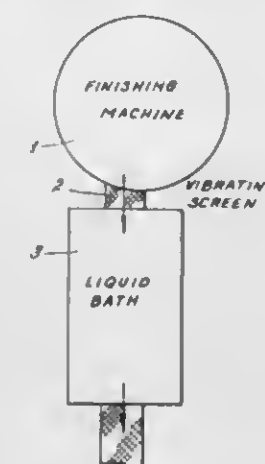
For Class 51—289 see:
Patent No. 3,422,583

3,422,580

A FINISHING PROCESS EMPLOYING SOLID-GAS PELLETS

Gunther W. Balz, Kalamazoo, Mich., assignor to Roto-Finish Company, Kalamazoo, Mich., a corporation of Michigan
Filed Oct. 20, 1965, Ser. No. 498,972
U.S. Cl. 51—314
Int. Cl. B24b 1/00; C11d 3/14; C08 17/12

6 Claims



1. In a method for finishing parts which comprises subjecting said parts and a finishing composition to movement causing relative motion between said parts and said finishing composition, and subsequently separating said parts from said finishing composition, the improvement wherein said finishing composition comprises a plurality of pellets and an abrasive material, said pellets being comprised of the solid phase of a material which is a gas at room temperature, and wherein said method comprises applying external cooling to said parts and finishing composition to maintain said pellets in the solid phase during the finishing process and, after finishing, the further step of subjecting said parts to at least the sublimation temperature of said solid gas, whereby pellets which have become entrapped by said parts during the finishing process are disengaged.

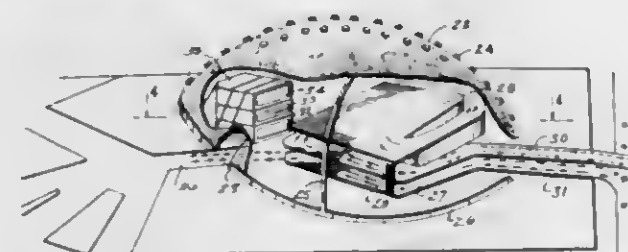
2. The method of claim 1 wherein said gas is carbon dioxide.

3,422,581

HOME DRIVE-IN THEATRE

Harold K. Allen, 335 Stockton St., 705, San Francisco, Calif. 94108
Filed June 8, 1966, Ser. No. 556,126
U.S. Cl. 52—6
Int. Cl. E04h 14/00

1 Claim



A drive-in theatre enclosure. Structures for affording entry into and exit from an enclosed drive-in theatre that afford free flow of automobiles but do not admit light and/or inclement weather. Ramps and roadways interior of the enclosure afford movement of automobiles below and otherwise outside of the line of vision between patrons and the screen in which the film is displayed.

3,422,582

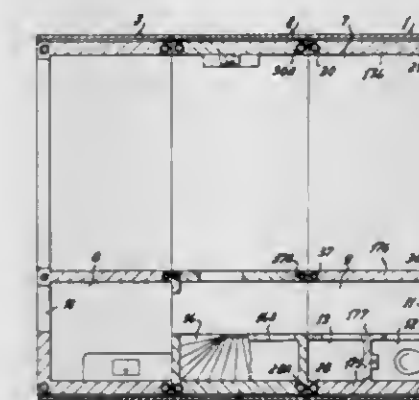
MULTILEVEL BUILDING WITH STAIRWAY

Cornelis van der Lely, Zug, Switzerland, assignor to C. van der Lely, N.V., Maasland, Netherlands, a Dutch limited-liability company
Continuation of application Ser. No. 162,833, Dec. 28, 1961. This application Sept. 14, 1966, Ser. No. 579,439
Claims priority, application Netherlands, Dec. 30, 1960, 259,629, 259,630, 259,631

U.S. Cl. 52—79

3 Claims

Int. Cl. E04h 1/00; E04f 11/02; E04b 1/00



A prefabricated building of at least two stories assembled from box-shaped sections with a stairway in one end in a lower story and a staircase opening to cooperate with the stairway in the section above, the section above having a bathroom and carrying the interior walls which separate areas therein (at predetermined locations) from living areas in adjacent sections, such adjacent sections including windows on their opposite sides whereby none of these sections have a center of gravity which is substantially offset from its longitudinal center line and the said bathroom is surrounded by walls which are part of the same section so that a leakage or seepage of water therefrom is less likely than were its walls included in the adjacent sections. A multi-level building, having elongated box-shaped sections, the sections of each particular story being parallel to each other but perpendicular to the sections of the adjacent upper and lower story. A framework for a section of a prefabricated building, such framework having in its upper portion a major supporting beam which is utilized for support of lower transverse beams between their corners, the section thereby having its effective support disposed in the corner beams. A roof connection between two adjoining prefabricated box-shaped sections, wherein the sections are of such configuration that a horizontal slot is provided between them at their tops, sealing material filling the slot, a strip extending from the roof of one of the sections disposed over such sealing material and overlapping the roof edge of the adjacent section. Vertical beams of the framework of prefabricated box-shaped sections having longitudinal interior and exterior extensions which extend relatively close together when the sections are adjacent with a vertically disposed sealing member being received between the adjacent interior extensions and insulating material on the outside of the adjacent sections clamped between the exterior sections.

3,422,583

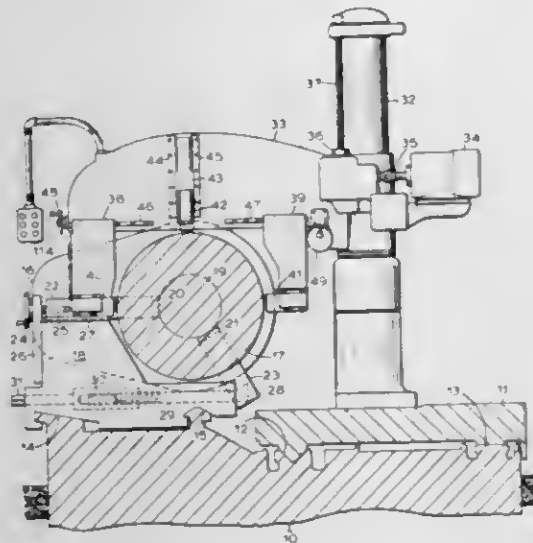
METHOD FOR POSITIONING A ROLL ON A ROLL GRINDER

Albert D. C. Stuckey and Paul J. Gruber, Cincinnati, Ohio, assignors to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio
Original application Apr. 16, 1964, Ser. No. 360,232, now Patent No. 3,263,374, dated Aug. 2, 1966. Divided and this application Apr. 18, 1966, Ser. No. 543,091
U.S. Cl. 51—289
Int. Cl. B24b 1/00

3 Claims

A method for positioning the centerline of a roll on a roll grinding machine coincident with a predetermined de-

sired centerline. The method comprises measuring the deviation of the center of one end of the roll from the desired centerline, positioning the center on the desired centerline, transferring the measuring device to the other



end of the roll along an axis parallel with the desired centerline, measuring the deviation of the center of the other end from the desired centerline, and positioning that center on the desired centerline.

3,422,584

PLASTIC BASEBOARDS

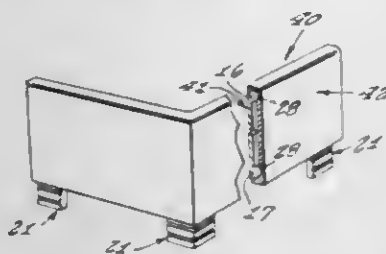
Augustus A. Howard, 5749 Nottingham Drive,
El Sobrante, Calif. 94803

Filed Dec. 27, 1966, Ser. No. 604,916

U.S. Cl. 52—98

Int. Cl. E04f 19/04; E04c 2/20

1 Claim



1. In a plastic baseboard assembly, the combination of a mounting bracket, and a plastic baseboard, said plastic baseboard being detachably mountable upon said mounting bracket, said mounting bracket having self contained means for being secured to a wall of a room and means for securing said mounting bracket at a preferred elevation, said mounting bracket comprising an elongated, generally flat member having flat, front and rear sides, parallel vertical side edges and parallel horizontal upper and lower beads, said plastic baseboard comprising an elongated, flat member having a generally flat outer and inner side, parallel vertical side edges, parallel upper and lower edges adjacent each of which there is a horizontally extending groove for receiving said beads of said mounting bracket, said mounting bracket including a plurality of equally spaced apart, vertically extending elevation lugs adjacent said lower bead, each lug having vertical opposite side edges, each lug being spaced from an adjacent lug by an open space therebetween which is greater than the width of each said lug, each of said lugs having a plurality of horizontally extending grooves so as to permit snapping off a portion thereof, said assembly including inside and outside corner sections, and said self contained securement means comprising said mounting brackets having a row of openings therethrough, said row extending across a central portion of said mounting brackets in a longitudinal direction, and each said opening being adaptable to receive a nail for fastening to a wall.

3,422,585
FOUNDATION FORM SPACER AND
SILL FASTENER

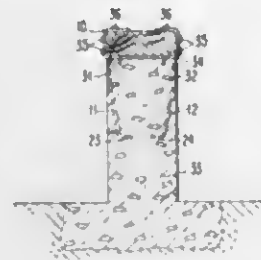
Wayne K. Dismukes, 825 Jackson St.,
Santa Clara, Calif. 95050

Filed July 24, 1967, Ser. No. 655,521

U.S. Cl. 52—127

Int. Cl. E04g 17/00; E02d 27/32

10 Claims



This combination spacer and fastener includes a pair of metal strips which are adapted to be imbedded in a concrete foundation. Each strip has a U-shaped portion which is fitted into a pair of slots in a cross member. One of the legs of the U provides shoulders which space the foundation form boards. The cross member has holes which allow the driving of nails into the foundation form boards to hold them in place after alignment against the shoulders. The cross member is bent over the mud sill and nailed to it to hold the mud sill in place.

3,422,586

SYSTEM FOR POST-STRESSING CONCRETE SLABS,
BEAMS OR OTHER STRUCTURES

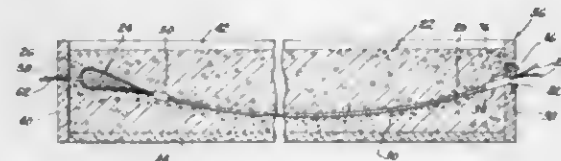
Domenico Parma, Apartada Aereo 14600,
Bogota, Colombia

Filed May 12, 1966, Ser. No. 549,637

U.S. Cl. 52—230

Int. Cl. E04v 5/08; B28b 7/22

6 Claims



A post-stressing system embedded in a concrete structure comprising a doubled tension member, a sheath received around said tension member, a looped end portion on said tension member and projecting from one end of said sheath, a first grout tube connected to the same end of said sheath and extending beyond said looped end portion, an end fitting connected to the opposite end of said sheath, a mass of concrete embedding said sheath and said looped end portion, as well as a portion of said end fitting and a portion of said grout tube, said looped end portion effectively dead anchoring said tension member in said concrete mass, said tension member having a pair of free end portions extending out of said sheath through said end fitting and disposed outside said concrete mass for use in post-stressing said tension member, wedging means for anchoring said free end portions to said end fitting, and a second grout tube connected to said end fitting, said first grout tube affording preliminary support for said sheath and said tension member during the casting of said concrete mass, said grout tubes being usable for injecting grout into said sheath and said end fitting to maintain the tension in said tension member.

3,422,587
PLASTERBOARD WITH A REMOISTENABLE
PLASTER FACING

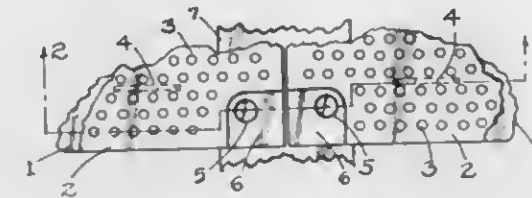
Malcolm G. Murray, 93 Warwick Ave.,
Ormond Beach, Fla. 32074

Filed Jan. 5, 1968, Ser. No. 696,081

U.S. Cl. 52—232

Int. Cl. E04c 2/10; E04f 13/00; B32b 3/10

10 Claims



A fabricated wallboard has one side covered with a mixture of unset calcined gypsum (gypsum hemihydrate: $\text{CaSO}_4 \cdot \frac{1}{2} \text{H}_2\text{O}$) and an aggregate, held together by a suitable binder. When the facing is moistened by a water spray, it will soften and become plastic. Then it can be trowelled so that the material will coalesce at the joints between panels to form a continuous, homogeneous layer, similar to that obtained by conventional plastering. Reinforcements such as metal mesh can be pushed into the soft plaster in locations where strain is anticipated. Setting will occur as the hemihydrate takes up water of crystallization and becomes hydrous calcium sulfate.

3,422,588

INTERLOCKING BUILDING BLOCK

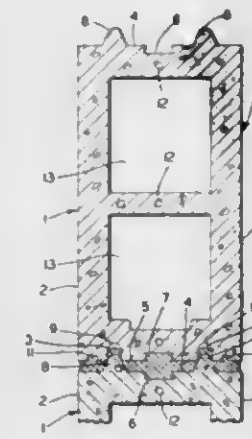
John H. Stewart, Jr., Canton, Ohio, assignor to Stark
Ceramics, Inc., Canton, Ohio, a corporation of Ohio

Filed Jan. 18, 1967, Ser. No. 610,141

U.S. Cl. 52—285

Int. Cl. B04c 1/10; E04b 2/18, 2/44

8 Claims



A building block having top and bottom faces, a pair of transversely spaced, parallel, longitudinally disposed ribs of triangular cross section on the top face, and a pair of correspondingly spaced, longitudinally disposed straight sided grooves in the bottom face.

Each groove is of a width equal to an intermediate portion of the corresponding rib and of a height substantially the same as the height of the rib.

There are longitudinally disposed apertures in each end of the block. Conical spacing members have straight stems snugly fitting in the apertures in one end of the block, the enlarged conical heads thereby being partially received in the apertures in the other end of a similar block when laid up in a wall, for spacing the blocks apart horizontally.

3,422,589
CONSTRUCTION OF LAPPED PANELS HAVING
FLEXIBLE EDGE PORTIONS

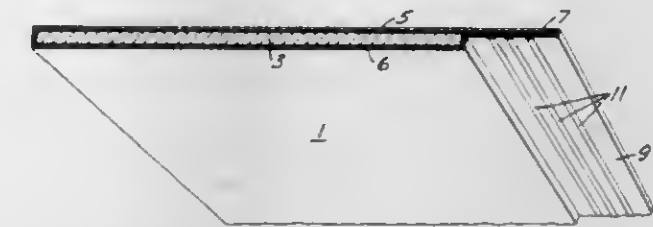
George C. Harrison, Roseville, Minn., assignor to Minne-
sota Mining and Manufacturing Company, St. Paul,
Minn., a corporation of Delaware

Filed Dec. 13, 1965, Ser. No. 513,338

U.S. Cl. 52—309

Int. Cl. E04c 2/30; E04b 2/82; E04d 3/36

3 Claims



Structural surfaces formed from a plurality of panels composed of backing strip and polymeric sheet bonded thereto with flap of said polymeric sheet overextending entire edge of panel, adapted to be assembled into surface with nails or other fastening means concealed by driving nail through spacer strip, then through flap into substrate, and folding panel over so that flap just covers spacer strip and edge of panel, each successive panel secured in similar fashion.

3,422,590

CEILING SUSPENSION SYSTEM WITH TILE-
PENETRATING RESILIENT CLIP

Thomas Gwynne, Loughborough, England, assignor to
BPB Industries, Limited, London, England

Filed Mar. 24, 1967, Ser. No. 625,654

Claims priority, application Great Britain, Mar. 30, 1966,
14,163/66

U.S. Cl. 52—496

Int. Cl. E04f 13/08; E04c 2/38

3 Claims



Ceiling tiles or panels, supported by suspension members having horizontal flanges, are mounted on, more especially, damaged tiles are replaced, by attaching to such tile or panel clips having resilient portions which are displaced by the flanges when the new tile is offered up into position and which spring back to retain the tile when the latter is pressed fully into place.

3,422,591

COMPOSITE TRUSS JOIST WITH OFFSET BEARING

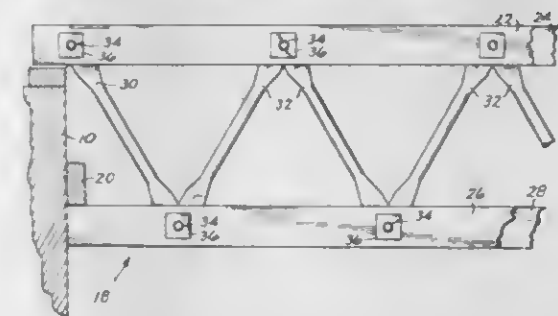
Arthur L. Troutner, P.O. Box 7927, Boise, Idaho 83707

Filed Mar. 20, 1967, Ser. No. 624,393

U.S. Cl. 52—693

Int. Cl. E04c 3/292; E04b 1/30; F16b 21/10

8 Claims



A composite truss joist comprises upper and lower chords interconnected by zig-zag links. The terminal ends

of the terminal links are pinned to the upper chord and to diagonally arranged mounting plates carried thereby, the points of attachment being offset substantially inwardly of the chord end.

3,422,592
ANCHOR DEVICE FOR STEEL REINFORCING CABLES

Trygve Gjerde, Baerum, Norway, assignor to A/S Stormbull, Oslo, Norway

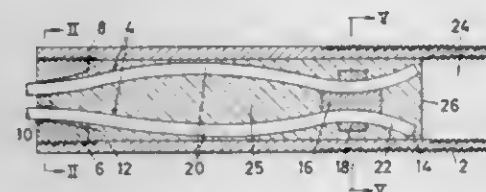
Filed Feb. 7, 1967, Ser. No. 614,508

Claims priority, application Norway, Feb. 9, 1966, 161,628

U.S. Cl. 52-704

Int. Cl. E04b 1/14; E04c 5/12, 3/26

5 Claims



An anchor device for the ends of steel reinforcing cables in which the cables are received in a sleeve and are engaged at longitudinally spaced locations in the regions of its ends such that the cables are deformed along an outwardly arched course between the engaged locations. The sleeve is filled with a settable mass which hardens and engages the cables.

3,422,593
METHOD OF AND APPARATUS FOR LOADING FRUITS OR OTHER ARTICLES ONTO FLAT TRAYS

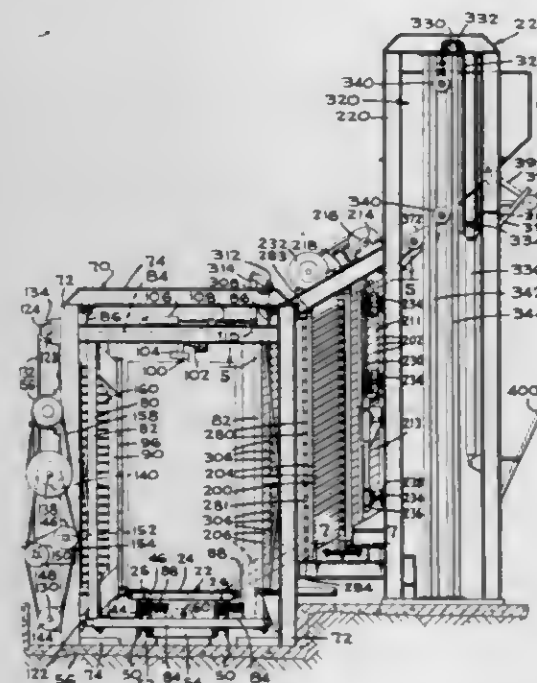
Alfred W. Gerrans, San Jose, Calif., assignor to Sunsweet Dryers, San Jose, Calif., a corporation of California

Filed Aug. 30, 1965, Ser. No. 483,502

U.S. Cl. 53-35

Int. Cl. B65b 1/06, 3/06, 5/06

31 Claims



Method and apparatus for loading prunes or other fruits or articles, simultaneously onto a plurality of stacked trays which includes delivering the prunes from a single hopper through a plurality of superposed delivery chutes to the edges of the trays and then vibrating the trays so that the prunes are distributed thereacross into a single compact layer on each tray.

3,422,594
ASSEMBLY FILLING AND SEALING OF PLASTIC AMPOULES

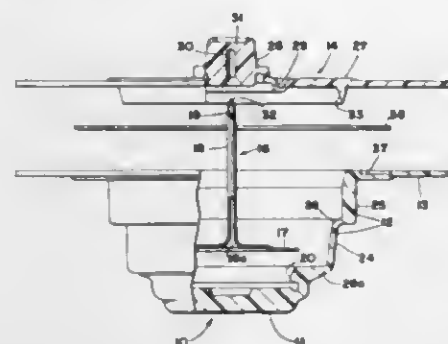
Alfred A. Hirschman, Hudson, Ohio, assignor to Ampoules, Inc., Hudson, Ohio, a corporation of Ohio

Filed Nov. 20, 1964, Ser. No. 412,615

U.S. Cl. 53-37

Int. Cl. B65 5/04

21 Claims



A method and apparatus for assembling, filling and sealing a hypodermic ampoule having a cup-shaped flexible body, and end wall sealed across the mouth of the body, a hypodermic needle contained within the body, and a fluid to be injected within the ampoule.

3,422,595
BALLING AND BAGGING MACHINE FOR NURSERY STOCK AND THE LIKE

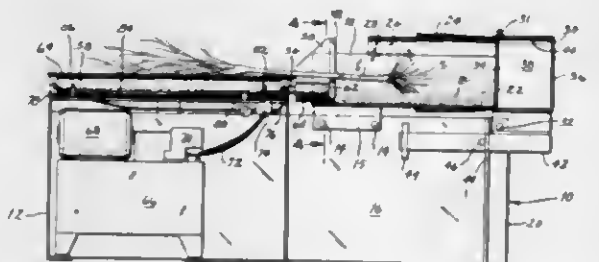
Oskar F. Vatterott, Sappington, Mo., assignor to Southwestern Nursery Supply Company, St. Louis, Mo., a corporation of Missouri

Filed July 29, 1965, Ser. No. 475,640

U.S. Cl. 53-124

Int. Cl. B65b 63/02, 13/02, 5/00

3 Claims



A machine for compacting balling material around the roots of trees and the like, and bagging the roots and compacted material, includes a split trough which opens for filling and closes to provide a cylindrical end over which a bag is drawn. A hollow cylindrical compacting bucket latches in a compacting position adjacent to and surrounding the bag end. A cleft piston drives the roots and balling material into the compacting chamber. On withdrawing the cylinder, the compacting chamber is pivoted aft and lowered to upright position, for removing the balled and bagged tree.

3,422,596
HEAT SEALING APPARATUS

Norman J. Lyster, Burlington, Ontario, and Clarence M. Chambers, Islington, Ontario, Canada, said Lyster assignor to W. R. Grace & Co., Duncan, S.C., a corporation of Connecticut

Filed June 7, 1965, Ser. No. 464,267

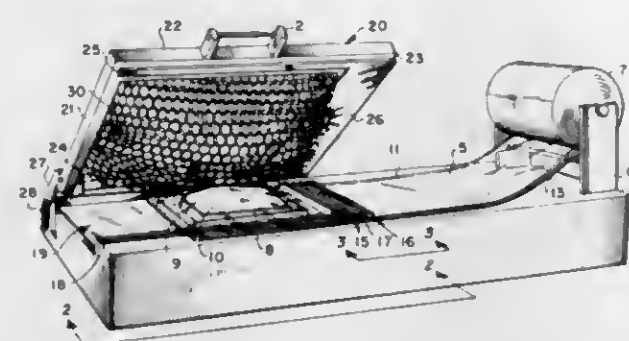
U.S. Cl. 53-182

Int. Cl. B65b 9/12

3 Claims

This invention is directed to apparatus including a heat sealing bar that will at least partially surround a product enclosed in a thermoplastic film, and an air removal system comprising a cooperating framework disposed above

the heat sealing bar and having a member such as chain mail suspended therefrom which conforms to the upper surface of the wrapped product and drives the air from



the package as the framework is lowered into contact with the heat sealing bars, all as further described hereafter.

3,422,597
BOTTLE CAPPING DEVICE

Wilhelm Beer, Am Kang 21, Wiesbaden-Dotzheim, Germany

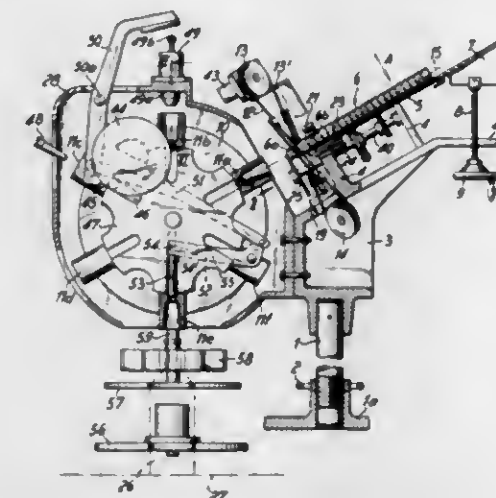
Continuation-in-part of application Ser. No. 493,000, Oct. 5, 1965. This application Dec. 23, 1965, Ser. No. 515,965

Claims priority, application Germany, Feb. 12, 1965, B 60,683

U.S. Cl. 53-296

Int. Cl. B65b 7/28

13 Claims



A bottle capping device includes means for supporting a plurality of hollow frusto-conical caps in a position such that they feed downwardly by gravity. Means are provided for separating each cap in succession from the stack of caps and for feeding it into association with a movable or rotating member which advances the cap through states for conditioning it for placement upon a container. Ejector means are associated with the rotating member to position the cap onto a container which is fed through a path intercepting the cap on the rotating member.

3,422,598
APPARATUS FOR CRIMPING CLOSURE CAPS TO VIALS

Walter A. Shields, Jamaica, N.Y.

(38-09 24th St., Long Island City, N.Y. 11101)

Filed Nov. 4, 1966, Ser. No. 592,162

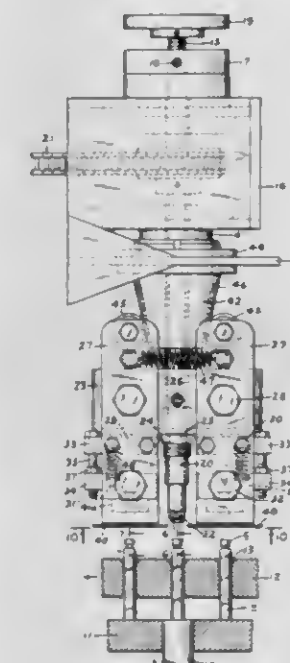
U.S. Cl. 53-339

Int. Cl. B65b 7/28

7 Claims

1. In apparatus for crimping closure caps to vials, a continuously rotating shaft mounted in a vertical plane, a

pair of levers carried by the shaft adjacent one end thereof and each lever pivotally mounted on an opposite side of said shaft, a pair of crimping discs, each disc rotatably mounted and pivotally supported on the lower end of each lever, a sleeve having a downwardly tapering cam face and slidable on the shaft with the upper end of each lever riding on an opposite side of said tapering cam face, a reciprocating member rotatably connected to said sleeve



and reciprocated to reciprocate the sleeve on the shaft without interfering with the rotation of the shaft, and resilient means connected to the upper ends of the levers to yieldingly maintain contact between said upper ends of said levers and the tapering cam face, whereby downward sliding movement of the sleeve causing the crimping discs to move toward each other.

3,422,599
CHLORINE STRIPPING SECTION FOR DIRECT CONTACT CHLORINE COOLERS

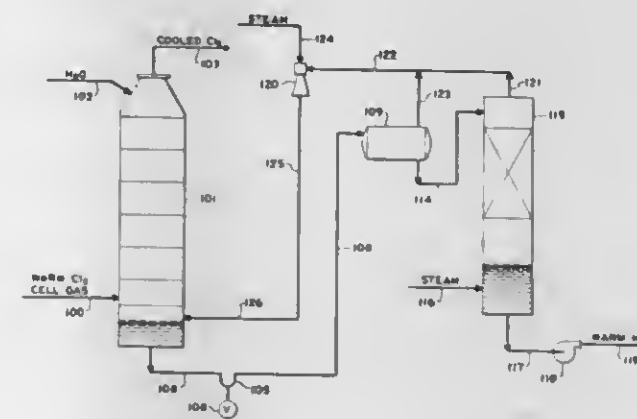
Joseph M. Hildyard, 909 River Road, Rte. 1, Youngstown, N.Y. 14174

Filed Aug. 10, 1966, Ser. No. 571,610

U.S. Cl. 55-42

Int. Cl. B01d 19/00

2 Claims



An improvement in the direct contact treatment of wet chlorine gas produced from the electrolysis of alkali metal chloride brine, wherein hot, wet chlorine vapors are cooled in the direct contact cooler zone with a water solvent and the resultant warm water then stripped

of dissolved chlorine in a stripping zone, which comprises maintaining the stripping zone under a reduced pressure between about 100 and about 700 millimeters mercury absolute, while maintaining the direct contact cooler zone at above atmospheric pressure; withdrawing the warmed water from the direct contact cooler zone and passing it to the stripping zone, wherein chlorine is flashed off as chlorine vapor under the reduced pressure maintained in the stripping zone. The stripped chlorine vapors are withdrawn from the top of the stripping zone and returned to the direct contact cooling section for recovery of the chlorine values. The total steam used for stripping the chlorine is less by two-thirds than the amount of steam needed in the prior art method using atmospheric pressure to strip off the chlorine. In addition the waste water from the stripper is cooler and therefore more pumpable and less corrosive.

3,422,600

AIR-CONDITIONED MEAT CUTTING TABLE

Charles A. Chamberlain, Tacoma, Wash.

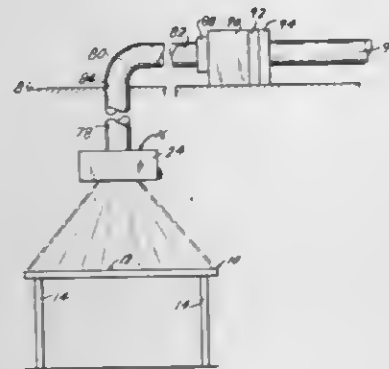
(Box 337, Milton, Wash. 98354)

Filed Oct. 22, 1965, Ser. No. 501,890

U.S. Cl. 55-126

Int. Cl. B03c 3/14

8 Claims



8. An air-conditioned meat cutting table, said meat cutting table comprising:

- (a) a working surface on which meat is placed;
- (b) a plenum positioned above said working surface;
- (c) said plenum comprising a housing having a bottom;
- (d) an opening in the bottom;
- (e) two spaced-apart guides positioned inside of said housing and juxtapositioned to said opening;
- (f) a hinge connecting one of said spaced-apart guides to the bottom on each side of the opening;
- (g) a tie link connecting the upper part of said two spaced-apart guides;
- (h) means connecting with the spaced-apart guides to move said spaced-apart guides;
- (i) a source of air under pressure; and
- (j) means for cooling the air and said cooling means being connected upstream of the plenum housing and to the source of air under pressure.

3,422,601

FILTER SYSTEM AND METHOD

Kenneth E. Kolb, 309 Apollo Way, Pleasant Hill, Calif. 94523

Filed July 14, 1966, Ser. No. 565,137

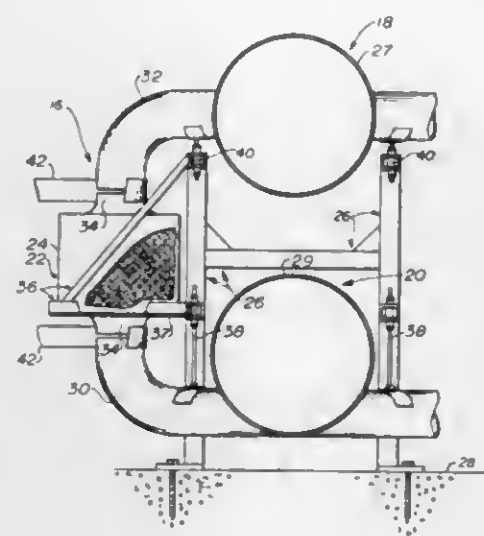
U.S. Cl. 55-350

Int. Cl. B01d 46/12

1 Claim

A method of filtering air contaminated by radioactive dust in a filter system which has a plurality of filters enclosed by housings with common inlet and outlet ducts opening into said housings, in which method a negative

pressure is maintained in the ducts and a complete housing is removed when the filter element requires replacement without shutting down the system by capping the inlet and outlet ports in the housing to be replaced.



3,422,602

GAS FILTER STRUCTURE

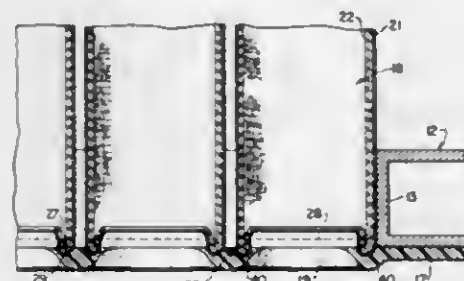
William A. Janson, Pepper Pike, Ohio, assignor to North-American Rockwell Corporation

Filed Feb. 27, 1967, Ser. No. 618,613

U.S. Cl. 55-378

Int. Cl. B01d 29/24

4 Claims



An air or like gas cleaning filter assembly wherein the open ends of a plurality of relatively long flexible filter bag elements, variously known as pockets or socks, are permanently embedded as by molding in a relatively rigid apertured nonmetallic plastic front panel bonded to a rigid metal frame by which it is adapted to be mounted like a grating in the path of air flow. The apertured panel is formed and bonded to the mounting frame and the ends of elements incorporated therein in a single molding operation.

3,422,603

CHROMATOGRAPHIC INSTRUMENT

Melvin W. Redmond, Jr., West Redding, Conn., assignor to The Perkin-Elmer Corporation, Norwalk, Conn., a corporation of New York

Filed Jan. 30, 1967, Ser. No. 612,712

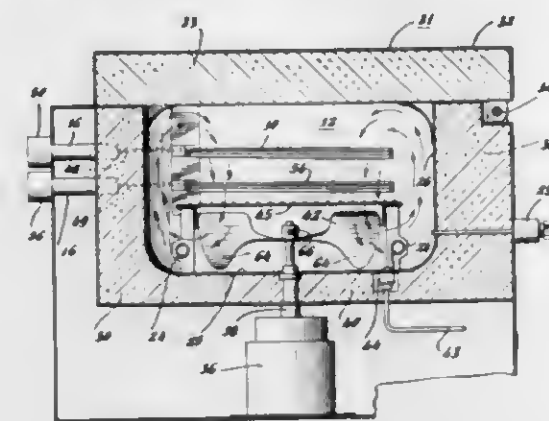
U.S. Cl. 55-386

Int. Cl. B01d 15/08

9 Claims

A chromatographic instrument includes an enclosed thermostatted air bath environmental chamber for housing a chromatographic separation column. A mixed flow impeller is mounted for circulating air in the chamber and is adapted for drawing air in an axial direction and discharging the air substantially at right angles to the axis. A separation column is mounted in the chamber and

means provide access to the chamber for mounting and demounting the column. An air flow pattern thereby established circulates in a toroidal manner and reduces to a very large extent the creation of temperature gradients along the length of the column.



tablised circulates in a toroidal manner and reduces to a very large extent the creation of temperature gradients along the length of the column.

3,422,604

CHROMATOGRAPHY APPARATUS

Donald J. Haase, Ponca City, Okla., assignor to Continental Oil Company, Ponca, City, Okla., a corporation of Delaware

Filed Feb. 21, 1966, Ser. No. 528,727

U.S. Cl. 55-386

Int. Cl. B01d 15/08

28 Claims



Chromatographic column containing an internal device adapted to re-shape the frontal profile of a component band; in one aspect, the device is non-symmetrical about the central axis of the column, and in another aspect, several variable mechanical device are provided.

3,422,605

CHROMATOGRAPHIC COLUMNS

Richard P. Crowley, Milton, Mass., assignor to Abcor, Inc., Cambridge, Mass., a corporation of Massachusetts

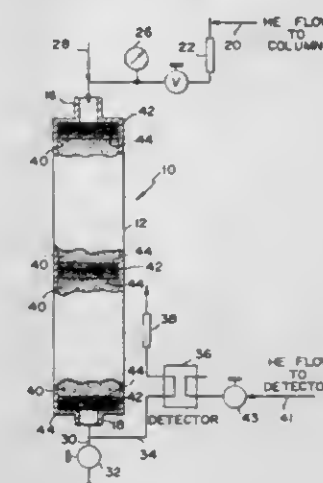
Filed June 29, 1967, Ser. No. 650,126

U.S. Cl. 55-386

Int. Cl. B01d 15/08

15 Claims

An improved chromatographic column is provided which is particularly useful for relatively large diameter columns for both gas and liquid chromatography. The improved column contains a separate layer across the column diameter of sectionally interconnecting organic foam cellular material of the open cell type which permits the lateral flow and mixing of fluids passing axially through the column. The cellular layer generally consists of about 80% or more of essentially interconnecting individual



3,422,606

CROP CONDITIONER ATTACHMENT FOR A WINDROWER

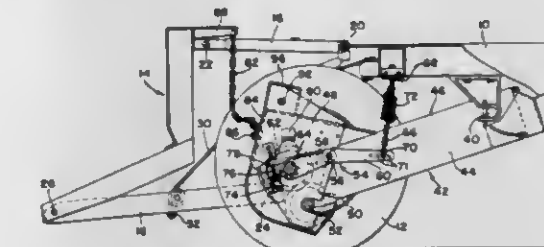
William R. Wood, Ottumwa, Iowa, assignor to Deere & Company, Moline, Ill., a corporation of Delaware

Filed Dec. 23, 1965, Ser. No. 515,893

U.S. Cl. 56-1

Int. Cl. A01d 43/10, 57/30

9 Claims



A self-propelled windrower has a forwardly disposed platform with a crop discharge area and a hay conditioner unit suspended from the windrower behind the crop discharge area by means of mounting means which transmits the weight of the conditioner unit to the upper conditioner roll when the unit is in operating position so that the roll pressure is supplied by the weight of the unit.

3,422,607

COTTON PICKER DOFFER

James T. Tracy, Paul J. Hulseberg, and James E. Sadler, Memphis, Tenn., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware

Filed Sept. 27, 1965, Ser. No. 490,440

U.S. Cl. 56-41

Int. Cl. A01d 45/18

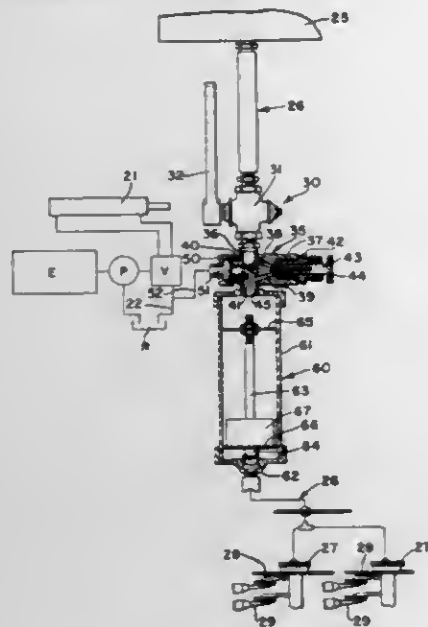
13 Claims



A cotton picker doffer comprising an annular support plate with apertures about its periphery and having axially extending flanges adjacent to the radially outer ends of the apertures for abutment with lugs interlocked with the plate and located in the apertures, the lugs and plate having lateral interlocking elements axially offset from the plane of the plate.

3,422,608 COTTON HARVESTER

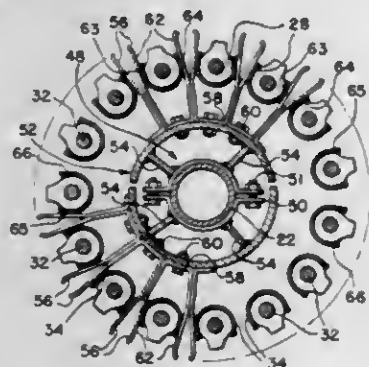
Arthur L. Hubbard, Des Moines, Iowa, assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Oct. 21, 1965, Ser. No. 499,276
U.S. Cl. 56—41
Int. Cl. A01d 45/18; F04f 10/02



1. A moistener flow device for a cotton harvester disposed between a fluid container and a moistener column having means thereon adapted to contact and moisten spindles of a cotton harvesting mechanism, said flow device comprising: conduit means extending between the fluid container and moistener column; a fluid accumulator tank in the conduit means; adjustable valve means between the container and accumulator tank for regulating the rate of a continuous flow of fluid into the accumulator tank; and fluid releasing means associated with the accumulator tank, the fluid releasing means being adapted to intermittently release a predetermined quantity of fluid from the tank into the conduit means for deposit in the moistener column upon the predetermined quantity of fluid being accumulated in the accumulator tank whereby fluid may pass into the moistener column intermittently and in said predetermined quantities.

3,422,609 COTTON PICKER

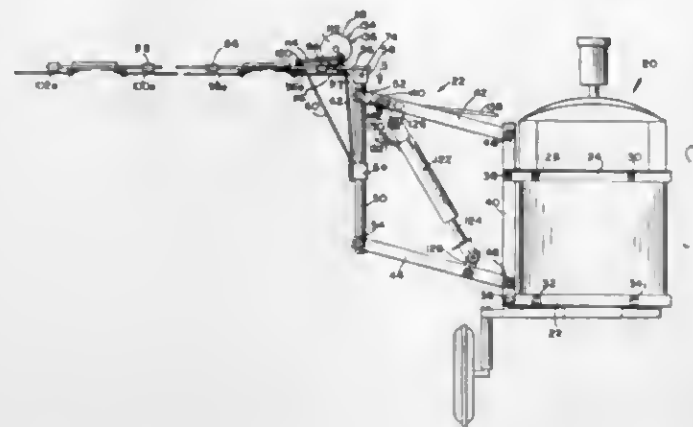
Emil J. Grichnik, 903 N. McNell St.,
Memphis, Tenn. 38107
Filed Oct. 25, 1966, Ser. No. 589,439
U.S. Cl. 56—47
Int. Cl. A01d 45/18



1. A cotton picker drum having a plurality of picker bars each having a crank arm and cam means cooperating with said crank arm for predisposing the attitude of said bars attendant to their orbital movement about a substantially vertical axis, and means for controlling lateral oscillations of said bars and including means for damping such lateral oscillations.

3,422,610 CORN TOPPER

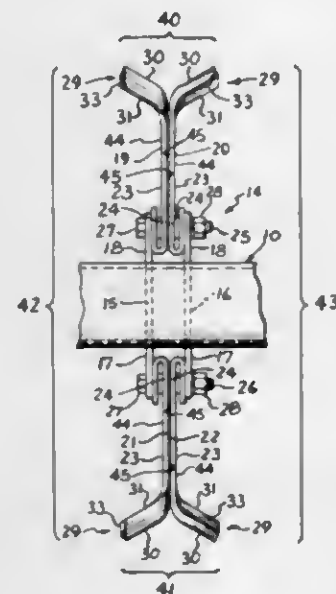
Dean Wetherell, Osage, Iowa 50461
Filed Aug. 11, 1965, Ser. No. 478,899
U.S. Cl. 56—63
Int. Cl. A01d 35/16, 47/00, 55/28



This invention relates to an attachment for a tractor which severs the tops from two rows of standing corn simultaneously. A horizontally extending arm carrying the cutters is supported by four members pivotally connected to each other in the form of a parallelogram, one of said members being fixed to the tractor and the arm being supported on the member parallel thereto. A hydraulic cylinder and piston combination is connected to move the parallelogram members relative to one another to raise and lower the arm while maintaining it in the horizontal position.

3,422,611 CUTTER ASSEMBLY AND BLADE CONSTRUCTION THEREFOR

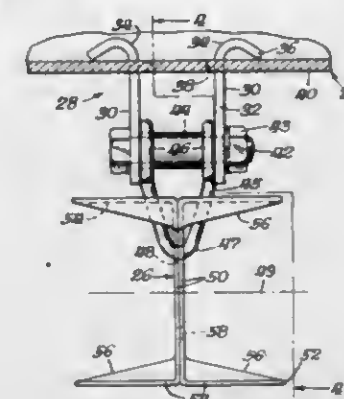
Arthur G. Barows, Downers Grove, Ill., assignor to International Harvester Company, a corporation of Delaware
Filed July 1, 1965, Ser. No. 468,690
U.S. Cl. 56—294
Int. Cl. A01d 55/18



A cutter having a pair of identical blades reversely positioned back-to-back and each blade having an acutely angled cutting portion presenting upper and lower cutting edges, and the pairs of blades being arranged in circumferentially overlapping relation and so disposed that the high cutting blades are overlapped with low cutting blades.

3,422,612 FLAIL KNIFE ASSEMBLY

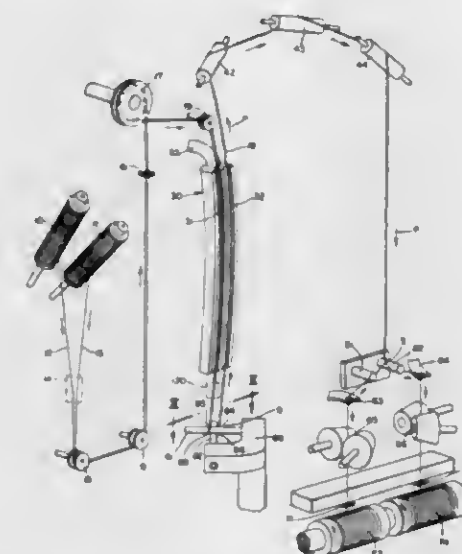
Bruno J. Panek, Chicago, and Robert W. Woodring, La Grange, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed July 21, 1965, Ser. No. 473,659
U.S. Cl. 56—294
Int. Cl. A01d 55/18



A flail knife assembly for securement to a rotatable holder comprising a pair of knives each having a shank and a cutting portion at each end bent in the same direction away from the shank, each portion having front and rear cutting edges and mounting apertures in the shank portion adjacent each cutting portion so that the knives are reversible end for end.

3,422,613 YARN ASSEMBLY APPARATUS FOR FALSE TWISTING YARN

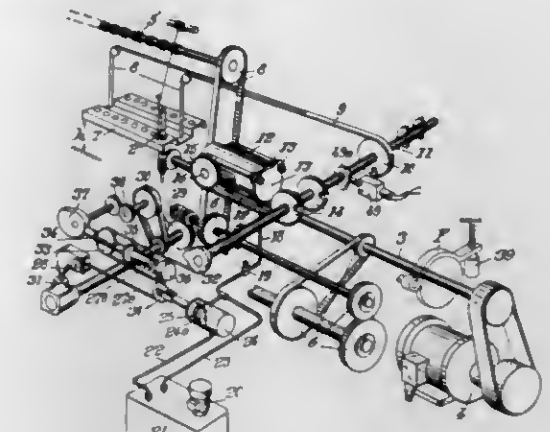
Emil J. Berger, Jr., Wayne, and William Kirk Wyatt, Lansdale, Pa., assignors to Turbo Machine Company, Lansdale, Pa., a corporation of Pennsylvania
Filed May 8, 1967, Ser. No. 636,976
U.S. Cl. 57—34
Int. Cl. D01h 13/26; D02g 3/02



A texturing method and apparatus is disclosed in which two ends of untwisted multi-filament heat-settable yarns are false-twisted together, heat-set, cooled and separated to provide two ends of textured yarn. The method and apparatus disclosed achieves the transition of two ends of untwisted multi-filament yarn into a two-ply helically twisted yarn smoothly and progressively in a series of stages. A very small degree of twist is introduced at the first stage. Thus, the angle of first departure of the untwisted filaments from the substantially linear path is small. The number of turns of twist per inch introduced at the second and succeeding stages is progressively greater until the full transition from the untwisted to the twisted condition is attained. In the preferred method and apparatus, the untwisted single ends of yarn are preheated prior to twisting.

3,422,614 SPINNING MACHINES HAVING HYDRAULICALLY CONTROLLED RING RAILS

Jacques Dürler, Geneva, Switzerland, and Frédéric Zoller, Viry, Haute-Savoie, France, assignors to Hispano Suiza (Suisse) S.A., Geneva, Switzerland
Filed June 19, 1967, Ser. No. 646,936
Claims priority, application Luxembourg, June 21, 1966, 51,373
U.S. Cl. 57—99
Int. Cl. D01h 13/00; B65h 1/02



In a spinning machine where the ring rail is controlled by a hydraulic motor the working chamber of which is fed with liquid from a constant flow hydraulic pump the delivery conduit of which is connected with a discharge conduit of a cross-section permitting a flow rate therethrough greater than the delivery flow rate of said pump, a control valve device permits of adjusting the flow rate through said discharge conduit and therefore of determining through said hydraulic motor the displacements of said ring rail.

3,422,615 PILE FABRIC

George E. Norman, Jr., Greensboro, N.C., assignor to Burlington Industries, Inc., Greensboro, N.C., a corporation of Delaware
Filed May 3, 1966, Ser. No. 547,199
U.S. Cl. 57—140
Int. Cl. D02g 3/06



This invention relates to a pile fabric and more particularly to a fabric of the type used for soft floor coverings and upholstery in which the filaments of the pile yarns are of generally rectangular cross section, approximately uniform in thickness and varying in width.

3,422,616

MANUFACTURE OF THREADS, CORDS, ROPES AND LIKE ARTICLES

Pierre Felix, Miribel, Ain, France, assignor to Societe Rhodiaceta, Paris, France, a French body corporate
Filed Dec. 8, 1965, Ser. No. 512,455
Claims priority, application France, Dec. 15, 1964, 998,692

U.S. Cl. 57—157

Int. Cl. D02g 3/02; D01h 13/26

10 Claims



The invention concerns the production of threads, cords, etc., by fibrillating oriented films, especially of polyolefins, to form narrow strips which are twisted together. The films are fibrillated by strongly compressing them transversely while they are travelling under tension, and while they are in this condition subjecting them to a sudden change of direction. Preferably this is done by passing the film through a false twisting device.

3,422,617

METHOD FOR PROCESSING TEXTURED YARN

Chester J. Dudzik, Warwick, Daniel J. Fisher, Jr., North Kingstown, and Guy E. Perkins, Warwick, R.I., assignors to Leosona Corporation, Warwick, R.I., a corporation of Massachusetts
Filed Aug. 31, 1966, Ser. No. 576,432

U.S. Cl. 57—157

Int. Cl. D01h 13/26; D02g 3/02; D04h 17/00

3 Claims



A thermoplastic textile yarn such as nylon, Dacron and the like is permanently crimped by the false twist method, and the stretch and recovery properties of the crimped yarn are prevented from decaying upon subsequent exposure to heat, such as may occur during a dyeing operation, to an extent which would otherwise occur by winding up the crimped yarn at very high overfeeds. The very minimum overfeed is about 200% and the preferred overfeeds with certain yarns may be as much as 900%. Special provisions are made to eliminate air currents and static electricity in the winding zone so that the yarn may be managed at the extremely low tensions which accompany the very high overfeeds. Special provisions are also

made for forming a uniform package of the yarn being delivered at extremely low tensions by scattering along the length of the package the point at which the traverse of the yarn is reversed.

3,422,618

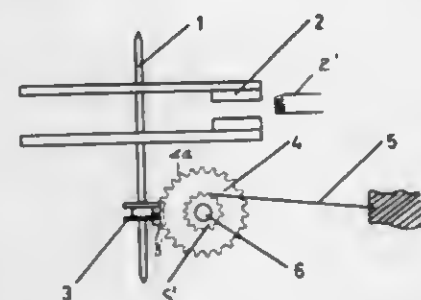
POINTER-WORK DRIVE IN CLOCKS HAVING DIRECTLY DRIVEN OSCILLATOR SYSTEMS

Albrecht Haag, Seebuckweg, Germany, assignor to Kienzle Uhrenfabriken G.m.b.H., Schwenningen am Neckar, Germany, a limited-liability company of Germany
Filed Oct. 17, 1966, Ser. No. 587,331
Claims priority, application Germany, Oct. 16, 1965, K 57,412

U.S. Cl. 58—28

Int. Cl. G04c 3/04

4 Claims



An electric clock having an oscillator for intermittently driving a time works spindle through a stepping wheel is provided with a resilient coupling between the spindle carrying the wheel to reduce inertia effects on the wheel due to a mass which may be the spindle or whose effect is transmitted thereto.

3,422,619

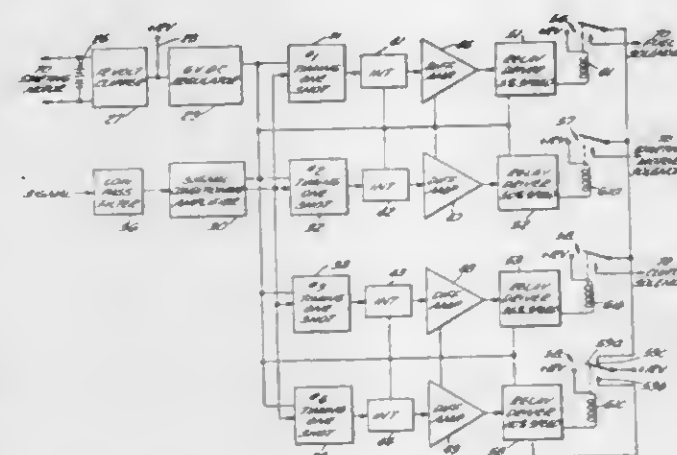
ELECTRONIC CONTROLS FOR HIGH-SPEED MACHINERY

Howard F. Hendricks, Tempe, Ariz., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Filed June 6, 1966, Ser. No. 555,493

U.S. Cl. 60—39.14

Int. Cl. F02g 3/00; F02c 9/04, 7/26

3 Claims



A speed control for rotating machinery wherein a binary signal or electric pulse is produced to indicate the start of one revolution whereby the time lapse between signals is directly related to the rotating speed. The repetition rate of the signals is measured by comparing the rate to a standard rate and a command signal is generated to indicate the comparison. The command signal is used to control a specific operation of the machinery.

3,422,620

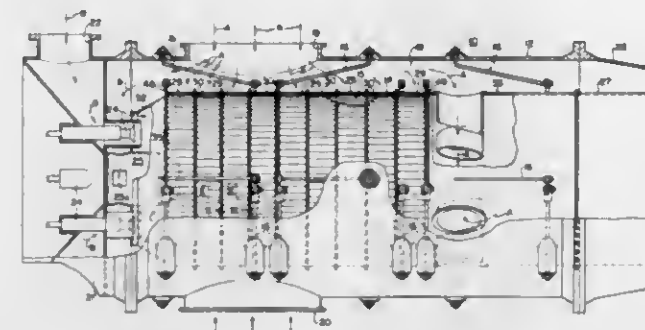
COMBUSTION APPARATUS

Dominick M. Fantozzi and Stewart H. De Witt, Media, Pa., and Thomas J. Rahaim, Claymont, Del., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 4, 1967, Ser. No. 636,080

U.S. Cl. 60—39.65

Int. Cl. F02c 3/14, 7/12

8 Claims



This invention provides a gas turbine combustor in which the tubular liner that defines the combustion chamber comprises at least one annular array of sheet metal plate members disposed in successively partially overlapping relation with each other in a manner forming an annular array of openings through which diluent air is admitted to the chamber in a plurality of circumferentially directed jets.

3,422,621

BOOSTER FOR USE IN HYDRAULIC SYSTEMS, PARTICULARLY HYDRAULIC BRAKING SYSTEMS

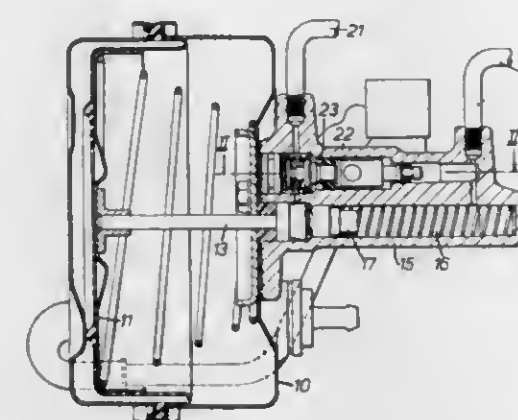
Alfred Yardley, Tyseley, Birmingham, England, assignor to Girling Limited
Filed Apr. 18, 1966, Ser. No. 543,170

Claims priority, application Great Britain, Apr. 27, 1965, 17,647/65

U.S. Cl. 60—54.5

Int. Cl. F15b 7/08

8 Claims



The invention relates to booster arrangements for booster assisted hydraulic actuators, and is concerned with eliminating the phenomenon known as "hydraulic knock."

It has been found that this can be achieved by separating in time the point at which the auxiliary piston is engaged by the booster push-rod and the usual fluid supply path through the piston is closed. In some cases, the piston is initially engaged by the rod and moves as one with it upon actuation of the booster, and the fluid supply path across the piston is interrupted after a predetermined initial displacement of the piston and rod. The path may include a side port in the piston closable by a ball valve or by a seal carried by the piston. In other cases, the path is closed prior to the push rod engaging the piston.

3,422,622

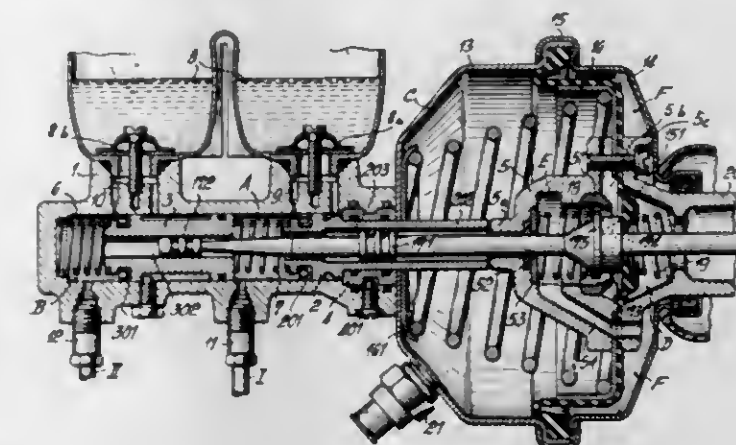
POWER BRAKE ARRANGEMENT

Holger Arentoft, Stuttgart, Germany, and Giorgio Eggstein, Turin, Italy, assignors to Ernst Heinkel, Aktiengesellschaft, Stuttgart-Zuffenhausen, Germany
Filed Nov. 17, 1966, Ser. No. 595,089

U.S. Cl. 60—54.5

Int. Cl. F15b 7/00; B60t 11/18

14 Claims



Two master pistons of a power brake form two chambers respectively communicating with two brake systems. A control rod is operated by a brake pedal to actuate a power booster to move the master pistons, and carries reaction pistons located in bores of the master pistons so that the pressures in both brake systems, or the pressure of one brake system if the other fails, are felt by the operator as a counterpressure on the brake pedal.

3,422,623

JET ENGINES WITH COOLING MEANS

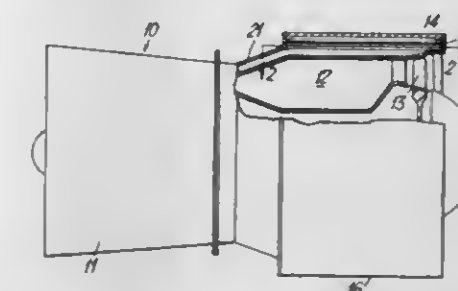
John Alexander Henderson Scott, Mickleover, Derby, England, assignor to Rolls-Royce Limited, Derby, Derbyshire, England, a British company
Filed Jan. 19, 1967, Ser. No. 610,396

Claims priority, application Great Britain, Feb. 3, 1966, 4,879/66

U.S. Cl. 60—226

Int. Cl. F02k 3/02, 11/00; F01d 25/12

4 Claims



A jet engine, e.g. for use in a tank, or other land vehicle, in which part of the air compressed by the compressor passes through a conduit which is in heat exchange with the combustion equipment and jet pipe, and whose outlet is adjacent the engine outlet nozzle, the engine exhaust gases helping to cause compressed air to be drawn through the conduit.

3,422,624

GAS TURBINE ENGINE

Leslie John Brooks, Hamble, Hants, and Geoffrey William Morris, Breaston, England, assignors to Rolls-Royce Limited, Derby, England, a British company
Filed Jan. 23, 1967, Ser. No. 610,885

Claims priority, application Great Britain, Feb. 14, 1966, 6,461/66

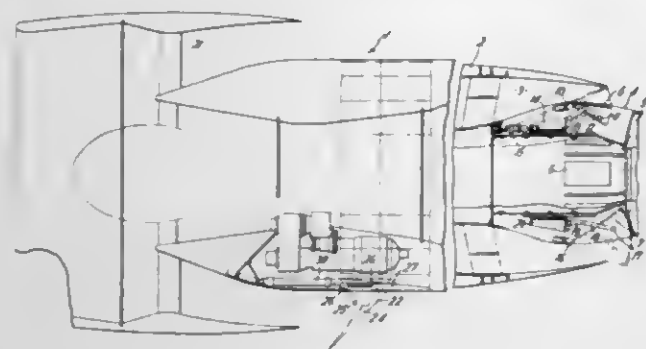
U.S. Cl. 60—226

Int. Cl. F02k 1/20, 3/02; B64d 33/04

5 Claims

A gas turbine engine has an exhaust duct whose internal wall is provided both with thrust reverser flaps

and with silencing flaps which alternate with each other. In their operative position, the silencing flaps oc-



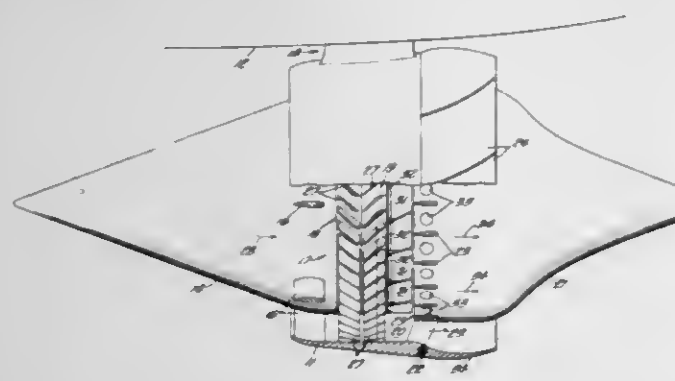
clude parts of the exhaust duct, although the turbine exhaust gases may flow between.

3,422,625 JET ENGINE WITH AN AXIAL FLOW SUPERSONIC COMPRESSOR

Edward N. Harris, Palos Verdes Peninsula, Calif., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California

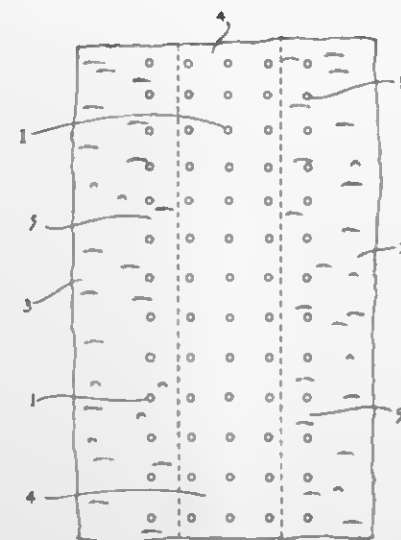
Filed Aug. 5, 1966, Ser. No. 570,495

U.S. Cl. 60-268 4 Claims
Int. Cl. F02k 3/00; F04d 21/00, 29/36



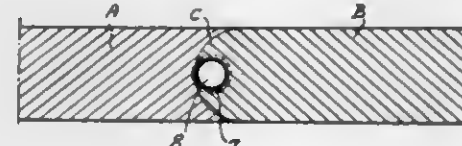
1. A jet engine comprising: a tubular housing, a nose cone disposed coaxial with said tubular housing and forming an annular passageway between the nose cone and the housing, an axial flow compressor having two rotors disposed coaxially and face to face and having a plurality of blades extending radially from each rotor, said compressor being disposed within said housing, said annular passageway extending from the forward end of said housing to said blades and having a fixed, substantially constant cross-sectional area, means on each of said rotors for changing the pitch of the respective blades thereon independently of the rotational speed of the respective rotor and independently of the pitch on the blades on the other rotor, and means for rotating both rotors in opposite directions about the axis of said housing.
2. The jet engine of claim 1 wherein: an internal nozzle member is disposed aft of said compressor and protruding from the rearward end of said housing forming an annular nozzle passageway between the internal nozzle member and the housing, and said housing includes moveable portions to vary areal opening of said annular nozzle passageway to maximize the produced thrust.

3,422,626
SOIL DRAINAGE METHOD
Edward T. Hanrahan, Coll Mhuire Sandford Road, Dundrum, Ireland
Filed Nov. 4, 1966, Ser. No. 592,043
U.S. Cl. 61-10 3 Claims
Int. Cl. E02b 11/00



A soil drainage method which involves placing a network of closely spaced, vertical foraminous pipes into the soil, and applying a surface load to the soil so that moisture is squeezed therefrom and drained through the pipes.

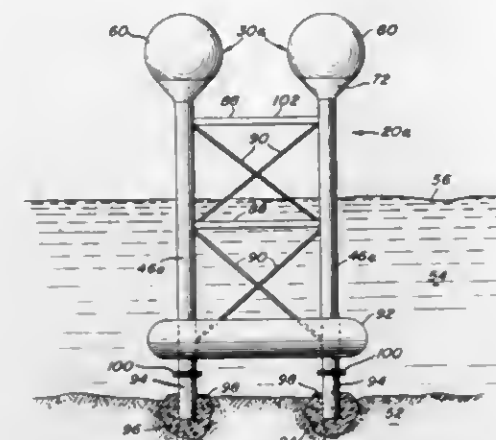
3,422,627
METHOD FOR INTERCONNECTING SUCCESSIVE SECTIONS OF WALLS AND PARTITIONS CAST IN THE GROUND
Jacques Courte, Saint-Cloud, Hauts-de-Seine, France, assignor to Soletanche, Paris, France, a French corporation
Filed Mar. 8, 1965, Ser. No. 437,668
Claims priority, application France, Apr. 27, 1964, 972,529
U.S. Cl. 61-35 10 Claims
Int. Cl. E02d 5/10, 27/00; E04g 23/00



A method for executing cast walls made of successive elements cast down to a considerable depth consisting in providing a recess extending throughout the height of each successive cast element over a fraction of its breadth, setting a cylindrical tube inside said recess during the casting of the next element. The tube being removed, the recess is washed and filled with concrete after testing the fluidtightness between the cooperating cast elements.

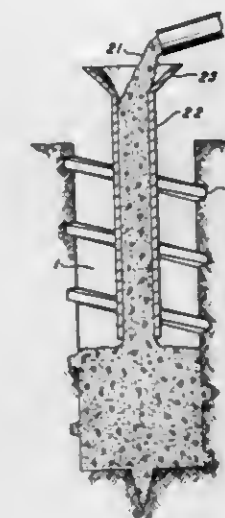
3,422,628
OFFSHORE STORAGE TANK SYSTEM
Charles A. McDonald, Palos Heights, Ill., assignor to Chicago Bridge & Iron Company, Oak Brook, Ill., a corporation of Illinois
Filed Aug. 26, 1966, Ser. No. 575,272
U.S. Cl. 61-46 1 Claim
Int. Cl. E02d 21/00, 17/00; F17d 1/08
An offshore storage tank system is disclosed comprising a plurality of tubular column mounted tank units with the said tanks in fluid communication with the columns.

The columns are interconnected by a plurality of struts thus forming a unitary structure and are detachably secured to support members near the bottom of a water body and an externally sealed hollow body is mounted



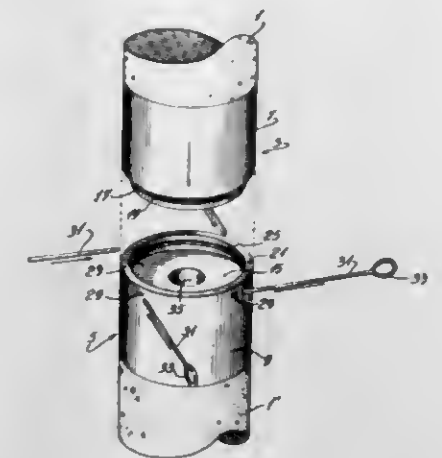
on the lower part of the columns above the level of connection to the support members. The hollow body is below the water body surface whereby it can impart buoyancy to the structure.

3,422,629
CONSTRUCTION SUPPORT SYSTEM AND METHODS AND APPARATUS FOR CONSTRUCTION THEREOF
James P. Watts, 6930 E. Pinchot, Scottsdale, Ariz. 85251
Filed Sept. 6, 1967, Ser. No. 665,916
U.S. Cl. 61-53.52 3 Claims
Int. Cl. E02d 5/34; E21b 9/26



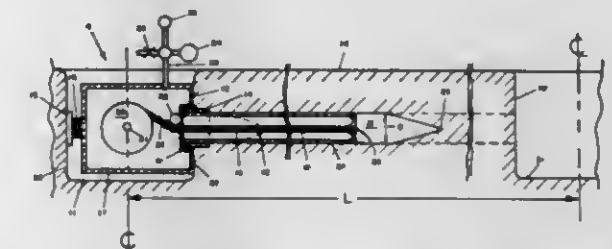
A construction support system for buildings and the like comprises a cast-in-place concrete pile having an integral spiral annular shoulder and substantially undisturbed earth surrounding, frictionally engaging and supporting the pile. The concrete piles are constructed by boring a cylindrical hole, forming a spiral annular groove in the periphery of the hole and filling the bore hole with plastic concrete to form a cast-in-place concrete pile having surfaces which frictionally engage substantially undisturbed earth. The spiral groove in the bore hole is cut with an auger having groove cutters mounted on the periphery of the auger flight. The cutters collapse when the auger is rotated in the opposite direction for removal from the bore hole.

3,422,630
CONCRETE PILE CONSTRUCTION
Gaston Marier, P.O. Box 549, Princeville, Quebec, Canada
Continuation-in-part of application Ser. No. 458,299, May 24, 1965. This application Dec. 21, 1967, Ser. No. 697,275
U.S. Cl. 61-53 10 Claims
Int. Cl. E02d 5/30, 5/34; F16d 1/04



The method of driving piles and a concrete pile construction in which ends of cylindrical pile sections are telescopically connected by male and female metal caps having juxtaposed cylindrical surfaces having confronting grooves forming a passage removably receiving locking rod means inserted through at least one access passage opening to the exterior of one of the caps and communicating with the confronting passages, in which one groove fits the contour of one passage and the other groove is wider to allow for play when driving the piles and when driving the piles a male driving cap is provided and is temporarily connected with a female cap of the pile section being driven.

3,422,631
METHOD AND APPARATUS FOR DRIVING AND LINING AN UNDERGROUND CONDUIT
Daniel Silverman, 5969 S. Birmingham, Tulsa, Okla. 74105
Filed Nov. 16, 1966, Ser. No. 594,794
U.S. Cl. 61-72.1 36 Claims
Int. Cl. E01g 3/00, 5/00; E21b 17/00



The method relates to using fluid pressure in eversing a flexible tubing forwardly to force a driving head through earth to form a conduit or to move an object through a conduit already provided. The conduit may be lined by the tubing or by cement placed between the walls of the tubing and the conduit. The apparatus has a fluid pressure chamber connected by an earth anchored body having an opening to which one end of the tubing is attached peripherally and through which the flattened portion of the tubing passes to be eversed in the earth or inside of a conduit provided. A driving head is provided forwardly of the leading end of the portion of the eversed tube. The driving head may depend from a plow and lead the way for the tubing or the tubing itself forces the head forwardly.

3,422,632

CRYOGENIC REFRIGERATION SYSTEM

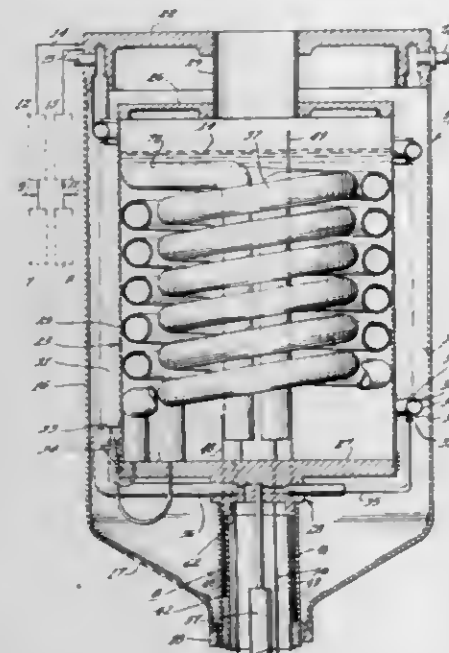
Robert B. Currie, Bethlehem, Martin S. Sellinger, Allentown, and Henry F. Villaume, Emmaus, Pa., assignors to Air Products and Chemicals, Inc., Philadelphia, Pa., a corporation of Delaware

Filed June 3, 1966, Ser. No. 555,129

U.S. Cl. 62—45

Int. Cl. F25b 1/10, 9/00, 5/00

16 Claims



A cryogenic refrigeration system for cooling to temperatures below -450°F . provides stagewise cooling by successive utilization of normally-gaseous cryogenic refrigerants in descending order of their boiling points, the first of which refrigerants is supplied to the system in liquid phase and the remaining of which are supplied in gaseous phase from pressurized sources at ambient temperature. A preferred group of refrigerants, in the order of use for temperature reduction in a three-stage system are nitrogen, hydrogen and helium. If needed, preliminary removal of water from the gaseous refrigerants may be effected externally by means of warm adsorbers. Further purification of the gaseous refrigerants for removal of solid contaminants is effected internally by means of cold adsorbers. The unit comprises a Dewar flask, providing a reservoir for a body of the liquid refrigerant, and an elongate, dependent heat-exchanger core surrounded, in order, by a radiation shield and a shroud. Continuous insulating vacuum space surrounds the Dewar reservoir and extends the full length of the heat exchanger core at both sides of the radiation shield. Separate and progressive liquefaction of the gaseous refrigerants is effected by Joule-Thomson cooling effect at spaced locations along the path through the heat exchanger core, whereat the liquefied refrigerants are maintained individually as a liquid pool, the liquefaction and accumulation of the refrigerant of lowest boiling point being effected in the lowermost end portion of the unit, which is the refrigeration zone containing the specimen to be cooled. In traversing the unit, optimum utilization of indirect heat exchange is afforded between downwardly and upwardly flowing streams of refrigerants in initial gaseous state, in liquefied state achieved by Joule-Thomson effect, and in subsequent gaseous state resulting from boil-off of accumulated liquid. Maximal utilization of the liquid refrigerant is provided, in that it serves as a coolant, successively, for the incoming gaseous refrigerants, the cold adsorbers, the radiation shield and the specimen to be cooled. In the latter function, use is made of a liquid siphon by which liquid refrigerant is conveyed through the entire heat exchanger core from the Dewar reservoir to the refrigeration zone where it serves by indirect heat exchange to keep the specimen holder cold during periods of rapid turnaround or changeover in multiple testing operations.

3,422,633

DELAYED RESTARTING CIRCUIT FOR COMPRESSOR MOTOR

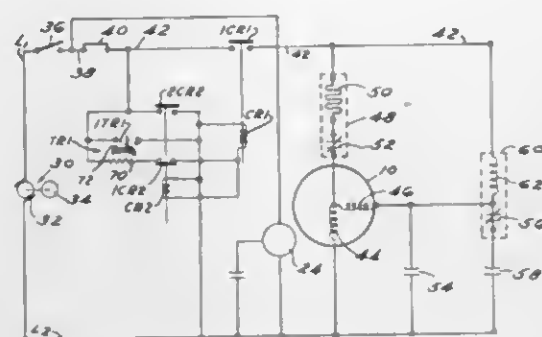
Peter C. Bodett, Sturgis, Mich., assignor to Motor Wheel Corporation, Lansing, Mich., a corporation of Ohio

Filed June 13, 1966, Ser. No. 557,019

U.S. Cl. 62—158

Int. Cl. G05d 23/32; F25b 1/00

7 Claims



A thermal relay circuit providing delayed restarting of a compressor motor in a refrigeration system each time the power to the motor is interrupted by either a line fault, the thermostat or a shut-off switch. The thermal relay is connected in the delayed restarting circuit so that as soon as the relay has performed its delayed restarting function it is deenergized and reset for the next power interruption. The thermal relay does not modify the delayed restarting of an overload protection circuit also provided for the motor.

3,422,634

BEVERAGE DISPENSER

Harold Brown, Don Mills, Ontario, Canada
(1850 Victoria Park Ave., Scarborough, Ontario, Canada)

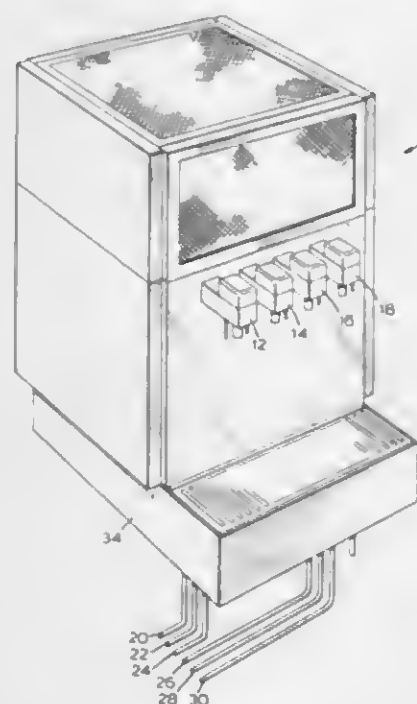
Filed July 24, 1967, Ser. No. 655,415

Claims priority, application Canada, Apr. 11, 1967, 987,554

U.S. Cl. 62—390

Int. Cl. B67d 5/62

2 Claims



A dispenser for dispensing cooled beverages which is designed for mounting on a serving counter. It has cooling coils and a number of valves designed to selectively direct beverage flavourings and water through the cooling coils to dispense a beverage. By selection of the valves, cooled beverages and different flavours and strengths can be mixed and dispensed.

The dispenser has the refrigeration unit assembly mounted on a deck that has a depending leg structure which is designed to support the refrigeration unit assembly in an operative position and also designed to support the refrigeration unit assembly when it is removed from the dispenser for service. The supply conduits to the product cooling coils are formed in a U-shape that extends up the exterior of the cooling tank over the top edge of the cooling tank and then downwardly into the cooling tank to merge with the coil of the cooling tank so that they can be easily serviced.

3,422,635

LUBRICATING AND COOLING SYSTEM FOR ELECTRIC MOTORS

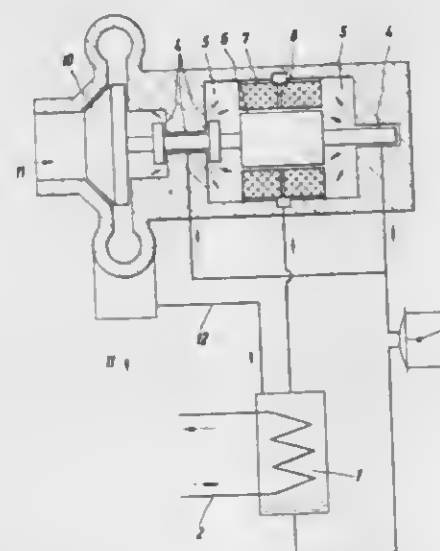
Gerhard Trenkowitz, Mannheim, Germany, assignor to Brown, Boveri & Cie AG, Mannheim-Kafertal, Germany, a corporation of Germany

Filed Mar. 21, 1967, Ser. No. 624,901

U.S. Cl. 62—469

Int. Cl. F25b 43/02, 31/02

4 Claims



A lubricating and cooling system for electric motors of the type used in encapsulated refrigerant compressors, these electric motors having bearings and a hollow interior provided with an air gap and passages. A condenser means is provided for condensing a given medium from the gaseous state into the liquid state. A circulating means communicates both with the condenser means and with the motor for providing a forced circulation of the medium in the liquid state from the condenser means to the bearings of the motor and for providing for a forced circulation of the medium in the gaseous state from the motor back to the condenser means where the medium is again changed into the liquid state. In the motor the medium delivered to the bearings is still in the liquid state so as to lubricate the bearings, and the liquid medium which flows from the bearings to the hollow interior of the motor and through the air gap and passages thereof is vaporized by the waste heat of the motor so as to assume the gaseous state in which it is returned by the circulating means to the condenser means.

3,422,636

RADIATION COOLED CRYOSTAT

Nicholas Fuschillo, Falls Church, Va., and Cramer W. Schultz, Fountain Valley, Calif., assignors to Melpar Inc., Falls Church, Va., a corporation of Delaware

Filed June 17, 1966, Ser. No. 558,487

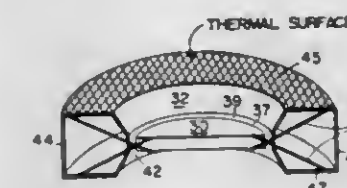
U.S. Cl. 62—514

Int. Cl. B64g 1/30

9 Claims

A cryogenic system adapted to operate in space in the plane of the ecliptic between the earth and the sun to maintain the local temperature at a low value, by radiative

cooling alone, in which the system contains a pillbox configuration for housing an active electronic system, the pillbox surrounded by one or more annular shields and supported within the shields by wires or other support members of low thermal conductivity. Each of the shields is of progressively greater diameter and each has a polygonal cross-section in a plane containing the longitudinal axis of symmetry of the overall configuration, the exposed



cylindrical wall of the outermost shield characterized by a surface having high reflectivity, and thus low absorptivity, and one or more of the shields having end surfaces, in spaced planes generally perpendicular to the axis of symmetry of the configuration, characterized by a high value of emissivity to provide a high degree of radiation of heat therefrom. The cryogenic system is maintained in orbit with its axis of symmetry oriented perpendicularly to the plane of the ecliptic.

3,422,637

ELASTOMER DRIVE UNIT

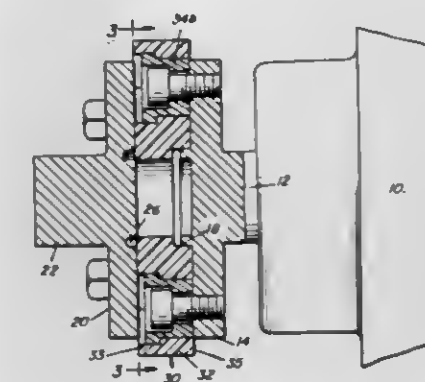
Theron R. Kelley, Mattapoisett, Mass., assignor to Tedan Inc., West Hanover, Mass., a corporation of Massachusetts

Continuation-in-part of application Ser. No. 508,325, Nov. 17, 1965. This application Nov. 22, 1966, Ser. No. 596,287

U.S. Cl. 64—13

Int. Cl. F16d 3/78

3 Claims



A drive member comprising an annular disc of plastic elastic material having at least four rigid connectors secured in the disc, each connector alternately having an outer end flush with one face of the disc, each connector having a bolt receiving opening therethrough and its wall thickness sufficient to withstand the same shearing force as the size of the bolt receivable therein.

3,422,638

CIRCULAR KNITTING MACHINES

Albert H. Widdowson, Leicester, and Walter Goadby, Evington, Leicester, England, assignors to Wildt Mellor Bromley Limited, Leicester, England, a British company

Filed June 27, 1966, Ser. No. 560,466

Claims priority, application Great Britain, July 17, 1965, 30,459/65

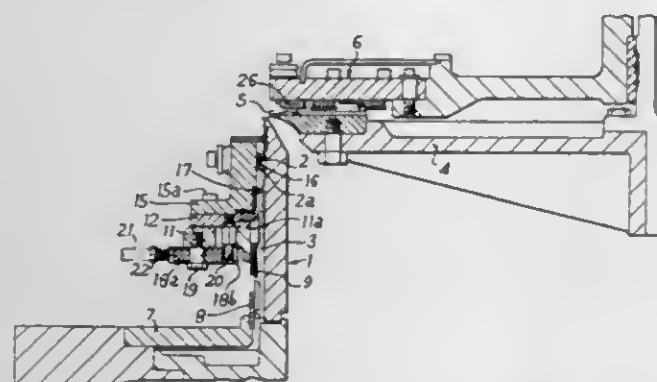
U.S. Cl. 66—19

Int. Cl. D04b 9/06, 15/48

4 Claims

A multi-feed circular knitting machine of the cylinder and dial type. Cams other than stitch cams and guard cams are provided in the conventional cylinder cam box. The

stitch cams and guard cams are mounted on an angularly adjustable ring constituting an upper cylinder cam box. By adjustment of this ring the relative positions of the cylinder and dial stitch cams can be varied. Associated

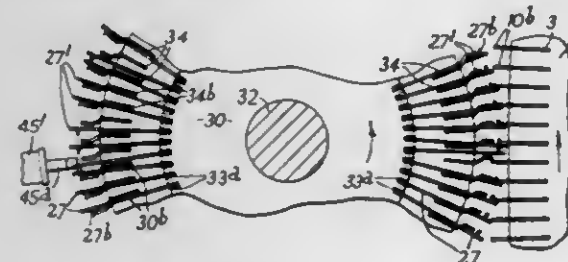


with each cylinder stitch cam are alternative combined yarn guides and latch guards extending for different distances circumferentially of the cylinder and adapted to be brought into the operative position selectively depending upon the cam timing.

3,422,639 PATTERNING SYSTEMS FOR CIRCULAR KNITTING MACHINES

Alfred P. Saunders, Kirby Muxloe, England, assignor to Wildt Mellor Bromley Limited, Leicester, England, a British company

Filed Aug. 1, 1966, Ser. No. 569,243
Claims priority, application Great Britain, July 30, 1965, 32,637/65; Apr. 1, 1966, 14,430/66
U.S. Cl. 66—25
Int. Cl. D04b 9/06, 9/38 15 Claims



A patterning mechanism selectively influencing needles in a circular knitting machine includes a rotary wheel geared to a needle cylinder and equipped with laterally pivotal blades of magnetically responsive material. The wheel has an annular channel accommodating the blades. Elements are provided in the wheel for dividing channel into recesses, each recess housing one blade. Each blade is turnable within its recess the opposite walls of which respectively determine operative and inoperative positions of the blade. Means are provided for initially moving successive ones of the blades each into one of its two positions while an electro-magnet is employed to move selected ones of the blades into the other of its two positions.

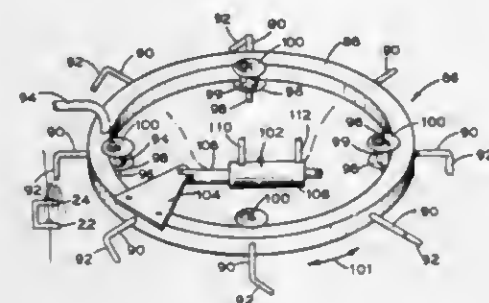
3,422,640 RECIPROCATING LINT-REMOVING DEVICE FOR KNITTING MACHINE

Abraham Abrams, 21 Houghfield Lane, Roslyn Heights, N.Y. 11577

Filed May 4, 1967, Ser. No. 636,085
U.S. Cl. 66—168
Int. Cl. D04b 35/32 6 Claims

A lint-removing device for a circular knitting machine of the dial and cylinder type is adapted to be received between the spider and needle dial of the machine to maintain the area between these elements free from lint. The device includes a plurality of nozzles which are connected to a source of fluid under pressure. The nozzles

are movably mounted on the dial cam plate by appropriate means. Actuator means are provided for reciprocating

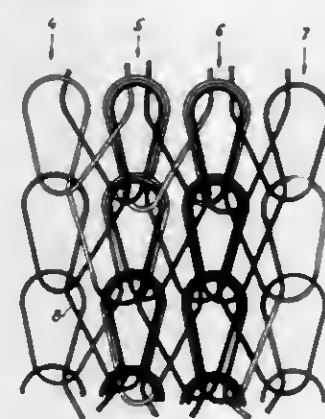


each nozzle over a preselected area so that any one nozzle will maintain the elements of the knitting machine within this area free from lint or the accumulation thereof.

3,422,641 WARP KNIT CORD

Jan Skřeppek, Olšany u Vyškova, and Ivan Jakubec, Brno, Czechoslovakia, assignors to Vyzkumny ustav pletarsky, Brno, Czechoslovakia

Filed June 21, 1967, Ser. No. 647,696
U.S. Cl. 66—169
Int. Cl. D04b 21, 9/46 3 Claims

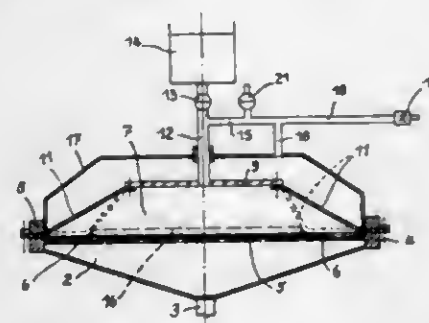


A cord-like product is produced by warp knitting a narrow fabric having edge portions constituted by one or two wales having loops in each course, each loop consisting of a single thread only and being connected to the central portion of the fabric by a diagonal underlap in a direction and under a tension to curl the edge portion. The central fabric portion consists of one to eight wales whose loops consist of two threads and have underlaps which extend in opposite coursewise directions to balance the tension on the central wales.

3,422,642 APPARATUS FOR TREATING PERMEABLE SHEETS SUCH AS ANIMAL SKINS, LEATHER AND THE LIKE

Irénée Jullien and Claude Pillard, Lyon, France, assignors to Centre Technique du Cuir, Lyon, France

Filed June 23, 1966, Ser. No. 559,906
Claims priority, application France, July 1, 1965, 46,178
U.S. Cl. 69—29
Int. Cl. C14c 1/00, 9/00 1 Claim



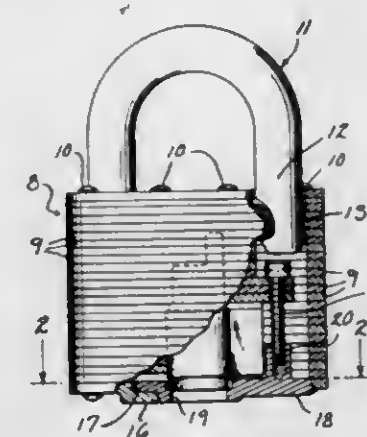
Apparatus for treating hides and the like by the use of a fluid applicator cell and a vacuum cell between which

are located pervious and perforated members, the applicator being deformable to adapt to the shape of the article being processed.

3,422,643 LAMINATED PADLOCKS WITH REMOVABLE CYLINDER MECHANISMS

Daniel J. Foote, Wauwatosa, Wis., assignor to Master Lock Company, Milwaukee, Wis., a corporation of Wisconsin

Filed Oct. 19, 1967, Ser. No. 676,565
U.S. Cl. 70—38
Int. Cl. E05b 67/24, 9/04 9 Claims



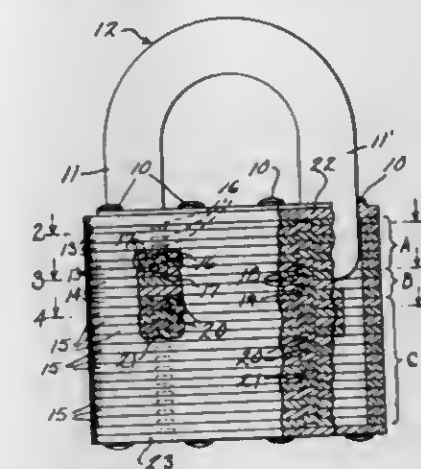
For providing means by which the pin tumbler cylinder mechanism can be removed and changed in a laminated padlock without disassembling the entire lock or case, and without removing the case rivets, the lowermost plate or lamination of the padlock body or case is arranged with a swing gate tab housing which normally holds one end portion of a swing gate flatly against said lowermost plate to retain the tumbler pin cylinder in its proper position within the lock body, the other end portion of the swing gate being normally engaged by a retainer screw which is accessible for engagement by a tool inserted into the short shackle leg opening in the padlock body only when the shackle is unlocked and swung clear of its body opening. Thus, the swing gate may be pivoted in its tab within the housing in the bottom plate, free of the lower end of the pin tumbler cylinder and the latter can be slid out of the lock body for replacement. When a new cylinder is inserted the procedure is reversed and the swing gate is secured in position against the case bottom plate to securely retain the cylinder within the body or case in functioning position.

3,422,644 INTERLOCKING PLATE ASSEMBLY FOR LAMINATED PADLOCK BODIES

Daniel J. Foote, Wauwatosa, Wis., assignor to Master Lock Company, Milwaukee, Wis., a corporation of Wisconsin

Filed Nov. 7, 1967, Ser. No. 681,232
U.S. Cl. 70—38
Int. Cl. E05b 67/24, 67/02 5 Claims

To provide for the advance assembly of plates used to form the laminated body of a padlock into groups of various multiples, the pluralities of plates of each group are formed with similarly spaced protuberances to tightly fit into correspondingly spaced recesses in each superimposed plate of said group, whereby the plural number of plates of a group will be held together. Other groups of plates for the complete padlock laminated body, with different spacing arrangements of the plate protuberances and recesses, are similarly assembled.

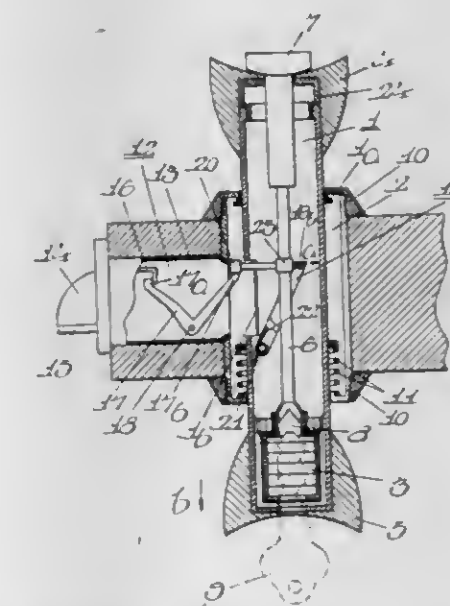


on another, and are secured together in perfect alignment by rivets or the like.

3,422,645 LATCH MECHANISM

Junichiro Sato, Kawasaki, Japan, assignor to Hideyoshi Hisatsune, Minato-ku, Tokyo, Japan

Filed Mar. 14, 1967, Ser. No. 623,114
U.S. Cl. 70—145
Int. Cl. E05b 55/06, 63/22; E05c 1/14 4 Claims



A latch mechanism adapted especially for use with doors and so made that an actuating rod mounted inside a spindle is operated directly or through the medium of said spindle to turn a cam fitted to said rod, and that an element of the coupling device operatively connecting the rod and a latch is slidably engaged by said cam so as to be projected from or retracted into the spindle through an opening provided on the cylindrical wall of the spindle with movement of said cam thereby to be engaged with or detached from the other element of said coupling device to open or close the lock.

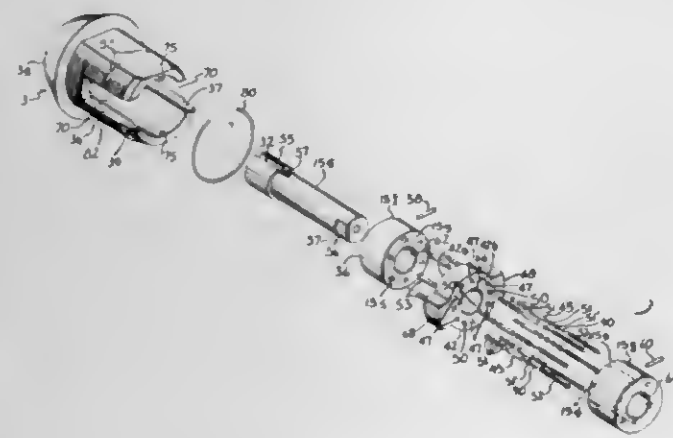
3,422,646 INSTANTANEOUS TUMBLER CHANGE LOCK

Brian J. Monahan, Rte. 2, Box 121, Mundelein, Ill. 60060

Filed Mar. 15, 1967, Ser. No. 623,456
U.S. Cl. 70—363
Int. Cl. E05b 29/08, 25/00, 19/02 16 Claims

This lock comprises two main body members, one of which is slidably disposed with respect to the other for rotational or reciprocating motion with respect to the

other. One of the members provides a socket or recess into which the other member fits and there are provided at the interfaces of the members two spaced pairs of confronting abutting surfaces which established two spaced shear planes. The other member, which is positioned between the shear planes, has parallel locking pin-receiving slideways and wafer storage slideways extending between the shear planes. The recessed member has aligned front and rear pairs of parallel tumbler-receiving slideways which, in the locking position of its movable member, are respectively aligned with the corresponding locking pin-receiving slideways of the other



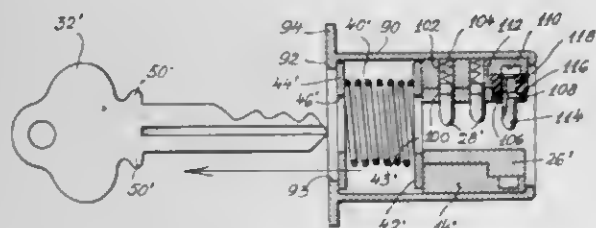
member, and, in a tumbler changing position of the movable member, are respectively aligned with the corresponding wafer storage slideways in the other member. In the locking position of the movable member, each aligned set of slideways carries a movable tumbler assembly comprising a spacer pin, a locking pin, which has a length identical to the distance between the shear planes and preferably remains at least partially at all times within its locking pin slideway, and a fixed total number of wafers each of the same thickness. The number of wafers located in front of the locking pin is variable by the shifting of wafers between the front and rear of the locking pin.

3,422,647

LOCK KEY EJECTOR

James L. Haynes, 609 S. Grove, Kewanee, Ill. 61443
Filed Oct. 27, 1967, Ser. No. 678,611
U.S. Cl. 70-388
Int. Cl. E05b 17/00, 15/14, 65/12

1 Claim



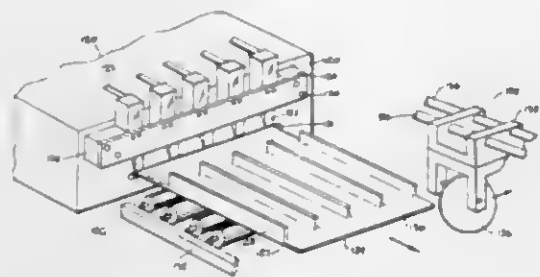
A key-actuated lock for the ignition system of an automobile engine or the like having a rotatable barrel with tumblers and with a keyway therein, and having unique means for automatically ejecting the key from the keyway in the barrel and from the lock. The means includes a fixed disc member and a movable disc member spaced from each other and a compression spring interposed between the disc member adapted to move the movable disc member upon expansion of the spring against a protruding portion of a key inserted in the keyway of the barrel and thus automatically eject said key from the lock.

3,422,648
EXTRUSION APPARATUS
Jerome H. Lemelson, 85 Rector St.,
Metuchen, N.J. 08840

Filed Oct. 2, 1961, Ser. No. 142,405

U.S. Cl. 72-8
Int. Cl. B21c 23/04, 23/28, 3/06

19 Claims



Extrusion apparatus is provided for operating on an extrusion or elongated preformed member so as to variably change its shape along the length thereof. In one form, tooling is provided which is automatically controlled to advance against predetermined portions of an extrusion or elongated member and to operate thereon to predeterminately change the shape of said portions. In another form, apparatus is provided for variably covering a preformed member with extrusion material by varying the flow of extrusion material to the surface of the preformed member. The apparatus includes tooling mounted externally of the extruder and, in certain instances, tooling provided within the extruder or the throat of the extrusion die which composite tooling may operate separately or in coaction with each other.

The invention is also concerned with automatic control means for predeterminately controlling operations on pre-shaped elongated members or extrusions as and immediately after they are formed so as to automatically vary and predetermine the shape thereof.

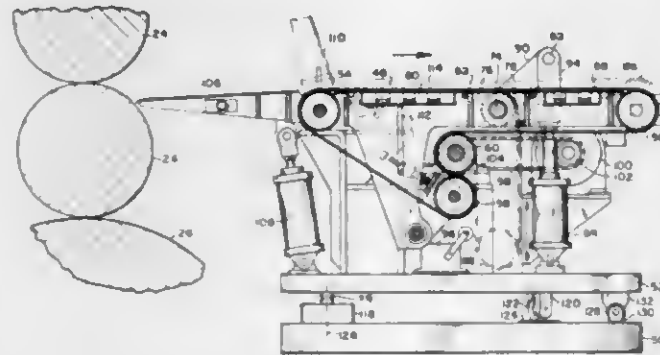
3,422,649
AUTOMATIC THREADING DEVICE FOR ROLLING MILLS

Paul M. Lowy, Pittsburgh, Pa., assignor to Mesta Machine Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 14, 1966, Ser. No. 520,573

U.S. Cl. 72-10
Int. Cl. B21b 37/02; B21c 51/00

13 Claims



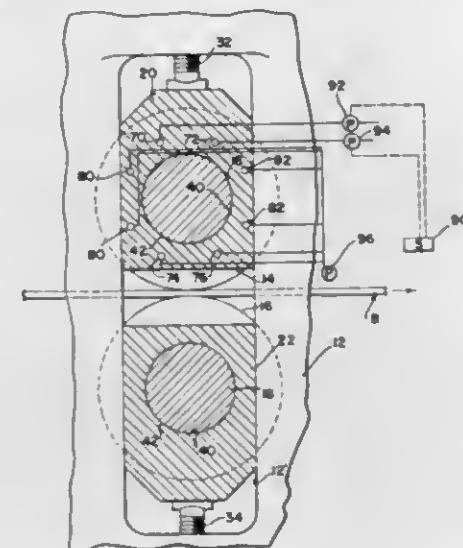
A strip rolling mill is provided having in combination a pair of work roll stands, a conveyor belt adjacent the strip emergent side of one stand, means for moving a strip engaging portion of the belt in the direction of strip movement to thread a strip through the rolling mill and to guide the strip to the entrance side of the other stand, and means for moving the belt laterally of the strip path.

3,422,650
GAUGE CONTROL FOR A ROLLING MILL
John Sherman Strance, Drexel Hill, Pa., assignor to
E. W. Bliss Company, Canton, Ohio, a corporation of Delaware

Filed Feb. 23, 1967, Ser. No. 618,093

U.S. Cl. 72-16
Int. Cl. B21b 37/02, 31/32; F16c 7/04

6 Claims



A gauge control for controlling the thickness of a strip being processed by a rolling mill wherein pressurized liquid is used to support and change the position of the working rolls in the mill.

3,422,651
STRAIGHTENING MACHINE

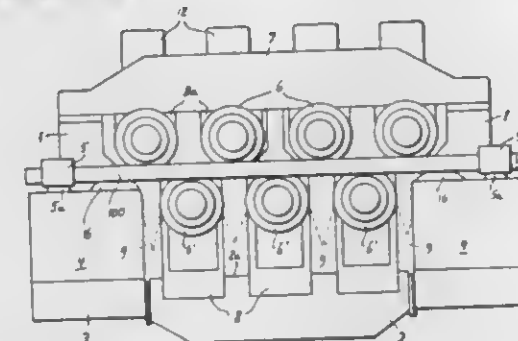
Max Urtel, Dudweiler, Saar, Germany, assignor to Ehrhardt & Sehmer, Maschinenfabrik A.G., Saarhuetten, Germany

Filed Dec. 16, 1965, Ser. No. 514,298

Claims priority, application Germany, Dec. 24, 1964, E 28,418

U.S. Cl. 72-162
Int. Cl. B21d 3/04

8 Claims



A straightening machine for profiled steel bars in which upright frame members of a main frame of the machine have front faces provided with recesses and into which portions of bearing blocks supported on ways in front of the front faces extend. Each of the bearing blocks supports a pair of rollers, rotatably about vertical axes, whereas upper and lower horizontal frame members extending between the upright frame members support rollers rotatably about horizontal axes.

3,422,652
METHOD AND MACHINE FOR CHANGING THE CURVATURE OF ELONGATED WORKPIECES
Horst Lorenz, Solingen, Germany, assignor to Th. Kieserling & Albrecht, Solingen, Germany

Filed July 21, 1966, Ser. No. 567,010

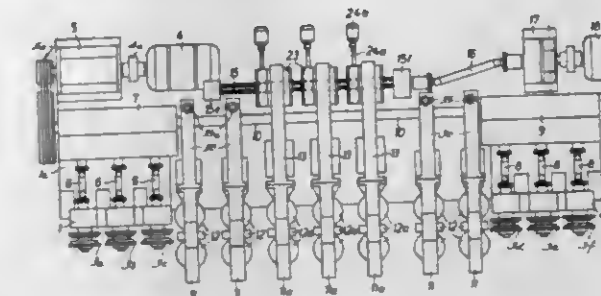
Claims priority, application Germany, Sept. 17, 1965, K 57,154

U.S. Cl. 72-164
Int. Cl. B21d 1/02, 13/08, 21/00

24 Claims

A method and machine for straightening or bending elongated metallic workpieces in which the workpieces

are advanced in longitudinal direction along a predetermined path and in which successive portions of the advancing workpieces are subjected first to initial bending



forces to stress such portions slightly below the elastic limit and thereafter to final bending forces to stress such portions beyond the elastic limit.

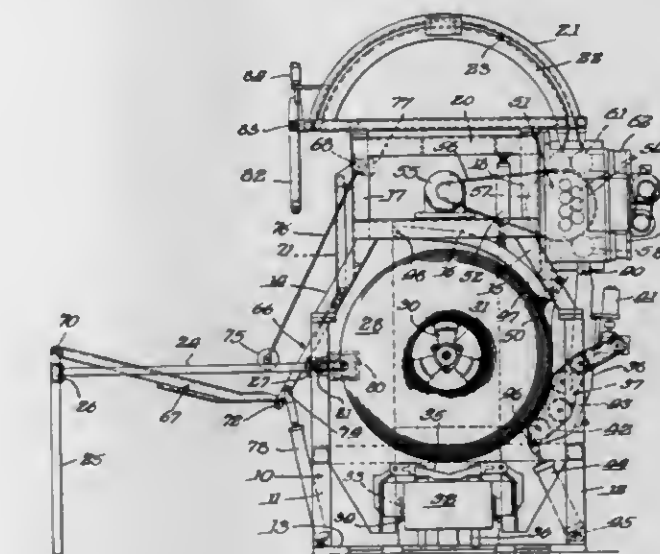
3,422,653
COMBINATION COIL STRIPPER AND STRAIGHTENING MACHINE

Chester M. Wiig, Lincolnwood, Ill., assignor to F. J. Littell Machine Company, Chicago, Ill., a corporation of Illinois

Filed Nov. 8, 1966, Ser. No. 592,900

U.S. Cl. 72-183
Int. Cl. B21d 3/12

3 Claims



In the present apparatus the coil of metal stock is supported for rotation and a power unit is provided and which may have frictional contact with the coil for rotating the coil during the initial stages of the stripping and straightening operations. The stock material after passing through a straightening machine is directed upwardly into an overhead arc and then downwardly on the other side and into contact with an arrangement of platforms which bend the stock material opposite to the curvature of the material when it formed part of the coil.

3,422,654
ROLLING MILL

Karl Sten Olof Forsberg, Morgardshammar, Sweden, assignor to Morgardshammars Mek. Verkstads Aktiebolag, Morgardshammar, Sweden, a joint stock company of Sweden

Filed July 10, 1964, Ser. No. 381,625

U.S. Cl. 72-228
Int. Cl. B21b 41/04, 41/10

5 Claims

A continuous rolling mill plant for rod steel and wire having several rolling mill units each consisting of a pair of stands disposed side by side with a first stand of each

pair being aligned in the direction of rolling, which stands form a finishing train permitting continuous rolling. The second stands of each pair permit repeater rolling. A



run out roller table may be arranged below the finishing train in order to discharge the rolled material from any stand. Instead of a run out roller, table coiler means may be arranged along and adjacent to the finishing train.

3,422,655

PRESTRESSED ROLLING MILL

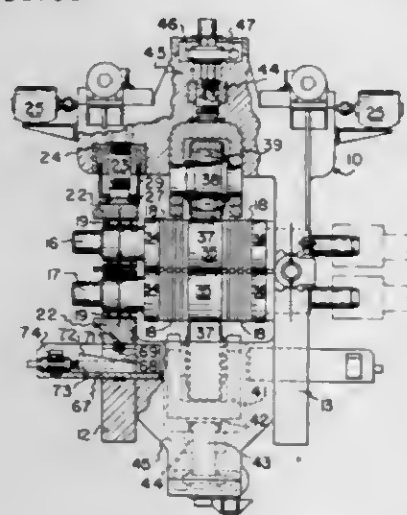
Morris Denor Stone, Pittsburgh, and Maurice Paul Sieger, Upper St. Clair Township, Pittsburgh, Pa., assignors to United Engineering and Foundry Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 4, 1965, Ser. No. 453,001

U.S. Cl. 72-237

Int. Cl. B21b 31/30

7 Claims



A rod or bar rolling mill of the prestressed type wherein the prestressed pressure is maintained greater than the expected rolling load and the mill is constructed to subject the housing, bearing chock assemblies and roll separating means to the prestressed pressure. In this construction the mill is provided with cooperative rigid screws—piston cylinder assemblies, the piston cylinder assemblies are employed initially and before rolling to apply the prestressed pressure and the screws are employed during rolling to apply the pressure once the piston cylinder assemblies are rendered inoperative. In combination with the prestressing feature anti-roll deflection means is also provided, thereby providing an extremely rigid mill construction.

3,422,656

METHOD OF ROLLING SLABS IN PLANETARY MILL

Howard S. Orr, Upper St. Clair Township, Allegheny County, Pa., and Anthony D. Reinhardt, South Holland, Ill., assignors to United States Steel Corporation, a corporation of Delaware

Filed Mar. 18, 1966, Ser. No. 535,383

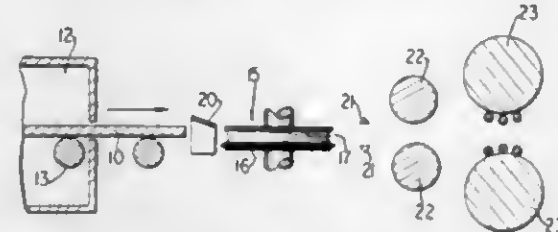
U.S. Cl. 72-366

Int. Cl. B21b 1/22

2 Claims

A method of hot rolling a slab to strip thickness comprising edge rolling the slab in a pair of grooved rolls defining a convexly edged pass which is so dimensional

as to be fully filled by the slab cross section so that the slab possesses convex edges, and then reducing the slab to strip dimensions in a planetary mill while preserving



thereon the convex edges. This method eliminates the lamination of the strip edges and hence trimming of the strip.

3,422,657

PRESS TRANSFER MECHANISM

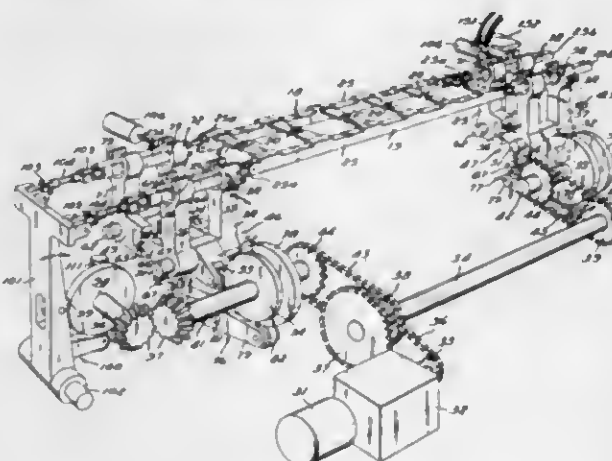
Walter J. Grombka and Gene E. Allebach, Tiffin, Ohio, assignors to The National Machinery Company, Tiffin, Ohio, a corporation of Ohio

Filed Apr. 22, 1966, Ser. No. 544,488

U.S. Cl. 72-405

Int. Cl. B21j 11/00; B21d 43/02, 43/20

17 Claims



A transfer for a forging machine is disclosed which includes two horizontally extending beams which support a plurality of gripper elements adapted to progressively transfer blanks between die stations of a vertical forging press. Three separate drives are connected to move the beams through a cycle of operation wherein the beams move forward to grip a blank, subsequently move vertically to lift the blank from the dies, subsequently move horizontally to position the blank over a subsequent die, subsequently lower to position the blank in the subsequent die, subsequently move apart to release the blank and clear the dies, and finally move back horizontally to the initial position. The drives are all cam actuated from a single power source and are each arranged to operate without affecting the operation of the other drives. The beams are supported at both ends by the drives for vertical and lateral horizontal movement and are connected at one end to the drive for producing longitudinal movement. The transfer also operates a feed mechanism for feeding blanks into the first die and operates to initiate press operation after the transfer operation is complete.

3,422,658

HIGH VELOCITY FORMING MACHINE

Anatol Michelson, Glenolden, Pa., assignor to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware

Filed Feb. 10, 1967, Ser. No. 615,161

U.S. Cl. 72-407

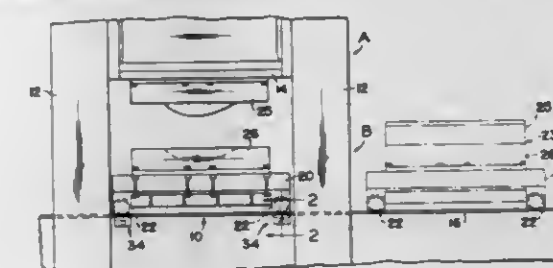
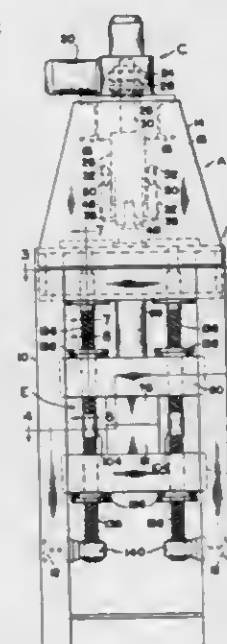
Int. Cl. B30b 1/34; B21d 7/06; B21s 7/46

12 Claims

An impact type forming press which has a pair of opposed platens mounted for reciprocation toward and away from one another. The movement of the platens is

synchronized through the use of a mechanical interconnection comprised of a plurality of threaded rods which pass through ball nuts carried in each platen. The platens are moved apart by the use of a mechanical clamp which grips the end of a shaft extending from one of the platens

press into and across the bed, and a carrier having wheels engageable with the tracks for guiding the carrier therealong from a first position exteriorly of the press to a second position in the press and beneath the ram. The mechanism includes first track forming members having upwardly facing surfaces downwardly inclined in a direction perpendicular to the first direction. The track form-



ing members are positioned in the bed at locations corresponding to the locations of the wheels when the carrier is in the second position to thus support the wheels on the upwardly facing surfaces. Selectively operable power means are provided for moving the track forming members horizontally in the second direction away from the wheels to permit the wheels and the carrier to be lowered.

3,422,661

MOVABLE PRESS BOLSTER

Daniel G. Blackhurst, Warrensville Heights, Ohio, assignor to E. W. Bliss Company, Canton, Ohio

Filed June 2, 1967, Ser. No. 643,107

U.S. Cl. 72-448

Int. Cl. B21j 13/00; B30b 15/06, 15/02

8 Claims

and is moved by a worm gear drive. Energy storing means in the form of a sealed chamber containing pre-compressed gas is provided to store energy during the period when the platens are moved apart. Release of the mechanical clamp permits the stored energy to drive the platens together at a high velocity.

3,422,659

DENT DISTENDING AND REMOVING TOOL

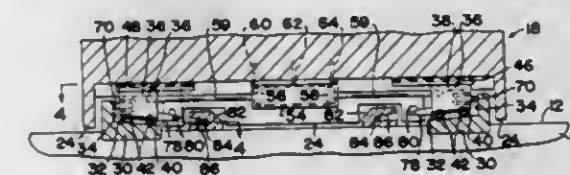
Robert K. Warrick, 503 W. South St., Dothan, Ala. 36301

Filed Oct. 11, 1966, Ser. No. 585,854

U.S. Cl. 72-429

Int. Cl. B21b 23/00

3 Claims



A flexible stretchless cable is provided at its leading and trailing ends with fixed ball-like limit stops. The complementary dent removed comprises a steel oval ball slidable and rotatable on the cable. When forcibly pulled through the bore of a length of round tubing (aluminum, copper or thin wall steel tubing) it acts on and restores the tubing to its dent free state. A sleeve is slidable on the leading end and provides (1) a handgrip and (2) an impact hammer. The sleeve can be caught hold of and the forward end can be intermittently hammered against a slotted collar which serves as an end thrust anvil.

A forming press including a die carrier movable from a first position outside the press to a second position within the press. Improved means are disclosed for guiding the carrier between the first and second positions and lowering it into engagement with the press bed in the second position. These means include track forming members defining at least two horizontally spaced, upwardly facing support surfaces extending in a first direction between the first and second positions. The support surfaces are downwardly inclined in opposite directions perpendicular to the first direction. At least two support members extend from the carrier into engagement with separate ones of the support surfaces; and, actuator means are provided for selectively moving each of the support members relative to the carrier and the support surfaces in a direction to move the support members down the incline of their respective support surfaces to thereby lower the lower surface of the carrier into engagement with the bed.

3,422,662

MOVABLE BOLSTER

Joseph A. Geuss, Canton, Ohio, assignor to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware

Filed Aug. 1, 1967, Ser. No. 657,587

U.S. Cl. 72-448

Int. Cl. B21j 13/00; B30b 15/06

7 Claims

3,422,660

MOVABLE BOLSTER LOWERING ARRANGEMENT

Clem C. Countess, Jr., Chester, and Daniel T. Rymasz, West Chester, Pa., assignors to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware

Filed Apr. 27, 1967, Ser. No. 634,166

U.S. Cl. 72-448

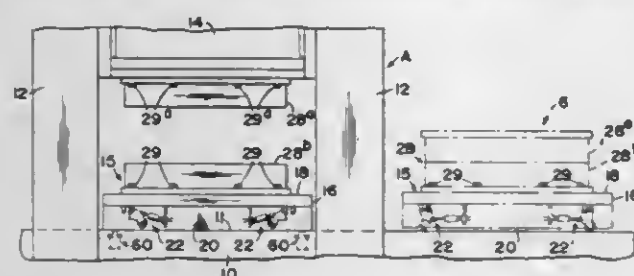
Int. Cl. B21j 13/04; B30b 15/06

6 Claims

Improved carrier lowering mechanism for a press having a bed, a frame, a ram carried by the frame and movable vertically toward and away from the bed, tracks extending in a first direction from a position exterior of the

Apparatus for facilitating die changing in the metal working press including a wheeled bolster or die carrier movable along tracks from a position outside the press to a position on the press bed and beneath the ram. The bolster wheels are arranged to be raised and lowered to permit the bottom of the bolster to be lowered into engagement with the press bed. Additionally, either the

bolster or the press are provided with jacks for raising the bolster prior to raising or lowering the wheels so that

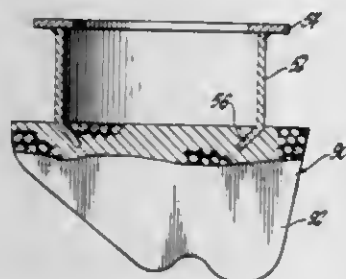


the wheel raising and lowering mechanism does not have to lift or lower the weight of the bolster and can, thus, be highly simplified.

3,422,663

SHEET METAL FORMING DIES

Kenneth F. James and Alexander H. Joyce, Detroit, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Original application Aug. 22, 1963, Ser. No. 303,783, now Patent No. 3,313,007, dated Apr. 11, 1967. Divided and this application Dec. 22, 1966, Ser. No. 603,937
U.S. Cl. 72-476 4 Claims
Int. Cl. B21d 37/00

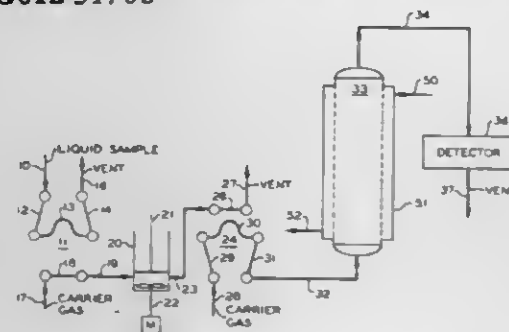


A cast-to-size sheet metal forming die is disclosed which is made of steel particles brazed together with a copper base alloy by preparing a mold from nepheline syenite sand and a binder which mold has a coefficient of thermal expansion substantially equal to the coefficient of thermal expansion of the steel particles over a temperature range from about room temperature to a temperature above the pouring temperature of the braze alloy, filling the mold with steel particles and shot of varying sizes, and casting with brazing alloy. The steel particles in the body portion of the die are a mixture of relatively large and small particles and the particles in the workface portion are all relatively small.

3,422,664

CHROMATOGRAPHIC METHOD OF ANALYSIS AND APPARATUS THEREFOR

Buell O. Ayers, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed July 19, 1965, Ser. No. 472,788
U.S. Cl. 73-23.1 3 Claims
Int. Cl. G01n 31/08



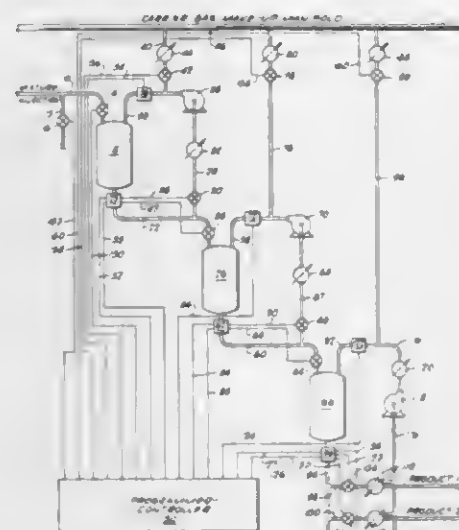
In a chromatographic analysis, a volatile liquid sample is mixed with an inert gas in such concentration that each constituent of the sample is below the dew point con-

centration at the operating temperature of the chromatographic column. A portion of the resulting mixture is employed as sample to the column.

3,422,665

CHROMATOGRAPHY SYSTEM

Donald J. Haase, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed Aug. 1, 1966, Ser. No. 569,219
U.S. Cl. 73-23.1 32 Claims
Int. Cl. G01n 31/08

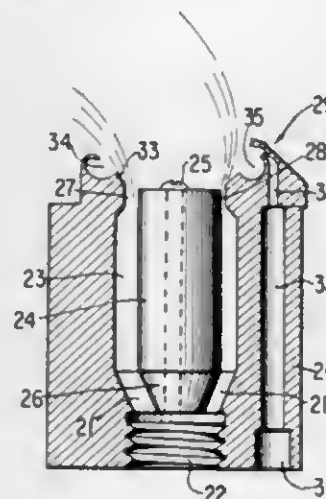


Chromatographic separation is effected in a plurality of serially connected columns arranged for repressuring of each column during passage therethrough of the sample.

3,422,666

PROXIMITY DETECTION DEVICE

Raymond N. Auger, New York, N.Y., assignor, by mesne assignments, to Cutler Controls, Inc., Berwyn, Pa., a corporation of Pennsylvania
Filed Dec. 21, 1967, Ser. No. 692,556
U.S. Cl. 73-37.5 11 Claims
Int. Cl. G01b 13/08



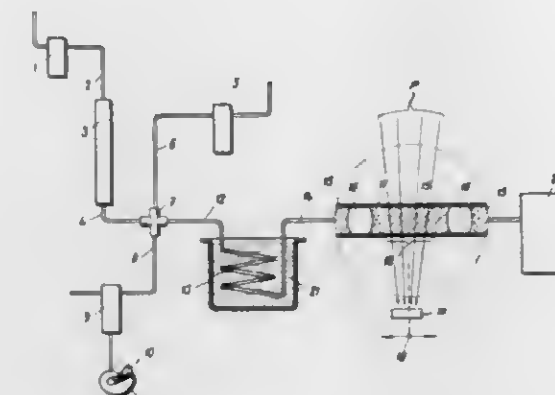
A device for detecting proximity to a surface by use of a diverging annular-like flow producing orifice means directed toward a surface there being a signal sensing means adjacent the outside of the jet formed by the orifice, proximity of a surface to the jet disturbing the flow to produce a signal.

3,422,667

METHOD OF EVALUATING THE CONCENTRATION GRADIENTS IN LIQUIDS

Jiří Hrdina, Prague, Czechoslovakia, assignor to Československá akademie věd, Prague, Czechoslovakia, a corporation of Czechoslovakia
Filed May 3, 1966, Ser. No. 547,307
Claims priority, application Czechoslovakia, May 5, 1965, 2,935/65

U.S. Cl. 73-53 8 Claims
Int. Cl. G01n 11/02



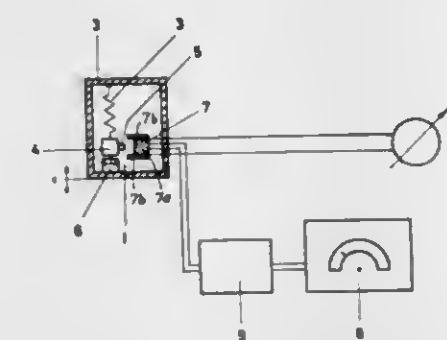
Evaluating the concentration gradients in a medium flowing through capillary tubes of analyzers, particularly of analyzers of mixtures of amino acids, by separating sections of said medium in said capillary tube by means of a second medium immiscible with said first medium, thereafter determining the actual position of a section of said medium to be analyzed, and finally adjusting the relative position of the analyzing means with respect to said section so as to check the conditions within a chosen part of said section.

3,422,668

DEVICE FOR MEASURING MECHANICAL VIBRATION

Wolf-Dieter Reutlinger, Darmstadt, Germany, assignor to Dr. Reutlinger & Sohne, Darmstadt, Germany, a German firm
Filed May 31, 1967, Ser. No. 642,443
Claims priority, application Germany, June 3, 1966, R 43,404

U.S. Cl. 73-71.4 8 Claims
Int. Cl. G01n 33/00



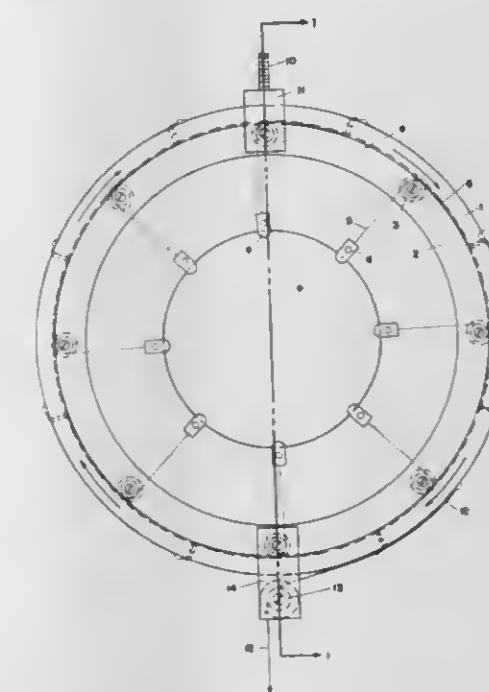
The invention picks up mechanical vibration, which vibration varies the magnetic field of a Hall-effect voltage generator excited by AC of selectively variable frequency to give a maximum DC output when in phase synchronism between the field and current is obtained. A phase shifter may be interposed in the exciting current circuit. Varying of the exciter frequency to match that of change in magnetic field and shifting the phase of the current enables the output voltage to have meaning

in studying the vibration. Phase angles between various moving parts of machinery may be determined and the measurements may be relative to various angular components.

3,422,669

FILM STRETCHING DEVICE

Donald I. Craft, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York
Filed June 8, 1966, Ser. No. 564,459
U.S. Cl. 73-102 2 Claims
Int. Cl. G01n 3/28, 3/08



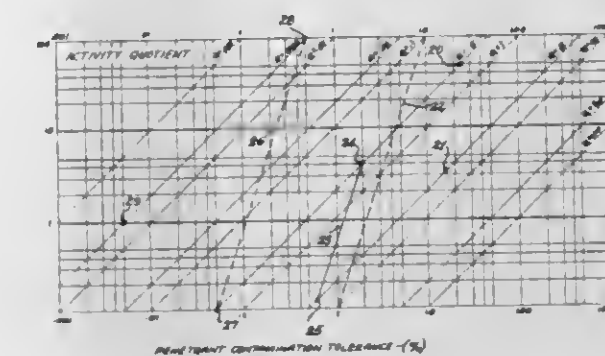
Apparatus for radial stretching of plastic films having concentric rings, the inner ring carrying roller pulleys engaging the outer ring. Trained over each roller pulley is a cable attached at one end to the centrally arranged plastic film and at the other end to the outer ring. Relative rotation of the rings causes the cables to be drawn around said pulleys to omnidirectionally stretch the film. Another cable secured to the outer ring is trained over a pulley fixed with relation to the inner ring. Tensioning of this cable causes the rings to rotate relative to one another.

3,422,670

CLEANING PROCESS AND COMPOSITIONS FOR POST-EMULSIFIER INSPECTION PENETRANTS

James R. Alburger, 5007 Hillard Ave., La Canada, Calif. 91011

Filed June 16, 1965, Ser. No. 464,360
U.S. Cl. 73-104 14 Claims
Int. Cl. G01n 19/00



A cleaning method and applicable cleaning compositions for removing surface penetrant in inspection processes in which a low-activity wash liquid is applied to the

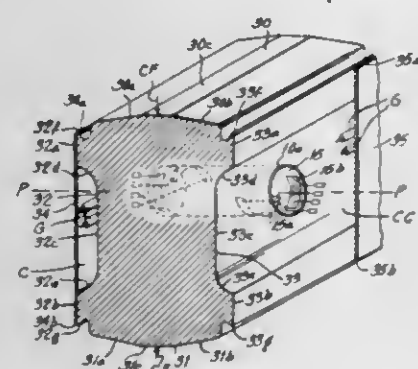
surface to be cleaned, using agitation, the wash liquid being prepared by diluting an emulsifier-coupler with a suitable solvent-rinse liquid to a point where the solubilizing action of the mixture is at a low value sufficient to provide a minimum degree of stripping of defect entrapments of penetrant. The low activity of the diluted emulsifier-coupler prevents excessive solubilization of the penetrant, yet permits removal of penetrant with the assistance of mechanical agitation.

3,422,671 LOAD CELL

John J. Elengo, Jr., Hamden, Conn., assignor to Revere Corporation of America, Wallingford, Conn., a corporation of New Jersey

Filed May 4, 1966, Ser. No. 547,623
U.S. Cl. 73-141
Int. Cl. G011 5/00

21 Claims



Load cell for measuring high intensity loads, e.g., for steel rolling mills, comprising a body having a relatively short dimension in the direction in which the loads are applied and a relatively long dimension transverse to that direction. The body may be an annulus or a disc. It is provided with a plurality of apertures whose axes lie in a plane parallel to the end loading surfaces of the body. Resistance type strain gages are bonded to the interior of at least some of the apertures.

Each load bearing end of the body is provided with a loading surface including an elongated plane portion at right angles to the axis of the body and two elongated sloping portions tapering from the plane portion on each of its long sides. Malleable load transferring and distributing members (e.g., sheets of copper) are placed between the loading surfaces of the body and the load applying surfaces between which it is placed. These members cooperate with the sloping portions of the loading surface to transfer an increasing proportion of the load to those sloping portions as the load increases, so that the total load carrying area increases with increasing load.

3,422,672 MEASUREMENT OF EARTH FORMATION PRESSURES

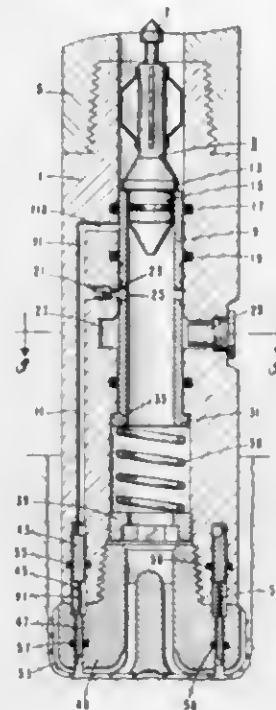
Percy A. Payne, Tylertown, Miss., assignor to Esso Production Research Company, a corporation of Delaware

Filed Dec. 27, 1966, Ser. No. 604,854
U.S. Cl. 73-151
Int. Cl. E21b 47/00

8 Claims

Apparatus is incorporated in a drill bit that can be extended through the lower end of the bit to seal against the earth formation to isolate the drill string bore from the annulus around the drill string. Channels in the drill stem extend to the apparatus. The apparatus is actuated by dropping a retrievable plug into the drill stem so that pressure can be exerted in the drill stem above the plug through the channels in the drill stem to shove the

apparatus against the formation. A pressure recorder in the drill stem is thereupon actuated to measure the pres-



sure exerted by earth fluids within the drill stem below the retrievable plug.

3,422,673 METHODS AND APPARATUS FOR SOFT SAND TESTING

Maurice P. Lebourg, Houston, Tex., assignor to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas

Filed June 9, 1966, Ser. No. 556,363
U.S. Cl. 73-152
Int. Cl. E21b 49/00

17 Claims



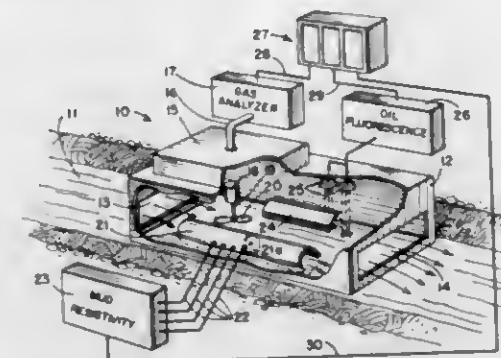
Methods and apparatus for testing soft sand earth formations traversed by a fluid filled well bore are described. According to the methods, a packer on a pipe string is lowered into the well bore and the packer is expanded to isolate a formation zone, the zone being also isolated from the pipe string. Fluid pressure in the isolated zone is then measured over a period of time. Further, fluid circulation can be maintained above the packer, and the pipe string can be kept in motion. The apparatus includes an inflatable packer which can be expanded by fluid pressure in the pipe string, the packer having a blocked bore. Pressure recorders are provided to measure pressures in the zone which is completely isolated by the packer and the blocked bore during the test.

3,422,674 CONTINUOUS WELL LOGGING APPARATUS

John D. Schroeter, Ojal, Calif.
(3205 Jade Ave., Bakersfield, Calif. 93306)

Filed Nov. 22, 1965, Ser. No. 509,136
U.S. Cl. 73-153
Int. Cl. E21b 49/02

1 Claim



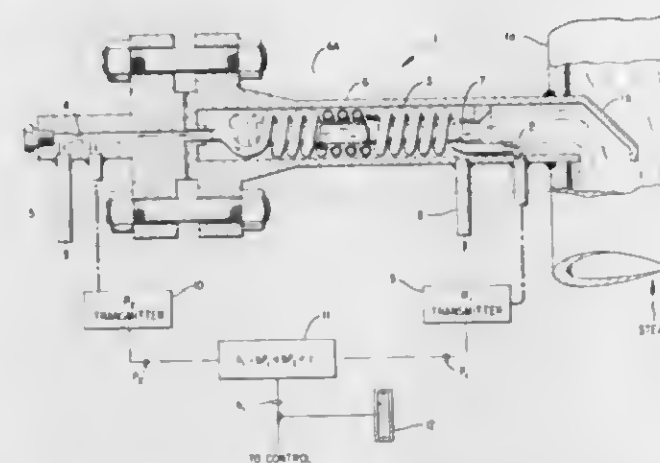
Apparatus is provided for continuously and simultaneously analyzing a sample of drilling fluid flowing through a mud ditch for the presence of oil content, gas content and electrical resistivity value. The detected amounts in which they are present are simultaneously logged on graphs for visual correlation which move at a rate corresponding with the depths from which the samples are taken.

3,422,675 ENTHALPY SENSOR

Jack F. Shannon, Euclid, and James Adams, Cleveland, Ohio, assignors to Bailey Meter Company, a corporation of Delaware

Filed Aug. 30, 1965, Ser. No. 483,572
U.S. Cl. 73-190
Int. Cl. G01k 17/00

5 Claims



A device for the measurement of enthalpy of a flowing fluid where a fluid sample is passed in series flow through two spaced-apart, critical flow orifices. The sample fluid is heated to bring it into the superheat region as it passes between the orifices. Pressure transducers measure the fluid pressure at the inlet of each of the two flow orifices and produce signals to which a computing means is responsive and which produces an output signal corresponding to the enthalpy of the fluid.

3,422,676 INTERLOCK FOR MULTIPLE TOTALIZER METERING APPARATUS

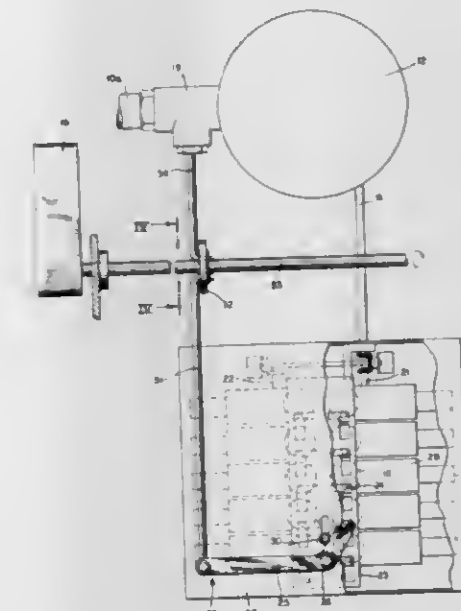
Ronald M. Wilson, Ambler, Pa., assignor to William M. Wilson's Sons Inc., Lansdale, Pa., a corporation of Pennsylvania

Filed Jan. 18, 1967, Ser. No. 610,072
U.S. Cl. 73-194
Int. Cl. G01f 1/00

4 Claims

An apparatus for independently controlling the flow through a metering device. The metering device has a number of independently controlled totalizers. The con-

trols for the totalizers coact with a single lock bar which regulates their use. A pin is disposed on the lock bar which normally interferes with the movement of a lever forming a part of an interlock mechanism by means of which a handle is prevented from being depressed which in turn prevents a valve from being opened, and thus fluid is prevented from flowing through the meter. When the



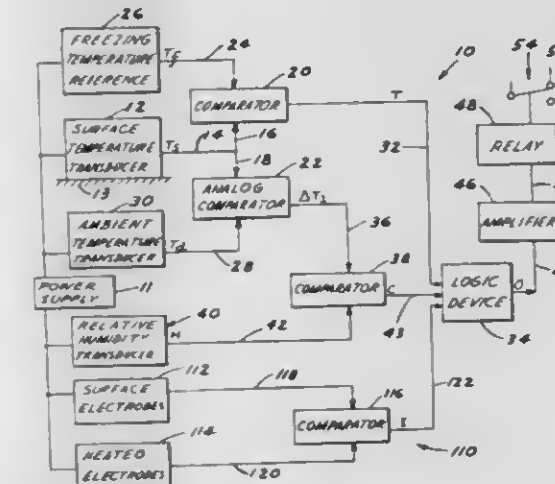
lock bar is moved by any one of the independent totalizer controls, it in turn moves the pin out of interfering relation with the lever and allows the valve to be opened. In this position the lever will interfere with the return movement of the pin and lock bar, and therefore, the valve would have to be closed thus returning the lever to its original position in order that the independent totalizer control could return the lock bar to its normal position.

3,422,677 ICE CONDITION DETECTING DEVICE

Leon J. Lockwood, Southfield, Mich., assignor to Holley Carburetor Company, Warren, Mich., a corporation of Michigan

Filed June 21, 1966, Ser. No. 559,153
U.S. Cl. 73-336.5
Int. Cl. G01n 25/00

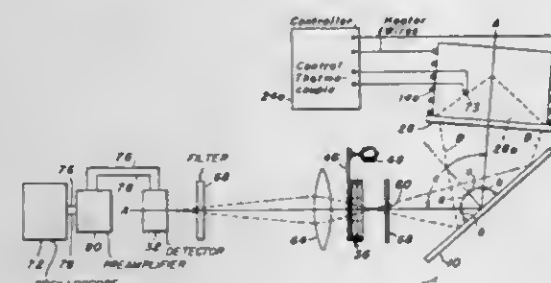
11 Claims



A device for anticipating atmospheric conditions likely to result in condensation of water vapor or frost on a surface employs a signal-producing sensors which sense the temperature of the surface, a reference value indicative of freezing temperature, the ambient atmospheric temperature and atmospheric relative humidity. The signals produced in response to the sensed parameters are

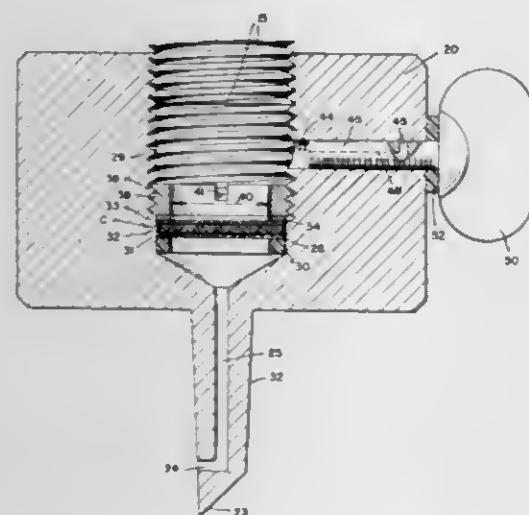
then, with use of logic means, compared in order to determine if the atmospheric conditions are such as to anticipate either condensation of the water vapor or the formation of frost on the surface.

3,422,678
APPARATUS AND METHOD FOR MEASURING TEMPERATURES
Thomas P. Murray, Pittsburgh, Pa., assignor to United States Steel, a corporation of Delaware
Filed May 12, 1966, Ser. No. 549,545
U.S. Cl. 73-355 40 Claims
Int. Cl. G01k 11/00



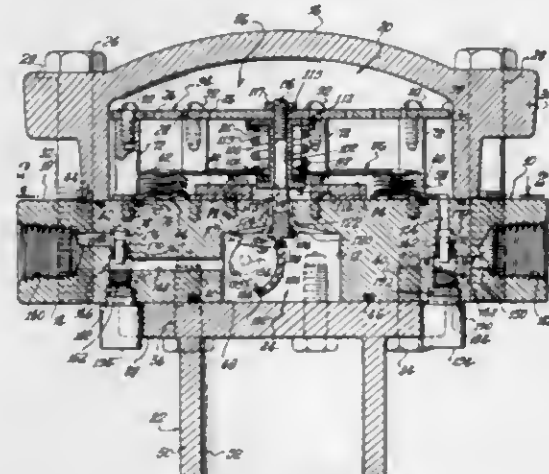
An improved method and apparatus for measuring temperature of a body by directing blackbody thermal radiation onto the body, detecting the polarization of the combined direct thermal radiation and reflected thermal radiation from the body, and receiving and transforming the combined direct thermal radiation and reflected thermal radiation from the body into an electrical signal.

3,422,679
ASEPTIC PRESSURE AND/OR VACUUM MEASURING DEVICE
Patrick G. McGowan, and Robert E. Mauger, Fremont, Mich., assignors to Gerber Products Company, Fremont Mich.
Continuation of application Ser. No. 490,904, Sept. 28, 1965. This application Dec. 13, 1967, Ser. No. 690,360
U.S. Cl. 73-395 1 Claim
Int. Cl. G011 7/00



A vacuum-measuring assembly for use in combination with a gas pressure gauge having an externally threaded inlet fitting to obtain an indication of the vacuum within an aseptically-sealed container. The assembly includes a housing having a hollow, needle-shaped member for piercing a wall of the container, the needle-shaped member including a bore of sufficient cross section to allow for gas flow therethrough. Various elements are provided to allow for aseptic release of the vacuum prior to removal of the device from the container and also to prevent leakage and contamination of the container contents.

3,422,680
DIFFERENTIAL PRESSURE-RESPONSIVE DEVICE
Claude B. Nolte, Placentia, Calif., assignor to Kingmann-White, Inc., Placentia, Calif., a corporation of Texas
Filed Jan. 18, 1967, Ser. No. 610,109
U.S. Cl. 73-407 17 Claims
Int. Cl. G011 13/02; 7/06

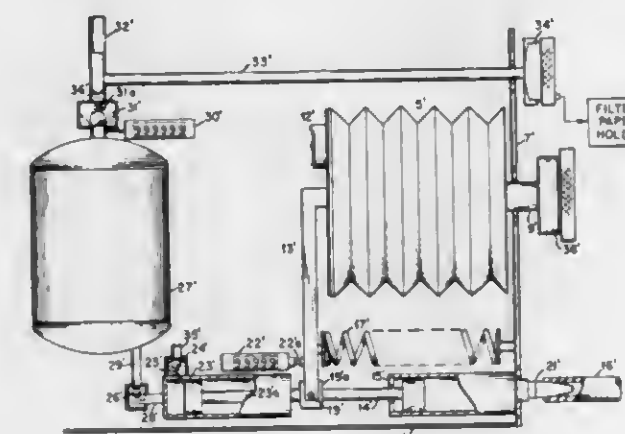


A differential pressure-sensing device employing a differential pressure-responsive element such as a metal diaphragm or bellows, across which variable differential pressures are applied, and which includes a valving mechanism for protecting the pressure-responsive element from inadvertent applications thereacross of damaging differential pressures. The safety mechanism includes a normally open valve in the inlet to the interior, normally high pressure side of the pressure-sensing element, which is coupled to the movable portion thereof such as to be mechanically closed in response to a predetermined maximum deflection or expansion of the pressure-sensing element. The safety mechanism also includes a normally closed relief valve carried on the movable portion of the sensing element such as to be automatically opened in response to such predetermined maximum deflection or expansion of the pressure-sensing element, to permit escape of pressure from the normally high pressure to the normally low pressure side thereof, thereby preventing expansion of the pressure-sensing element beyond such predetermined maximum, in event of pressure build up on the normally high pressure side or reduction in pressure on the normally low pressure side thereof following such closure of the inlet valve. The relief valve is also constructed such as to be automatically opened by differential pressure thereacross in event of reversal of the normal differential pressures, and the pressure on the normally low pressure side exceeds the pressure on the normally high pressure side of the pressure-responsive element by a predetermined maximum value.

3,422,681
VEHICLE ACTUATED ROADSIDE AIR SAMPLING DEVICE
Merwyn Sanders, Knoxville, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed June 14, 1966, Ser. No. 558,217
U.S. Cl. 73-421.5 4 Claims
Int. Cl. G01n 1/22

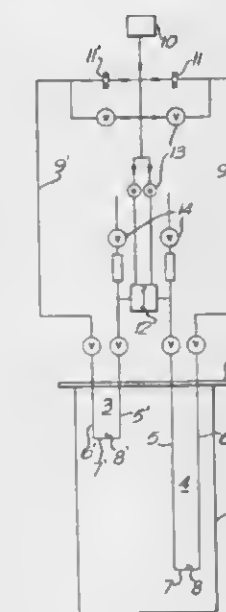
A system is provided for taking samples of air from the atmosphere for analysis in the vicinity of road vehicular traffic. The system is powered by a piston cylinder arrangement which is actuated each time an automobile wheel passes over a fluid-filled flexible tube extending from the cylinder. Each time the piston is actuated an expandable container is expanded and contracted drawing

air in and exhausting it from the container through separate valves. An immediate analysis is made on the entering air by placing an appropriate filter in the path of the air entering the container. An equilibrium condition sam-



ple is taken at predetermined intervals by a storage tank into which is pumped a given volume of air each time the device is actuated. At a given pressure the air is released through an aspirator which draws a sample of air through a second filter to provide equilibrium condition analysis.

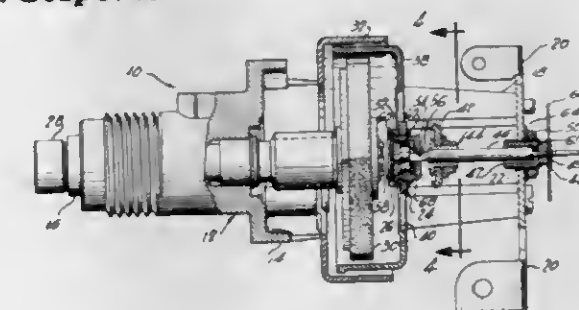
3,422,682
HYDROSTATIC DENSITOMETER
Reginald David Evans, Hythe, Southampton, and Peter Brian Knights, Marchwood, England, assignors to The International Synthetic Rubber Company Limited, Southampton, England, a corporation of the United Kingdom
Filed Sept. 8, 1965, Ser. No. 485,805
Claims priority, application Great Britain, Sept. 9, 1964, 36,912/64
U.S. Cl. 73-438 7 Claims
Int. Cl. G01n 9/12



Apparatus for measuring the density of liquids which includes a vent pipe opening into the liquid under examination, a fluid line from the vent pipe to a pressure responsive instrument, a purge fluid flow line connecting to the vent pipe or fluid line and containing a continuous flow of an incompressible purge fluid that is compatible with the liquid under examination.

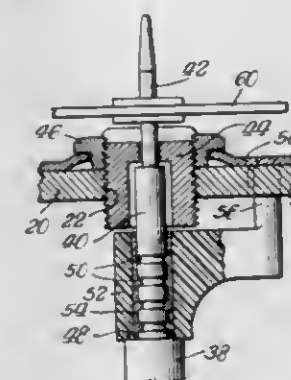
The apparatus measures differential density or pressure in a liquid body by providing two pairs of hollow vent pipes and purge lines at different vertical distances in the liquid body, each purge line being in static connection with a differential pressure measuring device.

3,422,683
SPEEDOMETER
Patrick L. Powell, Franklin Park, Ill., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia
Filed Jan. 20, 1966, Ser. No. 521,786
U.S. Cl. 73-496 1 Claim
Int. Cl. G01p 3/46



The following specification describes a speedometer in which the indicator spindle carrying the speed cup is supported in spaced bearings independently of the maget shaft. One bearing is supported on an arm secured to the other bearing support and forms part of a sealed damping chamber at the inner end of the spindle. The inner end of the spindle has vanes for rotation in a damping fluid in the damping chamber one end of which is closed by a thrust bearing for the spindle.

3,422,684
SPEEDOMETER
Patrick L. Powell, Franklin Park, Ill., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia
Filed Jan. 20, 1966, Ser. No. 521,950
U.S. Cl. 73-496 2 Claims
Int. Cl. G01p 3/22

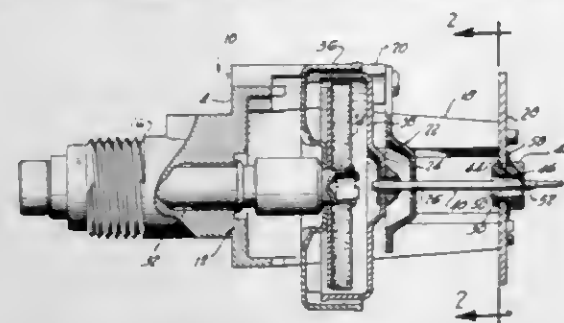


The following specification describes a speedometer having a spindle on which both a shoulder and plurality of grooves are formed adjacent the outer bearing. A sleeve encircles the grooves and butts against the shoulder to confine a viscous damping fluid between the sleeve and pointer shaft. An offset arm on the sleeve engages in a support member carrying the bearing and prevents rotation of the sleeve.

3,422,685
SPEEDOMETER
Patrick L. Powell, Franklin Park, Ill., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia
Filed Jan. 20, 1966, Ser. No. 521,787
U.S. Cl. 73-519 1 Claim
Int. Cl. G01p 3/22

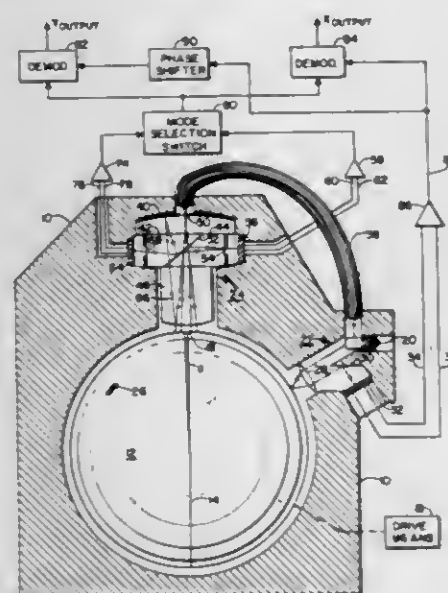
The following specification describes a speedometer in which the pointer shaft is journaled independently of the magnet shaft in two spaced plastic bearings. One bearing fits a groove in the shaft to restrain axial movement of the pointer shaft and the other bearing is formed in a plastic support having an axially extending wall inter-

mediate the axis of the pointer and the speed cup rim to rigidify the plastic together with an integrally formed



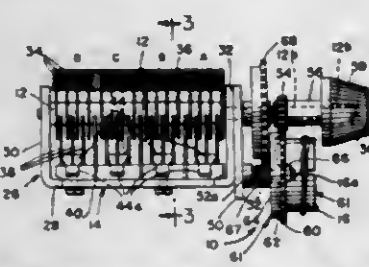
stop adjacent the pointer shaft axis for cooperation with an ear on the speed cup.

3,422,686
OPTICAL PICKOFF MEANS FOR DERIVING SIGNALS INDICATIVE OF DEVIATION OF ROTOR POLE FROM SPIN AXIS
Willis O. Unruh, Clearwater, Fla., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Aug. 15, 1966, Ser. No. 572,375
U.S. Cl. 74-5.6 3 Claims
Int. Cl. G01c 19/28



Light reflected from an optically flat surface at the end of a rotor spin axis and from the area adjacent the surface is transduced into electrical signals for comparison with reference signals derived from reference indication elsewhere on the surface for obtaining a signal indicative of the position of the spin axis relative to the rotor supporting means.

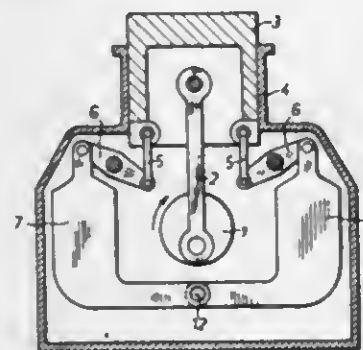
3,422,687
GEAR REDUCER
James Edgar Krepps, Jr., Bloomington, Ind., assignor to Sarkes Tarzian, Inc., Bloomington, Ind., a corporation of Indiana
Filed Oct. 21, 1966, Ser. No. 588,592
U.S. Cl. 74-10.8 14 Claims
Int. Cl. F16h 35/00; 57/00; H03j 1/02



A reduction gear assembly for rotating the shaft of a tuning condenser and the like between open and closed stop positions, comprising a manually rotatable shaft and

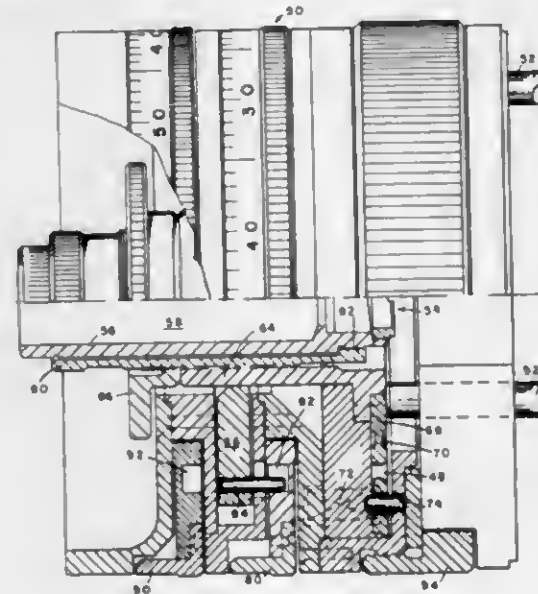
a reduction gear means interconnecting the manual shaft and condenser shaft. The reduction gear means includes at least one pair of meshing gears having deflectable teeth permitting slippage between the meshing teeth when the condenser shaft is in one of said stop positions and torque is applied to the manual shaft. The slippage of the teeth produces an audible clicking sound indicating to the operator that the condenser is in one of its stop positions.

3,422,688
ARRANGEMENT FOR COUNTERBALANCING THE FORCES IN CRANKSHAFT DRIVEN MACHINES
Egon Bruderer, Neukirch, Switzerland, assignor to Bruderer AG, Arbon, Thurgau, Switzerland
Filed Dec. 2, 1966, Ser. No. 598,641
Claims priority, application Switzerland, Dec. 2, 1965, 16,654
U.S. Cl. 74-44 5 Claims
Int. Cl. F16h 21/22



An arrangement in which the reciprocating parts of a crankshaft driven machine are counterbalanced by an assembly including two spaced counterweights each connected by a lever and a rod to one side of a reciprocating part such that the counterweights undergo reciprocation in opposition to such part. The counterweights are connected to pivotal levers which prevent uncontrolled swinging of the counterweights.

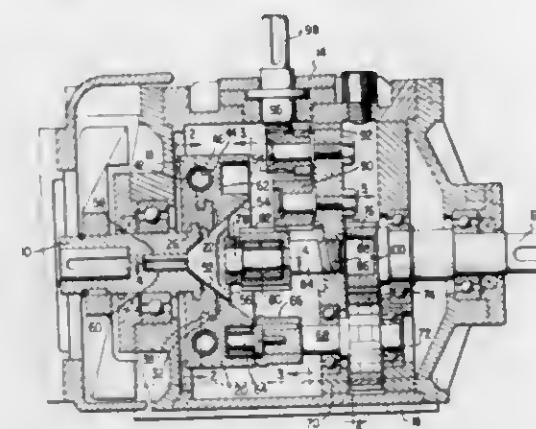
3,422,689
TUNING DEVICE FOR ADJUSTING A MIRROR FOR A LASER
David G. Fladlien, Los Angeles, and J Perry Smith, Hawthorne, Calif., assignors to TRW Inc., Redondo, Beach, Calif., a corporation of Ohio
Filed Mar. 29, 1967, Ser. No. 626,841
U.S. Cl. 74-89.15 4 Claims
Int. Cl. F16h 27/02; H01s 3/00



A tuning mechanism is employed for adjusting a mirror on a laser. The mechanism operates to focus the mirror about its center rather than another point. Two rotatable

knobs are provided which, when rotated, will adjust the mirror to its desired position.

3,422,690
VARIABLE SPEED MECHANISM
Jose Blanco Mendez and Julia Blanco Mendez, both of Travesera de las Cortes 138 y C/. Galileo 261, Barcelona, Spain
Filed June 20, 1966, Ser. No. 558,667
Claims priority, application Spain, June 24, 1965, 314,600
U.S. Cl. 74-117 5 Claims
Int. Cl. F16h 29/12

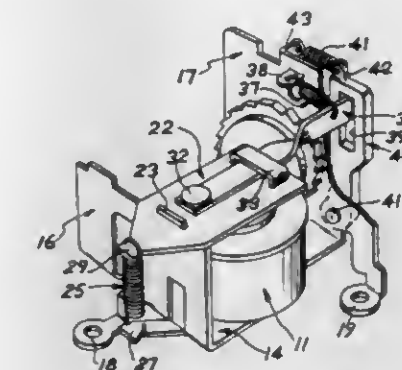


1. Speed variation mechanism comprising a drive shaft to be driven at a constant speed, a pair of discs mounted on and keyed to said drive shaft for rotation therewith but being transversely movable relative to said shaft and to each other, means for moving said discs relative to each other but centered relative to said shaft so that said discs counterbalance each other during rotation with said shaft, one of said discs having annular cam means which is eccentric to the axis of said shaft when said discs are offset relative thereto and to each other, and crank means including crank arm mounted on a crankshaft and carrying a follower engaged with said cam means whereby said crankshaft is oscillated by said cam means when the latter is eccentrically disposed relative to said drive shaft, one of said discs being mounted on the end of said drive shaft by interfitting first tongue and groove means permitting slideable movement of said disc transversely of said shaft between concentric and offset positions, the other of said discs being mounted on said one disc by interfitting second tongue and groove means that is parallel with said first tongue and groove means and permitting slideable movement of said other disc relative to said one disc between concentric and offset positions, said discs each having an axially disposed tapered aperture therethrough which jointly define a socket tapering outwardly from the end of said drive when said discs are concentric, and said means for moving said discs comprises a tapered control member mounted coaxially of and axially movable relative to said shaft within said tapered apertures to control the offset relation of said disc and center them relative to said shaft.

3,422,691
OVERTRAVEL CONTROL MECHANISM FOR STEPPING SWITCHES
William Warren Wright, Wheaton, Ill., assignor to Guardian Electric Mfg. Co., a corporation of Illinois
Filed Oct. 5, 1966, Ser. No. 584,550
U.S. Cl. 74-142 8 Claims
Int. Cl. F16h 27/02

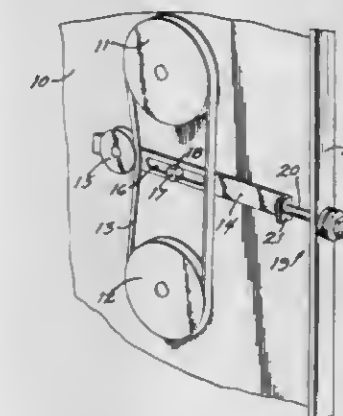
1. In a stepping relay having a ratchet wheel and an electromagnetically driven pawl which engages with and

advances said wheel, said pawl being carried in an arcuate path as said wheel is advanced, improved overtravel control mechanism which comprises a spring loaded catching



member positioned to intercept said pawl at a predetermined point and to thereafter retard further motion of said pawl along said arcuate path.

3,422,692
BELT TIGHTENER WITH STRETCH INDICATING MEANS
Robert W. Woodring, La Grange, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed May 10, 1967, Ser. No. 637,600
U.S. Cl. 74-242.1 8 Claims
Int. Cl. F16h 7/12

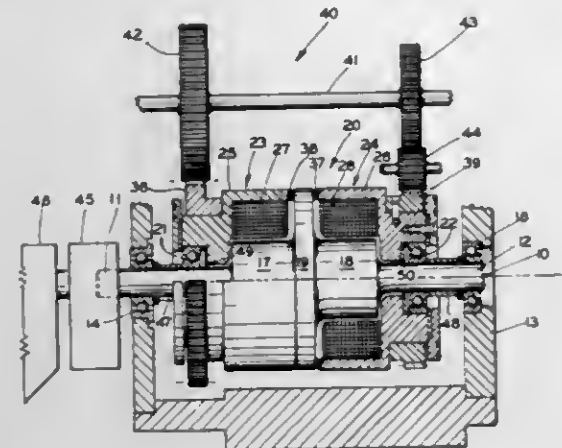


A belt tightener assembly engaging a drive belt trained around a pair of spaced pulleys. A combined indicia and loading means interconnects the belt tightener assembly with a fixed support for preloading the belt tightener assembly with respect to the support and providing a visual indication of the tightness of the drive belt.

3,422,693
ELECTROMECHANICAL ACTUATOR FOR GUIDED MISSILE
John C. Vaiden, Wayne, N.J., assignor to The Bendix Corporation, a corporation of Delaware
Filed Sept. 30, 1965, Ser. No. 491,649
U.S. Cl. 74-377 2 Claims
Int. Cl. F16h 3/14; F16d 27/12

A duplex clutch assembly in an actuator having an input means to drive a pair of cups in opposite directions about a common axis, a friction disk at the end periphery of each cup and a solenoid coil within each cup and positioned adjacent to opposite clutch surfaces of an armature flange attached to an output shaft, and electrical means to control the energization of the solenoid

coils and to effect rotational torque of the armature flange and the friction disk of the cup having the greater



energization of the solenoid coil therein so as to provide selective speed and direction of output shaft rotation.

3,422,694 SELF-ACTUATING BRAKE

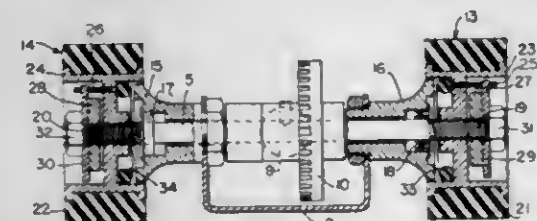
Donald C. Lemke, 26071 Belledale,
Taylor, Mich. 48180

Filed Oct. 24, 1966, Ser. No. 588,862

U.S. Cl. 74-411.5

Int. Cl. A63h 19/00, 33/16; F16h 57/10

24 Claims



1. A braking apparatus comprising, in combination:
a support member;
bearing means secured to said support member;
an axle rotatably mounted in said bearing means;
drive means connected to said axle to rotate said axle at desired speed;
said axle having at least one threaded portion;
a wheel threadedly mounted on each threaded portion of said axle;
a mechanism operatively connected to said wheel and axle permitting the axle to rotate the wheel when said mechanism is in a first condition, permitting the wheel to rotate relative to the axle when said mechanism is in a second condition, and limiting the wheel from rotating relative to the axle when said mechanism is in a third condition; and
at least one braking element disposed between the wheel and a back-up member which is prevented from moving parallel to the axis of rotation of said axle;

whereby when the angular velocity of the wheel exceeds the angular velocity of the axle, the wheel moves along its associated threaded axle portion to press said braking element against said back-up member, thereby decreasing the wheel angular velocity to approach or equal the axle angular velocity.

3,422,695 CHART DRIVE MECHANISM

Thomas H. Wilson, 214 Cambridge, Longview, Tex. 75601, and Woodrow A. Wilson, Longview, Tex.;
said W. A. Wilson, assignor to said T. H. Wilson

Filed June 13, 1966, Ser. No. 556,963

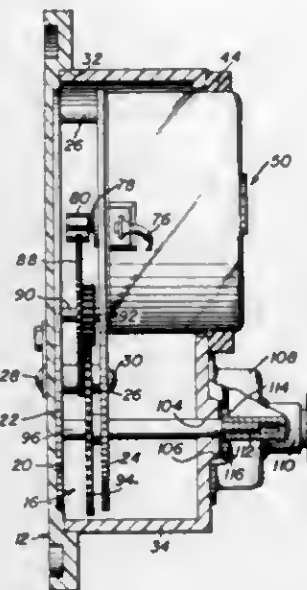
U.S. Cl. 74-421

Int. Cl. F16h 1/00; G01d 15/26

15 Claims

1. Chart drive mechanism comprising a mounting base, a cover defining a housing on said base, cover securing means releasably fixing said cover to said base, a first

shaft rotatably mounted on said base and projecting through said cover, a mounting aperture defined within said cover, a clockwork unit mounted within said aperture, said unit including a drive shaft unit, securing means releasably securing said clockwork unit in its mounted position, a gear train drivingly engaging said first shaft with



said drive shaft within said housing, said clockwork unit being outwardly removable as a unit from the remainder of the mechanism upon a release of the unit securing means, said unit including a power conductor, and means for releasably engaging said conductor with a power source.

3,422,696 DOUBLE BALL NUT AND SCREW ACTUATOR

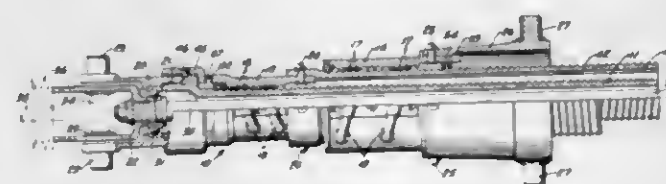
Peter Valent, Whittier, Calif., assignor to Sargent Engineering Corporation, Huntington Park, Calif., a corporation of California

Filed Mar. 27, 1964, Ser. No. 355,378

U.S. Cl. 74-424.8

Int. Cl. F16h 1/18

7 Claims



1. In a ball screw actuator, the combination of: a support member, a hollow nonrotary screw fixed at one end to said support member, a rotary nut mounted to turn on said screw, a hollow rotary screw secured to turn with said rotary nut, said screws being coaxial and telescopically arranged, one having a right-hand helix and the other having a left-hand helix, a nonrotary nut mounted on said rotary screw, means for restraining said nut from rotation, balls interposed between each of said screws and its respective nut, a drive shaft rotatably mounted on the support member and extending through said nonrotary screw, a spline drive element fixed on the drive shaft remote from said support member, an axial internal spline element on said rotary screw slidably engaged by said spline drive element, whereby rotation of the driveshaft causes simultaneous axial travel of each nut upon its respective screw, each nut having an axial length materially shorter than its respective screw whereby both screws project beyond both nuts when the drive shaft is turned to retract said nuts, and stop means for limiting axial travel of one of the nuts in one direction and of the other nut in the other direction.

3,422,697 CHANGE-SPEED TRANSMISSION SELECTOR ASSEMBLIES

Arnold Brown and Peter Norman Taylor, Luton, England, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

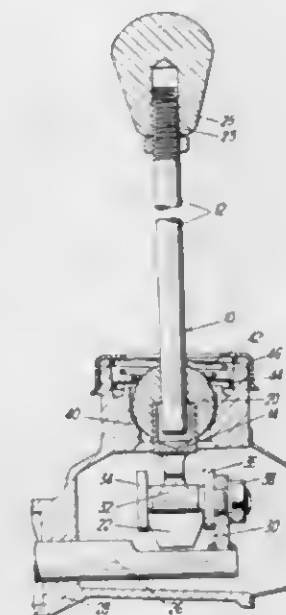
Filed Dec. 28, 1966, Ser. No. 605,470

Claims priority, application Great Britain, Jan. 5, 1966, 565/66

U.S. Cl. 74-473

Int. Cl. G05g 9/12

7 Claims



For use in change-speed transmission selector assemblies, primarily for effecting gearshifts in motor vehicle change-speed transmissions, a two-part shift lever includes a stem member and an actuator member resiliently interconnected by a body of elastomeric material which surrounds and is secured to external surfaces of both the stem member and a socket portion of the actuator member within which the end portion of the stem member is accommodated with clearance.

3,422,698 POWER STEERING GEAR

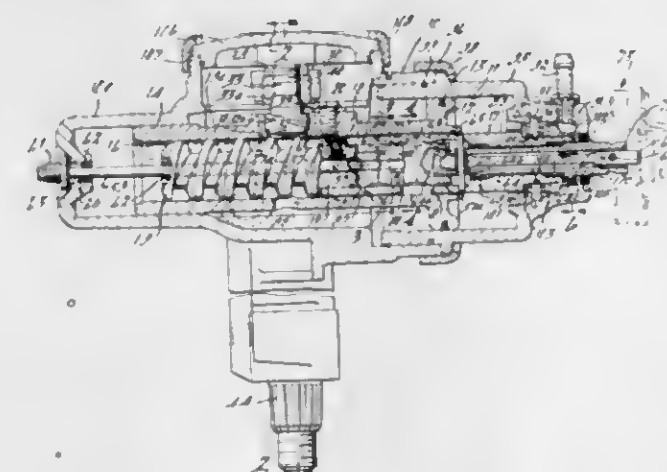
Walter E. Folkerts, Hazel Park, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware

Continuation-in-part of application Ser. No. 516,990, Dec. 28, 1965. This application Dec. 19, 1967, Ser. No. 691,859

U.S. Cl. 74-497

Int. Cl. F16h 35/18; B62d 1/20

12 Claims



A swinging arm of an automobile steering linkage is interlocked by a universally pivotal ball and socket coupling with a reciprocable piston. A worm coaxial with the piston is keyed to a tubular driven shaft sleeved over and cooperable with a rotary valve operable in a

pressurized fluid circuit to control power operation of the piston and interconnected steering linkage. A manually rotatable driving shaft having a rotary lost motion driving connection with the driven shaft is connected by a wedge type spline with the valve to rotate the same for power steering, or to rotate the driven shaft and worm manually at the limit of the lost motion in the event of power failure. This latter rotation effects manual reciprocation of the piston via a piston-carried worm follower extending radially into the worm groove. Fluid pressure applied to the valve maintains the aforesaid wedge type spline and positively avoids lost motion in the valve operation. A torsion rod coaxial with the valve and driving shaft is keyed at one end adjacent the valve to the driven shaft and at its opposite end remote from the valve to the driving shaft to transmit a steering reaction or "feel" to the driver during power steering.

3,422,699 ANTIBACKUP DEVICE

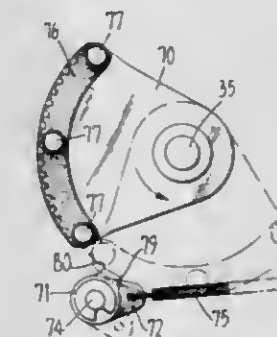
John F. Reus, Hayward, Calif., assignor to Friden, Inc., a corporation of Delaware

Filed Apr. 11, 1967, Ser. No. 630,036

U.S. Cl. 74-534

Int. Cl. G05g 5/06; F16d 61/00

5 Claims



Apparatus for eliminating the noise coincident with the passage of the pawl over the teeth of a gear in a pawl and ratchet gearing mechanism. An arcuate strip of a soft elastomeric material, having a radius greater than that of the gear, is secured to the gear, concentric therewith, to provide a surface on which the pawl rests during rotation of the gear in one direction. Upon attempted reversal of gear rotation, the elastomeric material yields to enable the pawl to engage between adjacent gear teeth.

3,422,701 DRIVE SYSTEM FOR BUSINESS MACHINES

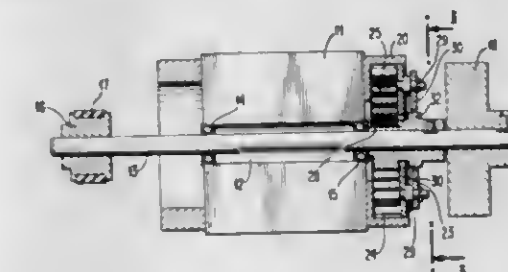
Alvin L. Wittwer, Paris, Ky., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed July 10, 1967, Ser. No. 652,281

U.S. Cl. 74-574

Int. Cl. F16h 5/44; F16d 3/14

10 Claims



A drive system for electric typewriters and similar cyclically operated business machines is disclosed. The drive system comprises an electrical motor having a rotor which is journaled on a drive shaft. The rotor is coupled to the drive shaft by a relatively stiff spring during normal driving operations. A flywheel is rigidly mounted on the drive shaft and the shaft is drivingly coupled to the load. A centrifugal clutch is provided for directly connecting

the rotor with the drive shaft and effectively bypassing the spring during starting and stopping operations. The overall arrangement is such that the relatively instantaneous fluctuations and variations in the driven load are damped by the combined action of the flywheel and spring. The variations in the electrical power requirements for the motor are minimized and occur over an extended period of time.

3,422,701

FOLDING PEDAL GEAR FOR A BICYCLE

Salomon A. Bolsis, 13 Ave. de la Grande Armee, Paris, France

Filed Nov. 18, 1966, Ser. No. 595,472

Claims priority, application France, Dec. 15, 1965, 42,385; May 18, 1966, Ser. No. 62,132

U.S. Cl. 74—594.7

Int. Cl. G05g 1/14

9 Claims



The invention relates to a folding pedal construction for a bicycle in which the pedal may be moved from a position of use into a storage position by first overcoming the influence of a resilient element and thus disengaging a detent member carried by the pedal.

3,422,702

INFINITELY VARIABLE SPEED GEAR TRANSMISSION

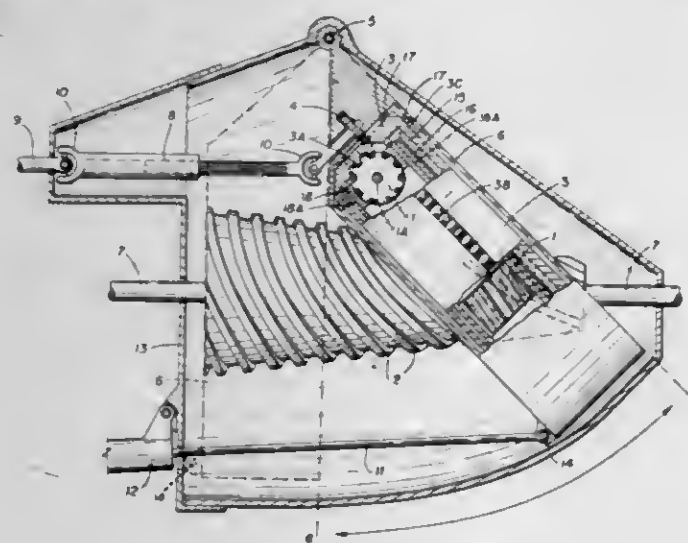
Harry E. Novinger, 1 Parkway Drive, Englewood, Colo. 80110

Continuation-in-part of application Ser. No. 535,639, Mar. 7, 1966. This application Dec. 28, 1966, Ser. No. 605,296

U.S. Cl. 74—793

Int. Cl. F16h 3/68, 1/16

5 Claims



This invention pertains to the use of gear mechanisms interacting to steplessly vary the speed of an output shaft relative to the speed of an input shaft. An internal helical

gear circumscribes and drives a chain of idler helical gears. This chain of gears circumscribes an output gear at increasingly varying angles for driving the output gear at infinitely variable speeds. The output gear is able to be supported and to mesh with the chain of idlers by being constructed with a conical surface comprised of curved teeth of uniform size throughout their lengths and of progressively varying radius of curvature equidistantly spaced between consecutive teeth.

3,422,703

TORQUE-RESPONSIVE DEVICE

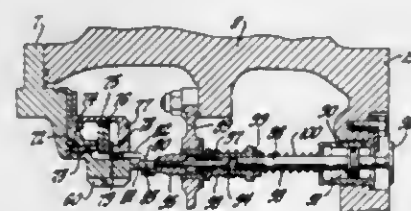
Cyril M. Hawkins, Indianapolis, Ind., and Truman R. Richardson, Newton Solney, England, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Sept. 15, 1966, Ser. No. 579,598

U.S. Cl. 74—801

Int. Cl. F16h 1/32; G01l 3/02

5 Claims



A reduction gear for an aircraft engine includes a ring gear mounted by splines so as to be axially shiftable; the relation of the helix angles of the gear teeth and splines being such that torque exerts an axial force on the gear. The ring gear is biased axially by two Belleville springs coaxial with it, the springs being bridled so that the gear has three axial positions of rest depending upon the torque. Torque-induced axial shifting of the gear is used to transmit an indication of torque in the normal direction above a certain level, torque below this level, and reverse torque.

3,422,704

AUTOMATIC DOOR OPERATOR

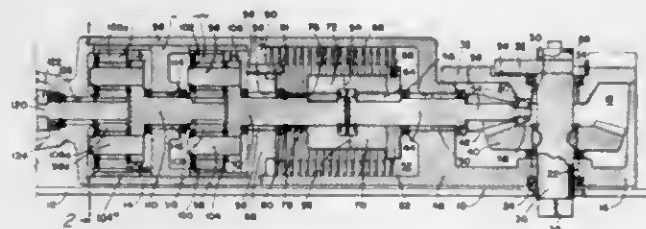
John C. Catlett, Chicago, Ill., assignor to Roto-Swing Door Co., Inc., Oklahoma City, Okla., a corporation of Oklahoma

Filed Jan. 31, 1967, Ser. No. 617,003

U.S. Cl. 74—801

Int. Cl. F16h 1/46; E05f 15/20, 15/00

5 Claims



1. A door operator for opening and closing a door and comprising power means, planetary gear means operably connected with the power means for actuation thereby, clutch means connected with the planetary gear means, shaft means adapted for connection with the door for simultaneous rotation therewith during an opening and closing operation, gear means cooperating between the clutch means and shaft means for transmitting rotation therebetween, and torsional spring means connected with the clutch means and cooperating therewith for returning the door to a closed position subsequent to the opening thereof.

3,422,705

HYDRAULIC ACTUATED RECESSING TOOL

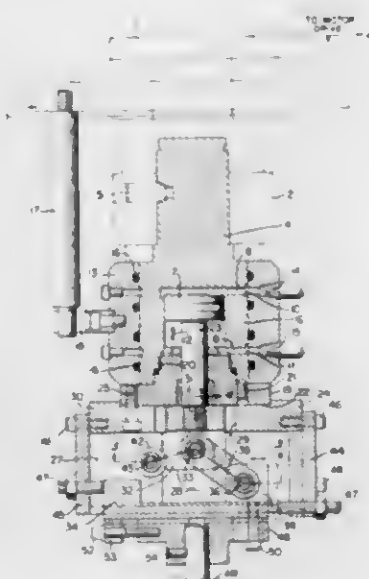
Robert S. Nahodil, Cuyahoga Falls, and Harold E. Correll, Greensburg, Ohio, assignors to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Apr. 14, 1966, Ser. No. 542,489

U.S. Cl. 77—58

Int. Cl. B23b 47/22

9 Claims



The invention relates to a recessing tool which is hydraulically actuated and designed for cutting O-ring grooves and the like inside a cylinder. In essence, the tool comprises structure for moving a cutting bit laterally to the axis of rotation of the carrying body. A hydraulic fluid distribution member is mounted in fixed relationship to the rotatable carrying body which distribution member has at least one fluid passage communicating with the rotating body. A linkage translates the axial motion of the actuating piston to a lateral motion for the cutting tool or bit.

3,422,706

GUN DRILL

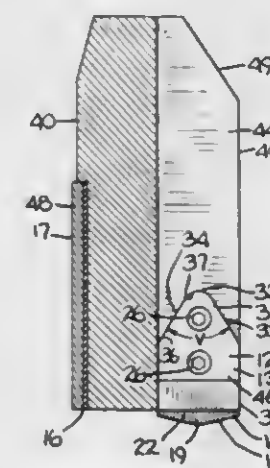
Harold D. Lunsford, Huntington, W. Va., assignor to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware

Filed Aug. 6, 1965, Ser. No. 477,894

U.S. Cl. 77—68

Int. Cl. B23b 51/06

17 Claims



Gun drill has special attachment of cutting element that enables replacing the cutting element without damaging the drill head and also provides high rigidity for holding the cutting element immovably in the head.

3,422,707

PLIERS TYPE WRENCH

John Burton York, 4801 42nd Ave., Sacramento, Calif. 95824

Filed June 27, 1967, Ser. No. 649,189

U.S. Cl. 81—361

Int. Cl. B25b 7/12

13 Claims



A pliers type wrench having a fixed jaw with a rigid handle extending therefrom and a movable jaw with a movable handle pivotally connected onto the fixed handle with the jaws being in sliding engagement with each other by means of cooperating transverse boss and groove with the sides of the boss being inclined inwardly away from the inner face of the jaw. There is pivotal connection between the jaws and the movable handle. A modification is disclosed wherein a cover encircles the jaws in the vicinity of the pivotal connection to the movable handle to retain the jaws in sliding engagement and to eliminate the pivotal connection therebetween.

3,422,708

TOOLS FOR STRIPPING COVERED WIRE

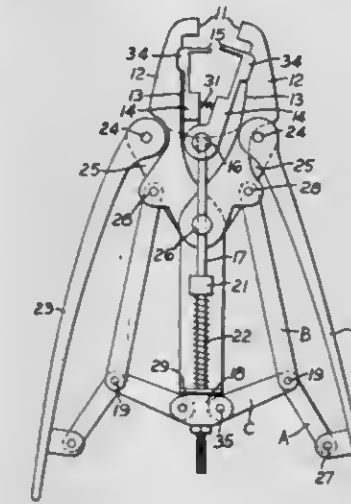
Zdzislaw Bieganski, Apem Works, St. Albans Road, Watford, Hertfordshire, England

Filed Oct. 4, 1967, Ser. No. 672,753

U.S. Cl. 81—9.5

Int. Cl. H02g 1/12

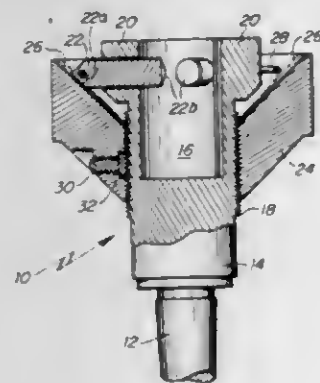
4 Claims



The invention provides a wire stripping tool in which the sheath of the wire is part severed and then displaced relative to the core of the wire, two pairs of jaws being provided, one for the part severing operation and the other for gripping the sheath, and the jaws being displaced relative to one another to strip the part severed portion. The two sets of jaws are linked by a toggle assembly having three links which are proportioned so that closing move-

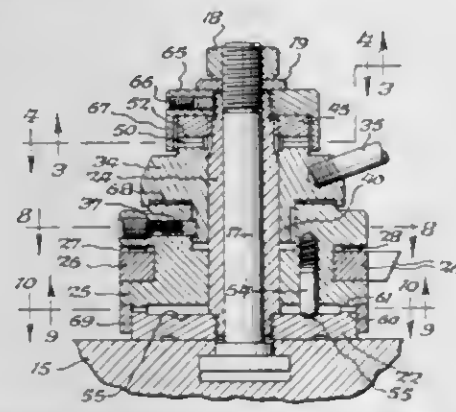
ment of one lever handle first closes the respective jaws and subsequently displaces the one set of jaws relative to the other, the transition between closing and displacement being determined by the nature of the wire being operated upon.

3,422,709
SELF-CENTERING TAIL STOCK ASSEMBLY
G. Herbert Regs, 105 Mystic St., Arlington, Mass. 02174
Filed July 20, 1966, Ser. No. 566,597
U.S. Cl. 82-33
Int. Cl. B23b 23/02



A nonrotating, self-centering tail stock assembly for supporting a work piece to be machined while the work is rotating. The assembly is provided with a plurality of adjustable nonrotating jaw centering pieces one end of which bears against a fixed jaw operator and which extends through a body member. The other ends of each of the jaw centering pieces define an aperture within which the work piece may rotate and be supported.

3,422,710
TURRET CONSTRUCTION
William A. Kilmer, Elmira, N.Y., assignor to Hardinge Brothers, Inc., Elmira, N.Y.
Filed Aug. 25, 1966, Ser. No. 575,083
U.S. Cl. 82-36
Int. Cl. B23b 29/28

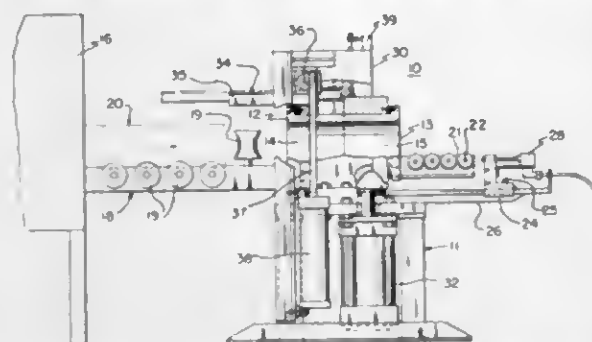


This disclosure relates to turrets for use on machine tools for successively advancing different tools mounted thereon into an operative relation to the work, and to provide a turret construction in which the accuracy in which the turret is supported in different positions is improved.

3,422,711
METHOD OF SHEARING HEATED BILLETS BY RELATIVE MOVEMENTS OF ADJACENT DIES
Henry W. Toney and Charles B. Huizenga, Niles, Mich., assignors to American Metal Climax, Inc., New York, N.Y., a corporation of New York
Original application Mar. 27, 1964, Ser. No. 355,157, now Patent No. 3,348,441, dated Oct. 24, 1967. Divided and this application July 24, 1967, Ser. No. 662,252
U.S. Cl. 83-15
Int. Cl. B26d 7/10, 7/06, 1/06

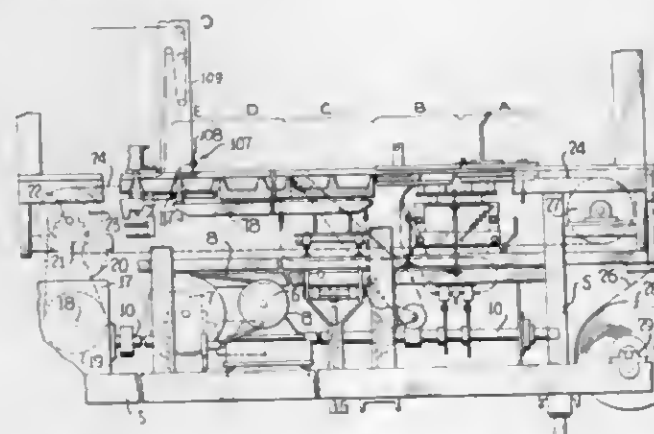
An improved method of severing aluminum billets provides for working aluminum billets hot and thereafter in-

cludes first heating the aluminum billets to working temperature, then confining the billets in the die openings of



adjacent relatively movable dies, severing a predetermined length of the billets by relative movement of the dies, and thereafter the severed billets are ejected from the dies.

3,422,712
WEB APERTURING MEANS
Stephen P. Lovas, West Hempstead, N.Y., and George S. Di Monaco, Waldwick, N.J., assignors to Royal Packaging Equipment, Inc., Hackensack, N.J., a corporation of New Jersey
Original application Feb. 4, 1964, Ser. No. 342,430, now Patent No. 3,347,011, dated Oct. 17, 1967. Divided and this application Aug. 17, 1967, Ser. No. 661,291
U.S. Cl. 83-124
Int. Cl. B26d 7/06

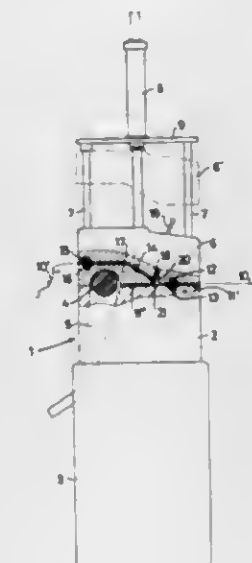


There are disclosed package forming machine parts including means for intermittently moving a web, a vertically reciprocable platform having thereon mold cavities in which to receive and temporarily hold package pockets formed in the web to be punched, and web punching means comprising a stripper foot having an aperture therethrough and disposed to overlie one face of the web to be apertured, a punch sleeve reciprocable across the plane of the web and through the foot aperture at rest positions in the web movement, and a punch sleeve cuttings displacing plunger mounted over the foot aperture and disposed to be telescoped by an end of the sleeve, the sleeve end disposed to telescope the plunger being provided with sharp angled punching teeth and there also being included a punch cuttings, receiving tube attached to and reciprocable with the punch sleeve and supported on and movable with the platform.

3,422,713
APPARATUS FOR GRANULATING PLASTIC STRING
Rudi Groepler, Schoenberg, Taunus, Germany, assignor to Vickers-Zimmer Aktiengesellschaft, Planung und Bau Industrieanlagen
Filed Dec. 19, 1966, Ser. No. 602,996
Claims priority, application Germany, Dec. 18, 1965, Z 11,926
U.S. Cl. 83-156
Int. Cl. B26d 7/06, 5/22

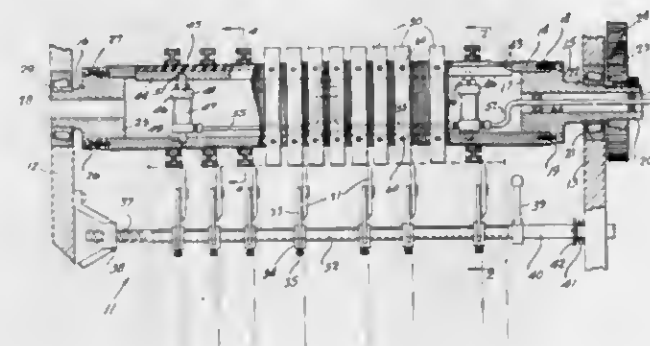
A granulator for cutting continuously extruded plastic string wherein the granulator has a fixed base and a

movable cover to cover the base. A guide track for the string is defined between the base and the cover. The string is fed in the guide track and a cutter is provided in the guide track to cut the string. The guide track is intercepted by a by-pass guide track for the string which passes around the cutter. Where the by-pass intercepts the guide track, a blade is positioned and is held in the



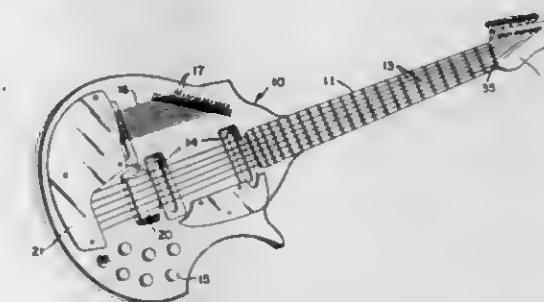
raised position when the cover is down against the base. At the desired time when the plastic string is moving in the by-pass track, the blade is released to simultaneously sever the plastic string moving to the by-pass portion, block the by-pass portion, and cause introduction of the cut ends of the string to the guide track which leads to the cutter.

3,422,714
QUICK-SET SHEAR SLITTER
James J. Van Gompel and Luther W. Meyer, Menasha, Wis., assignors to S & S Enterprises, Inc., Menasha, Wis., a corporation of Wisconsin
Filed Dec. 23, 1966, Ser. No. 604,239
U.S. Cl. 83-498
Int. Cl. B26d 1/24, 1/14; B23d 19/06



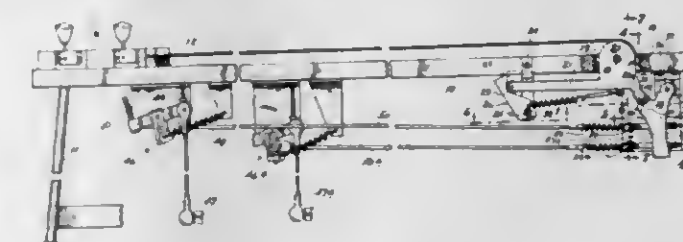
1. In a slitting machine, a supporting frame, a supporting shaft, a plurality of male slitter blades adjustably-mounted on said supporting shaft and extending in planes substantially perpendicular to said shaft, a main cylinder rotatably-mounted on said frame substantially parallel to said supporting shaft, said main cylinder being formed with external threads, a plurality of female slitter rings threadably-engaged on said cylinder and being operatively-engageable by said male slitter blades when rotated on the cylinder to adjusted positions wherein their side planes are adjacent the planes of the male slitter blades, and means movably-mounted in the cylinder and being lockingly-engageable with the female slitter rings to secure the rings in said adjusted positions.

3,422,715
BRIDGE CONSTRUCTION IN GUITAR-LIKE INSTRUMENTS
Vincent Gambella, Tenafly, and Nathan I. Daniel, Deal, N.J., assignors, by mesne assignments, to The Danelectro Corporation, Neptune City, N.J., a corporation of New York
Filed Nov. 15, 1967, Ser. No. 683,180
U.S. Cl. 84-307
Int. Cl. G10d 3/04



A bridge for stringed musical instruments of the guitar or sitar type having a relatively wide upper surface which is contacted linearly by the strings, the bridge having a front to rear convexly arcuate upper surface and being angularly adjustable by rocking and then locking the bridge in a desired position. The rocking adjustment of the bridge effectively shifts the position of contact by the strings axially of the instrument in accordance with requirements of dimensional guitar characteristics.

3,422,716
PITCH CHANGING MEANS FOR PEDAL STEEL GUITARS
Arthur W. Alifano, 107 Wellington Ave., Albany, N.Y. 12203
Filed Feb. 18, 1966, Ser. No. 528,515
U.S. Cl. 84-312
Int. Cl. G10d 3/14



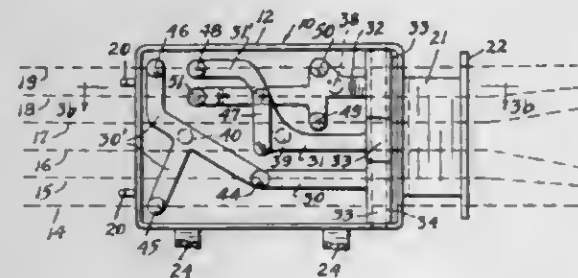
1. A stringed musical instrument including a panel having a given number of playing strings thereon, tuning keys at the front end of the panel anchoring the front ends of said strings thereto and maintaining the strings tensed in normally tuned condition, said panel having an opening therethrough at the rear end thereof, a first transverse shaft extending across said opening, a number of rockers equal to said given number mounted side by side on said first shaft and having rounded heads protruding above the panel, the rear ends of said strings being anchored on said heads, a second transverse shaft positioned below and rearward of said first shaft, supports securing said second shaft to the panel, a number of cam members equal to twice said given number pivotally mounted on said second shaft, said cam members having approximately one-half the thickness of said rockers and being provided in pairs, each pair of said pairs lying in a common plane with one of said rockers, each of said rockers including a downward extension having a rounded extremity, the cam members of each of said pairs having cam surfaces in engagement with said rounded extremity on the rocker co-planar therewith, longitudinally movable first means for tilting said cam members in one rotational direction from a normal neutral position, one cam member of each of said pairs having the cam surface thereof shaped to tilt its co-planar rocker in said rotational direction to tighten the string

anchored thereto upon movement of said first means in one longitudinal direction from a normal neutral position and the other cam member of each of said pairs having the cam surface thereof shaped to tilt said co-planar rocker in the opposite rotational direction to loosen said string upon movement of said first means in said one longitudinal direction, said first means including adjustable means for selectively engaging said first means with either one of each pair of cam members, spring-biased pedal-operated means for moving said first means in said one longitudinal direction, and means for automatically tilting said rockers in the opposite rotational direction to restore the same and hence also said cam members to neutral inactive position upon release of said pedal-operated means.

ERRATUM

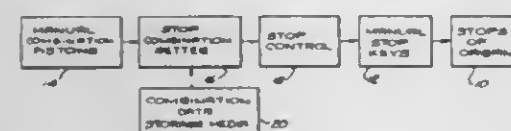
For Class 84—313 see:
Patent No. 3,422,509

3,422,717
CHORD PLAYING ATTACHMENT FOR FRETTED MUSICAL INSTRUMENTS
Norman T. Roussel, Rte. 1, Litcher, La. 70071
Filed Apr. 11, 1966, Ser. No. 541,746
U.S. Cl. 84—317 8 Claims
Int. Cl. G10d 3/00



A chord playing attachment for guitars and the like having strings, comprising a casing adapted for attachment to a guitar neck in overlying relation to the strings, a cross shaft provided in said casing crossing the strings, a plurality of independently movable levers disposed in the casing and mounted on said cross shaft, at least two laterally spaced pressure exerting members carried by each of said levers for engagement with at least two guitar strings, respectively, and a plurality of finger-pieces disposed exteriorly of said casing and operatively connected to the respective levers.

3,422,718
APPARATUS FOR COMBINATION ACTION IN AN ORGAN
Robert G. Noehren, 815 Oakdale Road, Ann Arbor, Mich. 48105
Filed May 17, 1965, Ser. No. 456,160
U.S. Cl. 84—345 7 Claims
Int. Cl. G10b 3/10



Apparatus for operating the combination action of an organ in accordance with combination data memory media. A combination selection means is provided which has a first unit formed as an integral part of the combination action and a second unit formed separate and

detachable from the first unit. The first unit includes discontinuous electrical connections disposed between the combination switches and the stop switches of the combination action and the second unit provides preselected connections for certain of the discontinuous connections for actuating the stops associated with such preselected connections when the associated combination switch is closed. The second unit is constructed and arranged so that a plurality of such units, containing different data memory media, can be interchanged readily.

3,422,719
PLAYING STICK FOR A PERCUSSION INSTRUMENT
Albert Payson, 2130 Glenview Ave., Park Ridge, Ill. 60068
Filed Aug. 22, 1966, Ser. No. 574,234
U.S. Cl. 84—422 3 Claims
Int. Cl. G10d 13/00



A playing stick for a percussion instrument including a handle having an interior bore formed longitudinally therethrough with a striking tip fixedly secured to one end of the handle and closing the bore formed therein, and a balancing weight frictionally carried within the bore of the handle and movable longitudinally therethrough to change the balance of the instrument according to its use.

3,422,720
KEYBOARD ASSEMBLY
Melvin E. Johnson, % P. A. Starck Piano Co. 2150—60 N. Ashland Ave., Chicago, Ill. 60614
Filed Feb. 23, 1967, Ser. No. 617,881
U.S. Cl. 84—435 7 Claims
Int. Cl. G10c 3/12

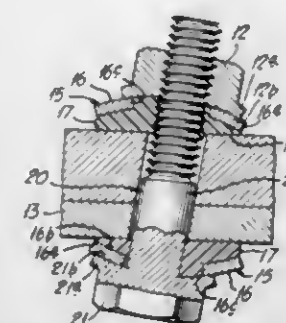


A keyboard assembly for pianos, organs and similar musical instruments having individual keys pivotally connected to an underdisposed balance rail by pivot connectors having detachable interfitting cooperating parts, one part of which is connected to the balance rail and is common to all keys while each key carries another part constituting a segment of an elongated member anchored to the underside of a fabricated key blank and tailored into a plurality of segments individually related to and formed simultaneously with the manufacture of keys from the key blank.

3,422,721
SELF-ALIGNING AND SEALING MEMBER
John L. Yonkers, 2030 Sunset Ridge Road, Northbrook, Ill. 60062
Filed Aug. 22, 1966, Ser. No. 573,944
U.S. Cl. 85—1 1 Claim
Int. Cl. F16b 39/24

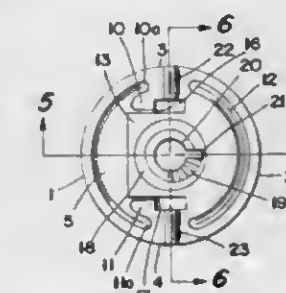
There is provided a self-aligning and sealing member

for use with a fastener such as a bolt or nut. The member comprises an arcuate washer having a ring-shaped



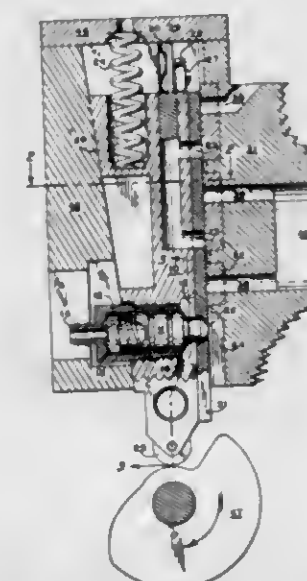
plastic filler joined to the concave side thereof which defines a generally convex arcuate outer surface.

3,422,722
COMBINATION SHEET METAL WASHER AND NUT
Wilbur Frank Ptak, Middleburg Heights, Ohio, assignor to Fastway Fasteners, Inc., Lorain, Ohio, a corporation of Ohio
Filed July 10, 1967, Ser. No. 652,311
U.S. Cl. 85—32 4 Claims
Int. Cl. F16b 37/02, 43/00



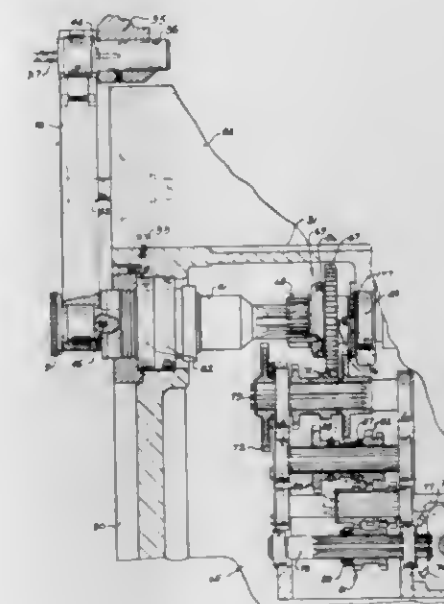
A combination washer and nut formed of sheet metal and having a circumferential bead which provides rigidity as well as a bearing surface against a flat surface, and is nestable within a knockout opening in a standard electrical outlet box; has a raised thread-receiving portion and means for supporting the same, and is provided with metal wings for tightening the nut, and which are spaced apart sufficiently to permit ample torque to be supplied to turn the nut by means of the fingers.

3,422,723
LIQUID-PROPELLENT GUNS AND RELATED DEVICES
Rodney W. Gordon, 28 Keyport Road, New Monmouth, N.J. 07748
Filed Nov. 29, 1966, Ser. No. 597,643
U.S. Cl. 89—8 4 Claims
Int. Cl. F41f 11/00, 17/14



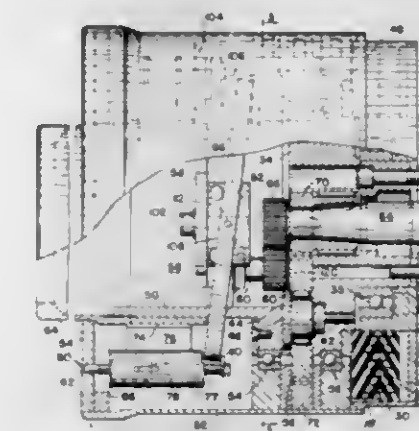
An apparatus for valving liquid propellents to com-

3,422,724
MECHANISM FOR EFFECTING ANGULAR ORIENTATION OF A MACHINE TOOL SPINDLE
Frank Zankl, Milwaukee, Richard E. Stobbe, Greenfield, and Clyde E. Mattson, Waukesha, Wis., assignors to Kearney & Trecker Corporation, West Allis, Wis., a corporation of Wisconsin
Filed Nov. 21, 1966, Ser. No. 595,827
U.S. Cl. 90—11 11 Claims
Int. Cl. B23b 1/00



A mechanism for always stopping the rotation of a machine tool spindle in the same angular position by means of a keyway on a spindle driving gear being moved into engagement with a fixed key to stop rotation of the spindle at the predetermined angular position. When the key and keyway engagement is effected the power to the drive gear is reduced to minimize the strain on the key.

3,422,725
AUTOMATIC SPIRAL INDEX MECHANISM
Joseph A. Sanders, Detroit, Mich., assignor to Allegheny Ludlum Steel Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 22, 1966, Ser. No. 544,565
U.S. Cl. 90—11.62 16 Claims
Int. Cl. B23c 17/00, 3/28; B23b 29/24



Automatic spiral indexing mechanism including a drive connected between table traverse mechanism and means

for rotating the work spindle, together with means for disconnecting the work spindle drive mechanism and re-engaging it in index position.

3,422,726

MOTORIZED SPINDLE

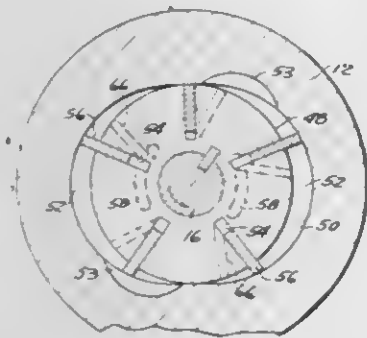
Nathan Gottlieb, 23840 Condon,
Oak Park, Mich. 48237

Filed June 27, 1966, Ser. No. 560,780

U.S. Cl. 91—136

5 Claims

Int. Cl. F01c 1/00, 21/12, 21/14



A motorized spindle consists of a stator having an elliptical chamber formed therein and a cylindrical rotor with a diameter equal to the minor diameter of the stator rotatably supported within the stator on a shaft. The rotor has five vanes slidably supported in radial slots. The stator includes surfaces which abut the sides of the rotor and communicate pressurized air to the rotor at certain angular positions thereof. The pressurized air urges the vanes outwardly and pressurizes chambers formed between the elliptical stator surface and the rotor, and bounded by the vanes. A pair of sinks to atmosphere are disposed at diametrically opposed points on the stator. The spacial relationship of the fluid chambers, vanes and sinks is such that working chambers are pressurized until they make fluid connection with the sink. The shaft is supported on bearings disposed adjacent to both faces of the rotor so as to provide a spindle.

3,422,727

TWO SPEED RAM TYPE MACHINE

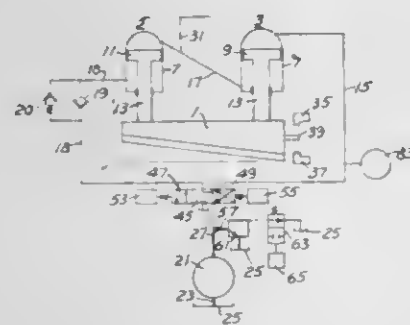
Eugene W. Pearson, Orinda, Calif., assignor to Pacific Press & Shear Corp., a corporation of Illinois

Filed Aug. 4, 1967, Ser. No. 658,412

U.S. Cl. 91—413

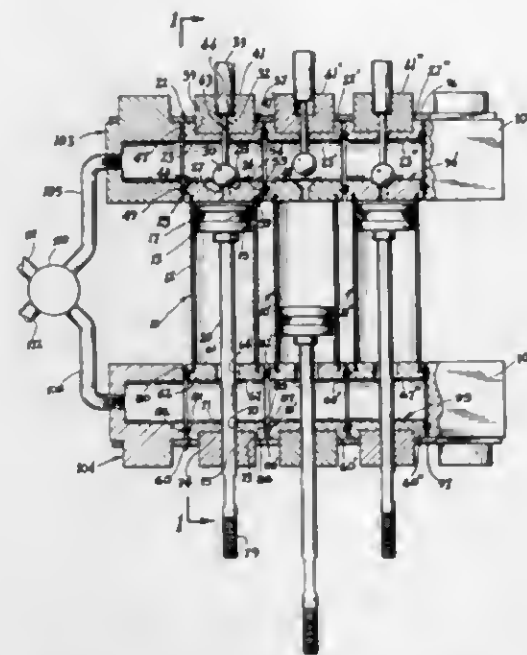
5 Claims

Int. Cl. F15b 11/22



A hydraulically powered ram type machine employing series connected hydraulic drive motors, simultaneously supplies hydraulic power directly to both motors for fast work stroke of the ram on light loads, and in response to development of a heavy load, the conventional series feed of power to the hydraulic motors is established and maintained during the remainder of the work stroke.

3,422,728
SELF-MANIFOLDING CYLINDERS
Donald M. Black and Samuel J. Carfagno, Chatsworth, Calif., assignors to Flexible Packaging Equipment, Inc., Chatsworth, Calif., a corporation of California
Filed Oct. 18, 1966, Ser. No. 587,480
U.S. Cl. 91—414 10 Claims
Int. Cl. F15b 11/16; F01b 1/00; F16k 1/14



The invention relates to fluid actuating cylinders. By the structure of the invention, groups of cylinders are assembled in parallel with manifolds provided directly across the ends of the cylinders, that is, the cylinders being joined directly to the manifolds. In one manifold there are provided valves controlling communication between the manifold and individual cylinders. The piston rods of the cylinders extend through the other manifold. In a preferred form of the invention, the manifolds are formed by way of modular units at the ends of the cylinders which are juxtaposed against each other in sealing relationship to provide a continuous manifold across the ends of the cylinders.

3,422,729

HOSE BLOCK SWIVEL

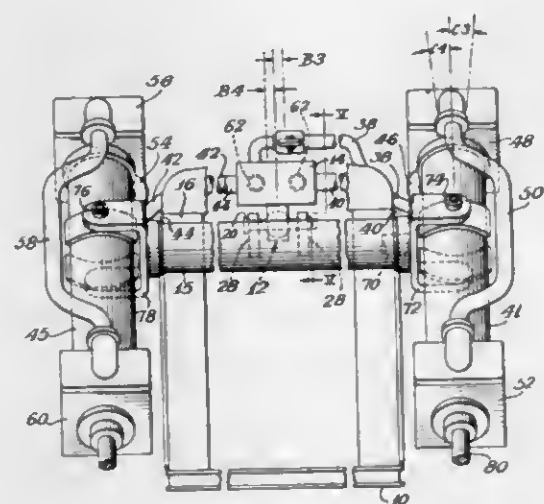
Lewis Kirchner, Skokie, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware

Filed Sept. 29, 1966, Ser. No. 582,817

U.S. Cl. 92—146

10 Claims

Int. Cl. F15b 11/16



Bulldozer radiator guard structure having blade hoist cylinders, service line hoses therefor, a junction block swivel intermediate the cylinders and providing four-way freedom of motion, and a central hose junction block

supported by the block swivel and hydraulically inter-connecting sets of the service line hoses in a way to yield when displaced by hose movement.

3,422,730

CONTAINER FABRICATING APPARATUS

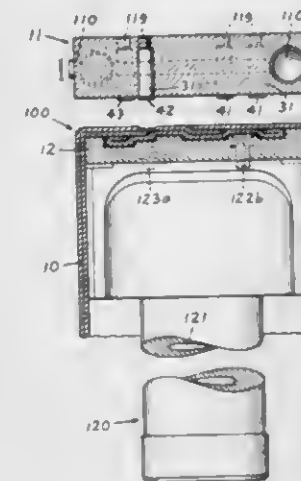
Richard C. Mitzelfelt, Peoria, Ill., and Leigh D. Leiter and John E. Junod, Philadelphia, Pa., assignors to International Paper Company, New York, N.Y., a corporation of New York

Filed Dec. 7, 1966, Ser. No. 599,768

U.S. Cl. 93—36

7 Claims

Int. Cl. B31b 1/02, 1/28, 1/44



Apparatus for closing the bottom of a paperboard container which includes a mandrel over which the paperboard container, with both ends open, is placed and the end closure of the container is folded, and a pressure pad for engaging the folded end closure of the container and, with said mandrel, applying pressure thereto, the mandrel having a predetermined configuration of areas selected ones of which are inwardly relieved to various depths to receive in the inwardly relieved mandrel areas multiple layers of the container end closure, the pressure pad having a flat surface for engagement with the folded container end closure and a plurality of pairs of projecting pressure stakes extending outwardly from the flat surface for applying increased pressure to corresponding points in the container end closure.

3,422,731

DEVICE FOR CONCRETING AND LEVELING OF INCLINED AND CURVED SURFACES

Manuel B. Sebastian, 7-5 Virgen Maria, Madrid, Spain

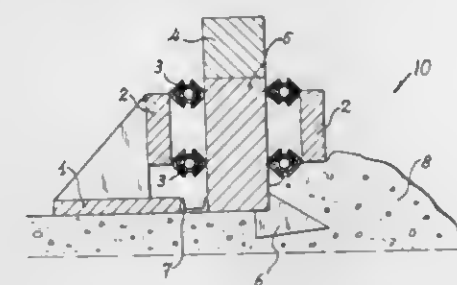
Filed Feb. 21, 1966, Ser. No. 528,990

Claims priority, application Spain, Feb. 23, 1965, 309,687

U.S. Cl. 94—48

4 Claims

Int. Cl. E01c 19/30; B28b 7/06



A device for leveling concrete surfaces is provided comprising a sliding frame defining a leveling surface. A rack is interconnected with the frame. A metallic rule

is positioned between the rack and the frame by elastic mounting means. The metallic rule carries a vibrator and has a surface defining means for vibrating a preselected depth of concrete without substantially vibrating the sliding frame.

3,422,732

ARTIFICIAL SKI MAT

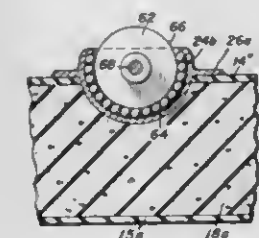
Ralph York, 406 Daytona Place, Elizabethton, Tenn. 37643; Ruth S. York, executrix of said Ralph York, deceased, assignor to Ruth S. York, Elizabethton, Tenn.

Filed Aug. 15, 1966, Ser. No. 572,398

U.S. Cl. 94—3

9 Claims

Int. Cl. A63c 19/10; B65g 13/00



A mat including upper and lower flexible surface portions for placement on an inclined ground surface. The mat includes deformable resilient structure disposed between the lower and upper surface portions thereof supporting the upper surface portion in elevated position relative to the lower surface portion for selective independent downward depression of portional areas of the upper surface portion of the mat relative to adjacent areas of the mat upper surface portion in response to the application of downward forces applied throughout given portional areas of the upper surface portion of the mat. The upper surface portion of the mat being provided with a plurality of journaled members substantially circular in vertical cross-section spaced closely apart both transversely and longitudinally of the mat with the upper peripheries of the journaled members projecting slightly above the upper surface portion of the mat.

3,422,733

EXPANSION JOINT SEALING ELEMENT

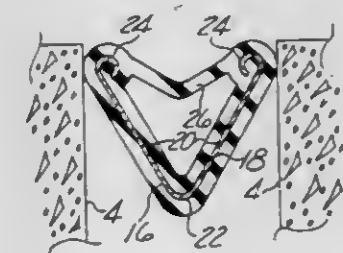
Balfour Y. Connell, Wabash, Ind., assignor to The General Tire & Rubber Company, a corporation of Ohio

Filed Sept. 19, 1966, Ser. No. 580,397

U.S. Cl. 94—18

6 Claims

Int. Cl. E01c 11/10



A resilient sealing element of the type used in the joints of concrete highways and the like is composed of a hollow extruded triangular rubber strip in which is embedded a substantially V-shaped spring metal carrier. The carrier serves to press the sealing element in firm contact with the sides of the joint, and is preferably composed of a continuous succession of longitudinally spaced transversely extending flat strips joined to one another, preferably at or near the ends by narrow bridging strips.

3,422,734

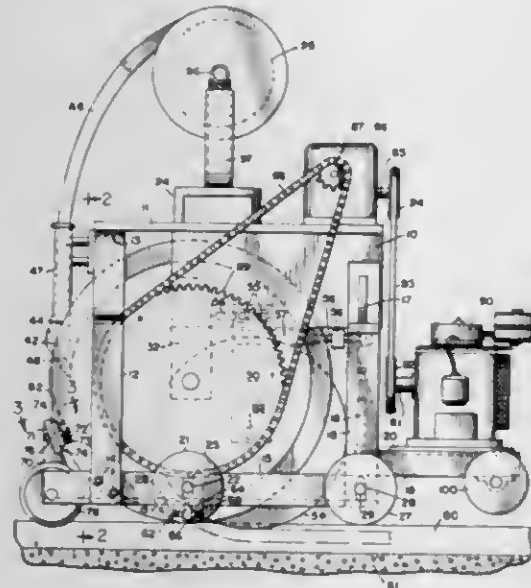
**MACHINE FOR INSERTING ELONGATED, LAT-
ERALLY COMPRESSIBLE STRIPS IN CONCRETE
JOINTS AND THE LIKE**

Burl D. Tonjes, Malinta, and Delmont D. Brown, North
Baltimore, Ohio, assignors to The D. S. Brown Com-
pany, North Baltimore, Ohio, a corporation of Ohio
Filed Nov. 23, 1966, Ser. No. 596,599

U.S. Cl. 94-39

Int. Cl. E01c 19/00, 21/00; B23p 19/02

5 Claims



Machine for inserting laterally compressible strips in concrete joints embodying downwardly canted and converging strip-compression discs which are power driven and mounted on stub axles carried by the frame of the machine, rearwardly eccentrically mounted discharge wheel between said discs with forward and rearward adjustably, pressure rollers operating against the periphery of outer faces of the compression discs, lubricant applying means for applying lubricant to the strip compression faces of the discs, front guide wheel, and means for adjusting the distance between compression faces of the discs.

3,422,735

**VIBRATORY ROLLER FOR ROLLING GROUND
SURFACES, HAVING TANDEM-MOUNTED
ROLLERS**

Gerard Vitry, Valenciennes, Nord, France, assignor to
Ateliers Francois Brasseur, Valenciennes, Nord, France,
a French company

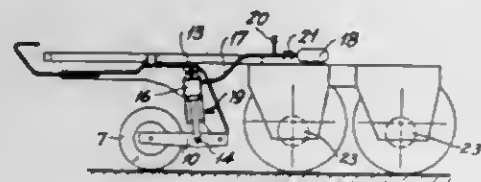
Filed May 13, 1966, Ser. No. 549,944

Claims priority, application France, July 9 1965,
24,077

U.S. Cl. 94-50

Int. Cl. E01c 19/23

7 Claims



A vibratory type ground roller apparatus having a plurality of ground rollers arranged in tandem and a steering train pivotably mounted on the draw bar of the apparatus, said train comprising a ground wheel which is yieldingly urged towards the ground and whose rotary axis is vertically shiftable relative to the rotary axis of the ground rollers.

3,422,736

TYPE COMPOSING APPARATUS

Louis M. Moyroud, Medford, and Rene A. Higonnet,
Cambridge, Mass. (both % Photon Inc., 355 Middlesex
Ave., Wilmington, Mass. 01887)

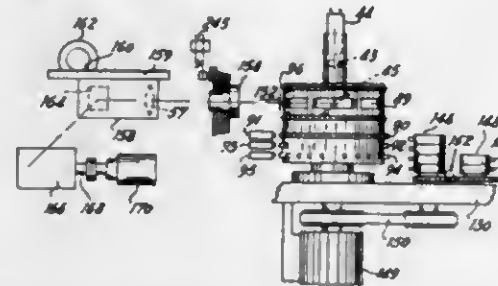
Continuation-in-part of application Ser. No. 338,810,
Jan. 21, 1964. This application Mar. 22, 1965, Ser.
No. 441,738

Claims priority, application Great Britain, Jan. 21, 1963,
2,567/63

U.S. Cl. 95-4.5

Int. Cl. B41b 19/06, 21/26

15 Claims



This invention relates to a phototypesetter which is used in the graphic arts to produce on photographic film or paper areas of typographic composition. The apparatus described herein comprises a constantly rotating character carrying drum wherein characters are selectively illuminated by a high speed flash tube, an optical projection system a portion of which is adapted for periodic translation in relation to the film and an electronic control circuit which accepts input data, performs a justification calculation and controls the character selection and projection apparatus.

3,422,737

VARIABLE FONT CHARACTER GENERATOR

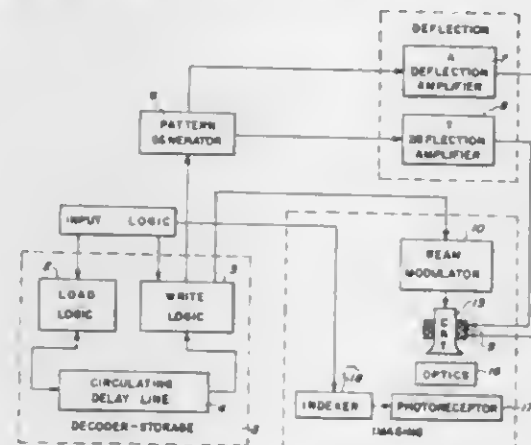
John M. Bailey, Jr., Fairport, N.Y., assignor to Xerox
Corporation, Rochester, N.Y., a corporation of New
York

Filed Dec. 27, 1965, Ser. No. 516,393

U.S. Cl. 95-4.5

Int. Cl. B41b 13/00, 19/00, 23/00

4 Claims



1. In a reproduction apparatus having optical means for imaging light patterns from a cathode ray tube onto an electrostatic means, whereby a latent developable image may be formed upon said electrostatic means for subsequent development and reproduction of said light patterns, the improved apparatus including a variable font character generator, said character generator comprising input logic means;
recirculating decoder-storage means adapted for storing encoded character fonts transmitted from said input logic means, said recirculating decoder-storage means being further adapted to respond to encoded signals representative of said stored encoded characters and presented to said recirculating decoder-storage means by selectively gating out electrical signals indicative of the characters corresponding to said encoded signals;

pattern generator means electrically connected to said decoder-storage means and said cathode ray tube, said pattern generator means including circuitry for establishing a fixed scan pattern on the face of said cathode ray tube, said pattern generator means further including circuit means for intensity modulating said scan pattern in accord with said electrical signals from said decoder-storage means whereby light patterns may be formed upon said cathode ray tube representative of said characters.

3,422,738

AUTOMATIC EXPOSURE FLASH CAMERA

Tadamichi Mori, Tokyo-to, and Koji Tanabe, Higashi-
murayama-shi, Tokyo-to, Japan, assignors to Citizen
Tokei Kabushiki Kaisha, Shinjuku-ku, Japan, a corpora-
tion of Japan

Filed July 13, 1965, Ser. No. 471,657

Claims priority, application Japan, July 24, 1964,
39/41,817

U.S. Cl. 95-10

Int. Cl. G01j 1/00; 1/52

6 Claims



A camera shutter automatic timing mechanism for use with photoflash devices includes an electronic switch responsive to a predetermined signal voltage and functioning to close the camera shutter following the opening thereof. A timing network includes a series connected photoconductor and timing capacitor and a resistor connected through a switch across the photoconductor. The RC value of the resistor and capacitor is such that the capacitor reaches the switch triggering voltage following the opening of the shutter a time about equal the illumination time of the photoflash device. The exposure is compensated for the ambient light conditions by the present system.

3,422,739

**IMAGE-MOTION COMPENSATING MECHANISM
FOR PANORAMIC AERIAL CAMERAS**

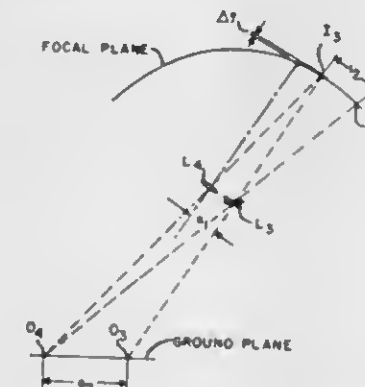
Jacob P. Zilko, Roslyn Heights, N.Y., and Leonard I.
Sherry, Los Angeles, Calif., assignors to Fairchild
Camera and Instruments Corporation, a corporation of
Delaware

Filed Oct. 24, 1966, Ser. No. 588,855

U.S. Cl. 95-12.5

Int. Cl. G03b 29/00

12 Claims



1. In a panoramic aerial camera adapted to be mounted with its axis at an angle to the vertical in the direction of flight, an optical scanning mechanism providing image-motion compensation in the direction of flight and transverse thereto comprising:
an objective lens unit;

means for imparting angular motion to said lens unit about an axis normal to the principal ray of the lens unit and in the general direction of flight;
mounting means for said lens unit providing for translatory movement thereof in the direction of flight and transverse thereto;
first means responsive to motion of said lens unit about its axis for imparting thereto oscillatory translatory movement in the direction of flight;
and second means responsive to motion of said lens unit about its axis for imparting thereto oscillatory translatory movement transverse to the direction of flight,
said last two means being proportioned respectively to compensate for the vectors of image motion in the direction of flight and transverse thereto.

3,422,740

CODED FILM MAGAZINE

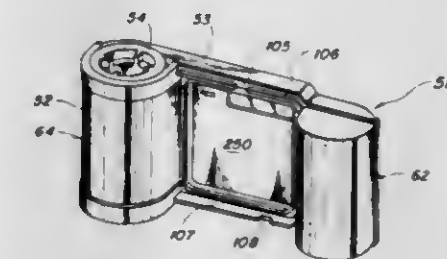
Hubert Nerwin, Rochester, N.Y., assignor to Eastman
Kodak Company, Rochester, N.Y., a corporation of
New Jersey

Application Jan. 2, 1962, Ser. No. 163,843, which is a
continuation-in-part of application Ser. No. 109,294,
May 11, 1961. Divided and this application Jan. 11,
1965, Ser. No. 424,482

U.S. Cl. 95-31

Int. Cl. G03b 19/04

4 Claims



1. A method of providing a film magazine having an elongated external rib, with tactile code means representative of a particular film characteristic; said method comprising removing at least one portion of said rib to establish at least one abutment surface therealong at a position related to said particular film characteristic by a predetermined coding system.

3,422,741

PHOTOGRAPHIC DEVELOPING APPARATUS

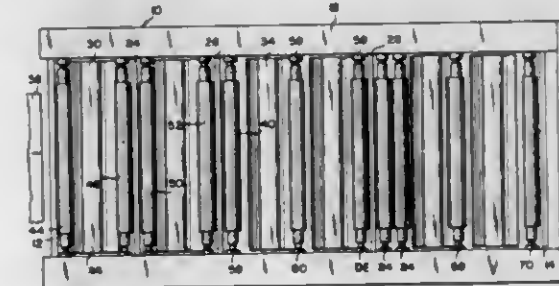
Marvin B. Fleisher, Wantagh, and Philip E. Hixon, Jeri-
cho, N.Y., assignors, by mesne assignments, to Itek
Corporation, Lexington, Mass., a corporation of
Delaware

Filed June 4, 1965, Ser. No. 461,306

U.S. Cl. 95-94

Int. Cl. G03d 3/12

5 Claims



An apparatus for processing a strip of photographic film consisting of a series of processing stations and transport rollers associated therewith. The transport rollers are detachably connected by a ball and socket arrangement to stub axles which are mounted in the housing

of the apparatus whereby the rollers may be easily removed for cleaning. Each of the stub axles has a sprocket wheel mounted on one end thereof for engaging an endless chain which serves to rotatably drive the transport rollers.

3,422,742 CHIMNEY FOR ENHANCING A MARGINAL WHIRLWIND

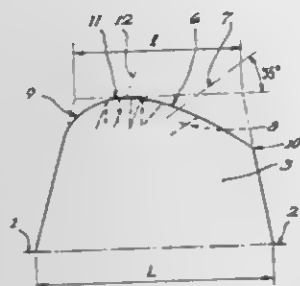
Jacques Valensi, 391B Rue Paradis, 13, Marseille 8, France

Filed May 9, 1967, 637,213

Claims priority, application France, May 12, 1966, 61,329

U.S. Cl. 98—60
Int. Cl. F23i 17/00

4 Claims



A chimney, particularly for land-based and maritime vehicles, of the type having a covering substantially the shape of an aircraft wing, which under the effect of the wind can determine a marginal whirlwind substantially parallel to the general direction of the relative flow of air around the device. These improvements have the effect of enhancing the formation of the marginal whirlwind starting at the upper end of the cover and in raising its trajectory to provide the use of a covering of reduced height and of a thickness which may attain 40% or more of its average length.

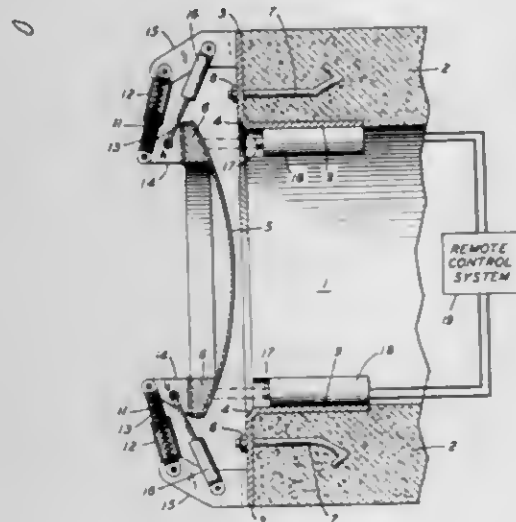
3,422,743 BLAST ACTUATED VALVE

Robert R. Ross, Basking Ridge, N.J., and Kenneth B. Woodard, Indianapolis, Ind., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Aug. 16, 1967, Ser. No. 661,057

U.S. Cl. 98—119
Int. Cl. F23i 17/00; F16k 17/00, 15/00

22 Claims



A blast actuated valve closure system employing a shaftless poppet type of valve comprising a thin membranous valve cover plate in the shape of a domed cap for a pressure vessel and attached to a strong peripheral ring which is supported by compression springs having their motion limited, guided, and cushioned by shock absorbers.

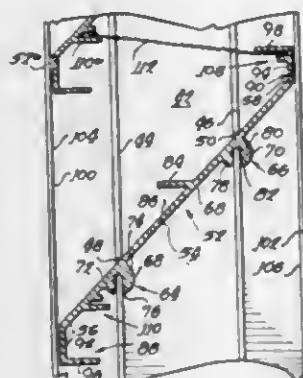
3,422,744 VENTILATING LOUVER

Sherwin S. Tarnoff, Leaning Tower YMCA, Touhy and Caldwell, Niles, Ill. 60648

Filed Apr. 24, 1967, Ser. No. 633,164

U.S. Cl. 98—121
Int. Cl. F24f 13/08

4 Claims



A louver for use in building ventilation for exhausting smoke or air from the building interior and for the admission of light and air comprising a generally rectangular frame having top, bottom and opposed side members and shelves on the side members for supporting a plurality of louver blades in a plurality of longitudinally spaced slots in the shelves. The louver blades have lateral projections abutting the side member shelves so as to prevent movement of the blades relative to the frame.

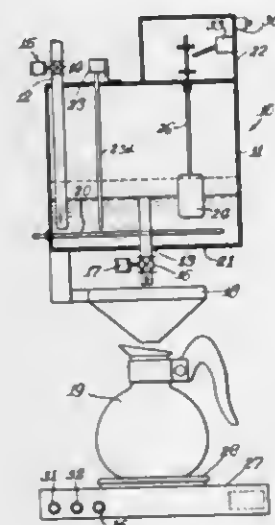
3,422,745 LIQUID CONTROL APPARATUS

David C. Eisendrath, Chicago, Ill., assignor to Cory Corporation, a corporation of Delaware

Continuation of application Ser. No. 320,746, Nov. 1, 1963. This application Mar. 8, 1967, Ser. No. 632,134

U.S. Cl. 99—282
Int. Cl. A23f 1/00

24 Claims



A liquid heater apparatus for providing a preselected quantity of liquid such as hot water for use such as brewing. The apparatus includes a tank, an inlet for conducting liquid into the tank, a first valve for controlling the flow of liquid through the inlet, an outlet for conducting liquid from the tank, a second valve, or a pump for controlling the flow of liquid through the outlet to a brewer or the like, means for heating the liquid in the tank, and thermostat means for selectively energizing the heating means. An electrical control permits opening of the outlet valve only when the level in the tank is at a preselected

high level, maintains the outlet valve open until the liquid level reaches a preselected low level while said heating means may be selectively energized or de-energized, and concurrently closes the outlet valve and opens the inlet valve when the level of liquid in the tank reaches the preselected low level until the level of liquid in the tank reaches the preselected high level. A weight controlled station for carrying the decanter or the like to receive the brew and control the delivery.

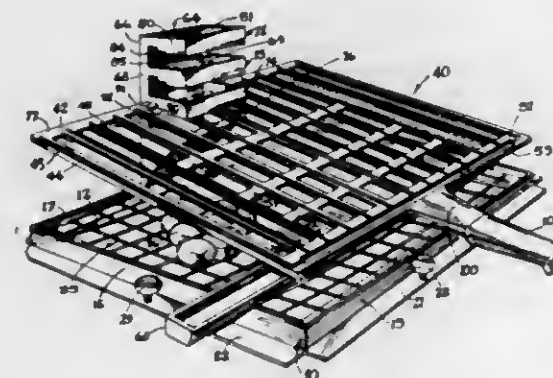
3,422,746 SUPERBROILER

Moshe Sheinker, 846 N. Hudson Ave., Los Angeles, Calif. 90038

Filed Aug. 8, 1966, Ser. No. 570,979

U.S. Cl. 99—445
Int. Cl. A47j 36/16

2 Claims



The invention is a charcoal broiler particularly adapted for indoor usage. It comprises a frame which can be positioned over any conventional stove or burner and which supports particulate refractory material. The unit is constructed so as to provide at the particulate back, supporting means for a grill on which the broiling takes place. These means provide for supporting the grill in variable adjustable angular positions in which the melted fat leakage can drain off the lower edge of the grill into a trough. This eliminates any adjustable support means or obstruction at the front part of the grill.

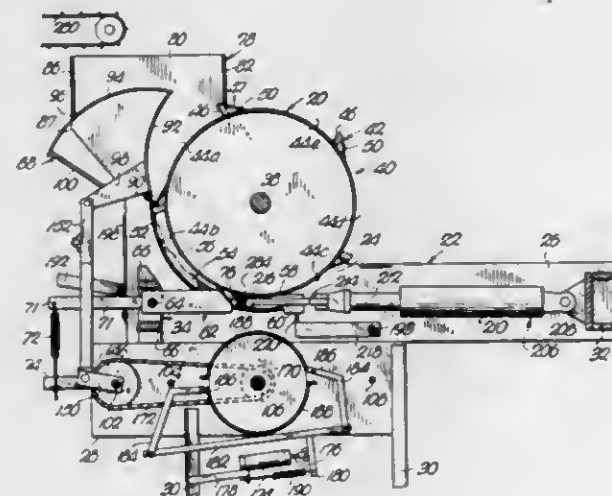
3,422,747 WAFERING MACHINE AND METHOD

Floyd N. Reece, Starkville, Miss., assignor to Hesston Manufacturing Company, Inc., Hesston, Kans., a corporation of Kansas

Filed Mar. 31, 1966, Ser. No. 539,152

U.S. Cl. 100—35
Int. Cl. B30b 9/28, 7/04

20 Claims



A method and apparatus for wafering materials such as hay or the like. A rotary drum provided with a plurality

of outwardly extending, peripherally spaced projections is advanced intermittently whereby a portion of the material is pushed in one direction by a projection to compress the material. After advancement of the drum one step, a hydraulic ram is pivoted into the path of the material and is advanced in the opposite direction to condense the material into a wafer. The ram is then withdrawn and pivoted out of the path of the projection whereupon the next increment of the step by step advancement of the drum is carried out.

3,422,748 AXIAL EXTRUSION MILL

Robert W. Gilman, San Francisco, Calif., assignor to California Pellet Mill Company, San Francisco, Calif., a corporation of California

Filed Dec. 27, 1966, Ser. No. 604,965

U.S. Cl. 100—93
Int. Cl. B30b 15/34; B02c 11/08; B29f 3/06

15 Claims



1. An axial type extrusion mill for pelleting fibrous vegetable and coarse ground materials comprising a housing having a longitudinally grooved cylindrical bore with a bulk material inlet adjacent one end thereof, the other end being the discharge end, said housing including a jacket means for containing a heating fluid in surrounding relation around at least a portion of said housing, a generally hollow impeller body disposed in the bore of said housing and supported for rotation therein, said impeller body having an expanding diameter in a direction toward the discharge end for at least a portion of the length thereof, at least one helical blade surrounding said impeller body for at least a portion of its length and cooperating with the grooved bore of said housing to move bulk material along said bore when said impeller rotates, nozzle means disposed at the discharge end of said mill and arranged substantially tangential to said impeller body said nozzle means communicating with the passage defined between the housing and the impeller body to discharge compressed material from said mill, and heating fluid injection and removal means for inducing a heating fluid into the hollow interior of said impeller body.

3,422,749 PUMP

Otto Lutz, Bienroderweg 53, Braunschweig, Germany

Filed June 19, 1967, Ser. No. 647,086

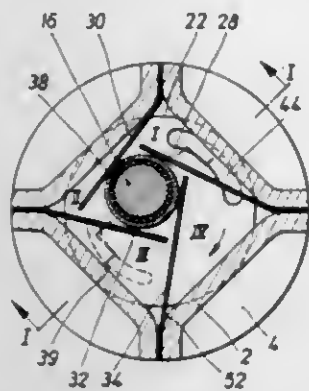
Claims priority, application Germany, June 20, 1966; L 53,875

U.S. Cl. 103—130
Int. Cl. F04c 1/00, 5/00

7 Claims

A pump having a pump chamber of approximately equilateral polygonal configuration in cross-section and having at least four corners, a crankshaft journaled in the pump casing, the crankpin of the crankshaft being mounted in the pump chamber and having circular crank webs to form at least a part of the front end of the pump chamber, resilient diaphragms extending along the width

of the pump chamber, each diaphragm being firmly elongated compressor pivotally supported in the receptacle adjacent the inlet and extending therefrom across the receptacle and close to the overhead wall of the recep-



outlet slots in the crank webs cooperating with peripherally distributed suction ports and outlet orifices in the walls of the pump casing covered by the crank webs.

3,422,750

PRESS INCLINING MECHANISM

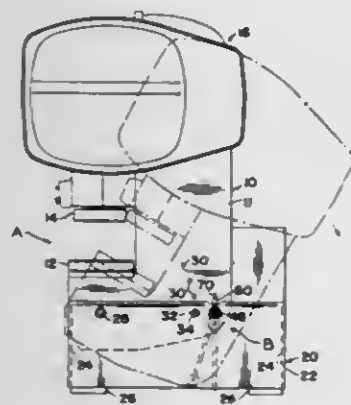
Vincent Hugo Anderson, Canton Ohio, assignor to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware

Filed Sept. 11, 1967, Ser. No. 666,734

U.S. Cl. 100—231

Int. Cl. B30b 15/04

4 Claims



The specification relates to a press provided with mechanism for varying the inclination of the press frame relative to its base or legs. The press disclosed includes a generally C-shaped frame having its lower end positioned between a pair of parallel extending legs. The frame is pivotally connected to the legs forwardly of its center of gravity. The mechanism provided for varying the inclination of the frame relative to the base includes a first member pivotally connected to one of the press legs and extending inwardly toward the press frame. A rotatable adjusting screw is suspended through an opening formed in the first member and passes downwardly through a threaded opening formed in a second member which is pivotally connected to the press frame.

3,422,751

COTTON HARVESTER

Arthur L. Hubbard, Des Moines, Iowa, assignor to Deere & Company, Moline, Ill., a corporation of Delaware

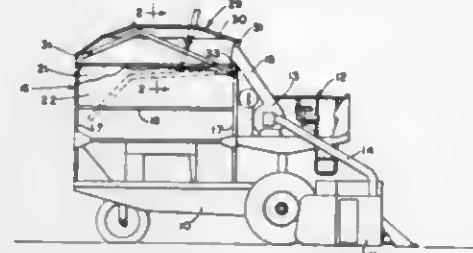
Filed Sept. 7, 1965, Ser. No. 485,482

U.S. Cl. 100—233

Int. Cl. B30b 7/00, 9/30; A01d 45/18

4 Claims

A cotton receptacle on a cotton harvester having an inlet in one of its sides at the top of the receptacle. An



tacle to an opposite end adjacent the opposite side of the receptacle. Power means for raising and lowering the compressor.

3,422,752

PRINT DIE MOUNTING MEANS IN AUTOMATIC PRESSURE-MARKING MACHINES

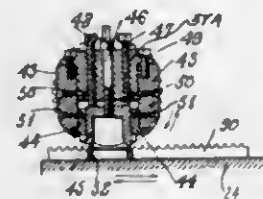
Kazuo Iketani, No. 57, Higashi, 7-chome, Tsumori-cho, Nishinari-ku, Osaka-shi, Japan

Filed July 5, 1966, Ser. No. 562,800

U.S. Cl. 101—22

Int. Cl. B41b 5/00

3 Claims



A pressure marking machine for producing ring-shaped marks on solid heavy pieces with the use of a cylindrical die shaped element rockably mounted on a rockable beam with the marking end of the die having its locus of marking indicia on the surface of an imaginary cylinder having its axis the same as the axis of the rocking beam and a cooperating work supporting table for supporting work pieces such as nuts, bushings and the like, for effectively applying identifying indicia.

3,422,753

APPARATUS FOR THE RECORDING, BY-THE-LINE OF SYMBOLS ON A SHEET-LIKE CARRIER

Herbert Strassner, Munich, and Ulrich Bledersedt, Hohen-schaftlarn, Germany, assignors to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany

Filed Aug. 31, 1966, Ser. No. 576,458

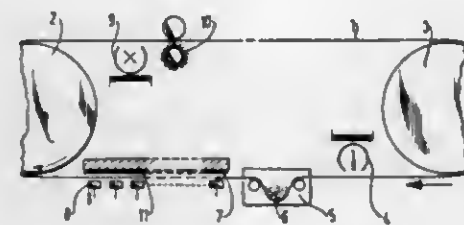
Claims priority, application Germany, Sept. 8, 1965,

S 99,309

U.S. Cl. 101—45

Int. Cl. B41j; B41l

2 Claims



Apparatus for by-the-line recording of symbols on a sheet-like record carrier in which the symbols are sequentially recorded on an intermediate carrier at a single fixed recording point, to form a line of symbols thereon, the symbols of one line immediately following the symbols of the following line without regard to the length of the

preceding line, a plurality of individually operable printing elements arranged in line direction, cooperable with said intermediate carrier for effecting a transfer of the symbols for an entire line from the intermediate carrier to the sheet-like record carrier, by actuation of only those printing elements required for the printing of the particular line involved.

3,422,754

PRINTING ASSEMBLY CONTROLLED BY ELECTRIC PULSES

Stefan T. Bakardjiev, Ivan Tenev Stantchev, and Dubomir Jordanov Antonov, Sofia, Bulgaria, assignors to Zentrallen Institut Po Izchislitelna Technika, Sofia, Bulgaria, a firm

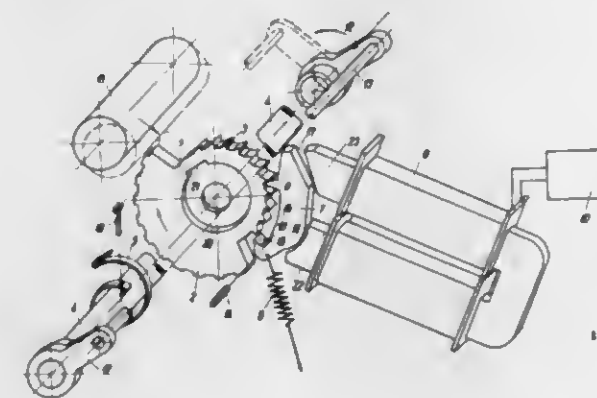
Filed Feb. 8, 1967, Ser. No. 615,016

Claims priority, application Bulgaria, Mar. 9, 1966, I-217

U.S. Cl. 101—79

Int. Cl. B41j 45/00, 1/60

7 Claims



A printing assembly wherein a rotary printing member and a rotary ratchet member are connected to each other for rotation together about a given axis so as to locate a selected one of a series of printing types, which are angularly distributed along a peripheral portion of the printing member, at a printing position, upon turning of the members around this axis from a predetermined starting position. The ratchet member has a series of ratchet teeth corresponding to the number of printing types which are angularly distributed along the peripheral portion of the printing member. An armature, which has the configuration of a pawl, coacts with the teeth of the ratchet member to control the stepping of the latter together with the printing member around the axis of rotation thereof. A spring urges the printing member to turn from the starting position so as to locate a selected type at the printing location. An electromagnetic means coacts with the armature to oscillate the latter so as to control the stepping of the printing member by the number of pulses transmitted to the electromagnetic means, this number of pulses corresponding to the number of oscillations of the pawl so as to control the number of steps through which the printing member turns to locate a selected type at the printing position.

3,422,755

MIMEOGRAPH

Kanao Murakami, Osaka, Japan, assignor to Seiki Kogyo Kabushiki Kaisha, Osaka, Japan

Filed Sept. 13, 1966, Ser. No. 579,167

Claims priority, application Japan, Sept. 14, 1965,

40/56,304

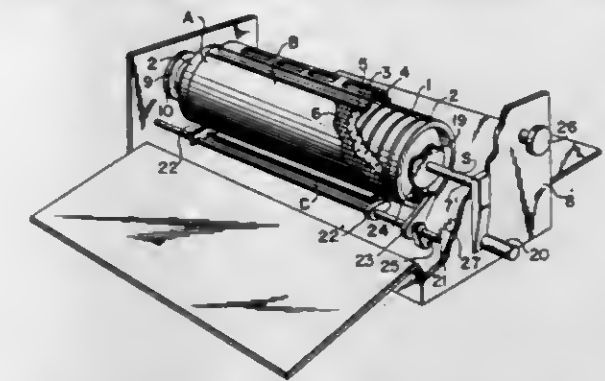
U.S. Cl. 101—119

Int. Cl. B41f 13/06, 27/14

10 Claims

An automatic ink supply for a mimeograph machine includes an ink distributing drum which rotates freely about a rotatable shaft between a pair of end bodies rotating with the shaft. An ink reservoir extends parallel to the shaft and is fixed to the end bodies for rotation

therewith. A pair of foraminous sheets surround the drum and have ends fixed to the reservoir, with the outer foraminous sheet carrying a stencil and the reservoir communicating with the exterior surface of the drum. A presser



roller extends parallel to this shaft for urging a sheet against the stencil during rotation of the shaft. A deflector is operated by the rotating shaft to deflect the presser roller from the stencil when the ink reservoir moves past the presser roller and to return it thereto thereafter.

3,422,756

PAPER SUPPORT AND REGISTRATION MEANS FOR REPRODUCTION MACHINE

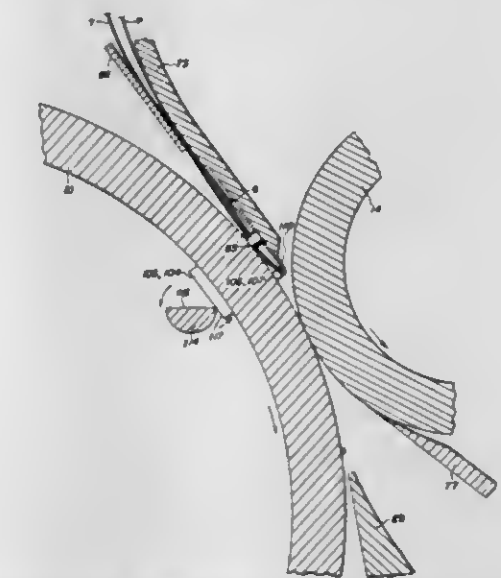
Robert H. Liva, Henrietta, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Sept. 30, 1965, Ser. No. 491,557

U.S. Cl. 101—132

Int. Cl. B41l 9/10, 11/08; B41f 1/30

3 Claims



A reproduction apparatus of the pressure-transfer type incorporating a three-way roller bearing support for the rotatable copy drum and driving pressure roll, toggle type force generating means for holding the pressure roll in pressure contact with the copy drum, a foldable paper tray, automatic gripping means for attaching the transfer sheet to the copy drum, means for separating copies from the transfer sheet, and programming control means adapted at the last copy programmed to release the gripping means whereby the transfer sheet is expelled with the last copy.

3,422,757

SHEET FEEDING APPARATUS

William Grobman, Philadelphia, Pa., and Gabriel N. Rullo, Cherry Hill, N.J., assignors to Harris-Intertype Corporation, a corporation of Delaware

Filed Oct. 18, 1965, Ser. No. 496,817

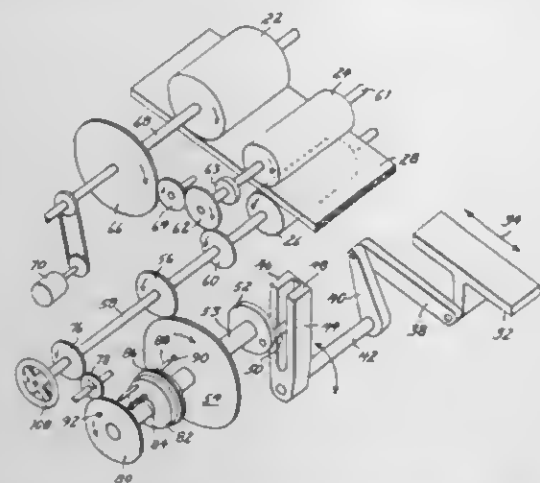
U.S. Cl. 101—232

Int. Cl. B65h 1/06; B41f 13/54

6 Claims

Sheet feeding apparatus is disclosed for feeding one or two sheets per cycle to a pair of feed rolls at the surface speed of said rolls by means of a reciprocating element driven by a main drive shaft. The rate of feed is doubled

while maintaining feeding of the sheets to the rolls at the same surface speed of the rolls by reversing the direction



of rotation of the main drive shaft which is then rotated at twice the original speed.

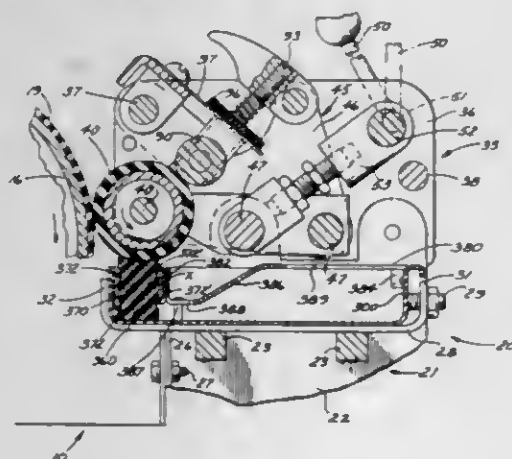
3,422,758

BLANKET CLEANER FOR ROTARY DUPLICATING MACHINE

Donald B. Brewster, Euclid, Ohio, assignor to Addressograph-Multigraph Corporation, Cleveland, Ohio, a corporation of Delaware

Filed Mar. 27, 1967, Ser. No. 625,989

U.S. Cl. 101-425 7 Claims
Int. Cl. B41f 35/00; B41l 41/00



For use on a rotary offset duplicating machine, there is provided a blanket cleaner system of the type involving a reservoir of cleaning fluid, a cleaning roller for contact with the blanket cylinder, and a wiper or wick for feeding cleaning fluid up to the roller from the reservoir and wiping ink pigments from the roller surface. The wick is of improved configuration defining a short, direct, broad conducting path extending vertically between the body of cleaning fluid and the roller. The wick is of a special type of polyurethane sponge known as Scottfelt 3-900 and is releasably held in place for use and ready replacement by a removable cover on the reservoir whose edge carries jaw means cooperating with jaw means in the reservoir to grasp the wick therebetween and retain it against the tendency of the cleaning roller to dislodge it.

3,422,759

LITHOGRAPHIC IMAGING SYSTEM USING PHOTOCHROMIC AND THERMOCHROMIC MATERIALS

Carl Brynko, West Webster, and Robert W. Martel, Webster, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed June 2, 1966, Ser. No. 554,832

U.S. Cl. 101-450 17 Claims
Int. Cl. B41m 1/06; G03f 7/04

The subject matter of this invention relates to an imaging system utilizing a lithographic master which has

been prepared using photochromic and thermochromic materials.

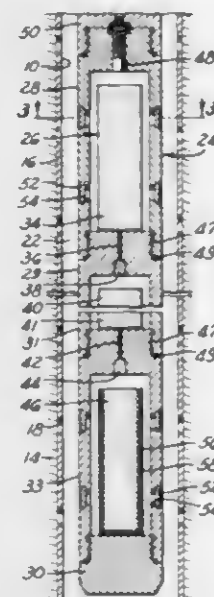
3,422,760

GAS-GENERATING DEVICE FOR STIMULATING THE FLOW OF WELL FLUIDS

Henry H. Mohaupt, Santa Barbara, Calif., assignor to Petroleum Tool Research, Inc., Fort Worth, Tex., a corporation of Texas

Filed Oct. 5, 1966, Ser. No. 584,563

U.S. Cl. 102-21.6 3 Claims
Int. Cl. E21b 43/26



A gas-generating device for use in a well, including a plurality of spaced combustible charges adapted to be ignited in sequence to form a supply of high pressure gas which is admitted to the well to stimulate the same.

3,422,761

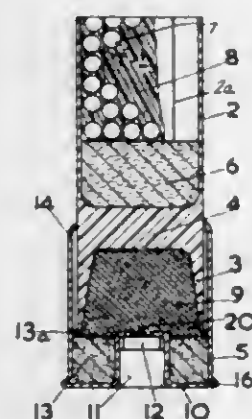
SHOTGUN CARTRIDGES

Peter John Whitmore, Sutton Coldfield, England, assignor to Imperial Metal Industries (Kynoch) Limited, Birmingham, Warwickshire, England, a corporation of Great Britain

Filed Sept. 12, 1966, Ser. No. 578,530

Claims priority, application Great Britain, Sept. 24, 1965, 40,739/65

U.S. Cl. 102-42 9 Claims
Int. Cl. F42b 7/00



A shotgun shell is made in the form of a cup-shaped, primer-retaining head and a tubular body frictionally fitted at one end into the head. The body contains the propellant in a rearwardly facing cavity and contains the shot charge in a forwardly facing cavity, and the entire body is ejected from the head upon firing of the propellant. The shot charge is retained in the cavity solely by being embedded in a frangible bonding matrix, such

as a foamed plastic, which shatters when the propellant is fired.

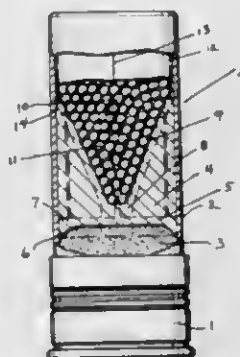
3,422,762

UNITARY WAD COLUMN AND SHOT CONTAINER

Homer E. Clark, Jr., Alton, Ill., assignor to Alcan Company, Incorporated, Alton, Ill., a corporation of Illinois

Filed June 19, 1967, Ser. No. 646,928

U.S. Cl. 102-42 11 Claims
Int. Cl. F42b 7/08



A unitary wad column and shot container comprising in an integrated structure an obturating wad portion, a conical shot receptacle being continuous at its upper end with a cylindrical shot compartment, the wall sections of which are adapted for mutual separation upon firing, there being support ribs integral with the outer wall surface of the conical portion and with the obturating wad portion.

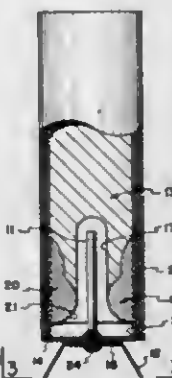
3,422,763

ROCKET ENGINE IGNITER

Irving Stringham Wait, Seymour, Ind., assignor to Rocket Development Corporation, Seymour, Ind., a corporation of Utah

Filed Oct. 18, 1965, Ser. No. 497,172

U.S. Cl. 102-49.7 8 Claims
Int. Cl. F42b 15/10



An igniter for rocket engines provides a length of igniter fuse cord for insertion into the perforation of a solid propellant grain. Such length is supported at one end by a disk adapted to close the exhaust end of a rocket engine. An electrical ignition wire is disposed in direct contact with the supported end of the cord, so that, when such wire is connected to a source of electricity, it is heated to a temperature sufficient to ignite the cord, whereby heat of sufficient intensity to ignite the propellant grain is propagated along the length of the perforation thereof. As constructed for model rocket engines, the igniter cord is supported between adherent paper disks which are adapted for adhesive securement across the exhaust end of a rocket motor casing.

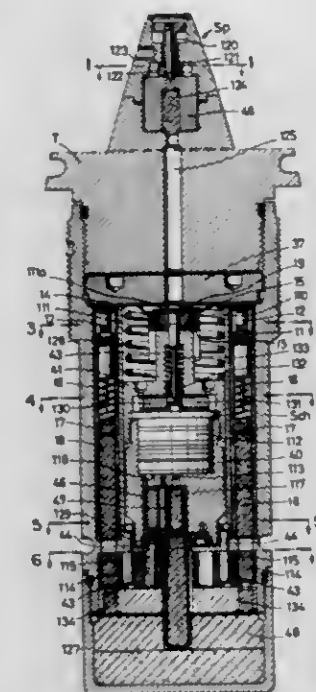
3,422,764

RIFLED PROJECTILE FUZE FOR PRACTICE PROJECTILES

Paul Kaiser, Schramberg, Wurttemberg, Germany, assignor to Messrs. Gebrüder Junghans Aktiengesellschaft, Schramberg, Wurttemberg, Germany, a corporation of Germany

Filed Apr. 26, 1965, Ser. No. 450,709

U.S. Cl. 102-71 1 Claim
Int. Cl. F42c 9/00



1. Rifled projectile fuze for practice projectile, comprising a casing, a fuze head mounted on the casing, a main fuze ignition mechanism in the casing, said fuze head having a pressure transmission channel therein leading to the main fuze ignition mechanism, safety devices mounted in the casing, a transmission bolt having a disc head at the same end of the transmission channel as the main fuze mechanism and provided in the casing, a time-controlled mechanism in the casing adjacent the transmission bolt and having a primer pin therein in axial alignment with the transmission bolt, and an inertia internal housing in the casing having the time-controlled mechanism mounted therein and having a pellet holding means pivoted therein, the time control mechanism on forward travel of the projectile fuze causing the transmission bolt to cooperate with the transmission channel as a pneumatic piston and upon forward movement of the internal housing by inertia the time controlled mechanism and the pellet holding means strikes against the bottom of a fuze base and acts as an abutment for the primer pin which is driven into the pellet.

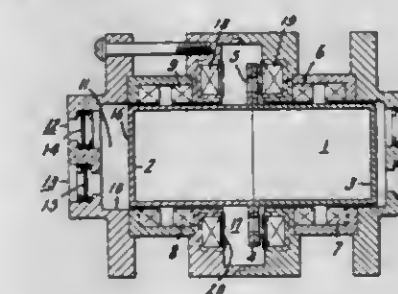
3,422,765

SUPERCONDUCTING LIQUID HELIUM PUMP

Karl F. Schoch, Scotia, N.Y., assignor to General Electric Company, a corporation of New York

Filed Mar. 24, 1967, Ser. No. 625,724

U.S. Cl. 103-53 7 Claims
Int. Cl. F04b 17/04



A double acting superconducting liquid helium pump, the piston of which is made of niobium and suspended in a cylinder tube. At each end of the piston are double acting valves to allow liquid helium to be pumped in and

out as the piston reciprocates in its tube. The center of the piston is a flange which is acted upon by laterally spaced coils to give the piston its reciprocatory motion.

3,422,766 PUMP ASSEMBLIES

George William Conlbeer, Whetstone, England, assignor to The English Electric Company Limited, London, England, a British company

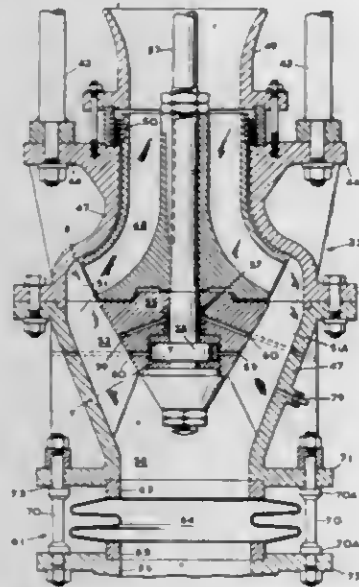
Filed Mar. 29, 1966, Ser. No. 538,388

Claims priority, application Great Britain, Mar. 31, 1965, 13,711/65

U.S. Cl. 103—103

Int. Cl. F04d 7/06, 7/08, 29/40

2 Claims



A liquid-metal pump assembly of minimal plan size, for use especially in a sodium-cooled nuclear reactor, comprises a centrifugal, axial or half-axial pump on a vertical axis with a suction duct coaxially above the impeller, and an outlet duct of the same bore as the suction duct coaxially below the impeller and separated from it by a convergent portion of the pump casing so as to recover velocity head as pressure head. A novel expansion joint for the pump outlet is described: this is associated with a releasable core joint by which the assembly is made withdrawable from the reactor tank together with its drive unit.

ERRATUM

For Class 103—130 see:
Patent No. 3,422,749

3,422,767 VARIABLE DISPLACEMENT SWASHPLATE PUMPS

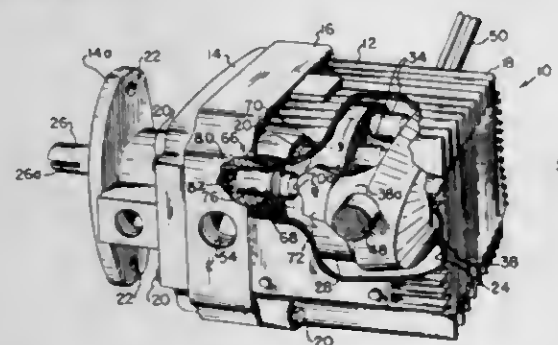
John C. McAlvay, Racine, Wis., assignor to Webster Electric Company, Inc., Racine, Wis., a corporation of Delaware

Filed Dec. 5, 1966, Ser. No. 599,028

U.S. Cl. 103—162

Int. Cl. F04b 1/20

11 Claims



A variable displacement swashplate pump includes a handle coupled to the swashplate for moving the swash-

plate through a range of inclination to vary pump displacement. The pumping piston reaction torque exerted on the swashplate is combined with an additional torque developed by a compensating arrangement to provide a predetermined resultant torque applied to the handle to facilitate pump displacement control.

3,422,768 PUMPING SYSTEM

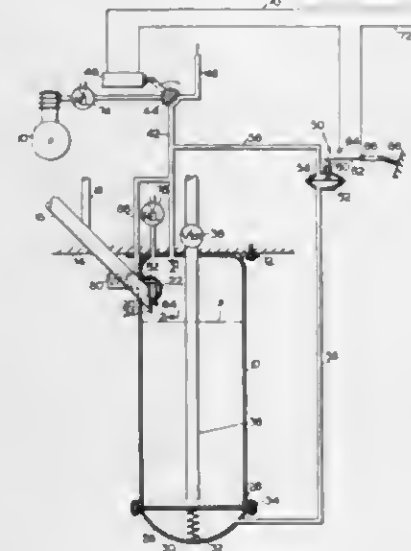
Fred J. Repp, 4320 SE. 136th, Portland, Oreg. 97236

Filed June 28, 1967, Ser. No. 649,732

U.S. Cl. 103—234

Int. Cl. F04f 1/06; F16k 21/04

10 Claims



A pumping system designed for collecting a quantity of material in a storage tank and then periodically pumping the material from the tank to a desired point of discharge. In this system, an air compressor is arranged for periodically evacuating the tank, and operation of the air compressor is controlled by a pressure responsive switch located outside the tank and in turn controlled by a diaphragm within the tank, which diaphragm comprises the floor of said tank.

3,422,769

TROLLEY TURN-AROUND

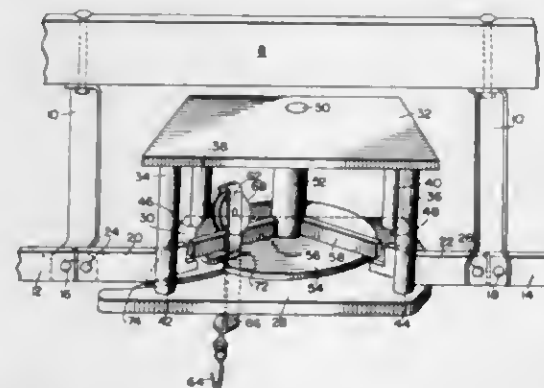
Fred I. Sims, San Francisco, Calif., assignor to The Cincinnati Butchers' Supply Company, Cincinnati, Ohio, a corporation of Ohio

Filed Sept. 22, 1966, Ser. No. 581,254

U.S. Cl. 104—99

Int. Cl. B61j 1/06

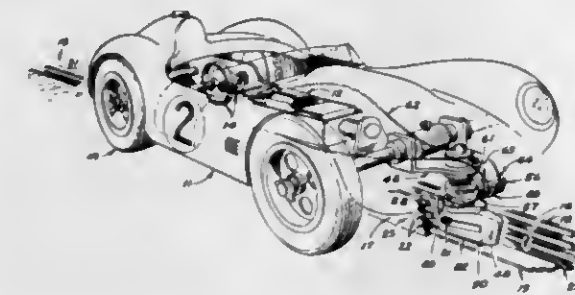
22 Claims



The trolley turn-around device is mounted between the ends of two spaced stationary trolley rails. A frame carries a rotor which has mounted thereon three trolley rail sections equally spaced apart radially and extending radially outwardly from the axis of rotation of the rotor. Supporting the frame and carried thereby are two stationary curved rails which are aligned respectively with

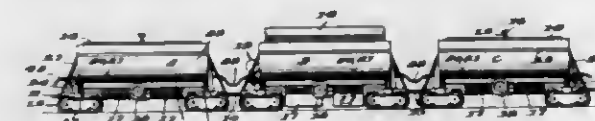
any two rotor rail sections incident to a one-third rotation of the rotor. The outer ends of the curved rails are aligned respectively with the two spaced stationary trolley rails.

**3,422,770
AUTOCOURSE RACEWAY SYSTEM**
Jerry J. Celestia, Danville, Calif., assignor to San Roy Development Co., Inc., San Rafael, Calif., a corporation of California
Filed Oct. 19, 1964, Ser. No. 404,832
U.S. Cl. 104—149
Int. Cl. B61f 9/00; A63b 29/22; A63f 9/14
7 Claims



A slot car raceway system is provided wherein the track slots are provided with a plurality of electrically separated conductors and wherein such conductors are disposed at fixed distances below the track surface. Each slot car in use on the raceway is provided with individually selected flags which are designed to derive power from a preselected set of the electrical conductors disposed within the slots. By such means more than one slot car may be raced on any one slot on the raceway course, and further each individual car in each slot may be controlled independently of any other car.

**3,422,771
ARTICULATED RAILWAY HOPPER CARS**
Paul F. Glesking, Seven Islands, Quebec, Canada, assignor to Pickands Mather & Co., Cleveland, Ohio, a corporation of Delaware
Filed Nov. 1, 1965, Ser. No. 505,890
Claims priority, application Canada, Oct. 13, 1965, 942,805
U.S. Cl. 105—3
Int. Cl. B61d 17/00, 3/00; B61f 5/00
5 Claims

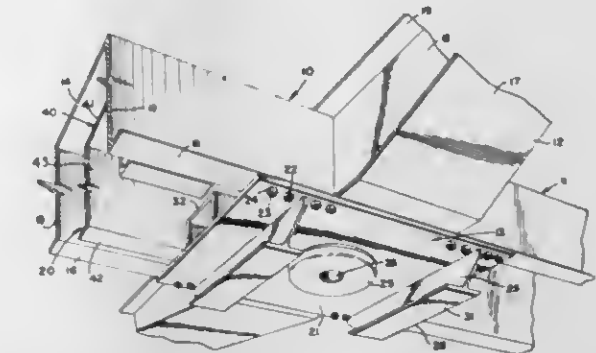


An articulated railway car structure composed of a plurality of car units. Each car unit comprises a body—usually of cylindrical form—with a pair of side sills secured along the opposite sides of the body, the sills being secured at their opposite ends to stub sills resting upon trucks. Draft gear interconnects adjacent car units in permanent connection, each draft gear comprising a draw bar and permanent and articulated connections between the opposite ends and the stub sills of adjacent car units.

**3,422,772
BODY BOLSTER CENTER PLATE ASSEMBLY**
Marvin Stark, Michigan City, Ind., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed Aug. 25, 1966, Ser. No. 575,052
U.S. Cl. 105—228
Int. Cl. B61f 5/16, 1/00; F16c 17/00
8 Claims

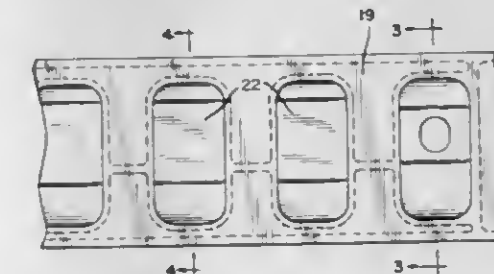
1. A center plate assembly for a cushion underframe railway car, said center plate assembly comprising a base plate, a center plate fixed to said base plate and having a circular opening, an open ended tube mounted on one side

of said center plate in co-axial alignment with said circular opening, a pair of longitudinally spaced reinforcing members of substantially T-section having a vertical leg and a horizontal leg, said terminal end of said reinforcing members being fixed to the underside of said base plate on op-



posite sides of said center plate, a channel member including a horizontal web and vertical legs depending from the side edges of said web, means fixing the terminal ends of said downwardly depending legs to said top side of said base plate, and an opening in said horizontal web accommodating said cylindrical tube therein.

**3,422,773
FLOOR LATCH STRIP FOR RAILWAY CARS**
John S. Lundvall, Park Ridge, Russell M. Loomis, Palos Heights, and Henry D. Breen, Chicago, Ill., assignors to Unarco Industries, Inc., a corporation of Illinois
Filed Dec. 5, 1966, Ser. No. 599,296
U.S. Cl. 105—376
Int. Cl. B61d 17/00, 45/00
7 Claims

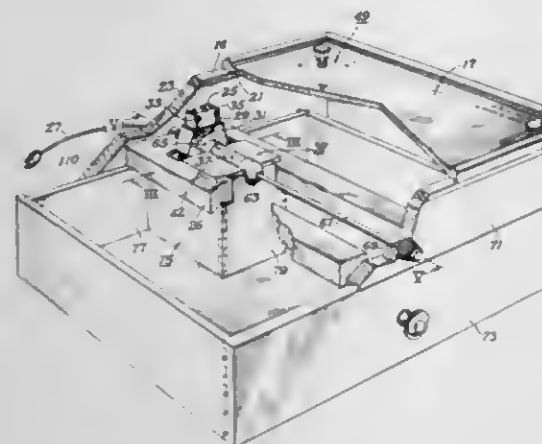


In a freight-carrying body having latch strip means in the floor for positioning cooperation with latch pins of a lading separator movable within the body, an improved latch strip structure, that is more readily cleaned of dirt that enters thereto, is provided by an elongated structure which provides a plurality of open-topped pockets longitudinally arranged and adapted to receive the latch pins of the lading separator and having upwardly and outwardly inclined walls extending from the lowermost portions of the pockets to the uppermost portions of the latch strip, the inclined walls providing assistance for sweeping dirt out of the latch strip structure.

**3,422,774
TABLE**
Daniel S. Hagans, 1405 White Ave., Killeen, Tex. 76541
Filed May 22, 1967, Ser. No. 640,163
U.S. Cl. 108—23
Int. Cl. A47b 23/06
8 Claims

Following is disclosed a table having a translucent plate top disposed on a strip of resilient material for vertical movement. Depression of the plate actuates a pressure responsive switch to illuminate or darken an electric light that shines upon the plate. A rotatable cylinder with windows filled with selected strips of translucent, transparent or opaque material surrounds the electric light for varying the light intensity or color emitted from the translucent plate. A control knob extends from the cylinder to the exterior of the enclosure

for orienting the cylinder. The table has a drawer with a generally U-shaped subenclosure above which the cylinder and electric light are mounted. In one embodiment the subenclosure and mounting means for the light are ordinarily engaged to prevent transmission of light into the drawer except when opened. A radial wheel having apertures and windows of selected shape is mounted

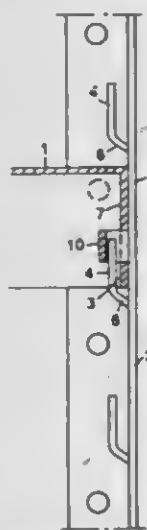


beneath the subenclosure of the drawer to transmit light to a magazine rack. In another embodiment a reflector is disposed beneath the enclosure to reflect light in a selected direction from the table. For placing varying weights on the table without unintentional actuation of the pressure responsive switch, a plate adjustment device connects the enclosure with the plate.

3,422,775 VERTICALLY ADJUSTABLE SHELVING ASSEMBLY

Sven Erik Johnsson, Akaregatan 8, Varnamo, Sweden
Filed Mar. 16, 1966, Ser. No. 534,687
U.S. Cl. 108-109
Int. Cl. A47b 57/20, 96/12, 9/00

7 Claims



This invention relates to a vertically adjustable shelving assembly in which the shelving supports include a series of vertically spaced upwardly directed tongues. The shelves include U-shaped elements which cooperate with the tongues when the shelves are in supported position. The U-shaped elements engage the tongues and prevent distortion or bending of the tongues when the shelves are loaded.

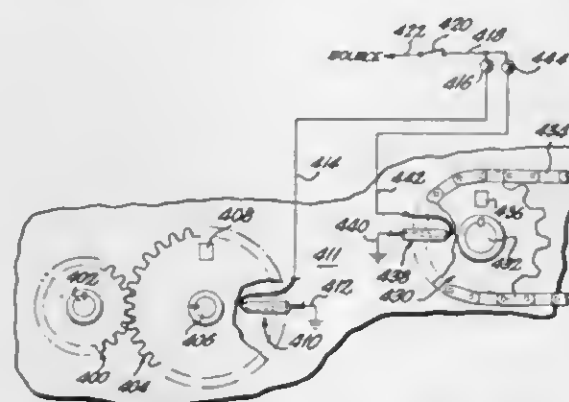
3,422,776 MONITOR MEANS AND COUNTER MECHANISM FOR USE WITH SEED PLANTERS AND THE LIKE

Lester Gregory, Jr., Yellville, Ark. 72687
Filed Jan. 4, 1967, Ser. No. 607,293
U.S. Cl. 111-51
Int. Cl. A01c 7/18

8 Claims

A mobile vehicle tows the feed mechanism over a field. A plurality of similar feed devices drop individual seeds

downwardly through dispensing chutes. A seed actuated switch means is disposed in each chute to be actuated by a seed dropping therethrough. Seed feed indicating lamps are connected with the seed actuated switches to provide a visual monitoring of the seed feed. Seed counter means is also connected with one of said seed actuated switch means to count the number of seeds dropping through the associated dispensing chute. A distance indicating means comprises a down counter means controlled by a magnetic sensitive switch means which is operated by a magnet mounted on a wheel of the vehicle so that the distance the vehicle has traveled may be measured and indicated. A pivotally mounted portion on the vehicle has a position sensitive switch means thereon which is connected in series with the magnetic sensitive switch to control the operation of the distance indicating means. A control



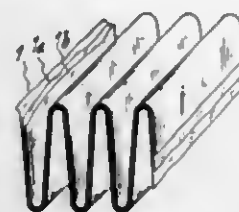
switch means is provided for connecting or disconnecting the seed counting means in the associated electrical network. A spray monitor system includes spray dispensing means, switch means adapted to be actuated by spray emanating from the dispensing means, and an electrical network including indicating lamps connected with said switch means so as to provide a visible indication of the presence or absence of spray. A further monitor system includes two movable parts one of which has a magnetic sensitive switch thereon and the other of which has magnetic means thereon for actuating the magnetic sensitive switch upon relative movement of the parts, the magnetic sensitive switch being connected in an electrical circuit including lamp means for providing a visual indication of the presence or absence of relative movement between the parts.

3,422,777 METHOD OF MANUFACTURING A HEAT EXCHANGER

Alain Edouard Plegat, Asnieres, France, assignor to Societe Anonyme des Usines Chausson, Asnieres, Seine, France, a company of France
Filed May 25, 1964, Ser. No. 369,778
Claims priority, application France, May 28, 1963, 936,297

U.S. Cl. 113-118
Int. Cl. B21d 53/04

9 Claims

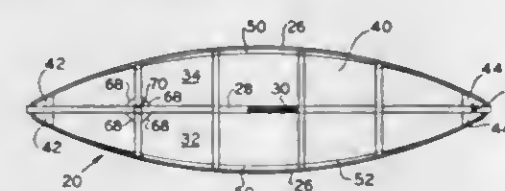


1. A method of making adaptable heat dissipators for various objects to be cooled, comprising the steps of forming identical transverse corrugations in a plurality of thin metal strips having substantially the same thickness to delimit parallel folds therein, said corrugations having a height and pitch which are much larger than said thickness of the strips, and stacking a plurality of the corrugated strips to form a heat exchanger having a predetermined

thickness and so that the corrugation folds of the strips are nested and slightly, elastically distorted by engagement of the fold surfaces of adjacent strips against one another.

3,422,778
MULTIPURPOSE BOAT
Leon Halfon, 10 Heltz Place, Hicksville, N.Y. 11801
Filed Oct. 20, 1966, Ser. No. 588,035
U.S. Cl. 114-39
Int. Cl. B63h 9/04; B63b 35/00

13 Claims

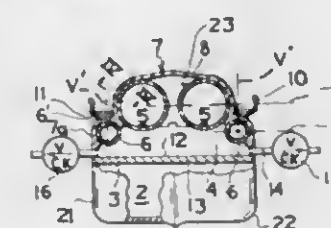


A multipurpose boat having a hull symmetrical along both its longitudinal axis and an axis transverse thereto, a deck surface sealed to said hull to form a water tight substantially hollow body and sail, motor and other means for employing the boat.

3,422,779
TANKSHIP FOR THE TRANSPORTATION OF LOW-TEMPERATURE LIQUEFIED GASES
Rudolf Becker, 9 Zwengauerweg, 8 Munich 71, Germany
Continuation-in-part of application Ser. No. 623,720, Mar. 16, 1967. This application Apr. 3, 1967, Ser. No. 653,283
Claims priority, application Germany, Mar. 28, 1966, L 53,208

12 Claims

U.S. Cl. 114-74
Int. Cl. B63b 25/16; B65d 81/18



Tank ship for the transportation of low-temperature liquefied gases, especially methane, wherein a main-tank assembly is mounted upon a normally empty hull of the ship whose deck lies substantially at the waterline when the tanks are filled and the main tanks are flanked by at least one pair of auxiliary tanks of smaller diameters lying along the longitudinal sides of the vessel to shield the main tanks from the shock. A walkway is provided above these outer auxiliary tanks, while an apron connects the tanks with the deck structure and the side walls of the hull to form a sealed enclosure which may be maintained at a pressure above atmospheric, the tanks being maintained at or slightly above this upper atmospheric pressure. Lateral outlets discharge collected leakage liquids via pressure-relief and/or check valves.

3,422,780
PROPULSION SYSTEM FOR WATERCRAFT
Josef Becker, 5401 Oberspay (Rhine), and Franz Krautkremer, 5401 Nlederspay (Rhine), Germany

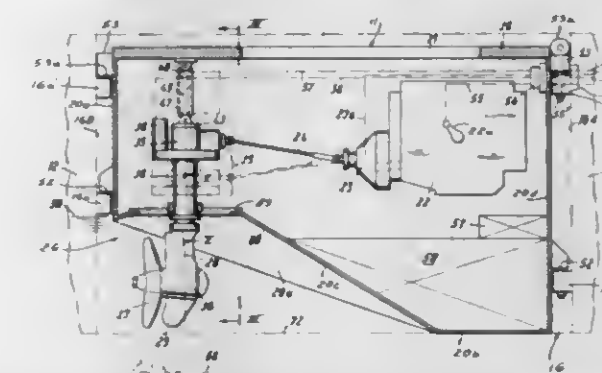
Filed Mar. 28, 1967, Ser. No. 626,621
Claims priority, application Germany, Feb. 4, 1967, 41,941/65

22 Claims

U.S. Cl. 114-77
Int. Cl. B63b 3/02; B63h 5/12

A transferable propulsion system which can be attached to or which can constitute the stern portion of a watercraft. Comprises a housing or casing which accommodates an engine or a motor. A propeller mount is installed

on the housing and is movable up and down to move its propeller or propellers to a series of vertically spaced positions. The mount is also turnable about a vertical axis to change the angular position of the propeller in order to change the direction of forward movement of the watercraft to which the housing is connected. A power train



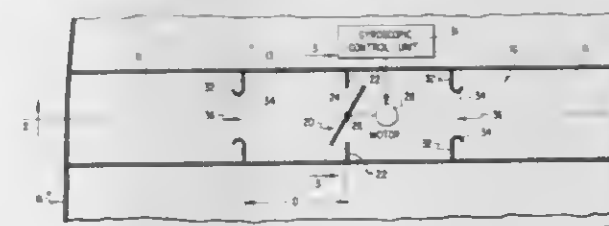
connects the output shaft of the engine or motor with the propeller shaft or shafts and a turning unit is provided to turn the mount about the vertical axis. A lifting unit serves to move the propeller mount up and down. When the watercraft is docked, the entire propulsion unit can be detached from its hull to be connected with the hull of another watercraft.

3,422,781 VARIABLY DAMPED PASSIVE TANK STABILIZER

Sheldon B. Field, Floral Park, and Frans V. A. Pangalila, Staten Island, N.Y., assignors to Flume Stabilization Systems, Inc., Hoboken, N.J., a corporation of New Jersey

Filed May 8, 1967, Ser. No. 636,780
U.S. Cl. 114-125
Int. Cl. B63b 43/06

10 Claims



A passive tank stabilizer for ships including an elongated tank partially filled with a body of liquid in a free surface condition, and a gyroscopically controlled door operative between open, closed and intermediate positions so as to variably and selectively control the amount of damping imparted to transferring liquid, said door operatively permitting maximum liquid passage when the vessel rolls near natural frequency and closing by degrees as the ship rolls at frequencies further away from resonancy and being closed to deactivate the tank when the ship is forced rolled above at frequencies at which the stabilizer would otherwise destabilize the ship.

3,422,782 PASSIVE TANK STABILIZER WITH FREEDOM IN DIRECTION OF SWAY

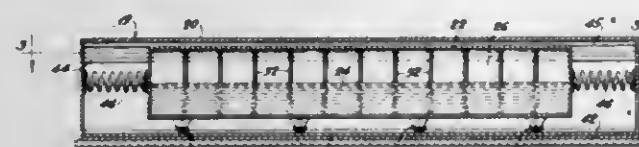
Kenneth Clay Ripley, Washington, D.C., assignor, by mesne assignments, to Flume Stabilization Systems, Inc., Hoboken, N.J., a corporation of New Jersey
Continuation-in-part of application Ser. No. 675,746, Sept. 29, 1967, which in turn is a continuation-in-part of application Ser. No. 602,731, Dec. 20, 1966. This application Nov. 30, 1967, Ser. No. 691,100

U.S. Cl. 114-125
Int. Cl. B63b 43/06

15 Claims

A tank stabilizer for vessels such as boats or the like comprising an elongated tank located at or above the roll axis with its long axis arranged athwartship, a body of

liquid partially filling said tank so as to move toward the ends of the tank in response to roll, means supporting said tank on the vessel for movement and displacement relative to the vessel in direction of sway in response to forces



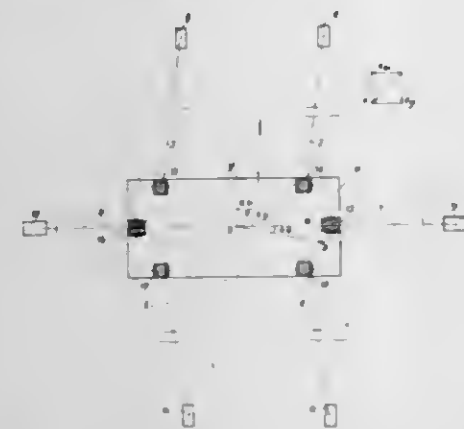
imparted to the tank by the tank liquid. In one embodiment, only the liquid container end walls move in sway relative to a housing and in another embodiment the entire liquid containing tank is independently housed for movement in sway.

3,422,783

DEVICE FOR AUTOMATICALLY POSITIONING A FLOATING INSTALLATION BY MEANS OF MOORINGS WITH CONTROLLED TENSION
Pierre Moulin, Montesson, France, assignor to Institut Français du Pétrole, des Carburants, et Lubrifiants, Rueil-Malmaison, Hauts-de-Seine, France

Filed Feb. 9, 1967, Ser. No. 614,970

Claims priority, application France, Feb. 9, 1966, 49,052
U.S. Cl. 114—144 6 Claims
Int. Cl. B63h 21/16; B63h 15/00



This device comprises a plurality of moorings provided with means for fixing the moorings to the water bottom and a plurality of winches fixed to the installation, on which the moorings are respectively wound, these winches being of a type provided with means for regulating the tensions of the moorings.

The device is distinguished by the association of means for measuring the drift of the installation from a reference position in the form of deviation signals, means for generating control signals responsive to said deviation signals and means for controlling the regulating means actuated by the control signals so as to limit the drift of the installation.

3,422,784

ONE-WAY DRIVE TRANSMISSION ARRANGEMENT, ESPECIALLY FOR A STEERING ARRANGEMENT OF A VESSEL

Josef Becker, 5401 Oberspaz (Rhine), Germany

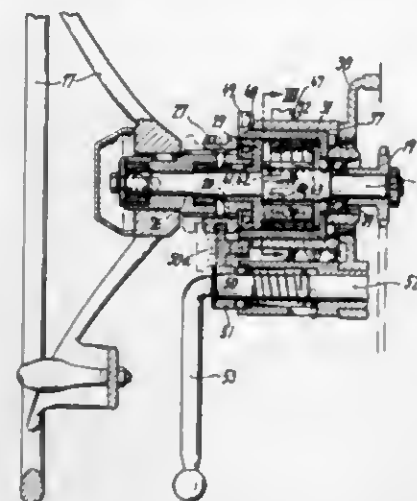
Filed Feb. 14, 1967, Ser. No. 616,096

Claims priority, application Germany, Feb. 15, 1966, Sch 38,493/66

U.S. Cl. 114—146 11 Claims
Int. Cl. B63h 1/12, 25/42

A one-way drive transmission arrangement, especially for a steering arrangement of a vessel, and including stationary support means, a pair of turnable means, for instance a steering wheel and a shaft, carried by the support means turnable about a common axis and constructed and

arranged for turning during turning of the steering wheel in either direction the shaft in the respective direction, and friction locking means between the stationary support



means and the turnable means and constructed and arranged for preventing drive of the steering wheel by the shaft if a turning moment is applied to the latter by extraneous forces.

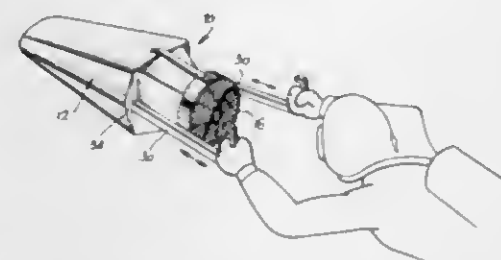
3,422,785

MARINE PROPULSION DEVICE

Mathew A. Strumor, New Rochelle, N.Y., assignor to R & D of America, Inc., New Rochelle, N.Y., a corporation of New York

Filed July 21, 1967, Ser. No. 655,215

U.S. Cl. 114—235 6 Claims
Int. Cl. B63h 21/26



A marine propulsion device for use both as a propulsion unit for a diver and as an auxiliary outboard motor for a boat comprising a housing having a motor therein driving a propeller. A rod is connected to the housing to serve as gripping means for a diver and is swingable to an upright position for suspending the device from the transom of a boat.

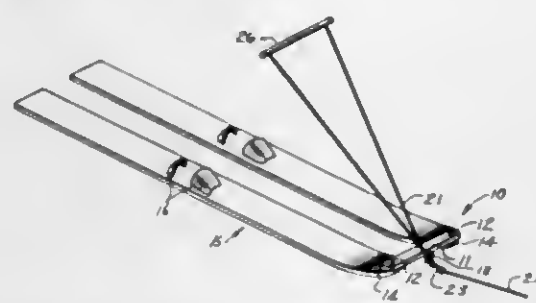
3,422,786

TOWING DEVICE FOR WATER SKIS

Jack A. Brandhorst, 2335 Bunting Ave.,
Grand Junction, Colo. 81501

Filed Sept. 28, 1967, Ser. No. 671,361

U.S. Cl. 114—235 4 Claims
Int. Cl. A63c 15/00; B63b 21/56



A device for quickly teaching water skiing to the novice having a cross-bar member which is attached to the forward portion of a pair of water skis, an eye-bolt secured to the cross-bar providing a means for securing

the hand-line. This device allows for the rapid learning of water skiing and is detachable from the skis when desired.

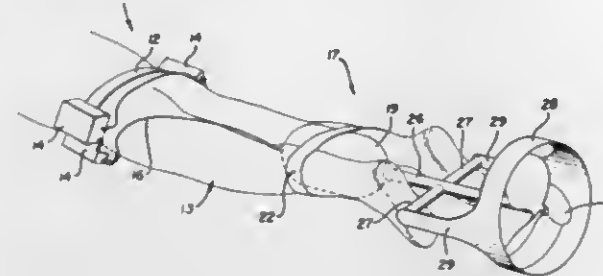
3,422,787

PROPULSION SYSTEM FOR SWIMMERS

Stephen K. Rush, 2290 St. Francis Drive,
Palo Alto, Calif. 94303

Filed May 31, 1967, Ser. No. 642,566

U.S. Cl. 115—6.1 3 Claims
Int. Cl. B63h 21/56



A swimmer's propulsion system to trail astern of the feet of the swimmer when the motor is strapped between the calves of the swimmer's legs. Power units for operating the motor surround the waist of the swimmer. Guidance of the swimmer is achieved by manipulation of the legs of the swimmer below the knee.

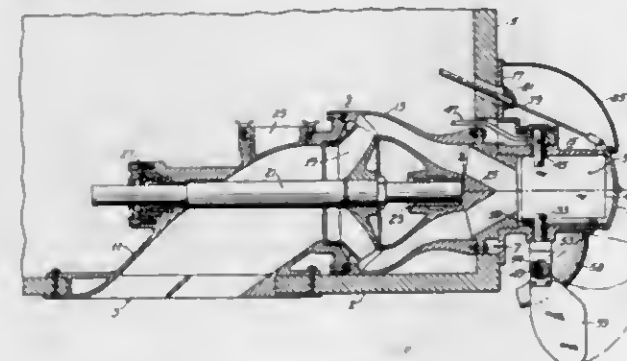
3,422,788

JET PROPULSION DRIVE FOR SHIPS

Raymond E. Horan, Jr., El Cerrito, Calif., assignor to Jacuzzi Bros., Incorporated, a corporation of California

Filed Dec. 31, 1962, Ser. No. 248,318

U.S. Cl. 115—12 9 Claims
Int. Cl. B63h 11/08



A water jet propelled vessel having one rudder in the jet stream and one below the bottom of the vessel so that the vessel can be steered while the vessel is coasting. The lower rudder is pivotally mounted and spring biased to the down position.

3,422,789

MARINE PROPULSION UNIT

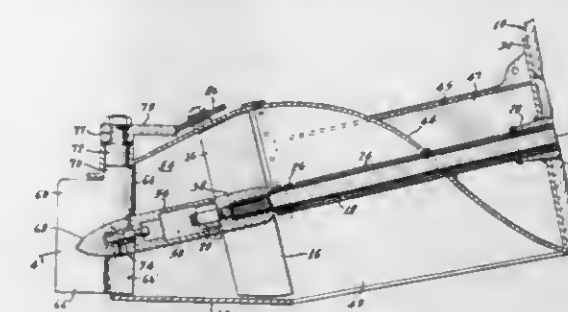
James R. Wynne, Miami, and John D. Gill, Coral Gables, Fla., assignors to Wynn-Gill Associates, Inc., Miami, Fla., a corporation of Florida

Continuation-in-part of application Ser. No. 455,171,
May 12, 1965. This application Sept. 13, 1967, Ser.
No. 671,914

U.S. Cl. 115—12 14 Claims
Int. Cl. B63h 21/24

A marine propulsion unit on a planing boat having a downwardly extending drive shaft through the transom opening with the propeller being substantially below the at rest water line, and a housing having an inlet below the planing surface, an outlet rearwardly thereof and a conical portion between inlet and outlet surrounding the propeller. Flow straightening means including a pair of

horizontal vanes having oppositely curved portions facing and opposing the rotational components of the water from the propeller are disposed rearwardly of the propeller, and a rudder having oppositely curved vane por-



tions is supported by the housing and a portion of the propeller hub adjacent the outlet. The housing is provided with side deflecting vanes forwardly of the propeller to deflect water laterally through side openings in the housing to provide steering while backing down.

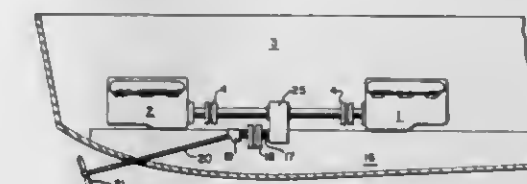
3,422,790

MULTIENGINE DRIVE ARRANGEMENT

Calvin C. Connell, 800 S. 4th St., Louisville, Ky. 40202

Filed Nov. 14, 1966, Ser. No. 601,269

U.S. Cl. 115—37 5 Claims
Int. Cl. B63h 5/08, 23/10



An arrangement for mounting multiple engines in a boat hull where at least two of the engines are disposed in aligned relation along a longitudinal line in the hull which line is generally parallel to the longitudinal axis of the hull.

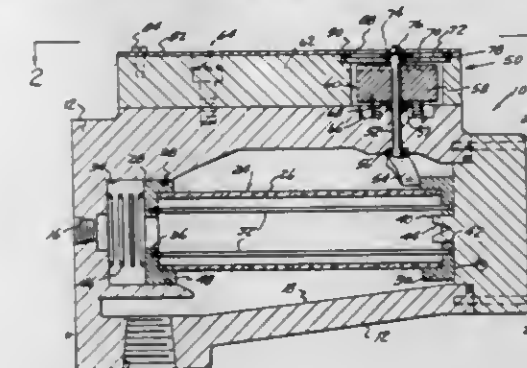
3,422,791

INDICATING APPARATUS

Nils O. Rosaen, Bloomfield Hills, Mich., assignor to The Rosaen Filter Company, Hazel Park, Mich., a corporation of Michigan

Filed Feb. 20, 1967, Ser. No. 617,174

U.S. Cl. 116—70 5 Claims
Int. Cl. G01 19/12



A primary indicator element, connected to means sensing a pressure differential change in a fluid system is supported for movement between positions corresponding to the instantaneous pressure differential change in the system. A second indicator element is coupled with the primary element when the pressure differential in the system

exceeds an unexpected value. The position assumed by the secondary element is maintained at the position corresponding to the unexceeded magnitude of the pressure differential in the system even though the primary element fluctuates to a value corresponding to a lower instantaneous pressure differential.

3,422,792

APPARATUS FOR APPLYING COLOR COATING AND REFLECTIVE GLASS BEADS TO STONE

Robert C. Rollette, 216 Blackhawk Blvd.,
South Beloit, Ill. 61080

Continuation-in-part of application Ser. No. 437,759,
Mar. 8, 1965. This application Apr. 18, 1968, Ser.

No. 722,339

U.S. Cl. 118—5

6 Claims

Int. Cl. B05c 11/12, 5/00; B05b 7/00



A conveyor system lifts raw stone from a storage area into a compartmentalized rotating drum wherein the stone is tumbled, dried and heated. The stone passes from the drying and heating compartments into a painting compartment where it is sprayed with a color coating; the stone with the color coating thereon is passed to another compartment in the rotating drum wherein it is sprayed with glass beads which adhere to the coating. The colored and beaded stone passes on to a conveyor where it is dried and delivered to a storage area.

3,422,793

APPARATUS FOR APPLYING FLUID MATERIALS

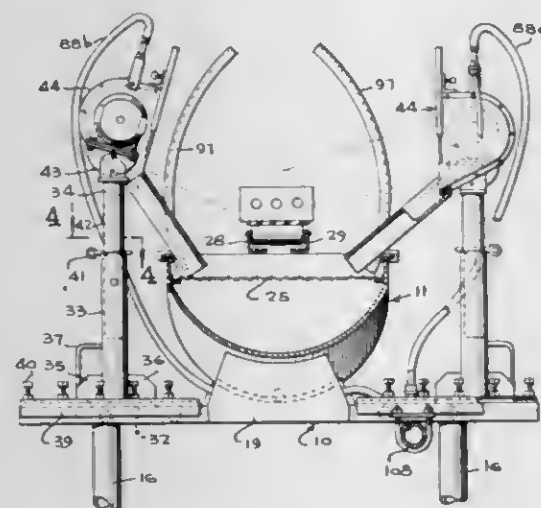
Peter F. J. Lachmann, Henderson, Tex., assignor to
Henderson Clay Products, Inc., Henderson, Tex.,
a corporation of Texas

Filed May 12, 1967, Ser. No. 638,118

U.S. Cl. 118—301

15 Claims

Int. Cl. B05b 15/04, 1/28



An apparatus for applying a fluid material on a plurality of articles comprising means for advancing the articles along a line of travel, circuit means for circulating the fluid material, including at least one means for dispersing the material onto the articles, means for recovering the material and means for recirculating the material, the dispersing means comprising rotatable means having a chamber, the chamber having a perforated annular wall, the rotatable means having an opening communicating directly with the chamber,

means for supplying the circulating fluid directly to the chamber extending through the opening into the chamber, and means for rotating the rotatable means whereby fluid supplied directly into the chamber is caused to be ejected by centrifugal force through the perforated annular wall in a dispersion onto the articles.

3,422,794

DECORATIVE COATING MACHINE

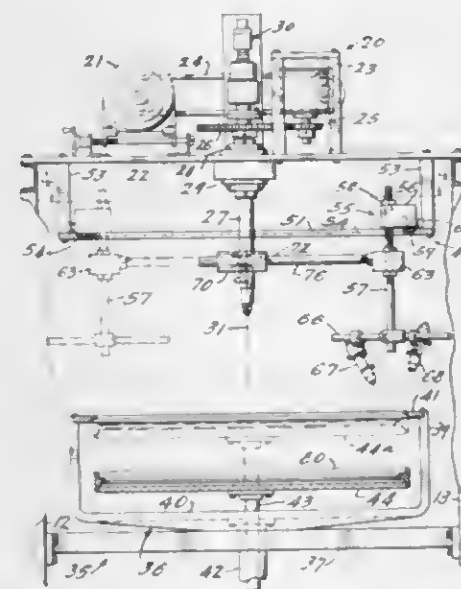
Elmer L. Faber, Toledo, Ohio, assignor to Deco Tools,
Inc., Toledo, Ohio, a corporation of Ohio

Filed June 15, 1967, Ser. No. 646,409

U.S. Cl. 118—301

8 Claims

Int. Cl. B05b 15/04, 3/00; B05c 5/00



A decorative coating machine for use in the decorative coating of, for example, the border of a non-circular object such as the frame which surrounds the picture tube of a television set. The machine includes a decorative painting fixture which has a platform for supporting a workpiece in a predetermined horizontal position. A generally ring shaped plate member is mounted in vertically spaced relationship above the workpiece platform. The plate member defines a continuous guide slot in its upper surface. A vertical power shaft extends downwardly through a center opening in the plate member and terminates above the workpiece platform. A follower assembly is mounted adjacent the plate member and includes at least one tracking cam which is positioned within the continuous guide slot of the cam member. A vertical gun post is carried by the follower assembly and mounts at least one spray gun adjacent its lower end. The gun post and the vertical power shaft are parallel to one another and are interconnected by a pair of horizontal power transfer bars. The power transfer bars are slidably mounted and the distance between the gun post and the power shaft varies as the follower assembly traverses the guide path defined by the continuous guide slot in the plate member.

3,422,795

APPARATUS FOR COATING HOLLOW OBJECTS WITH POWDER

Millard F. Smith, Westport, Conn.

(P.O. Box 295, Saugatuck, Conn. 06880)

Continuation-in-part of applications Ser. No. 255,601,
Feb. 1, 1963, Ser. No. 147,668, Oct. 25, 1961, and
Ser. No. 110,581, May 16, 1961. This application
Dec. 13, 1965, Ser. No. 513,366

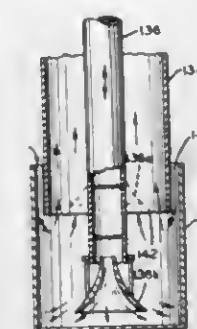
U.S. Cl. 118—308

9 Claims

Int. Cl. B05b 7/14, 13/06; B05c 7/00

Apparatus for coating the inside of hollow objects with powder comprising a powder nozzle having flow straight-

ening means to produce laminar flow of the powder and a smoothly flaring deflector at the end of the nozzle to



deflect the powder outwardly onto the interior of the heated hollow object.

3,422,796

GROOVED COATING APPARATUS

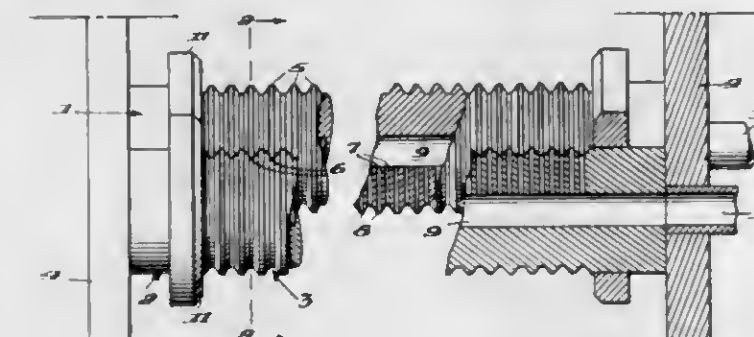
Ernest G. Baber, Waynesboro, Va., assignor to E. I. du
Pont de Nemours and Company, Wilmington, Del., a
corporation of Delaware

Filed Jan. 24, 1967, Ser. No. 611,351

U.S. Cl. 118—411

14 Claims

Int. Cl. B05c 3/02



A fiber sheet coating apparatus having a pair of grooved cylinders with at least one internal conduit within each cylinder. Outlet means connect these conduits with the crests and roots of the grooves of the cylinders. The cylinders are positioned on opposite sides of the sheet of fibers so that the sheet is caused to follow an arc of contact with the grooves of each cylinder.

3,422,797

ADHESIVE APPLYING APPARATUS

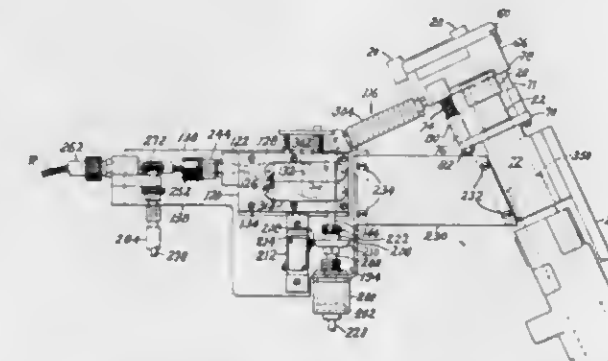
Karl V. Becker, Boxford, Mass., assignor to United Shoe
Machinery Corporation, Flemington, N.J., a corpora-
tion of New Jersey

Filed June 1, 1965, Ser. No. 460,095

U.S. Cl. 118—411

4 Claims

Int. Cl. B05c 3/09



An adhesive melting and extruding device and a self-leveling nozzle connected by a heated flexible hose and mounted on a common support movable to engage the nozzle with a shoe bottom in a lasting machine.

3,422,798

BASEBOARD PROTECTING SHIELD

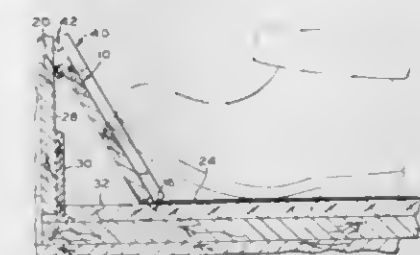
Donald A. Pine, 3525 SE. 9th Ave.,
Portland, Oreg. 97202

Filed Mar. 21, 1968, Ser. No. 714,928

U.S. Cl. 118—504

10 Claims

Int. Cl. B05b 15/04



A shield for protecting a baseboard from paint or similar substances applied to a wall thereabove comprises an elongated member having front and rear sides defined between parallel lateral edges. A first edge is adapted to rest upon a horizontal floor surface for supporting the elongated member in angular relation against a wall. The member includes a resilient bumper means disposed along the rear side of the member adjacent a second parallel edge thereof for engaging the wall surface. The weight of the member leaning against the wall compresses the resilient bumper means causing the bumper means to conform to irregularities of the wall for substantially forming a seal between the bumper means and the wall. The elongated member provides a cover for a baseboard functioning to protect the baseboard from liquid or semiliquid material applied to the wall thereabove.

3,422,799

CATTLE FEEDING SYSTEM

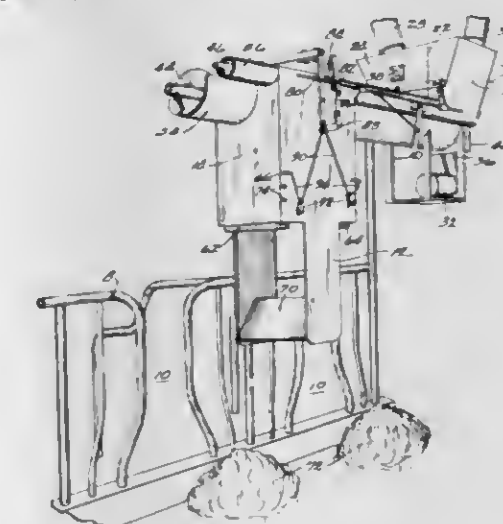
Alphonse P. Ruffing, Marshfield, Wis., assignor to Berg
Equipment Corporation, Marshfield, Wis., a corporation
of Wisconsin

Filed Aug. 15, 1966, Ser. No. 572,515

U.S. Cl. 119—56

6 Claims

Int. Cl. A01k 5/02



Parallel feed screws operate at different speeds to deliver different feeds from a partitioned supply hopper across a series of storage and delivery hoppers, each of which serves two stalls and each of which has control gates which hold the delivered material in the respective delivery hoppers until all have been supplied.

3,422,800

COMBINED GAS TURBINE AND WASTE HEAT BOILER CONTROL SYSTEM

Paul G. La Haye, Schenectady, N.Y., assignor to General
Electric Company, a corporation of New York

Filed June 19, 1967, Ser. No. 647,015

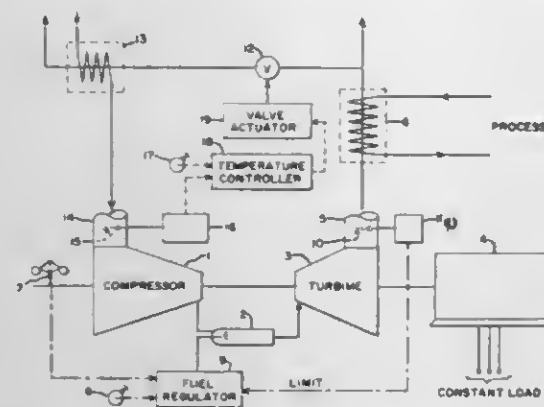
U.S. Cl. 122—7

6 Claims

Int. Cl. F02g 5/00, 3/00; F22b 33/00

In a gas turbine powerplant with a waste heat boiler generating process steam, the air entering the gas tur-

bine compressor is controllably heated with gas turbine exhaust gases so as to independently control steam generation despite varying ambient temperature or varying gas turbine load.



eration despite varying ambient temperature or varying gas turbine load.

3,422,801

ROTARY COMBUSTION ENGINES

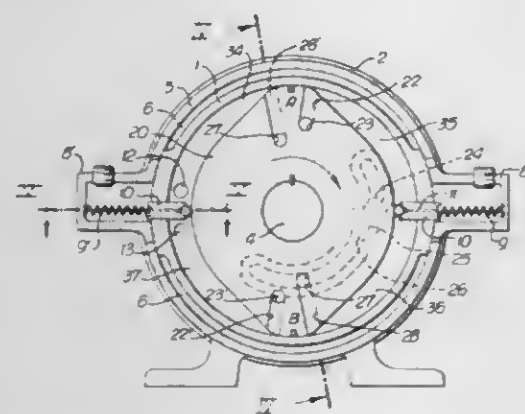
Kiyoshi W. Mido, 4849 La Rica Ave.,
Baldwin Park, Calif. 91706

Filed Nov. 15, 1965, Ser. No. 507,946

U.S. Cl. 123-14

Int. Cl. F02b 53/10, 55/10

4 Claims



A simplified rotary combustion engine employing a lobed rotor in a stationary cylinder provided with inwardly biased vanes. One end wall is provided with an arcuate compression port spaced from an arcuate expansion port and at a different radius from the rotor axis, both being in communication with a common ignition chamber or manifold external to the cylinder. The rotor is provided with passage means connecting chambers forward and rearward of the lobe with the ignition chamber through said compression and expansion ports during successive portions of a cycle of rotation.

3,422,802

PEDAL AND GOVERNOR OPERATED FUEL CONTROL FOR DUAL INDUCTION ENGINE

Ronald C. Kamp, Wilmette, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware

Filed June 7, 1967, Ser. No. 644,266

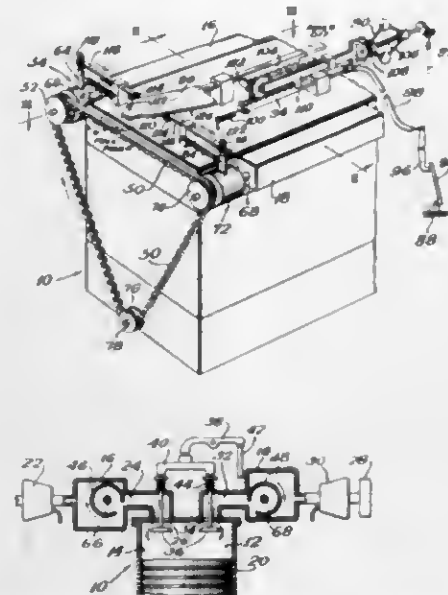
U.S. Cl. 123-75

Int. Cl. F02d 9/02, 31/00

13 Claims

Pedal and governor operated fuel control for a dual induction engine, in which the charge is non-homogeneously distributed in the combustion chamber, and into which the induction of that charge is effected in two stages, by a beginning fill of plain air on the suction stroke, and then by a completion fill of the chamber during the remainder of suction with a combustible quantity of fuel/air premixed by carburetion. The governor overcontrols or modulates action of the accelerator

pedal at the right points for increasing, respectively, the vehicle acceleration, the fuel economy, particularly dur-



ing deceleration and/or part power operation, and the braking capability of the engine when used in a vehicle.

3,422,803

INTERNAL COMBUSTION ENGINE CONSTRUCTION AND METHOD FOR OPERATION WITH LEAN AIR-FUEL MIXTURES

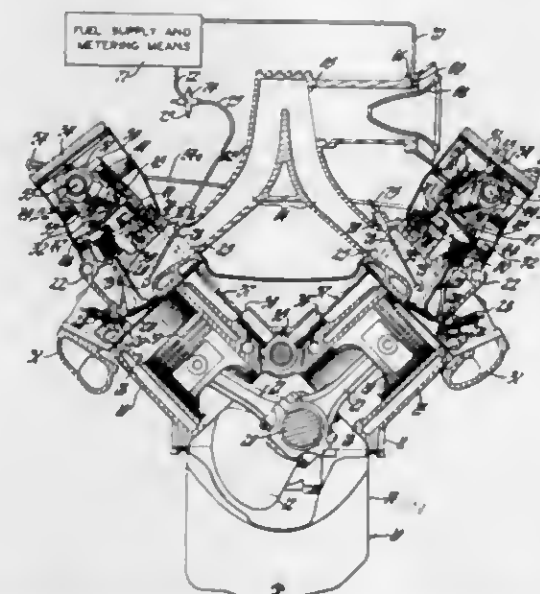
Donald L. Stivender, Warren, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed June 7, 1967, Ser. No. 644,369

U.S. Cl. 123-90

Int. Cl. F02b 1/06; F011 1/18

7 Claims



A spark ignition internal combustion engine construction and method of operation to provide smooth operation at lean mixtures. The method involves the creation of small scale, high intensity turbulence in the cylinder charge by throttle action achieved by varying the range of inlet valve opening movement and restricting mixture flow to the cylinder with operation at air-fuel weight ratios of at least 18 to 1 over substantial portions of the engine power range. The apparatus enables variation of inlet valve lifts down to very small values through the use of a movable pivot rocker lever.

3,422,804

IGNITION SYSTEM

William C. J. Van Mastrigt, 176 Camloo Pablo,
Orinda, Calif. 94563

Filed May 9, 1966, Ser. No. 548,616

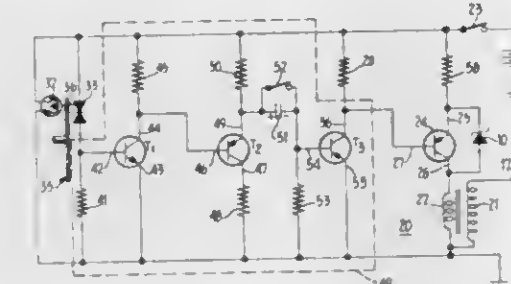
U.S. Cl. 123-148

Int. Cl. F02p 1/00; H05b 37/02

5 Claims

Current through an ignition coil is controlled by a tran-

sistor, the conduction and nonconduction of which is determined by a rotatable photo mask interposed between a source of light and a photoelectric device. The transistor conducts when the light path between the light source and photoelectric device is enabled by the mask and is nonconductive when the light path is disabled. Alternatively, the transistor can be conducting when the light path is disabled and nonconducting when the light path is enabled. By causing the ignition spark to occur at the instant the transistor goes from a conducting to a non-



conducting condition, which corresponds to the substantially instantaneous transition from disabling to enabling, or enabling to disabling, of the light path between the light source and photoelectric device, the time occurrence of the ignition spark is accurately controlled. Since the time the light path is enabled or disabled does not determine the time occurrence of the ignition spark, the time the light path is enabled and disabled can be controlled to control the time current flows through the primary winding of the ignition coil so as to prevent unnecessary power losses and subsequent heating of the ignition coil.

3,422,805

ENGINE INLET PASSAGE SWIRL DEVICE

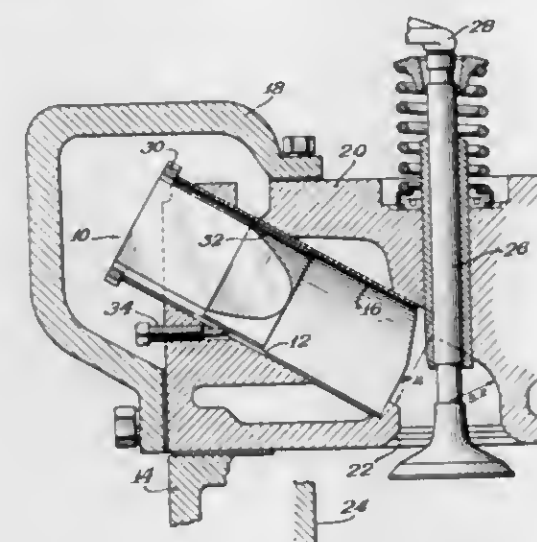
Tadeusz S. Dzianoff, Hinsdale, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware

Filed Nov. 16, 1966, Ser. No. 594,710

U.S. Cl. 123-188

Int. Cl. F011 3/00, 7/00

11 Claims



The structure disclosed herein is an inlet air swirl device which is adjustably positioned in the cylinder head of an internal combustion engine. One such device is provided in each inlet passage anterior to the intake valve therein, and comprises a central body in, and parallel to the axis of, the passage, a centrally-open flange carried at the upstream end of the body for rotating the device to any position from 0° to 360°, and a nozzle in the mouth of the downstream end of the body, which is disposed diagonally to the passage axis and by which the most beneficial airstream direction toward the valve is established.

3,422,806

INTERNAL COMBUSTION ENGINE

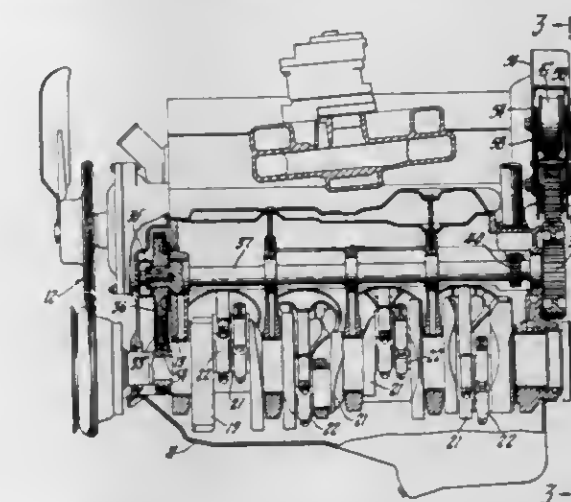
John Z. De Lorean, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed July 3, 1967, Ser. No. 650,973

U.S. Cl. 123-195

Int. Cl. F02b 75/22; F011 1/04

10 Claims



A V-type internal combustion engine includes overhead camshafts carried in interchangeably reversible cylinder head covers and driven from the crankshaft through an intermediate shaft centrally mounted above the crankshaft in the position commonly occupied by the camshaft of conventional push rod type overhead valve engines. The intermediate shaft is driven from the crankshaft through a front-mounted chain drive and in turn drives the camshafts through a rear-mounted cog belt drive. The cog belt drive includes novel belt tensioning means which utilize three pulleys that are radially adjustable with respect to a central axis and move together to equalize tension adjustments of the three belt runs. The pulleys are arranged to provide maximum wrap-around of the cog belts in relation to the drive and driven pulleys of the drive arrangement.

3,422,807

PRELIMINARY LUBRICATION DEVICE

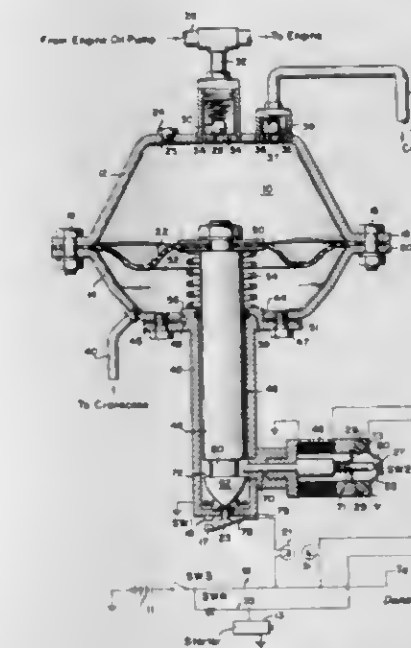
Donald E. Waldecker, P.O. Box 415, Vienna, Va. 22180

Filed Mar. 28, 1966, Ser. No. 537,885

U.S. Cl. 123-196

Int. Cl. F01m 1/02; F161 55/04; F15b 15/26

8 Claims

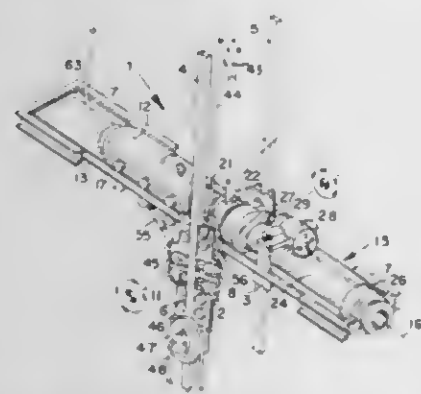


A device for providing adequate lubrication to lubricant pump including pressure-lubricated equipment during start-up of the equipment or in case of temporary pump pressure decreases. Includes means to indicate to equip-

ment operator whether or not device is in a lubricant-supply condition.

3,422,808

PNEUMATIC ACCELERATING DEVICE WITH FRANGIBLE DIAPHRAGM RELEASE MEANS
Bernard Stein, Andover, Mass., and Melvin S. Weinberg, Hudson, N.H., assignors to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware
Filed Apr. 28, 1966, Ser. No. 545,988
U.S. Cl. 124-11
Int. Cl. F41f 1/04; F41b 11/00

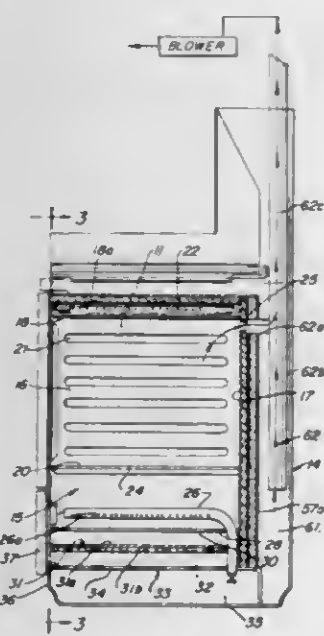


A pneumatic accelerating device is provided whereby a body may be launched into space with preselected velocities of translation and rotation. A chamber, sealed at each of its ends by rupturable diaphragms, is disposed between a compressed air accumulator and a rotatable launching tube. The chamber is maintained at a pressure which is one half that of the accumulator until the apparatus is to be operated. On operation the chamber pressure is sharply reduced thus causing the sequential rupture of the two diaphragms and release of the high pressure air from the accumulator into the launching tube.

3,422,809

SELF-CLEANING OVEN

Samuel J. Perry, Cleveland, Tenn., assignor to Modern Maid, Inc., Chattanooga, Tenn., a corporation of Tennessee
Filed Dec. 6, 1966, Ser. No. 599,457
U.S. Cl. 126-21
Int. Cl. F24c 3/00



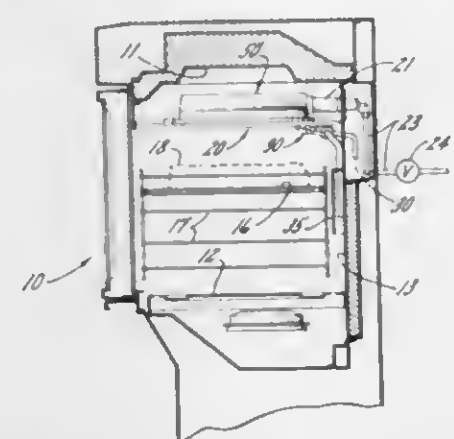
A self-cleaning gas oven is provided wherein during a controlled self-cleaning cycle, ambient air supports the burner combustion and the convected gases therefrom continuously pass through the cooking chamber elevating the chamber temperature to a predetermined range and

purging the chamber of any gases caused by the oxidation of the food soils deposited on the interior surfaces of the chamber.

3,422,810

BROILER FOR GAS RANGE

John C. Weiss, Bourbonnais, Ill., assignor to Geo. D. Roper Corporation, Kankakee, Ill., a corporation of Delaware
Filed Sept. 8, 1967, Ser. No. 666,272
U.S. Cl. 126-41
Int. Cl. F24c 3/04; F23d 13/12

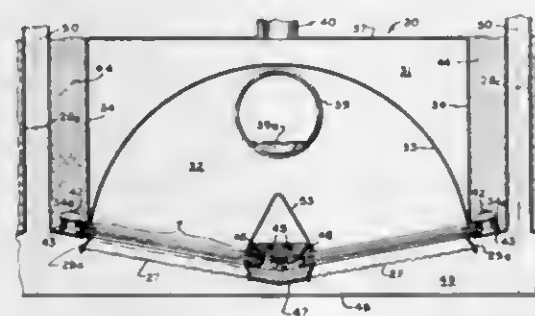


A broiler for a gas range utilizing an extensive layer of perforated incandescent material and having improved means for initiating combustion as well as an improved mounting and air supply.

3,422,811

HIGH TEMPERATURE SURFACE-COMBUSTION RADIANT HEATER

Elmer E. Strand, 59 E. Sunset Ave., Salt Lake City, Utah 84115
Continuation-in-part of application Ser. No. 555,570, June 6, 1966. This application Feb. 8, 1968, Ser. No. 704,018
U.S. Cl. 126-92
Int. Cl. F33d 11/44; F24c 3/04; F23d 13/12



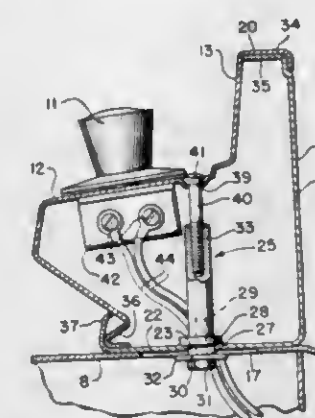
A surface combustion type, radiant gas heater, having a burner and reverberatory screen assembly, is provided with a reflector that is spaced backwardly from the screen assembly. The reflector is backed by a cooling jacket through which a coolant is forced. Higher than usual burner screen temperatures can be obtained, and the screen assembly is fabricated of materials capable of withstanding such high temperatures. In the industrial treatment of materials, an impermeable, but thermal energy absorbing and radiating member is spaced forwardly of the screen assembly to seal the material being treated from the products of combustion generated by the heater. A plurality of the heaters can be combined in mutually spaced side-by-side relationship to provide progressive heating of the material being heated or heating of a larger expanse of material. Offtake ducts formed between the heaters can then form passages through which the products of combustion can be removed.

3,422,812

ELECTRIC COOKING APPLIANCE WITH ADJUSTABLE CONTROLS HOUSING

Philip J. More, Evanston, Ill., assignor to General Electric Company, a corporation of New York
Filed May 16, 1966, Ser. No. 550,186
U.S. Cl. 126-211
Int. Cl. A47j 49/00

4 Claims



1. A cooking appliance adapted for installation in a space provided therein in a counter having a horizontal working surface, comprising:

- a rectangular cooking top adapted to be secured in said space, said cooking top having at least two spaced aligned parallel slots formed therein adjacent the rear thereof and extending in a front-to-rear direction;
- a pair of female threaded members respectively engaging the underside of said cooking top adjacent its associated slot, and being retained in said slot so as to extend vertically upward from said cooking top;
- a hollow controls housing formed to extend across the rear of said cooking top, said housing having a pair of openings formed in a top surface thereof in alignment with said slots respectively;
- and a pair of male threaded members adapted to extend down through said openings, to an extent limited by engagement of said heads with said housing top surface, into mating relation with said female threaded members respectively;
- whereby said housing is held down against said cooking top at the rear thereof, regardless of minor variations in the depth of said working surface and is quickly removable and reassembled from the front of said working surface.

3,422,813

METHOD FOR STERILIZATION OF MALES

Silas A. Braley, Jr., and Jerry D. Helmer, Midland, Mich., assignors to Dow Corning Corporation, Midland, Mich., a corporation of Michigan
No Drawing. Filed June 21, 1965, Ser. No. 465,703
U.S. Cl. 128-1
Int. Cl. A61f 5/42

2 Claims

A non-surgical method for sterilization of males is disclosed. A plug of inert elastomeric material, preferably a silicone elastomer, is inserted in the sperm-carrying tubes of the male, thereby permanently occluding those tubes and blocking the flow of sperm. The plug can be surgically removed at a later time, if desired.

3,422,814

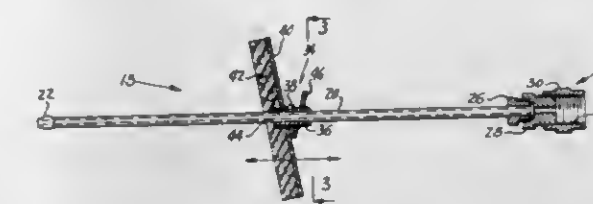
APPARATUS FOR THE INTERNAL MEDICATION OF ANIMALS

Harold B. Lloyd, 2037 S. Cedar St., Sioux City, Iowa 51106
Filed Apr. 14, 1966, Ser. No. 542,663
U.S. Cl. 128-245
Int. Cl. A61m 3/00

1 Claim

An elongated hollow rigid tube for irrigating the uterus of a sow, said tube having a fluid inlet end extendible

through the vagina of the sow into its uterus and a fluid inlet end positioned externally of the vagina for connection to a source of a liquid medicant under pressure, a shield mounted for selective movement axially of the tube



to permit the effective length thereof to be varied in accordance with the physical characteristics of the sow, and a resilient pad on said plate to be engaged with and to seal the vagina of the sow to prevent the escape of the liquid medicant injected into the uterus through said tube.

3,422,815

PREFOLDED WOVEN DIAPER WITH SINGLE PLY WIDTHWISE EDGE PORTIONS

Samuel James Jamison, East Brunswick, N.J., assignor to Johnson & Johnson, a corporation of New Jersey
Filed Feb. 17, 1966, Ser. No. 528,218
U.S. Cl. 128-284
Int. Cl. A61f 13/00; D03d 11/02

2 Claims



A gauze rectangular diaper blank having widthwise single-ply edge portions to provide increased pinning strength and to preclude premature wear.

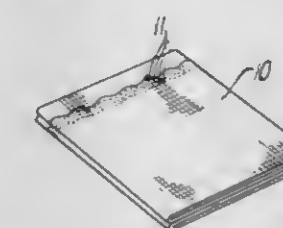
3,422,816

SURGICAL DRESSING

Dennis Robinson, Cleveleys, and Walter Palfrey, Barnoldswick, near Colne, England, assignors to Johnson & Johnson, a corporation of New Jersey
Filed Nov. 12, 1965, Ser. No. 507,488
Claims priority, application Great Britain, Dec. 9, 1964, 50,086

U.S. Cl. 128-296
Int. Cl. A61b 19/00; 17/52

5 Claims



A surgical sponge that will cause a discernible change in a monitored electromagnetic field. The sponge contains a relatively flexible electromagnetic responsive element that comprises a plastic carrier and a nonradioactive magnetic material dispersed in the carrier.

3,422,817

TRACHEOTOMY BANDAGE

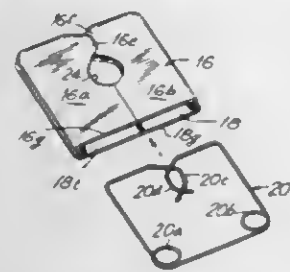
Sidney Mishkin, 10 Wooley Lane, Great Neck, N.Y. 11023, and Robert E. Bidwell, 40 Florida St., Farmingdale, N.Y. 11735
Filed Apr. 19, 1966, Ser. No. 543,681

U.S. Cl. 128-351
Int. Cl. A61m 25/02; A61f 13/00; A44b 21/00

5 Claims

A tracheotomy bandage comprising a gauze covering for a resilient frame with the gauze shaped to provide a central opening with overlapping end portions. The re-

silient frame can be moved to separate the overlapping portions to permit insertion and removal of the bandage



over a tracheotomy tube. The bandage grips the tube when in use.

3,422,818

ELASTICIZED GARMENTS

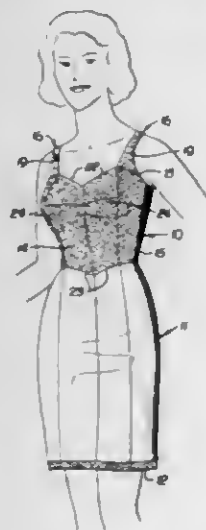
Olga Erteszek, Los Angeles, Calif., assignor to Olga Company, Van Nuys, Calif., a corporation of California

Filed Feb. 7, 1966, Ser. No. 525,423

U.S. Cl. 128-454

10 Claims

Int. Cl. A41c 3/08; A41c 3/10; A41b 9/08



A woman's garment incorporating within a bodice portion thereof a brassiere attached to an elastic back panel of the bodice, the brassiere while being attached to the back panel and at the top of the garment front to an outer bodice material, is unattached thereto at the bottoms of the brassiere cups, thus providing for relative freedom of the bodice front from conformed fitting of the brassiere to the wearer under the influence of back panel tensioning.

3,422,819

CIGARETTES AND PAPER THEREFOR

David Aubrey Jones and Alfred C. Davis, Westbury-on-Trym, Bristol, and Eric F. Gaunt, Grasscroft, near Oldham, England, assignors to The Imperial Tobacco Company (of Great Britain and Ireland), Limited, Bedminster, Bristol, England, an English company

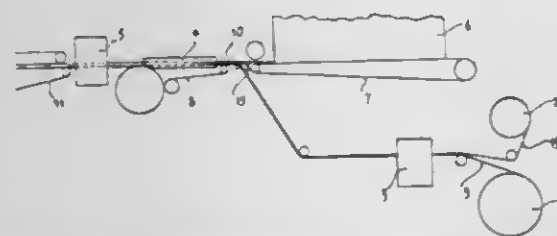
Filed Mar. 30, 1966, Ser. No. 538,801

Claims priority, application Great Britain, Mar. 30, 1965, 13,326/65; Nov. 19, 1965, 49,203/65

U.S. Cl. 131-15

7 Claims

Int. Cl. A24b 15/00; A24d 1/02



This disclosure concerns treating paper for use in the manufacture of cigarettes by adding to the paper a nicotine salt in which the molecular ratio of acid to nicotine is at

least 1:1. The cigarette made from such paper is thus nicotine enriched whereby the cigarette will retain its flavour even when the smoke is filtered to remove undesirable tars.

3,422,820

APPARATUS FOR PRODUCING A TOBACCO ROD

Kurt Korber, Am Pfingstberg 10, and Willy Richter, Hamburg-Bergedorf, Germany, said Richter assignor to said Korber

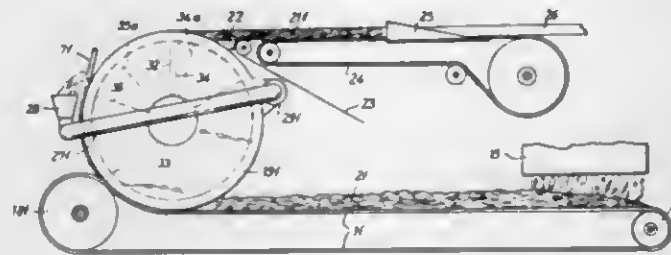
Original application Dec. 28, 1959, Ser. No. 862,386, now Patent No. 3,261,364, dated July 19, 1966. Divided and this application May 18, 1966, Ser. No. 551,141

Claims priority, application Germany, Dec. 30, 1958, H 35,248; Jan. 22, 1959, H 35,430; Feb. 5, 1959, H 35,563

U.S. Cl. 131-66

2 Claims

Int. Cl. A24c 5/18



Apparatus for producing a wrapped tobacco rod comprises a first conveyor which is provided with a groove for advancing a tobacco stream and which comprises a foraminous member forming the bottom wall of the groove, a suction chamber for drawing a current of air across the tobacco stream in the groove and through the foraminous member to compress the tobacco stream against the foraminous member, a second conveyor which feeds tobacco into the groove to form the stream, a mechanical compressing device which compresses tobacco in the groove so that the tobacco stream undergoes mechanical and pneumatic compression, a trimming device for equalizing the mechanically and pneumatically compressed stream by removing surplus tobacco whereby the thus trimmed stream forms a filler rod, a third conveyor for receiving the filler rod from the first conveyor, and a wrapping device for applying a wrapper to the filler rod on the third conveyor.

3,422,821

AIR INSULATED DRY BOWL PIPE

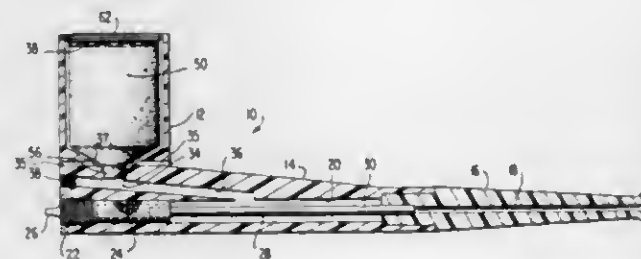
Edward H. Calkins, Ken-Mar on the Hill, Rte. 2, Highway 27, Gaylord, Mich. 49735

Continuation of application Ser. No. 458,934, May 26, 1965. This application Dec. 6, 1967, Ser. No. 688,617

U.S. Cl. 131-195

10 Claims

Int. Cl. A22f 1/22, 1/18



A dry bowl smoker's pipe including an outer bowl and an inner ceramic bowl releasably secured within

the outer bowl by resilient means accommodating expansion of the inner bowl relative to the outer bowl. as the bottom thereof. Pins mounted on the disc push coins along with the disc up onto a further inclined

3,422,822

CIGARETTE FILTER

Jules-Odon de S  n  part, Lausanne, Switzerland, assignor to Adrien Schnyder, Blenne, Switzerland

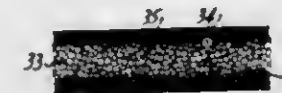
Continuation of abandoned application Ser. No. 260,207, Feb. 21, 1963. This application Jan. 4, 1966, Ser. No. 525,796

Claims priority, application Switzerland, Feb. 27, 1962, 2,459/62

U.S. Cl. 131-269

1 Claim

Int. Cl. A24f 7/04, 13/06



A tobacco smoke filter comprises an elongated cylindrical mass of foamed synthetic resin. The central portion of the foam filter is constituted by relatively large intercommunicating cells and the periphery is constituted by relatively small partially or totally closed cells constituting a smoke-blocking annulus. The specific weight of the filter is greater at its periphery than at its center.

3,422,823

HAIR CURLER AND METHOD FOR THE PRODUCTION THEREOF

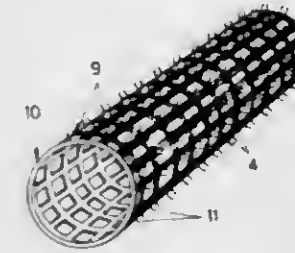
Italo Marforio, Piazza Mercato 2, Seregno, Milan, Italy
Continuation-in-part of application Ser. No. 449,039, Apr. 19, 1965. This application Sept. 11, 1967, Ser. No. 666,823

Claims priority, application Italy, Apr. 27, 1964, 9,229/64

U.S. Cl. 132-40

2 Claims

Int. Cl. A45d 2/12



A hair curler consisting of a pile fabric rolled up in such a way to form a cylindrical body open at its ends, said pile fabric being possibly rolled up on a cylindrical perforated inner support, said pile fabric comprising in the ground thereof noninterwoven areas which do constitute free passageways for any liquid or gaseous fluid, and the method for manufacturing the before-said hair curler.

3,422,824

COIN FEEDING DEVICE

Bertil J. Persson, Lund, Sweden, assignor to Scan Coin AB, Malmö, Sweden, a corporation of Sweden

Filed Oct. 12, 1967, Ser. No. 674,870

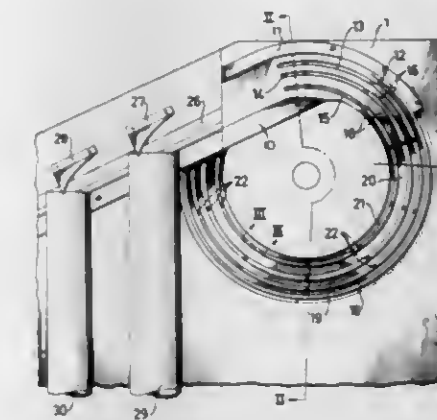
Claims priority, application Sweden, Oct. 20, 1966, 14,278/66

U.S. Cl. 133-3

9 Claims

Int. Cl. G07d 1/00; B65g 29/02

A coin feeding drum having an inclined rotating disc



sorting track, the pins being received initially in slots in the track and gradually disappearing beneath the track.

3,422,825

APPARATUS FOR CLEANING AND COATING ARTICLES

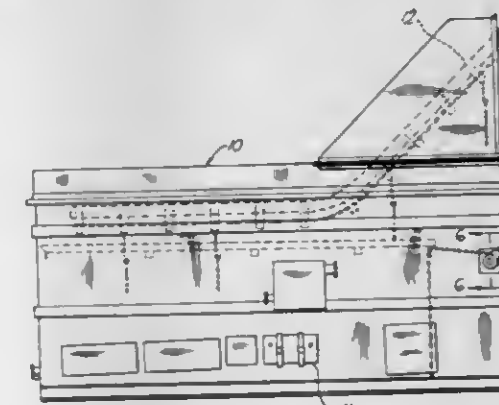
Kendall L. Wichman, St. Clair Shores, Mich., assignor to The R. C. Mahon Company, Detroit, Mich., a corporation of Michigan

Filed Mar. 10, 1967, Ser. No. 622,299

U.S. Cl. 134-105

8 Claims

Int. Cl. B08b 3/10, 15/00; B05c 3/10



A tank which contains one or more liquid materials for cleaning and coating articles that are moved through the tank. The liquid material is heated and contains a solvent which forms solvent vapors above the liquid. Condensing means are provided above the liquid to condense the vapors. One or more troughs are provided within the tank. Each of the troughs has a plurality of longitudinally spaced downwardly extending projections having openings therein through which bolts that are fixed on the sides of the tank extend. Nuts are threaded on the bolts to hold the trough removably on the tank. As need for adjustment or replacement of the trough occurs due to corrosion, the trough can be easily removed without damaging the tank.

3,422,826

CLEANING MACHINE

Thomas B. Ballard, 25550 Mulberry Drive, Southfield, Mich. 48075

Filed Jan. 3, 1967, Ser. No. 606,839

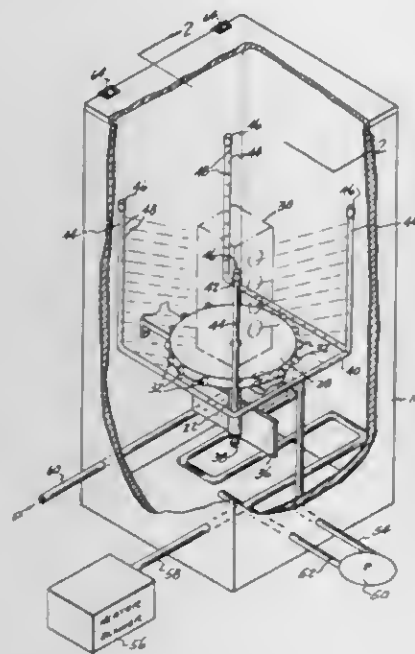
U.S. Cl. 134-107

16 Claims

Int. Cl. B08b 3/10; B05c 5/00

Apparatus for cleaning a machine part including a turntable supported above the level of cleaning liquid in a storage tank. A shaft depends downwardly from the turntable and carries a paddle submerged in the liquid. A pump delivers liquid from the tank to a manifold having jets which directs part of the liquid at vanes car-

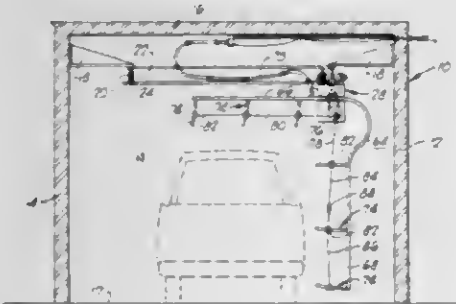
ried by the turntable for rotation. The remainder of the roller mounted on its handle may be inserted to be cleaned by a jet of cleaning fluid to remove paint there-



the rotating machine part. The rotation of the turntable is controlled by the size of the paddle which develops a retarding fluid force in opposition to the driving jets.

3,422,827
VEHICLE WASHING SYSTEM
Doyle W. McCulloch, 630 Walnut Circle E,
Garland, Tex. 75040

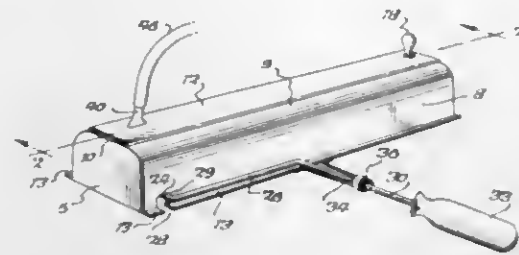
Filed Mar. 22, 1967, Ser. No. 625,040
U.S. Cl. 134-123
Int. Cl. B60s 3/02; B08b 3/00; B05b 15/06 10 Claims



An automatic car wash system including a partially enclosed space which contains an elevated track on which a self-propelled carriage moves. The carriage supports a liquid supply manifold which moves with the carriage, and which feeds a washing liquid to a plurality of flexible, liquid dispensing conduits connected to the manifold. A plurality of flexible connecting rods are connected to the flexible liquid dispensing conduits, and to a member driven in rotation by the self-propelled carriage during its movement on the track. Eccentric connection of the flexible connecting rods to the rotated member imparts movement in various directions to the liquid dispensing conduits to assure maximum coverage of a car being washed using the system.

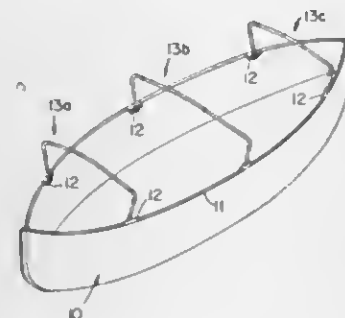
3,422,828
CLEANER FOR PAINT ROLLERS
Henry Dommer, 199 Orleans St., Buffalo, N.Y. 14215
Filed Dec. 30, 1966, Ser. No. 606,313
U.S. Cl. 134-138
Int. Cl. B08b 3/02 6 Claims

This apparatus includes a housing into which a paint



from and to rotate the roller to remove paint and solvent from the roller by centrifugal action.

3,422,829
LIFEBOAT COVER
Leland D. Adams, Jr., Atherton, Calif., assignor to C. J. Hendry Company, San Francisco, Calif., a corporation of California
Continuation-in-part of application Ser. No. 572,100, Aug. 12, 1966. This application July 26, 1967, Ser. No. 656,278
U.S. Cl. 135-6
Int. Cl. B63b 23/64 2 Claims



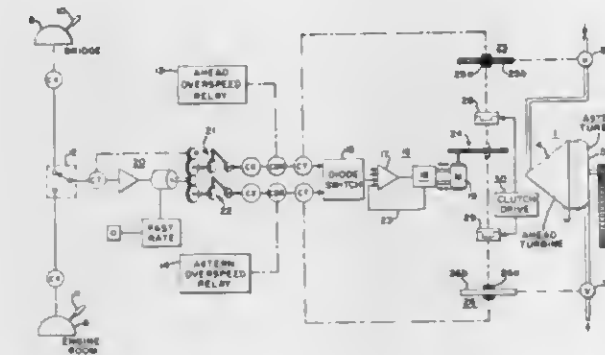
Lifeboat canopy support having arch structures with side stanchion members that are adapted to be seated in sockets attached to the boat gunwales. The stanchion members are detachably connected by spacer and peak members to complete the arch structures.

3,422,830
WALKING DEVICE
Nicholas Cherup, 24215 Hill St., Warren, Mich. 48091
Filed July 25, 1966, Ser. No. 567,748
U.S. Cl. 135-45
Int. Cl. F16m 13/08; A45b 1/00 3 Claims



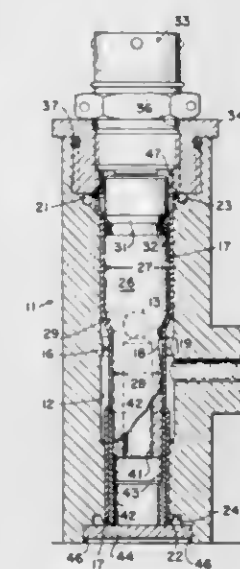
A self-supporting walking device having a hand grip mounted at the center of the balance of the device so that a user, having the use of only one hand, can alternately apply his weight on the hand grip to advance his body toward the hand grip and then lift the device by the hand grip to advance it in the direction of his travel.

3,422,831
TURBINE CONTROL SYSTEM
Kenneth Orral Straney, Danvers, and Ove Mareno Silvertsen, Peabody, Mass., assignors to General Electric Company, a corporation of New York
Filed Feb. 20, 1967, Ser. No. 617,320
U.S. Cl. 137-22
Int. Cl. F01k 7/16 8 Claims



Steam turbine has forward and reversing valves actuated together in opposite directions by racks and pinions which can be selectively clutched or declutched to a common electrohydraulic power amplifier to enable independent or simultaneous movement of the valves. The power amplifier includes a combined AC synchro and hydraulic servo control responsive to AC valve positioning signals which are modified in the event of turbine overspeed.

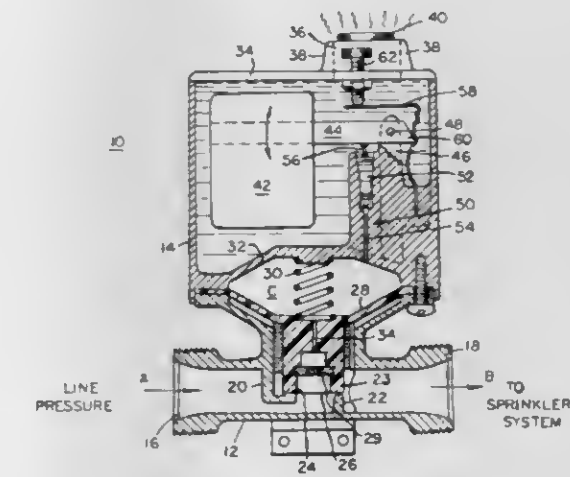
3,422,832
EXPLOSIVELY ACTUATED VALVE
James I. Moulton, Sunnyvale, Calif., assignor to Quantic Industries, Inc., San Carlos, Calif., a corporation of California
Filed Feb. 27, 1967, Ser. No. 618,865
U.S. Cl. 137-67
Int. Cl. F16k 31/12, 17/40 7 Claims



A cylindrical sleeve member is carried within the bore of a normally open valve body. The sleeve is expanded laterally against an encircling valve seat formed within the bore by explosively driving a movable wedging member along the axis of the closure member. The wedging member remains lodged in place to maintain the closure member expanded in sealing engagement with the valve seat. The sleeve ends are welded to the valve body whereby the gases of explosion are isolated from the fluid system controlled by the valve.

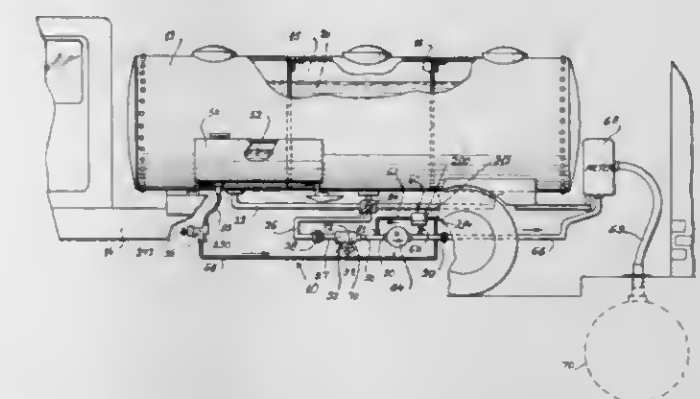
858 O.G.—29

3,422,833
AUTOMATIC WATERING VALVE
Sotiris Kitrilakis, Newton, Mass., assignor to Thermo Electron Engineering, Waltham, Mass., a corporation of Delaware
Filed Feb. 6, 1967, Ser. No. 614,256
U.S. Cl. 137-78
Int. Cl. F16k 17/36, 31/34 3 Claims



An automatic water sprinkling valve having a float enclosed within a water chamber with the chamber open to the atmosphere allowing normal evaporative processes to occur. Valvular mechanisms operative by the position of the float permitting the flow of line pressure to a distribution area for a predetermined time interval.

3,422,834
PLUNGER TYPE ADDITIVE INJECTION DEVICE
Romano Garabello, Brooklyn, N.Y., assignor, by mesne assignments, to Metropolitan Petroleum Petrochemicals Co., Inc., New York, N.Y., a corporation of New York
Filed Sept. 28, 1966, Ser. No. 582,559
U.S. Cl. 137-99
Int. Cl. G05d 11/03 10 Claims



1. A device for injecting an additive fluid into a stream of main fluid flowing in a conduit, comprising a stator having a generally cylindrical body, means for supporting said stator in a stationary position inside and axially of said conduit so that said stream of main fluid passes by and around said body, said body having an axial first bore, a shaft rotatably supported in said bore in said body and extending axially therethrough, means preventing axial movement of the shaft, a rotor having multiple radially extending vanes pitched at an angle to the axis of said body, said rotor being rotatably supported at and by one end of said shaft outside said body so that the main fluid flowing in said conduit turns the rotor, pumping means in said body, said body having a passage providing an inlet for said additive fluid communicating with said pumping means, said body having an outlet port communicating with said pumping means for passing said

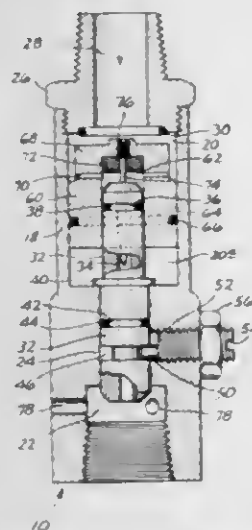
additive fluid out of said body into said stream of main fluid, and mechanical means operatively engaging said shaft and pumping means so that said additive fluid is discharged from said body into said stream of main fluid when the shaft rotates.

3,422,835 VALVE FOR CHARGING SEWER LINE WATER TRAPS

James B. Watts, Portland, Oreg., assignor, by mesne assignments, to McElligott Enterprises, Anchorage, Alaska

Filed Dec. 20, 1965, Ser. No. 514,787
U.S. Cl. 137-115
Int. Cl. E03f 7/00; E03d 5/00

6 Claims

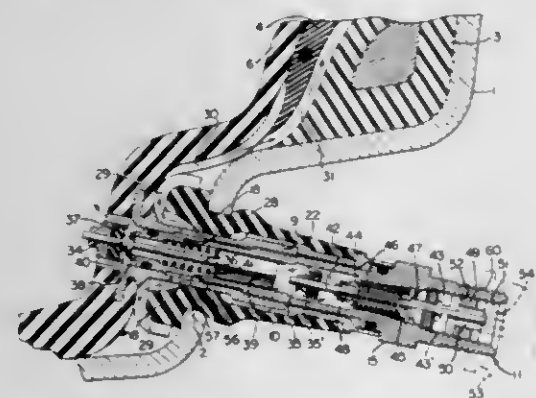


A device for charging sewer line traps automatically upon decrease in main line water pressure comprising a branch line having a piston valve member telescopically received over the end of an adjustable tubular member, the piston having a first seat for sealing engagement with the end of the tubular member under normal pressure conditions in the main line and a second seat for sealing engagement with the inlet end of the chamber in which the piston and tubular member are mounted when the pressure in the main line is shut off. The piston being unseated from both the end of the tubular member and the end of the chamber, thus permitting flow to the trap, when the main line water pressure is decreased. The piston includes a metering pin for metering the flow of water through the tubular member.

3,422,836
VALVE FOR DUAL CHAMBERED TIRES
Joseph S. Hawkes, Cuyahoga Falls, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Delaware

Filed June 20, 1966, Ser. No. 558,842
U.S. Cl. 137-234.5
Int. Cl. B60c 29/00; F16k 15/20

20 Claims



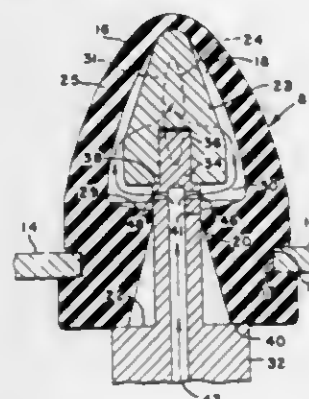
1. Valve mechanism for supplying air to a space formed by a tire rim, having a valve receiving hole, and a tire mounted on said rim comprising a stem adapted to be

mounted in said rim hole for supplying air to said space including a tubular shell and a tubular spud extending into one end of and releasably mounted in said shell, said stem having a port adapted to communicate with said air space when said stem is mounted on said rim, means for mounting said stem in said rim hole including a first sealing means on said shell providing an air seal between said stem and the adjacent wall of said hole, a housing extending into the other end of said shell and having a passage communicating with said port, means on said spud and housing releasably uniting them in fixed position within said shell, a second sealing means between said housing and stem, and a valve in said housing controlling the flow of air into and out of said passage.

3,422,837
FILLING VALVE STRUCTURE FOR
PRESSURIZED CONTAINERS
Ralph K. Boyer, Cleveland, Homer F. Eyerdam, Lakewood, and Henry W. Krohn, North Olmstead, Ohio, assignors to Eaton Yale & Towne, Inc., Cleveland, Ohio, a corporation of Ohio

Filed Dec. 27, 1966, Ser. No. 604,701
U.S. Cl. 137-322
Int. Cl. F16k 15/20

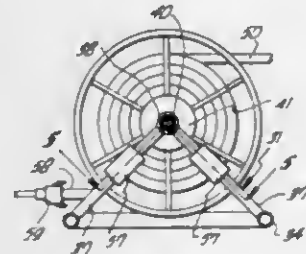
12 Claims



This invention provides a filling valve for pressurized fluid containers characterized by a resilient valve body provided with an internal chamber and a valve member contained within the chamber and accessible from the outside of the valve body. These valves are frictionally retained in an opening through the container wall.

3,422,838
HOSE REEL
Richard T. Headrick, 916 Crestfield Ave., Duarte, Calif. 91010
Filed Sept. 28, 1965, Ser. No. 490,851
U.S. Cl. 137-355.12
Int. Cl. B60p 3/22; B64d 1/18

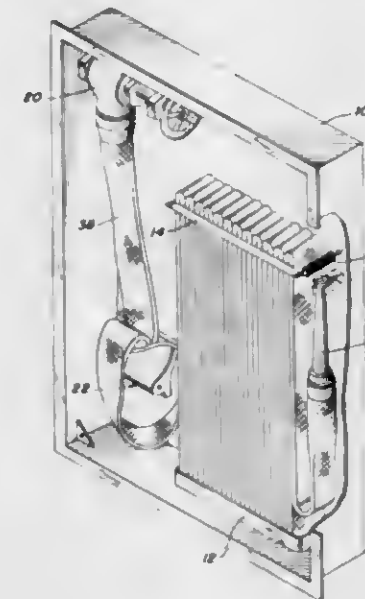
8 Claims



A hose reel assembly including a plurality of hose reels each including a liquid flow fitting adapted to be coupled to a hose. The reels are supported on a sled-type wheelless ground engaging framework which mounts the reels for rotation relative to each other. The structure of the framework provides a manifold for ducting liquid to the reels from a single inlet to a fluid flow path defined within the framework. A fluid flowrate control device is provided for each reel.

3,422,839
FIREHOSE CLAMP
Bert N. Svenson, Norwalk, Calif., assignor to Potter-Roemer, Inc., Los Angeles, Calif., a corporation of California
Filed Oct. 31, 1966, Ser. No. 590,837
U.S. Cl. 137-355.18
Int. Cl. A62c 35/20; F16l 3/00; F16l 55/14

1 Claim

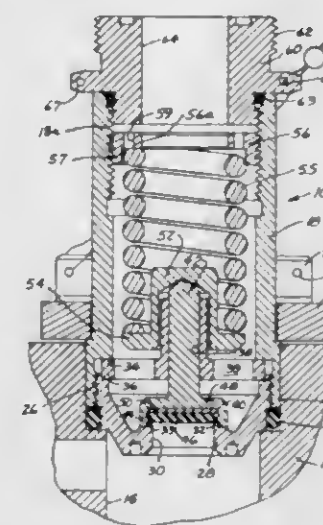


A firehose clamp of the kind which prevents the entry of water into a length of folded emergency hose before the entire length has been withdrawn from its storage position and which releases automatically when tension is applied to the hose. The clamp includes two clamp parts between which the hose is clamped and one of said parts being hinged to swing to a released position when it is engaged by the hose as it is being withdrawn.

3,422,840
RELIEF VALVE WITH RESILIENT
SEAL MEANS
Austin U. Bryant, Walnut Creek, and Richard S. Brumm, El Cerrito, Calif., assignors to Grove Valve and Regulator Company, Oakland, Calif., a corporation of California

Filed Jan. 17, 1966, Ser. No. 521,203
U.S. Cl. 137-384
Int. Cl. F16k 35/00, 17/20

6 Claims



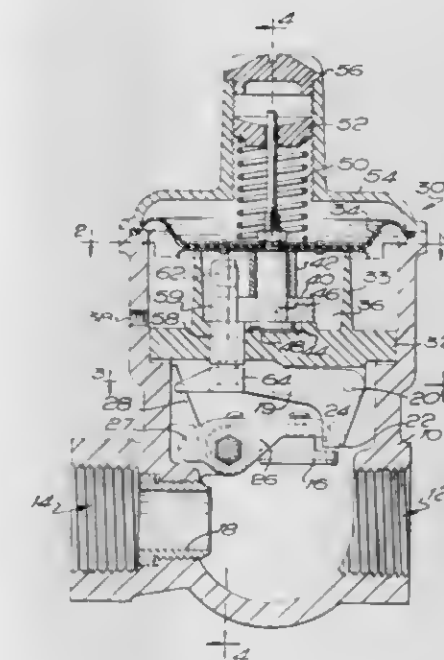
A relief valve including a valve member formed by a cylindrical receptacle in which is carried a circular resilient seal which engages the cylindrical wall of the receptacle completely around its periphery. The valve seat comprises a cylindrical axial extension and the inner wall of the receptacle slidably engages over the valve seat when in closed position. As the valve is opened, the

narrow clearance between the seat and the valve member provides an orifice which results in pressure build-up to facilitate opening of the relief valve and as the resilient seal is lifted from the seat an additional area is exposed to upstream pressure to aid valve opening. A small vent aperture is provided through the bottom wall of the valve member receptacle and a porous distributing disc is interposed between the inner wall of the receptacle and the valve member so that the entire area of the resilient seal is exposed to downstream pressure on the backside for seal retention.

3,422,841
SAFETY CUT-OFF VALVES FOR GAS
SUPPLY SYSTEMS
Sydney Farrer, Sheffield, England, assignor to The Bryan Donkin Company Limited, Chesterfield, England, a company of Great Britain and Northern Ireland
Filed July 10, 1967, Ser. No. 652,316
Claims priority, application Great Britain, July 19, 1966, 32,346/66

U.S. Cl. 137-461
Int. Cl. F16k 17/06, 31/08

13 Claims



A safety cut-off valve for a gas supply system, the valve including a valve member mounted for movement towards or away from a valve seat and means for retaining said valve member in an inoperative position off said seat during normal operation, said means including a pair of fixed metallic contacts arranged to retain said valve member in said inoperative position when magnetically activated and a magnet movable under the control of a pressure responsive diaphragm towards or away from said contacts to magnetically activate or de-activate the latter.

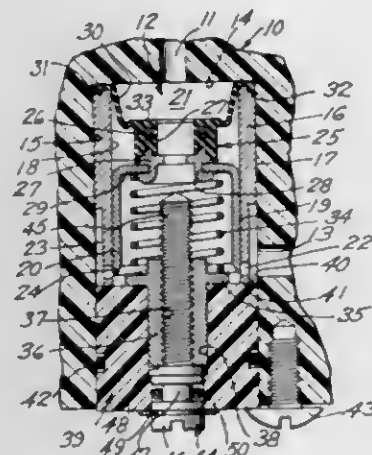
3,422,842
ADJUSTABLE FLOW CONTROL
Howard L. Erickson, Bensenville, Ill., assignor to The Dole Valve Company, Morton Grove, Ill., a corporation of Illinois

Filed Nov. 16, 1966, Ser. No. 594,748
U.S. Cl. 137-504
Int. Cl. F16k 21/04, 3/24

10 Claims

1. An adjustable flow control comprising: a generally hollow casing having an inlet and an outlet, a piston slidably mounted within said casing and having an opening formed therein to allow the flow of fluid from the inlet to the outlet and having an edge thereof cooperable with said outlet for regulating the rate of flow of fluid therethrough in accordance with the axial position of the piston within the casing,

a resilient diaphragm operably and sealably secured between the piston and the casing at the vicinity of said inlet to prevent the flow of fluid from the inlet about the exterior of the piston to the outlet, said diaphragm

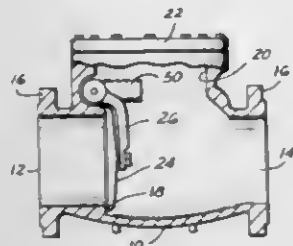


having a port formed therein, said port being communicable with the opening in said piston to allow the flow of fluid from the inlet through the interior of the piston to the outlet, and means biasing said piston toward said inlet.

3,422,843 PRESSURE RELIEF MECHANISM FOR ANTI-SLAM VALVES

Glenn R. Blackman, 154 Charles Ave., Shreveport, La. 71105, and Edward W. Robinson, 2500 Marilee Lane, Apt. 2, Houston, Tex. 77027
Filed Oct. 7, 1966, Ser. No. 585,163
U.S. Cl. 137—514
Int. Cl. F16k 1/20, 21/10

5 Claims



1. In anti-slamming mechanism for valves of the type having a casing provided with an internal seat and a valve movably disposed in the casing for movement into and out of closing engagement with said seat,

- (a) means forming a fluid chamber in the housing,
- (b) means movably disposed in the chamber and connected to the valve for movement therewith and including
- (c) means for allowing unrestricted flow of fluid in the chamber in one direction from one side of said movable means to the other upon movement of the valve and for restricting the flow of such fluid from said other to said one side upon movement of said movable means in response to closing movement of the valve to yieldingly resist such closing movement, and
- (d) means for preventing the pressure in said chamber from exceeding a predetermined pressure upon closing movement of said valve comprising

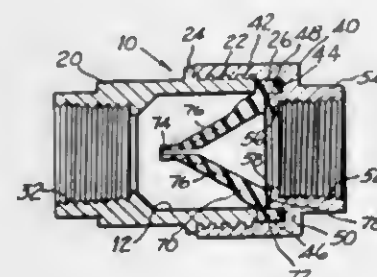
(e) means for causing an increase in the volume of said chamber in response to an increase in the pressure in said chamber when said pressure reaches a predetermined pressure.

3,422,844 FLEXIBLE CHECK VALVE

Frederick G. J. Grise, Barre, Mass., assignor to Grimar, Inc., Clinton, Mass.

Filed Mar. 5, 1965, Ser. No. 437,463
U.S. Cl. 137—525.1
Int. Cl. F16k 15/14

5 Claims



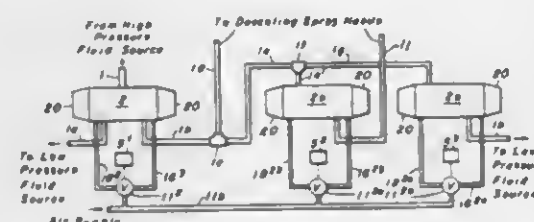
A rigid cylindrical housing including two parts interconnected to support a flexible valve member including a body portion with walls tapered in thickness from a thin flat normally closed end to a thick circular open end and a peripheral supporting collar clamped between the two parts of the housing, and having an annular surface at its open end arranged to be biased under back pressure against an annular surface on the housing to increase the valve member's resistance to back pressure.

3,422,845 MOUNTING AND OPERATING MECHANISM FOR SWITCHES

Neil J. Behoe, 402 Rebecca Ave., Hubbard, Ohio 44425, and John Nanowsky, Boardman Township, Mahoning County, Ohio (3928 S. Schenley, Youngstown, Ohio 44511)

Filed Aug. 19, 1966, Ser. No. 573,577
U.S. Cl. 137—608
Int. Cl. F16k 31/363, 37/00; H01b 35/38

12 Claims



For a fluid operating system having a valve provided with a valve body and a valve member in the valve body, a mounting and operating mechanism is provided having a switch body, means for securing the switch body to the valve body, switch mounting means mounted within the switch body, a switch on the switch mounting means and having contact means, connecting means sealed to the valve body and the switch body and provided with guide means, and operating means reciprocable in the guide means while permitting fluid flow therethrough and equalization of fluid in the valve body and the switch body. The operating means is movable by the valve member to actuate the contact means, and biasing means are associated with the operating means for biasing the operating means in a direction opposite to the direction of movement of the operating means by the valve member.

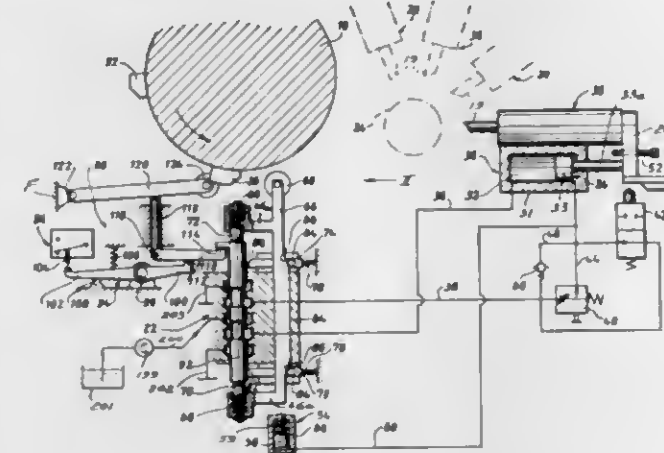
3,422,846 CONTROL ARRANGEMENT FOR AUTOMATIC MACHINE TOOLS

Helmut Liak, Esslingen-Lerchenaeker, and Erich Schaefer, Stuttgart-Oberturkheim, Germany, assignors to Index-Werke K.G. Hahn & Tessky, Esslingen (Neckar), Germany

Filed Dec. 19, 1966, Ser. No. 602,923
Claims priority, application Germany, Dec. 21, 1965, J 29,665

U.S. Cl. 137—624.18
Int. Cl. F16k 31/04; F15b 13/07

18 Claims

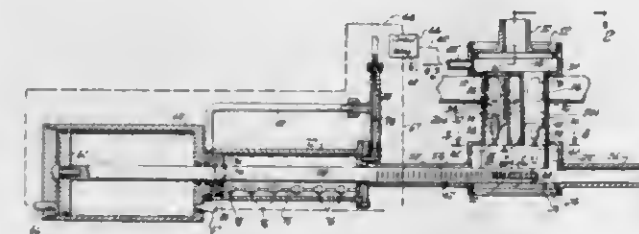


Control arrangement for hydraulically operated feed mechanisms in machine tools wherein the flow of hydraulic fluid to and from the cylinders of two or more hydraulic feed mechanisms is regulated by control valves actuated by cams on a camshaft. To prevent premature movements of feed mechanisms to and from their operative and retracted positions, the camshaft is arrested when a feed mechanism leaves its retracted position and is started again in response to return movement or in response to completed return of such feed mechanism to retracted position. The camshaft carries two sets of cams. The cams of one set act upon the control valves and the cams of the other set arrest the drive for the camshaft upon completed actuation of a control valve in a sense to effect movement of a feed mechanism to operative position.

3,422,847 CYCLIC CONTROL FOR MULTIPLE VALVES

Daniel D. Polizzi, 630 W. 8th St., Upland, Calif. 91786
Filed Jan. 16, 1967, Ser. No. 609,506
U.S. Cl. 137—624.18
Int. Cl. F16k 11/10, 31/12

14 Claims



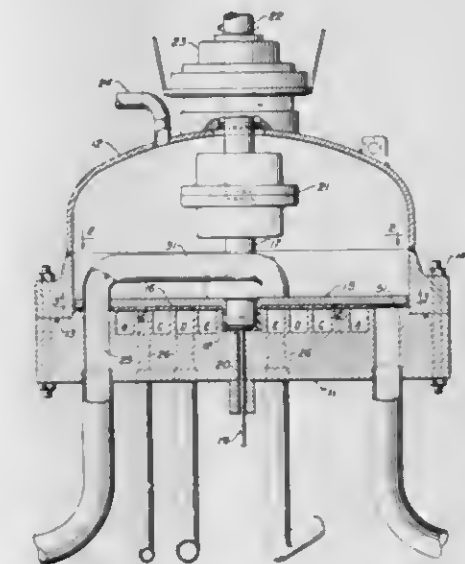
The specific embodiment of the invention disclosed herein is operable through an automatic cycle to open a series of valves in sequence for predetermined periods of time to distribute water from a pressurized supply to a corresponding series of supply pipes in a sprinkler system. A hydraulic power cylinder actuated by the pressurized water supply operates a cyclic control in the form of a cam, the series of valves being biased against the

cam by the water pressure. A dashpot arrangement retards the hydraulic motor intermittently to cause the cam to be retarded at spaced points in its operation to keep the successive valves open for the predetermined periods of time.

3,422,848 MULTI-PORT ROTARY DISC VALVE WITH LINER PROTECTION MEANS

Warren S. Liebman, Morton Grove, Don B. Carson, Mount Prospect, and Charles A. Dolejs, Arlington Heights, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed June 9, 1966, Ser. No. 556,400
U.S. Cl. 137—625.15
Int. Cl. F16k 11/02

10 Claims



A plastic liner construction for a multiport rotary valve comprising a discular rotor and stator, in which valve a plurality of circumferentially spaced peripheral ports in the rotor are moved into registry with corresponding ports in the stator, the latter having a greater total number of peripheral ports than the rotor. The plastic liner, which is attached to the rotor and bears against the flat seating surface of the stator, is provided with a number of peripherally spaced blind recesses which register with blanked-off stator ports. A rigid reinforcing plate, disposed within each blind recess, is drawn up tightly against the inner transverse face of the recess. This design minimizes scarring and erosion of the liner during valve indexing and reduces cross-port leakage.

3,422,849 MIXING VALVE

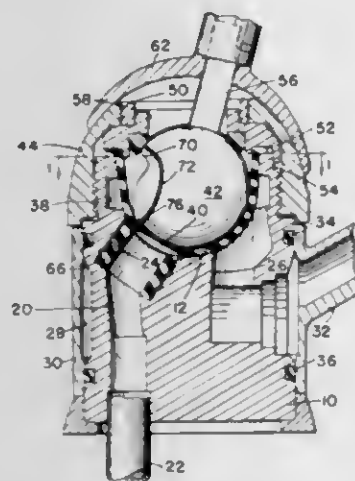
Alex Manoogian, Detroit, Mich., assignor to Masco Corporation, Detroit, Mich., a corporation of Michigan

Filed June 7, 1966, Ser. No. 555,832
U.S. Cl. 137—625.41
Int. Cl. F16k 11/02, 5/20

7 Claims

1. A mixing valve comprising a body having two inlet passageways, an outlet duct, and a generally spherical valve seat located therein with the inlet passageways ending in two spaced inlet ports in the seat at one side thereof, a groove in said body communicating with said seat to provide a mixing chamber, said groove being in fluid flow communication with said outlet duct and extending around said seat from said outlet duct toward said inlet ports, said inlet ports being equally spaced from said groove, a generally spherical flexible diaphragm fitted in said seat and sealed to said body at its periphery, said diaphragm overlying said inlet ports and said groove, a spherical ball valve positioned within said diaphragm so as to normally hold said diaphragm against said seat to seal said inlet ports and groove and prevent fluid flow through said valve,

said ball valve having a smoothly recessed valving surface thereon so that upon movement of said ball valve to an open position thereof fluid from at least one of said inlet ports flexes said diaphragm away from said seat and against said valving surface to open such inlet port and said groove and permit fluid flow therethrough, and means limiting motion of the ball valve in said seat to rotation about two mutually perpendicular axes whereby rotation



of said ball valve about the first of said axes sweeps said valving surface across said inlet ports in a first direction along a line joining the centers of said inlet ports so as to vary the mix of the fluid passing through the mixing valve and rotation of said ball valve about the second of said axes sweeps said valving surface relative to said inlet ports in a second direction perpendicular to said first direction so as to vary the fluid flow passing through the mixing valve.

3,422,850

ELECTROMAGNETIC FLUID VALVE

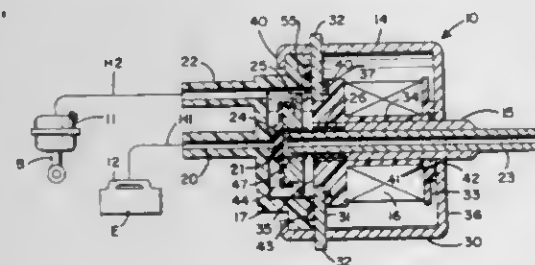
Roland B. Caldwell, Worthington, Ohio, assignor to Ranco Incorporated, Franklin County, Ohio, a corporation of Ohio

Filed Dec. 15, 1966, Ser. No. 602,100

U.S. Cl. 137—625.65

Int. Cl. F16k 31/06, 11/02

4 Claims



Ports of a three-way valve are alternatively closed by the central part of a flexible rubber cap attached to the periphery of an annular armature sliding on a tube, the end of which forms a valve seat. A solenoid and spring shifts the armature to the central part of the rubber cap to opposite valve ports.

3,422,851

FLOW VALVE WITH MECHANICALLY INTEGRATED VENT VALVE

William A. Ray, North Hollywood, Calif., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Delaware

Filed Feb. 15, 1967, Ser. No. 616,341

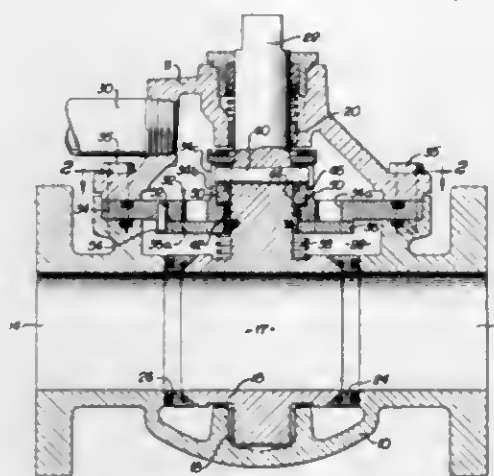
U.S. Cl. 137—630.19

Int. Cl. F16k 45/00

13 Claims

A chamber is provided in communication with the external reaches of the main valve sealing means. A vent

valve is opened upon closing of the main valve to vent any fluid that may leak past the sealing means while the



main valve is closed. Additional structural features of the vent prevent its opening while the main valve is open, or prevent its closing while the main valve is closed.

3,422,852

FLUID TYPE VALVE

Andrew V. Ney, Alliance, Ohio, assignor to

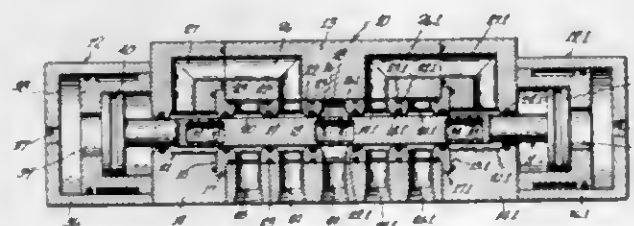
Salem Valve Company, Salem, Ohio

Filed Oct. 11, 1966, Ser. No. 585,845

U.S. Cl. 137—625.69

Int. Cl. F16k 11/07

8 Claims



A fluid control valve having a plurality of fluid chambers in spaced-apart relation and through which a plunger passes and is reciprocable between various positions. Flexible seals encircle the plunger and are disposed between the chambers to seal them from each other. Ports are provided in the plunger periphery to provide for selective flow of fluid between certain chambers while the latter and the plunger porting are so arranged that during plunger movement between its various positions, the plunger ports at all times move into a chamber having a pressure lower than or equal to the pressure to which they were previously subjected.

3,422,853

WATER HAMMER ARRESTER WITH CONTROLLED ORIFICE

John H. Schmid, Erie, Pa., assignor to Zurn Industries, Inc., Erie, Pa., a corporation of Pennsylvania

Filed Oct. 23, 1965, Ser. No. 502,821

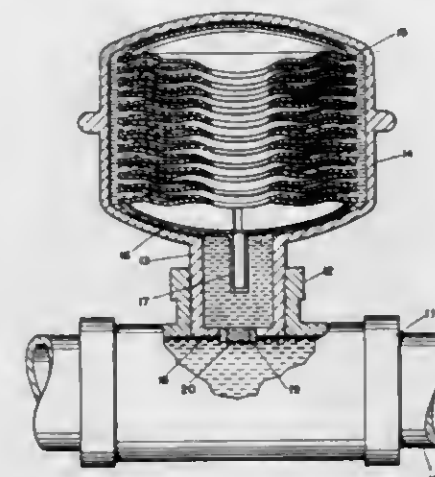
U.S. Cl. 138—30

Int. Cl. F16l 55/04

3 Claims

The invention disclosed herein relates to a shock absorber for fluid lines. In its preferred form the shock absorber has a hollow body connected to the fluid line. A resilient compressible member is disposed in the hollow body. An orifice of a predetermined size connects the inside of the hollow body to the fluid line. It has been dis-

covered that by making the orifice of a size equal to approximately one-third of the pipe diameter, that instead



of a shock of a large amplitude occurring the shock can be reduced to two low amplitude shock waves.

3,422,854

MANUFACTURE OF FIREHOSE

Roger Brinson, Halton, near Lancaster, and Alan Rodriguez, Halton, England, assignors to George Angus & Company Limited, Newcastle-upon-Tyne, England, a corporation of Great Britain

Filed Nov. 30, 1965, Ser. No. 510,602

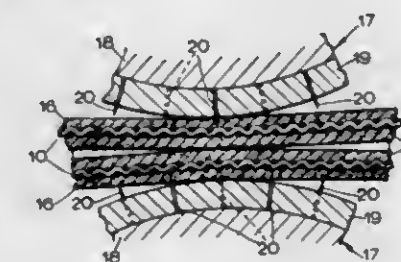
Claims priority, application Great Britain, Dec. 1, 1964,

48,796/64

U.S. Cl. 138—137

Int. Cl. F16l 11/04

6 Claims



A firehose which consists of a textile jacket having an impermeable lining of rubber or plastics material and an outer cover of rubber or plastic material, the cover having in it a multiplicity of small holes or cuts which are sealed to prevent access of water to the jacket through the cover but are capable of opening, in the event of puncture of the lining, to permit of escape through them of water contained in the hose.

3,422,855

HIGH TEMPERATURE FLUID CONDUIT

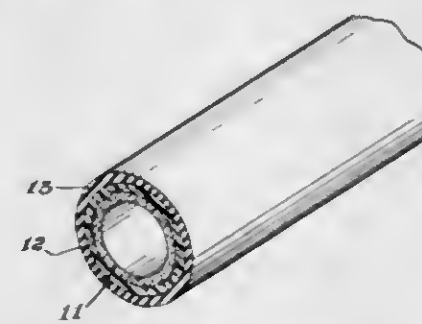
Donald E. Weyer, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

Filed Nov. 17, 1965, Ser. No. 508,210

U.S. Cl. 138—141

Int. Cl. F16l 11/04

3 Claims



Conduit such as an automobile exhaust duct or muffler made of a silicone resin-inorganic fiber composite, at least the inner portions of which are ceramified. Any unceramified portions of the silicone resin consist of between

2 and 60 percent by weight of the fiber-resin composite in the unceramified portion, the residual silica in the ceramified portion being between 1 and 20 percent by weight after ceramification. Additionally, the conduit may be encased in a silicone rubber jacket.

3,422,856

PLASTIC-LINED PIPE AND METHOD OF PRODUCING

John J. Hunter, 1938 Westview, and Knollie L. Fenner, Jr., 3816 N. 11th St., both of Abilene, Tex. 79603

Filed Apr. 11, 1967, Ser. No. 630,057

U.S. Cl. 138—143

Int. Cl. F16l 9/12, 9/14

8 Claims



A conduit or pipe for corrosive liquids and the like which has a preformed thermoplastic liner firmly and permanently adhesively bonded throughout its entire length to an outer reinforcing pipe body. The conduit is characterized by a smooth uninterrupted bore of constant diameter even at the coupling joints between sections thereof. The arrangement permits positive sealing at the joints while using standard tapered pipe threads for the coupling. A simplified method of producing the plastic-lined pipe is disclosed.

3,422,857

DEGASSER DEVICE

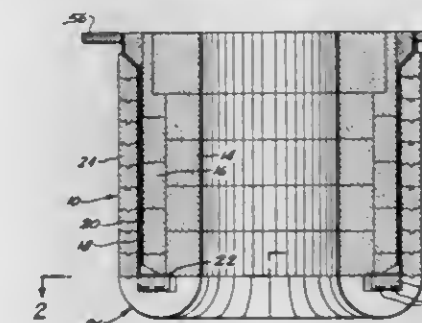
Nicholas Napora, Pittsburgh, Pa., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware

Filed June 2, 1967, Ser. No. 643,121

U.S. Cl. 138—143

Int. Cl. F16l 9/14; C21c 7/10

8 Claims



The present invention relates to conduit for transferring molten metal from one vessel to another by providing a differential pressure. In vacuum degassers, the conduit is referred to as a snorkel. The conduit is composed of a plurality of concentric cylindrical members beginning with a refractory inner-cylinder, one or more concentric insulating cylinders, a metal support cylinder and an outer

refractory cylinder. The invention is primarily concerned with the construction of the outer refractory cylinder and refractory support shapes employed at the base of the snorkel to maintain all of the cylinders in their relative positions.

3,422,858

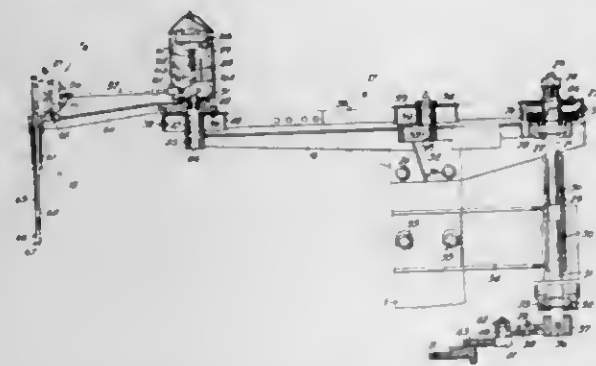
WEFT NIPPER FOR CIRCULAR LOOMS

Armand Malchair, Herstal, Belgium, assignor to Peltzer & Fils S.A., Societe Anonyme, Verviers, Belgium, a company

Filed Sept. 13, 1966, Ser. No. 579,080
Claims priority, application Belgium, Sept. 17, 1965,
669,742

U.S. Cl. 139—13
Int. Cl. D03d 37/00

5 Claims



A weft nipper for circular looms has an oscillating arm carrying jaws actuated by an electromagnet. This arm is angularly displaced by cams carried by the rotating equipment of the loom.

3,422,859

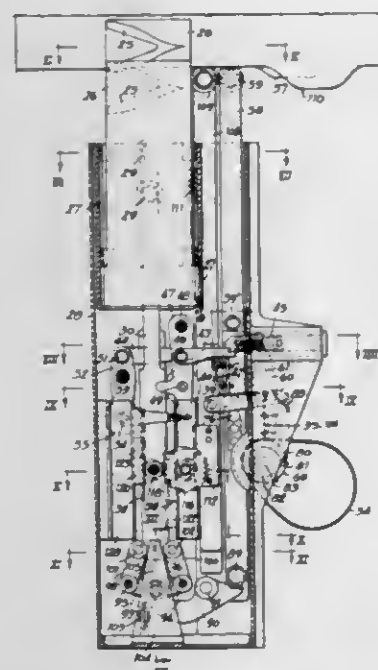
PATTERNING MECHANISM FOR CIRCULAR LOOMS

Armand Malchair, Herstal, Belgium, assignor to Peltzer & Fils S.A., Societe Anonyme, Verviers, Belgium, a company

Filed Sept. 14, 1966, Ser. No. 579,365
Claims priority, application Belgium, Sept. 17, 1965,
669,747

U.S. Cl. 139—13
Int. Cl. D03d 37/00, 1/00

10 Claims



A patterning mechanism for circular looms is provided with an annular roller track associated with each heald frame and operable with the moving equipment of the loom. This track consists of double stretches and switching means between the stretches. The mechanism also includes at least one radial row of non-rotating cams capable of moving to two different levels, each cam being

associated with one of the roller tracks. A mechanism interposed between the moving equipment of the loom and each of the non-rotating cams is operable to move and block the non-rotating cams at each of the two levels. These levels correspond to the heald positions forming weaving sheds.

3,422,860

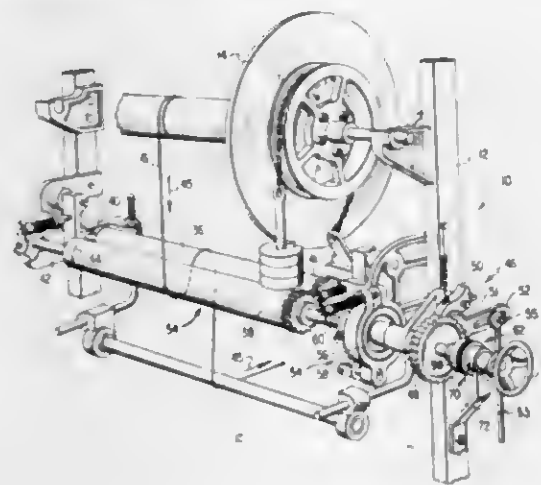
UNIDIRECTIONAL BRAKING MEANS FOR TERRY LOOM PILE WARP LET-OFF MECHANISM

Joe T. Short, West Point, Ga., assignor to Callaway Mills Company, La Grange, Ga., a corporation of Georgia
Filed July 18, 1967, Ser. No. 654,206

U.S. Cl. 139—25

13 Claims

Int. Cl. D03d 39/22; F16d 63/00



In a loom for weaving terry cloth having pile loops formed on the face thereof, including, a weaving means, a pile warp beam for holding a supply of pile yarns, a pair of interconnected pile warp let-off rolls for drawing the pile yarns from the pile warp beam and feeding the yarns to the weaving means, and drive means operatively connected to the let-off rolls for intermittently rotating the rolls so that prescribed lengths of the pile yarns will be drawn intermittently from the pile warp beam and fed to the weaving means for forming the pile loops; the improvement comprising a unidirectional braking means associated with the let-off rolls for permitting the rolls to be rotated in the direction for drawing the pile yarns from the pile warp beam and preventing the rolls from being rotated in the opposite direction so that the lengths of the pile yarns intermittently drawn from the pile warp beam by the let-off rolls will be uniformly of the prescribed length and the pile loops formed in the terry cloth will be of a uniform height.

3,422,861

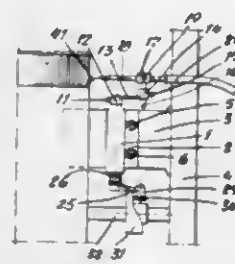
SELVAGE FORMING DEVICE IN SHUTTLELESS LOOMS

Ramon Balaguer Golobart, Calle Valls y Taberner 11, Barcelona 6, Spain

Filed Jan. 19, 1967, Ser. No. 610,434

Claims priority, application Spain, Jan. 22, 1966, 322,688
U.S. Cl. 139—122
Int. Cl. D03d 47/00

2 Claims



A selvage forming device for shuttleless looms where a tubular mouthpiece acts as a thread guide and is arranged for angular rotation for introducing the supplemental in-

dependent thread, which passes through the thread-guide channel of the mouthpiece, into the shed at the border of the fabric to a depth correspondent to the desired width of the selvage, where it is inserted by an air jet.

3,422,862

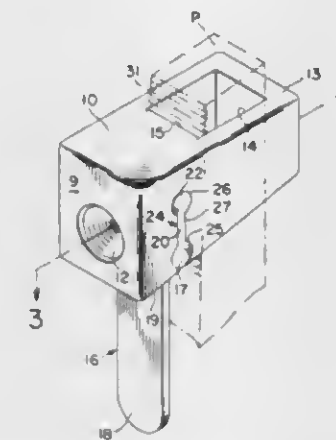
LOOM PICKER WITH TAB

Coyt E. Murray, Gastonia, N.C., assignor to Impact Plastics, Incorporated, Gastonia, N.C., a corporation of North Carolina

Filed Feb. 28, 1967, Ser. No. 619,477

U.S. Cl. 139—159
Int. Cl. D03d 49/39

10 Claims



This invention relates to improvements in loom pickers, and more particularly to improved loom pickers comprising a body of relatively rigid, abrasive-resistant material having the ability to receive repeated impacts from the point of a shuttle; and an insert of elastomeric shock-absorbing material having a tab member extending into the slot which receives the picker stick.

3,422,863

LOOM BOX FRONT

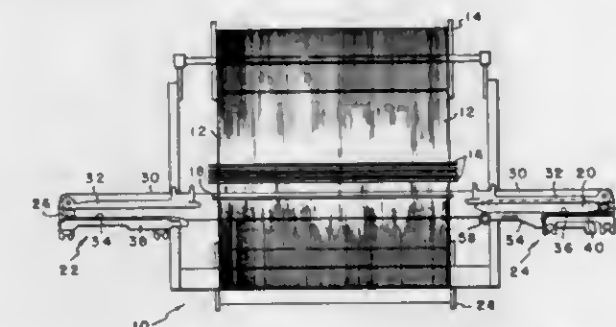
Howard R. Bowman, Clemson, S.C., assignor to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware

Filed Nov. 14, 1966, Ser. No. 594,113

U.S. Cl. 139—183

Int. Cl. D03d 49/52, 45/20

1 Claim



A loom box front which employs a roller means at the entrance thereof to absorb the shock of the shuttle and to guide the shuttle into the shuttle box.

3,422,864

SELF-LOCKING CONNECTOR FOR FLUID TRANSFER

Fernand Stanislas Allinquant, 53 Ave. Le Notre, Sceaux-Hauts-de-Seine, France

Filed Dec. 19, 1966, Ser. No. 602,920

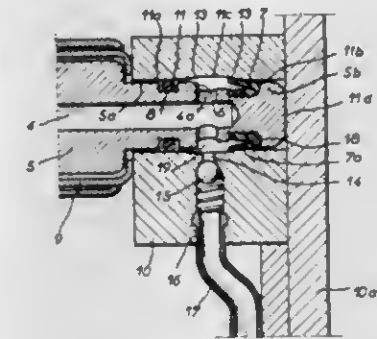
Claims priority, application France, Dec. 22, 1965,
43,417; Sept. 14, 1966, 76,395

U.S. Cl. 141—347

Int. Cl. B65b 1/04; F17c 5/00; F16l 37/28

6 Claims

A self-locking connector for transferring fluid under pressure and having a male member insertable into a female member, said male member having an annular



members while fluid is flowing from the reservoir to the reception chamber.

3,422,865

NUT CRACKER

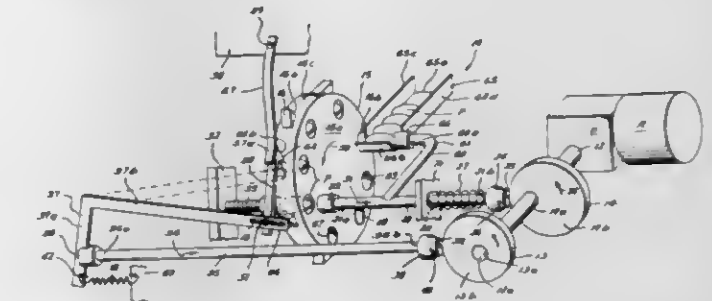
Marvin A. Barrow, Mont Belvieu, Tex., assignor of one-half to Ben W. Dutton, Archie D. Dutton, Ross I. Dutton, Burch B. White, C. W. Roebuck and Winston Smith

Filed Jan. 5, 1967, Ser. No. 607,564

U.S. Cl. 146—12

Int. Cl. A47j 43/04

5 Claims



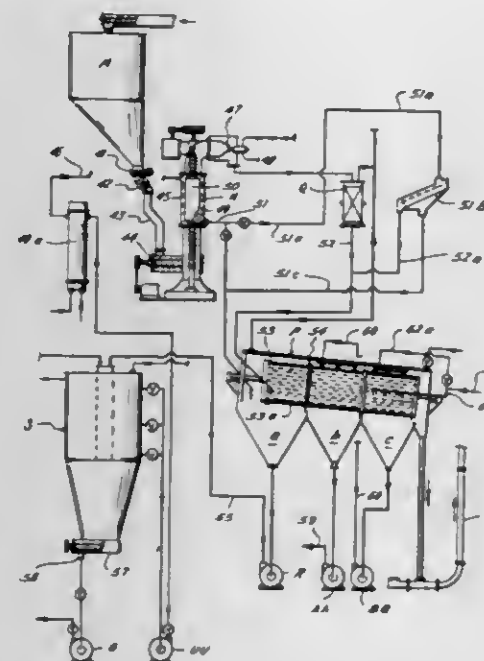
1. A device for cracking pecans and the like comprising:

- a motor;
- a rotatable drive shaft secured with said motor;
- a first eccentric cam mounted at the end of said drive shaft, said cam being rotated when said shaft is rotated;
- a second eccentric cam secured with said shaft between said motor and said first eccentric cam, said second eccentric cam being positioned relative to said first eccentric cam such that the eccentric portions of said first and second cams are oppositely positioned relative to each other;
- a rotatable wheel having a front and back surface spaced from said first and second cams, said wheel having a plurality of channels around the outer perimeter thereof for receiving pecans and the like;
- a stationary jaw facing said back surface of said wheel, said jaw being positioned in alignment with one of said plurality of channels;
- a first shaft having first and second ends mounted transversely to said drive shaft, said first end of said shaft being positioned adjacent said front face of said wheel and said second end of said shaft being positioned adjacent said second eccentric cam; and
- a movable jaw secured with said first end of said first shaft wherein said stationary jaw, said one channel of said plurality of said channels, said movable jaw and said shaft are in longitudinal alignment with each other whereby the eccentric portion of said second rotating eccentric cam engages said shaft to move said shaft and said movable jaw into said one channel of said plurality of channels to engage a pecan and the like positioned therein whereby the pecan is positioned between said movable jaw and stationary jaw to be thereby cracked.

3,422,866

METHOD FOR UPFLOW MILLING OF GRAINTruman B. Wayne, P.O. Box 13086,
Houston, Tex. 77019Continuation-in-part of application Ser. No. 404,315,
Oct. 16, 1964. This application Nov. 7, 1967, Ser.
No. 681,174U.S. Cl. 146—221.8
Int. Cl. B02b 5/00

18 Claims



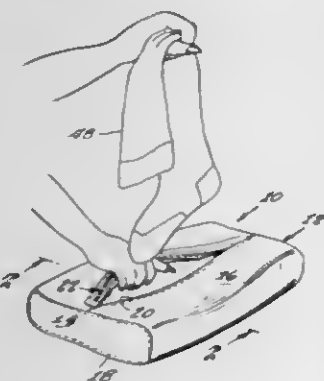
A method for upflow milling of a grain such as rice or barley having a bran coat thereon. The method includes the steps of wetting the grain with a bran-coat softening agent and passing the grain upwardly through a milling chamber and maintaining a selected back pressure thereon to thereby control the degree of milling to which the grain is subjected.

3,422,867

DEVICE FOR WASHING AND DRYING OF DELICATE FABRICS SUCH AS NYLON HOSE, LINGERIE, AND THE LIKEYuhuan Wu, 465 Ocean Parkway, Apt. 5, Brooklyn,
N.Y. 11218Filed Dec. 21, 1966, Ser. No. 603,597
U.S. Cl. 150—3

2 Claims

Int. Cl. A45c 11/00



A device for washing and drying delicate fabrics such as nylon hose, lingerie and the like, comprising a bag member consisting of an inner lining of soft, thin, water absorbent material provided with an opening and a slide fastener for sealing the opening. The inner lining is either permanently affixed or removably secured in an outer casing of toweling material.

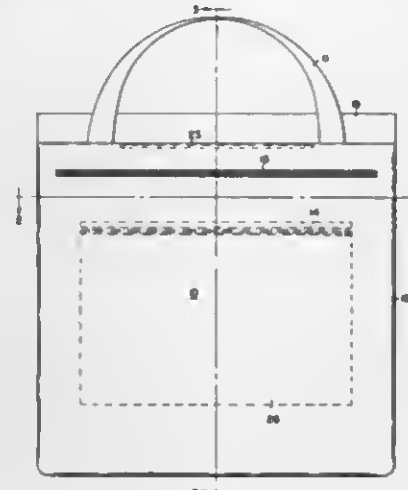
3,422,868

COMBINATION SWEATER BAG AND HANDBAGMary K. Hannum, 2015 N. 32nd Ave.,
Hollywood, Fla. 33021

Filed Aug. 25, 1967, Ser. No. 663,354

U.S. Cl. 150—35
Int. Cl. A45c 15/00

5 Claims



A bag especially constructed for carrying a folded sweater combined with a plurality of pockets which may serve as an ordinary handbag.

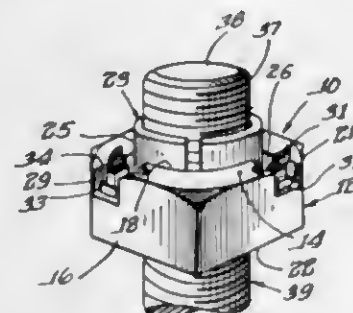
3,422,869

LOCKING TYPE NUTJames C. Lanlus, Jr., Elgin, Ill., assignor to Illinois Tool
Works Inc., Chicago, Ill., a corporation of Delaware

Filed Oct. 9, 1967, Ser. No. 673,720

U.S. Cl. 151—30
Int. Cl. F16b 39/38

7 Claims



A locking type nut comprising a body portion having a threaded aperture therethrough, and a discontinuous cylindrical shaped, expandable ring member attached to the body portion in axial alignment with the aperture. Upon receiving a mating bolt the ring member will be caused thereby to expand to grip the threaded end of the bolt in locking fashion.

3,422,870

REMOTE CONTROLLED TRACTION DEVICE FOR MOUNTING AND DEMOUNTING ON VEHICLE WHEELSMarvin C. Thomas, 3460 Berkeley St.,
Boulder, Colo. 80302

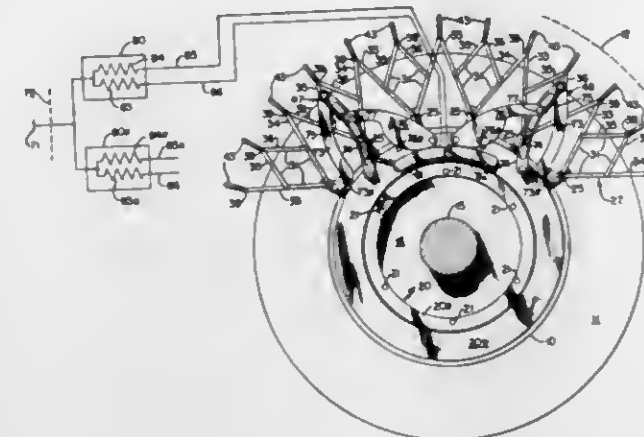
Filed Apr. 20, 1966, Ser. No. 543,889

U.S. Cl. 152—214
Int. Cl. B60c 27/14

12 Claims

Traction device for tire and wheel of vehicle having extensible assembly inclusive of plurality of links in pantograph assembly supporting traction members transversely of tread. Extensible assembly carried by stationary surface of vehicle inwardly of and out of contact

with wheel in retracted inactive position. An actuating mechanism out of contact with wheel for extending said assembly into tire gripping relation to dispose traction



members at circumferentially spaced intervals along tire tread. Resilient bias holding pantograph assembly in extended position.

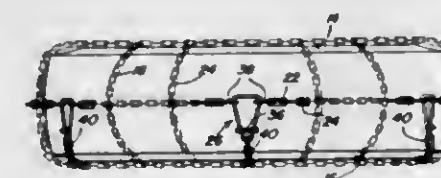
3,422,871

SKID CHAIN TIGHTENERWilliam G. Cartwright, 229 Braden School Road,
Beaver Falls, Pa. 15010

Filed Nov. 9, 1965, Ser. No. 507,073

U.S. Cl. 152—217
Int. Cl. B60c 27/00

9 Claims



A connector and tensioner for a pair of end aligned tension members comprising a frame including long and short longitudinal and transverse sides, respectively, with one of the long sides defining a slide member, one of the adjacent ends of the tension members being attached to the frame at the intersection of one of the long sides and one of the short sides and the adjacent end of the other tension member being slidably engaged with the other long side and a third tension member having one end secured to the other short side of the frame whereby the third tension member may be pulled in a direction extending at right angles to the end aligned tension members so as to slide the tension member slidably engaged with the other long side of the frame and thereby connect the end aligned tension members across the narrow transverse width of the frame.

3,422,872

TIGHTENING LEVER FOR THE SIDE CHAIN OF AN ANTISKID OR TIRE PROTECTIVE CHAIN

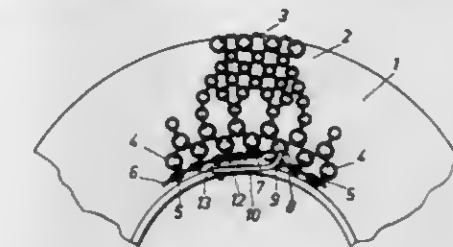
Anton Müller, Unterkochen, Württemberg, Germany, assignor to Eisen- und Drahtwerk Erlau AG, Aalen, Württemberg, Germany

Filed July 26, 1966, Ser. No. 567,864

Claims priority, application Germany, Feb. 18, 1966,
E 31,071U.S. Cl. 152—217
Int. Cl. B60c 27/10

11 Claims

An arrangement for tightening an antiskid chain on a tire in which a tightening strand extends around the radially innermost portion of the skid chain and has chain like links at one end and a lever pivoted to the other end with a recess means for receiving one of the links and



the lever to the tightening strand when the lever is pivoted back along the tightening strand.

3,422,873

TIRE CORDJohn W. Liska, Cuyahoga Falls, Ohio, assignor to The
Firestone Tire & Rubber Company, Akron, Ohio, a
corporation of OhioContinuation-in-part of application Ser. No. 457,745,
May 21, 1965. This application July 24, 1967, Ser.
No. 660,157U.S. Cl. 152—357
Int. Cl. B60c 9/02; D02g 3/04, 3/48

2 Claims



The invention provides a two ply tire cord which is made from nylon and polyester yarns, each twisted in one direction with critically different twist multipliers and cabled together in the opposite direction with a critical twist multiplier to produce a tire cord having the desirable characteristics of both the nylon and polyester materials.

3,422,874

TIRE AND METHOD OF MAKING IT BY APPLYING STRIP OF RUBBER COATED CONTINUOUS TIRE CORD OF LOW EXTENSIBILITY TO THE CARCASS IN FLAT FORM AND SIMULTANEOUSLY SHAPING AND VULCANIZING TO FINAL TIRE SHAPEEdward W. Weltzel, Greenville, S.C., assignor to Deering
Milliken Research Corporation, Spartanburg, S.C.,
a corporation of Delaware

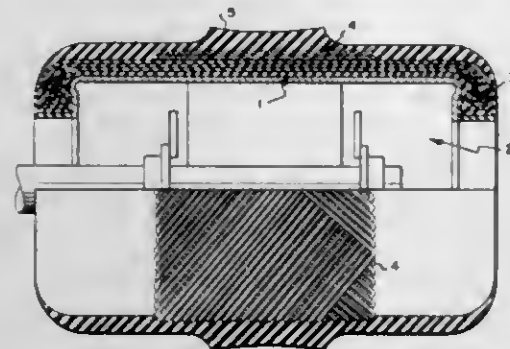
Filed Oct. 18, 1965, Ser. No. 497,253

U.S. Cl. 152—361
Int. Cl. B29h 17/14

11 Claims

1. A method of making a pneumatic tire including the steps of forming a tire carcass in flat band form, applying an extensible breaker strip to said carcass, said breaker strip comprising rubber coated continuous tire cord of low extensibility disposed in a pattern across the width of said strip from one side to the other with reversals at

the edges of the strip, applying sidewall and tread-forming green rubber over said carcass and breaker strip assembly in a flat band form of substantially smaller diameter than the final form of said tire, shaping and vulcanizing the assembly in the form of a torus under heat and pressure, and simultaneously substantially increasing the



circumference of said breaker strip and significantly reducing the width of said breaker strip, the cord in the final configuration having substantially undiminished tensile strength and flex life.

11. A pneumatic tire made according to the method of claim 1.

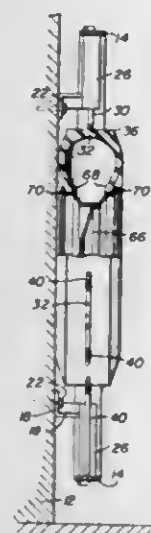
3,422,875 TUBELESS TIRE BEAD EXPANDER

Forrest A. Robinson, 561 Main St.,
Keene, N.H. 03431

Filed July 6, 1966, Ser. No. 563,102

U.S. Cl. 157-1.21
Int. Cl. B60c 25/12

8 Claims



An open frame defining a center position and including a plurality of workpiece engageable clamp surface portions mounted within the confines of the frame and shiftable generally radially inwardly toward the center position along paths generally coinciding with the medial plane of the frame with means being provided to force the clamp surface portions inwardly toward the center position. The frame is provided with means operative to support the frame from a planar surface with the medial plane of the frame generally paralleling the planar surface and spaced outwardly from the latter a distance approximately equal to one-half the axial thickness of a conventional pneumatic vehicle tire, whereby a tire generally centered relative to said center position and disposed inwardly of the clamp surface portions may be abutted against the planar support surface and automatically be properly positioned for engagement of the center portion of the tread of the tire by the clamp surface portions upon their being forced toward the center position defined by the frame.

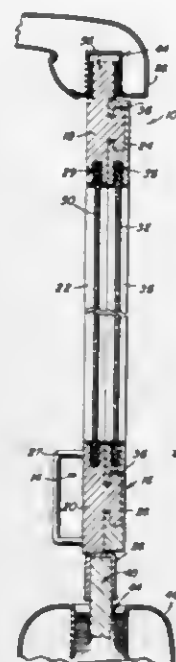
3,422,876 VEHICLE WINDOW SCREEN

Guenther W. Fester, Rte. 3, Highway 141 S.,
Sheboygan, Wis. 53081

Filed Oct. 27, 1966, Ser. No. 589,958

U.S. Cl. 160-40
Int. Cl. B60j 1/16; E06b 9/00

5 Claims



A removable screen assembly for mounting in an automobile window opening and including slidably engaged frame portions to permit a utilization of the screen assembly in automobile window openings of varying widths. The lateral edge of at least one of the frame portions is provided with a coextending laterally projecting resilient seal member, of truncated triangular configuration, which is engageable with the body of the automobile adjacent the window opening, in overlying sealing relation to the exterior surface of the automobile adjacent the window opening whereby the seal member compensates for window openings having a non-vertically disposed rear edge portion.

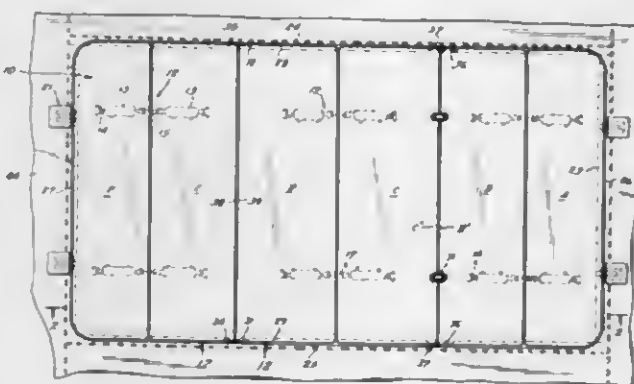
3,422,877 FLUSH DECK HATCH COVER ASSEMBLY AND MOVABLE PIVOT MOUNT THEREFOR

Meade H. Detweiler, Catasauqua, Pa., assignor to Fuller Company, Catasauqua, Pa., a corporation of Delaware

Filed July 27, 1967, Ser. No. 656,505

U.S. Cl. 160-188
Int. Cl. E06b 3/48; B63b 19/12

8 Claims



A flush deck hatch cover assembly comprising a plurality of pivotally connected panels including hinge means connecting an edge portion of the outermost panel to the edge of a hatchway in a deck or the like, characterized by first and second, laterally and vertically displaced pivot connections, permitting vertical and horizontal shifting

movement of the hinge components, initial lateral movement of the hinge components accompanying the initial folding action of the hatch panels, serving, by reason of the hinge structure, to lift the edge of the hinged hatch panel to a level above the deck about a first pivot connection, subsequent folding of said panels serving to transfer the pivot connection to a second, laterally displaced, higher pivot connection, the continued folding being effected about a pivot axis defined by said second connection.

3,422,878 FOLDABLE DOOR FOR WALL OPENINGS

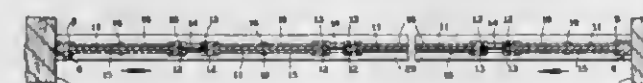
Samuel Galletti, 1360 NE. 204th Terrace,
North Miami Beach, Fla. 33162

Filed Mar. 14, 1967, Ser. No. 623,065

U.S. Cl. 160-199

Int. Cl. E05d 15/26; E06b 9/06, 9/262

3 Claims



A foldable door including panels connected together by bendable plastic hinge strips so that the panels are foldable. Each panel includes a frame comprised of two rails connected together by a wall, and the rails have inwardly opening grooves receiving ornamental panels upon opposite sides of the wall, the ornamental panels being replaceable. The panels are carried movably on a track by a carriage including a pin for each panel assembly, the pin having at its upper end wings cooperating with stop lugs on a block receiving the pin for preventing folding of the panels in a direction opposite to the normal folding thereof.

3,422,879

DRAPERY LINER

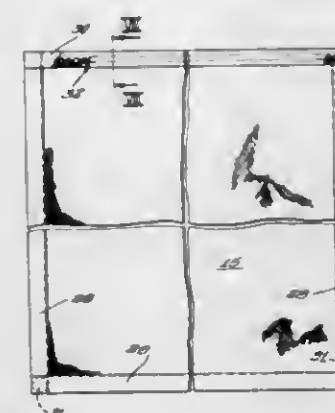
Edward J. Ryan, 711 Carriage Hill Drive,
Glenview, Ill. 60025

Filed Sept. 20, 1966, Ser. No. 580,753

U.S. Cl. 160-330

Int. Cl. A47h 21/00, 13/04, 23/00

4 Claims



A drapery liner consisting of a sheet of flexible material sized to cover a pleated drape without projecting beyond the edges thereof which has a strip of looped fringe sewed across the width of the sheet slightly below the top margin thereof, the sewing of the fringe also providing the top hem, the loops of the fringe being sufficiently narrow and short to restrict lateral shifting of the liner, and the fringe loops being close enough together to provide alignment with conventional drape pins used to hang the drape, which pins are received through the loop, the top of the liner hiding the fringe and a portion of the pins from view.

3,422,880 METHOD OF MAKING INVESTMENT SHELL MOLDS FOR THE HIGH INTEGRITY PRECISION CASTING OF REACTIVE AND REFRACTORY METALS

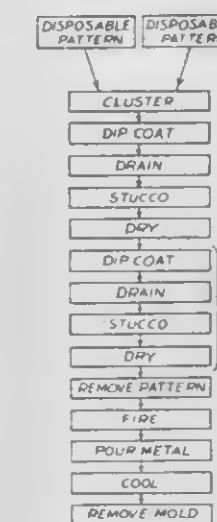
Robert A. Brown and Clifford A. Brown, Albany, Oreg.,
assignors to Rem Metals Corporation, Albany, Oreg.,
a corporation of Oregon

Filed Oct. 24, 1966, Ser. No. 589,022

U.S. Cl. 164-26

Int. Cl. B22c 9/00, 1/00, 9/02

6 Claims



1. The method of making an investment shell mold which comprises:

- dip coating a disposable pattern in a liquid suspension of at least one member of the group consisting of finely divided metallic columbium, molybdenum, tantalum and tungsten and a binder therefor comprising at least one member of the group consisting of the refractory metal oxides and the refractory metal compounds pyrolyzable to refractory metal oxides,
- stuccoing the dip coated pattern with at least one of the said finely divided metals,
- drying the dipcoated and stuccoed pattern,
- repeating the dip coating, stuccoing and drying sequence until a shell mold of the desired thickness has been built up about the disposable pattern,
- removing the disposable pattern from the shell mold, and
- firing the shell mold at a temperature below the sintering temperature of any of its constituents, said temperature being predetermined to convert to refractory metal oxides the mold content of refractory metal compounds pyrolyzable to refractory metal oxides, and through the agency of the refractory metal oxides to bond together the finely divided metal particles to form the finished mold.

3,422,881 DEVICE FOR FEEDING MOLTEN METAL INTO THE PERIPHERAL GROOVE OF A CONTINUOUS CASTING WHEEL FOR THE PRODUCTION OF METAL BARS OR INGOTS

Ilario Properzi, Via Cosimo del Faute 10, Milan, Italy

Filed Feb. 23, 1966, Ser. No. 529,349

Claims priority, application Italy, Mar. 20, 1965,
6,194/65

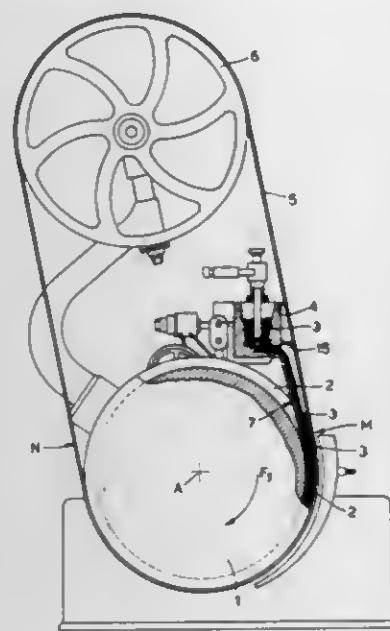
U.S. Cl. 164-278

Int. Cl. B22d 11/06, 1/10

6 Claims

In a continuous casting machine a rotatable casting wheel has a circumferential edge face provided with a circumferential casting groove. An endless travelling belt is looped about the wheel and has an inner surface engaging the edge face of a portion of arc to define in the region of engagement a travelling mold cavity. A supply

means for supplying molten metal is arranged adjacent the wheel and includes a nozzle member communicating

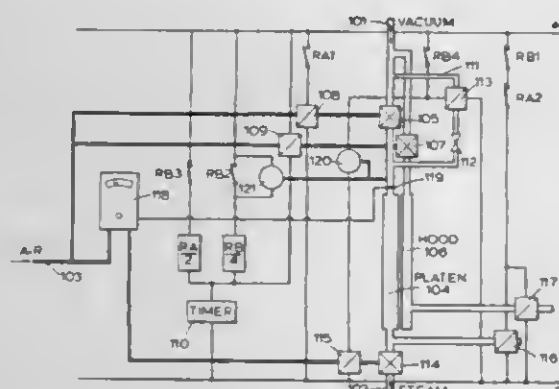


with the mold cavity. The nozzle member is configured as a channel-shaped conduit having an open side which faces the inner surface of the mold and is closed thereby.

3,422,882 DRYING MACHINES

Richard John Archer, Luton, England, assignor to E. W. Hudson Limited, Luton, England, a British company
Filed Oct. 13, 1966, Ser. No. 586,407
Claims priority, application Great Britain, Oct. 21, 1965, 44,650/65

U.S. Cl. 165—1
Int. Cl. F26b 3/20, 9/00; G05d 23/19 10 Claims



The disclosure is concerned with a method for heating a platen in a drying machine in which the selected drying temperature in a platen heating chamber is accurately maintained and the latent heat of steam is utilized by establishing and maintaining a reduced pressure condition in the heating chamber such that the boiling point of water is reduced to the required drying temperature. A heating arrangement for a drying machine is also disclosed. The heating arrangement includes a platen heating chamber, steam supply and suction means. Control means are disclosed for maintaining the pressure and temperature conditions required. The control means may be operative automatically from members which sense the pressure or temperature of the heating chamber.

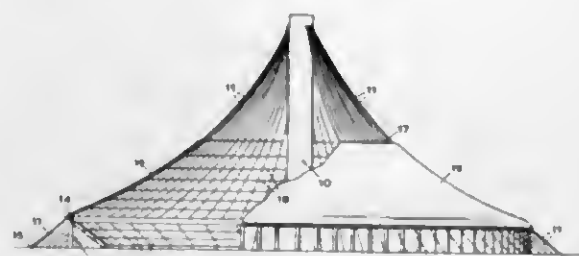
ERRATUM

For Class 165—26 see:
Patent No. 4,423,275

3,422,883 COOLING TOWERS

John Harold Daltry, Rugby, England, assignor to The English Electric Company Limited, London, England, a British company
Filed Aug. 17, 1966, Ser. No. 573,113
Claims priority, application Great Britain, Aug. 17, 1965, 35,314/65

U.S. Cl. 165—47
Int. Cl. E04b 1/12, 5/55; F24b 3/00 4 Claims

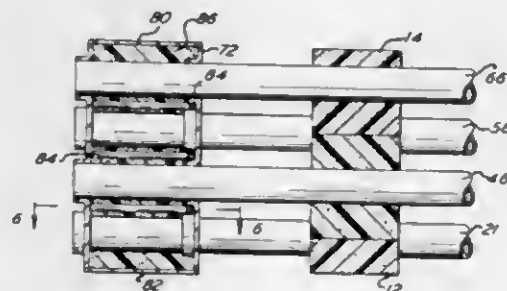


A cooling tower for a steam turbine installation having a central vertical column, a heat exchanger means including a plurality of coolers, a ring beam supported above the ground at the base of the tower which has a plurality of guides equi-spaced around its periphery, a plurality of main suspension cables radiating from the top of said column to anchorages arranged in a circle around the tower base, each said cable passing over a said guide, and cladding fixed to the cables and extending around the periphery of the tower between a bottom level above the ground and a top level below the top of the column to provide the wall of the tower.

3,422,884 CONDENSER TUBE BUNDLES

Philip Selter Otten, Media, Pa., assignor to Baldwin-Lima-Hamilton Corporation, Philadelphia, Pa., a corporation of Delaware

Filed Dec. 28, 1966, Ser. No. 605,460
U.S. Cl. 165—67
Int. Cl. F28f 9/04 4 Claims



Condenser tube bundles for large condensers used in power plants and/or saline water conversion plants are fabricated in a manner which reduces the need for manpower and time for assembly. Rows of tubes are supported by horizontal bars made from lightweight castable material such as foam plastics. After the tubes are coupled together with support bars between horizontal rows of the tubes, a pair of header sheets are telescoped over each end of the tubes. The space between the sheets of each pair may then be filled with foam plastic.

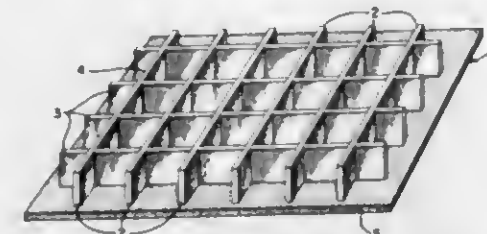
3,422,885 TANK COVER

Daniel D. Dengler, Mogadore, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Jan. 20, 1967, Ser. No. 610,690
U.S. Cl. 165—72
Int. Cl. F28d 1/06; F28f 7/00 5 Claims

A tank cover comprising a corrosive resistant lining attached to a rigid metallic grill-work which not only allows the rapid dissipation of heat from the lining, but

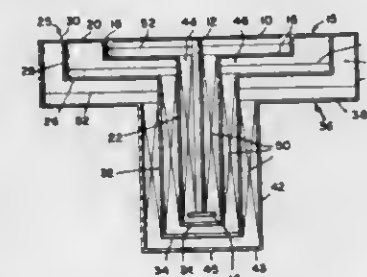
also provides substantial reinforcement for the cover. This grill-work may take the form of substantially parallel in-



tersecting rectangular grids or be simply a perforated plate.

3,422,886 RADIATION COOLER FOR USE IN SPACE

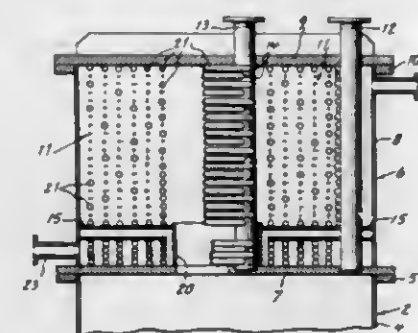
Joseph S. Buller, Goleta, Calif., assignor to Santa Barbara Research Center, Goleta, Calif., a corporation of California
Filed July 25, 1966, Ser. No. 567,676
U.S. Cl. 165—80
Int. Cl. F28f 7/00 11 Claims



A multistage radiation cooling arrangement is provided to efficiently cool a radiation detector in a vacuum condition, for example, outer space, a first support is provided for the detector which is in thermal conductive heat transfer relation with a first black body radiating surface. A plurality of radiation shields surround the detector and the first black body surface each segment of the structure being telescopically received within the other and physically spaced therefrom to inhibit conductive heat transfer. In one embodiment supporting wires maintain the spaced relation between the segments so that the vacuum existent therebetween effectively prevents heat transfer. Another embodiment fills the volume between the segments with super insulation to inhibit conductive heat transfer therebetween. Each shield is provided with a radiating black body surface adapted to be focused on dark space whereby staged radiation cooling is provided to maintain the detector at desired low temperature.

3,422,887 CONDENSER FOR DISTILLATION COLUMN

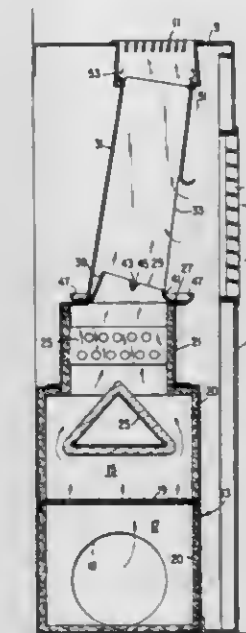
Frederick D. Berkeley III, Rochester, N.Y., assignor to Graham Manufacturing Co., Inc., Batavia, N.Y., a corporation of New York
Filed June 19, 1967, Ser. No. 646,817
U.S. Cl. 165—113
Int. Cl. B01d 5/00; F28b 1/02 3 Claims



A condenser is removably mountable on a distillation or stripping column. The condenser is compact and easily cleaned due to a removable spiral tube bundle.

3,422,888 AIR DISTRIBUTION TERMINAL

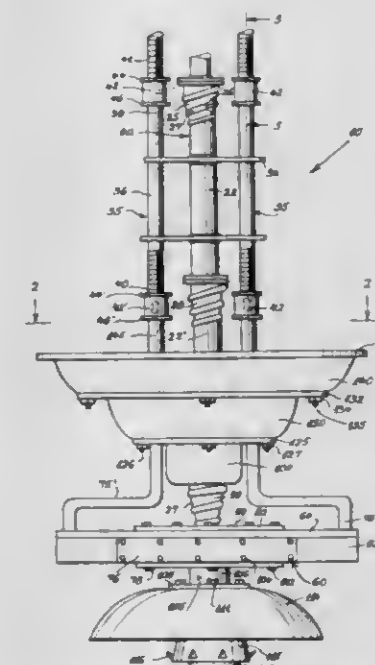
Milton H. Coleman, East Syracuse, and Darwin G. Traver, De Witt, N.Y., assignors to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed June 29, 1967, Ser. No. 649,943
U.S. Cl. 165—123
Int. Cl. F28f 13/12; F28f 7/00 8 Claims



A room terminal for use in an air conditioning system employing reheat coils in the terminal to compensate for varying loads in the area served thereby. The unit is provided with a nozzle sheet for discharging the tempered air through a stack for inducing room air therethrough for further tempering the conditioned air.

3,422,889 FAST PIPE COUPLING FOR OFFSHORE DRILLING

Oscar A. Yost, 302 W. 22nd St., New York, N.Y. 10011
Filed Jan. 3, 1967, Ser. No. 606,952
U.S. Cl. 166—5
Int. Cl. E21b 43/01; F16l 37/02, 37/10 10 Claims



The disclosure described pipe assemblies for offshore oil wells. The pipe assemblies have pipe sections which are quickly engaged by tapered, helically threaded interfiting ends. Auxiliary laterally disposed pipes convey oil

or air to operate an undersea slide valve. Pipes inside the auxiliary pipes convey steam to the bottom of the assembly. A basin is provided at the bottom of the assembly into which excess oil can be drained and pumped out along with sea water and steam. Quick detachable threaded couplings are provided for the auxiliary pipes.

3,422,890

TREATMENT OF SUBSURFACE OIL-BEARING FORMATIONS WITH OIL-WETTING CATIONIC EMULSIONS

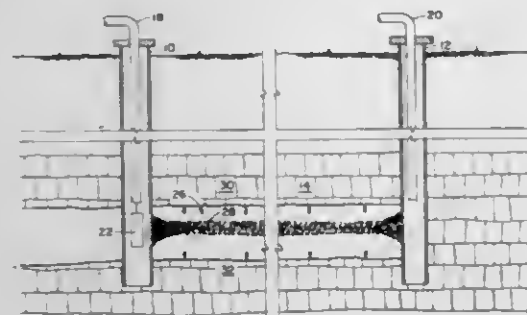
Henry C. H. Darley, Houston, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 22, 1966, Ser. No. 603,722
U.S. Cl. 166—9 6 Claims
Int. Cl. E21b 43/20, 43/16

Prior to waterflooding a formation for recovery of oil therefrom, the formation is treated with an oil-in-water emulsion capable of oil-wetting the formation so as to prevent swelling and improve the formation's response to permeability to waterflooding.

3,422,891

RAPID BREAKTHROUGH IN SITU COMBUSTION PROCESS

John D. Alexander, John N. Dew and William L. Martin, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed Aug. 15, 1966, Ser. No. 572,302
U.S. Cl. 166—11 8 Claims
Int. Cl. E21b 43/24



A forward burning in situ combustion process wherein channeling is encouraged to produce a rapid breakthrough of the combustion front at the production well. Combustion of the bypassed hydrocarbon-containing portions of the formation is then carried out by injecting a non-combustible fluid such as water or an inert gas to plug the more permeable burned out portions of the formations while continuing the injection of a free oxygen-containing gas.

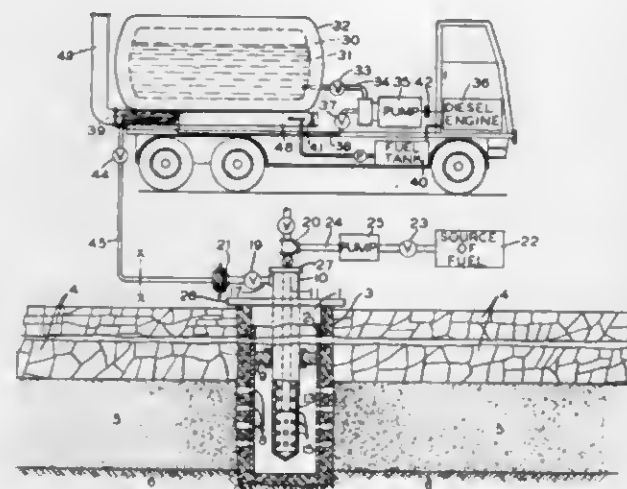
3,422,892

SUPPLY OF HIGH-PRESSURE COMBUSTION-SUPPORTING GAS TO WELLS

Horace B. Bryant, Jr., Houston, Tex., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 29, 1965, Ser. No. 443,545
U.S. Cl. 166—40 3 Claims
Int. Cl. E21b 43/24

System and method for supporting combustion in the down-hole portion of an oil well by supplying at elevated pressure a combustion-supporting mixture of oxygen and an inert gas, preferably nitrogen, in liquid form at the site of the well. The mixture may be supplied in the necessary proportions either to support combustion in a down-hole burner or to initiate and maintain in situ combustion in the formations adjacent the well. The combustion-supporting mixture of liquid oxygen and liquid nitrogen may be supplied either from a single

tank or separate tanks trucked to the well-site. In one form of the invention, the components of the combustion-supporting mixture may be vaporized in a high pressure vaporizer connected above ground to the head of

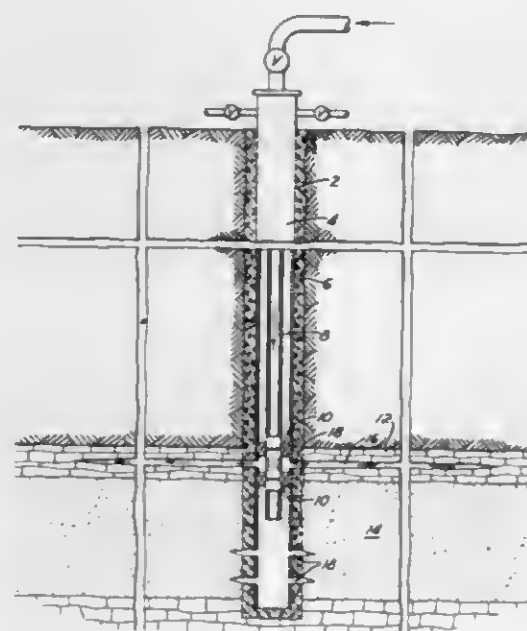


the well. Alternatively, the liquid mixture may be supplied to the down-hole portion of the well through casings resistant to low temperature, and permitted to vaporize below ground from the heat of the earth.

3,422,893

CONDUCTION HEATING OF FORMATIONS

Joseph E. Warren, Pittsburgh, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Filed Oct. 3, 1966, Ser. No. 583,887
U.S. Cl. 166—40 5 Claims
Int. Cl. E21b 43/24, 43/26

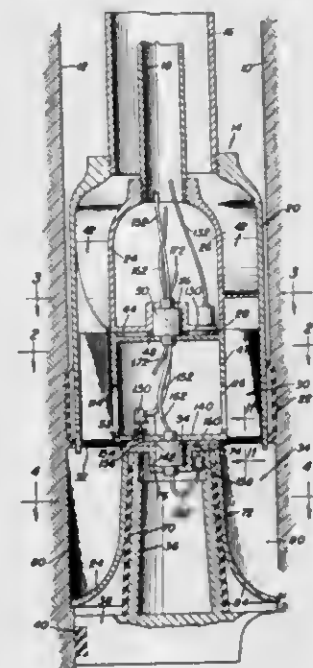


A method for producing oil from a subterranean formation containing a viscous oil adjacent an impermeable formation in which steam is injected down the well and into a fracture extending from the well outwardly into the impermeable formation while flow of steam into the oil-bearing formation is blocked. After injecting steam for a period to accomplish the desired heating, by conduction of the oil, flow from the impermeable formation is blocked, and the well placed in communication with the oil-bearing formation to produce oil from the well.

3,422,894

METHOD OF TREATING AND PRODUCING FLUIDS FROM RESERVOIRS OF VARIABLE PERMEABILITY

Clarence W. Brandon, Tulsa, Okla., assignor of twelve and one-half percent to Orpha B. Brandon, Tulsa, Okla., five percent to Harvey B. Jacobson, Washington, D.C., and fifty percent to N. A. Hardin, Catherine H. Newton and Hazel H. Wright, all of Forsyth, Ga., jointly
Continuation-in-part of application Ser. No. 211,778, July 23, 1962. This application June 5, 1967, Ser. No. 643,609
U.S. Cl. 166—42 41 Claims
Int. Cl. E21b 43/26, 43/25, 43/16

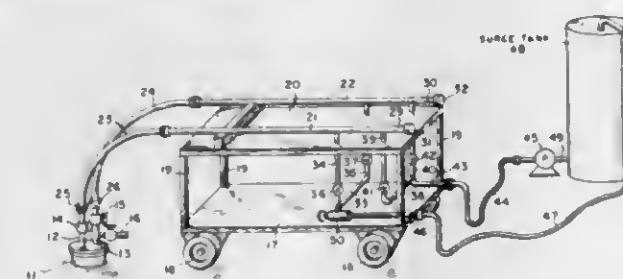


An oil recovery method wherein cyclic alternations of fluid medium and sonic waves are introduced into a variably permeable formation and are controlled such that fluid medium and sonic waves are withdrawn cyclically during the rarefaction portion of the alternation waves. This causes greater production from the less permeable areas.

3,422,895

WELL SERVICING

Kenneth T. Koonce, Houston, Tex., assignor to Esso Production Research Company
Filed Sept. 20, 1967, Ser. No. 669,204
U.S. Cl. 166—79 10 Claims
Int. Cl. E21b 33/03, 41/00



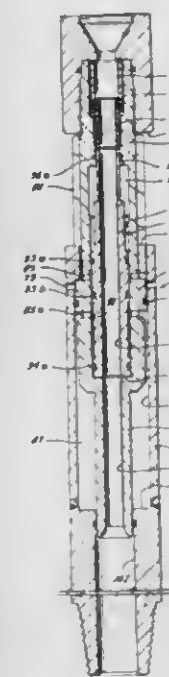
A portable or movable support means is provided with a valved manifold into which pump tools are insertable for pumping into a well conduit by connecting the manifold to the well and to pump and tank means.

3,422,896

APPARATUS FOR USE IN DRILL STEM TESTING

Benjamin P. Nutter, Houston, Tex., assignor to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas
Filed Sept. 29, 1966, Ser. No. 583,037
U.S. Cl. 166—113 14 Claims
Int. Cl. B21b 43/11, 49/00
Drill stem testing apparatus in accordance with the

present invention includes packer and tester means disposed in a well bore on a pipe string, an enclosed sample chamber in the pipe string above the tester means for receiving formation fluids, and indicator means for provid-

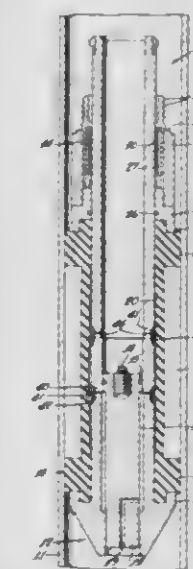


ing a positive surface indication when fluid pressure in the sample chamber has reached a predetermined magnitude, said indicator means including a slip joint device capable of relative movement when a portion thereof is subjected to said pressure.

3,422,897

ANCHORING DEVICE

Martin B. Conrad, Carpinteria, Calif., assignor to Baker Oil Tools, Inc., City of Commerce, Calif., a corporation of California
Filed Aug. 16, 1966, Ser. No. 572,826
U.S. Cl. 166—122 23 Claims
Int. Cl. E21b 33/126, 33/127, 23/04



A retrievable bridge plug adapted to be anchored in a well bore, in which the anchor means comprises a body of discrete sand grains normally confined in an annular space between opposing packing elements movable one toward the other to set the plug in the well by causing outward movement of the sand grains into engagement with the well wall, the sand grains being confined between the packing elements. Such a plug in which a resilient

sleeve is provided defining the inner wall of the annular space, and fluid pressure from below or from above the set packer acts on the resilient sleeve to force the sand grains into engagement with the well wall. Such a plug in which locking rings are provided to lock the plug in a set condition, and a shiftable retaining ring releasably holds the locking rings in locking engagement. Such a plug in which fluid in the sand grain is allowed to pass from between the packing elements to prevent fluid lock during setting of the plug.

3,422,898

SETTING APPARATUS FOR WELL TOOLS

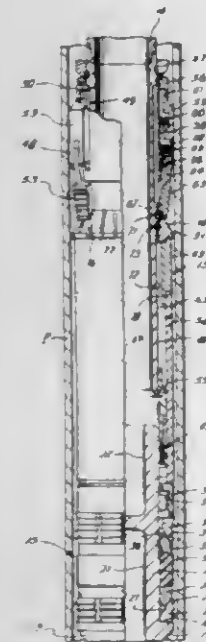
Martin B. Conrad, Carpinteria, Calif., assignor to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas

Filed Aug. 17, 1967, Ser. No. 661,422

U.S. Cl. 166—125

5 Claims

Int. Cl. E21b 23/00, 33/128



The particular embodiment described herein as illustrative of one form of the invention in mechanical setting tools for setting well tools in well bores includes an inner member having a full open bore, and an outer member which can be selectively anchored in a well bore against upward movement. The inner member is releasably coupled to the well tool to be set by a coupling mechanism which can be conditioned for release by upward force applied to the inner member to set the well tool. After setting, the coupling mechanism and the anchored condition of the outer member can be released by simple downward and upward motion of the inner member. The setting tool can be utilized to further apply setting force to the well tool by downward movement of the inner member into engagement with the well tool.

3,422,899

WELL PACKER

Cicero C. Brown, 8490 Katy Road, Houston, Tex. 77024

Filed Nov. 9, 1966, Ser. No. 593,009

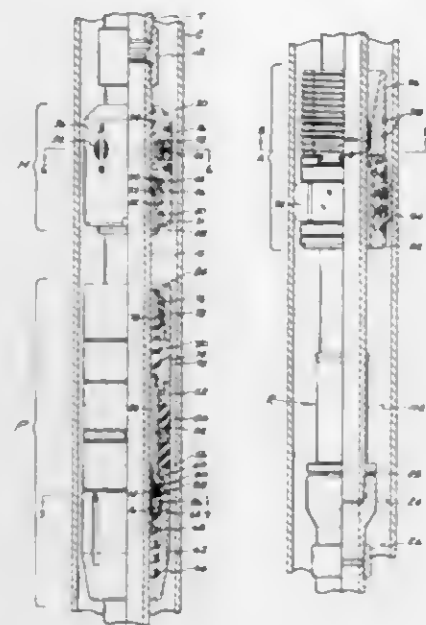
U.S. Cl. 166—129

Int. Cl. E21b 23/06

17 Claims

A well packer having a tubular support, a packing assembly releasably connected to the tubular support and defining a bypass passage, a holddown assembly secured to the tubular support and adapted to close the bypass passage, an anchoring assembly having gripping elements

which gripping elements releasably connect the anchoring assembly to the tubular support and means for re-



leasing the connection of the gripping elements to the tubular support.

3,422,900

PRESSURE ASSISTED RETRIEVABLE BRIDGE PLUG

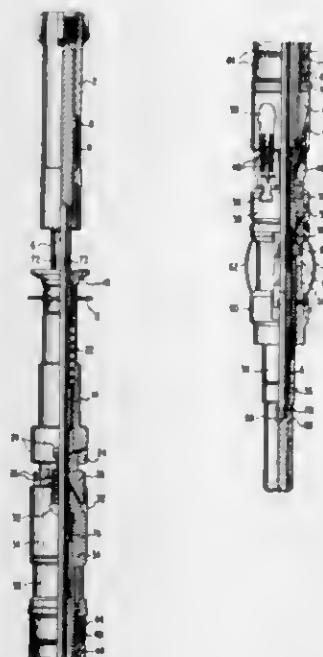
Walter E. Hyde, David L. Farley, and John C. Holden, Duncan, Okla., assignors to Halliburton Company, Duncan, Okla., a corporation of Delaware

Filed Dec. 30, 1966, Ser. No. 606,413

U.S. Cl. 166—131

16 Claims

Int. Cl. E21b 23/00, 33/12



A retrievable bridge plug with a spring interposed between the control mandrel and the slips on one side of the packer rings. The packer setting force is applied by one shoulder on the mandrel, while the slip setting force is applied to the slips through the spring, thus dividing the setting force between the slips and the packer ring. The control mandrel is designed in such a way that differential pressure is utilized to keep the equalizing valve closed and the bridge plug in the set position without the aid of a positive mechanical lock which would require

tubing rotation in order to unlock it. A collet spring arrangement in the tool provides an indication at the surface that longitudinal displacement of the control mandrel has occurred. The collet spring arrangement in the tool also provides a temporary resistance to the upward movement of the control mandrel which permits an impact to be applied to help release the tool. The bridge plug also is constructed to take advantage of the pressure differential existing across the packer rings to compress the packer rings more tightly against the casing.

3,422,901

RETRIEVABLE WELL PACKER

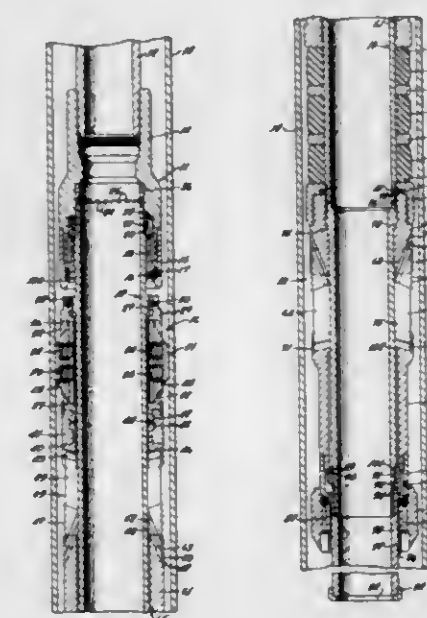
Martin B. Conrad, Carpinteria, Calif., assignor to Baker Oil Tools, Inc., City of Commerce, Calif., a corporation of California

Filed Mar. 30, 1967, Ser. No. 627,190

U.S. Cl. 166—134

Int. Cl. E21b 23/06

17 Claims



A well packer that includes a mandrel having portions of larger and smaller diameter, a resilient annular sealing member around the larger portion of the mandrel, and slip assemblies having shoulders engaging the ends of the sealing member. The shoulders are movable toward each other in response to an upward force on the mandrel for compressing the sealing member and expanding it outwardly. A force-responsive element disconnects the mandrel from the slips upon imposing a predetermined downward load, after which the mandrel may be moved to position the smaller diameter portion within the annular member, relieving the end load on the shoulders of the slip assemblies. The mandrel then, when pulled upwardly further, releases the slips and removes the tool from the well as a unit.

3,422,902

WELL PACK-OFF UNIT

Charles W. Bouchillon, Starkville, Miss., assignor to The Herschede Hall Clock Company, Starkville, Miss., a corporation of Ohio

Filed Feb. 21, 1966, Ser. No. 528,713

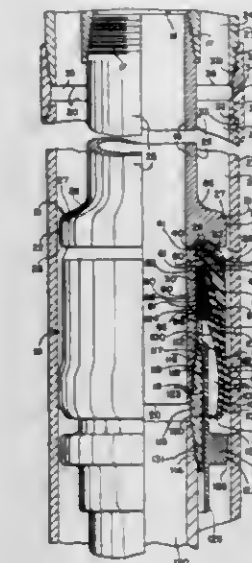
U.S. Cl. 166—202

Int. Cl. E21b 23/04; 33/12; F16j 15/14

21 Claims

A well pack-off unit having a plurality of seal components forming a seal system in which components in

overlapping series form a seal with a well casing, each successively sealing component retaining fluid under pres-



sure greater than that which a previously sealed component is capable of retaining.

3,422,903

GROUTING MATERIAL CIRCULATING VALVE MEANS IN CONJUNCTION WITH EARTH DRILLING TUBES

Bengt K. B. Jansson, Skelleftea, Sweden, assignor to Stabilator Aktiebolag, Bromma, Sweden, a Swedish joint-stock company

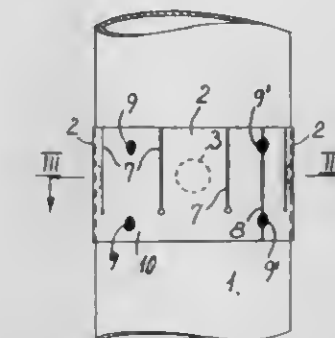
Filed Dec. 6, 1965, Ser. No. 511,696

Claims priority, application Sweden, Dec. 22, 1964, 15,509/64

U.S. Cl. 166—224

Int. Cl. E21b 33/138; F16k 21/04

10 Claims



Grout circulating valve means for use in deep drilling operations employing a tube having apertures therein opening outwardly through the tube to permit outward delivery of the grout mixture, the apertures being closed by displaceable flexible and resilient flaps each of a width and length greater than the diameter of the apertures and defined by two slots extending inwardly from edge portions of a spring steel ring strip surrounding and bonded on the tube, said flaps being prestressed to conform in shape to the exterior of the tube and lie closely in sealing contact over individual tube apertures.

3,422,904

SPRINKLER HEAD

Bruce J. Macartney, Chatham, N.J., assignor to Norris Industries, Inc., Los Angeles, Calif., a corporation of California

Filed Apr. 3, 1967, Ser. No. 628,074

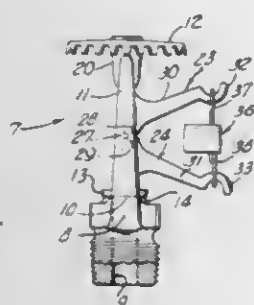
U.S. Cl. 169—39

Int. Cl. A62c 3/12

10 Claims

A sprinkler head including a body member, nozzle, valve, and deflecting member is provided with a pair of strut members urging the valve member against its seat. The strut members are held in position by a fusible link

including a pair of tension members engaging a fusible member of cup-shaped configuration containing fusible material with a piston member abutting thereagainst so that the tension members normally tend to urge the piston



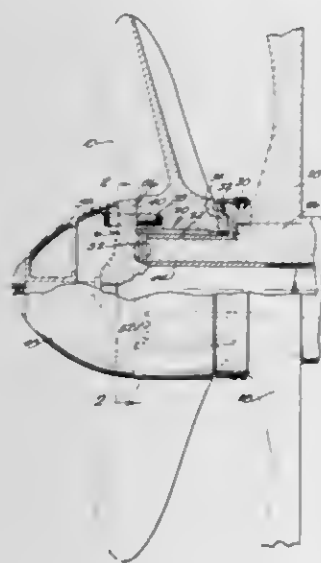
member in compressive relationship with the fusible material. In the event ambient temperature goes above the fusible temperature of the fusible material it is forced past the piston to release the tension members so that the valve member is blown off its seat.

3,422,905

INDIRECT DRIVEN PROPELLER

Ernest Muller, % Messageries Maritimes, A.M.P. Bldg., Sydney, New South Wales, Australia
Filed Feb. 16, 1967, Ser. No. 616,561
U.S. Cl. 170-173
Int. Cl. B63b 1/20

1 Claim



The propeller is driven indirectly and involves differences of construction employing a flange for the accommodation of a hold-down bolt or bolts which are seen to establish connection between the propeller and shaft coupling, and is an object therefore of the invention.

3,422,906

MIXED DRAFT AND POSITION CONTROL

Ernest V. Bunting, Detroit, and Hans V. Lind, Royal Oak, Mich., assignors to Massey-Ferguson Inc., Detroit, Mich.

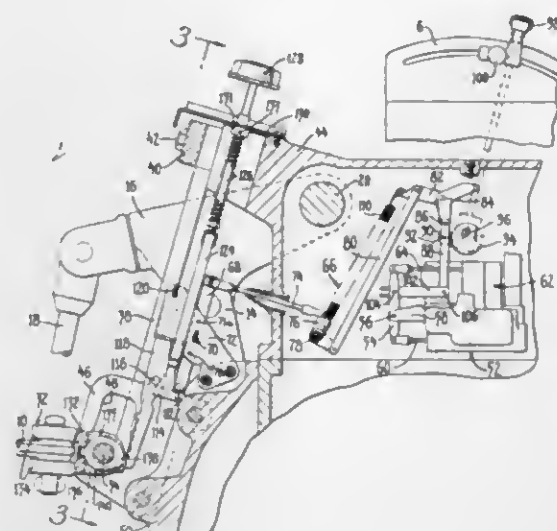
Filed Aug. 23, 1965, Ser. No. 481,750

U.S. Cl. 172-9
Int. Cl. A01b 63/112

10 Claims

A tractor implement linkage control having hydraulically operated draft links controlled by a draft force responsive member, a draft link position sensing cam member responsive to modify the effect of changes in draft force controlling the draft links with changes in the

vertical position of the links and means to move the cam to an inoperative condition to render the same ineffective



to modify the effect of changes in draft force controlling the draft links.

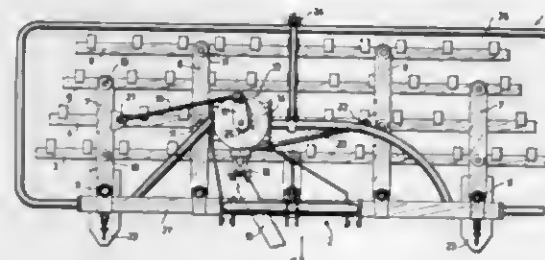
3,422,907

DEVICE FOR HARROWING ARABLE LAND

Joost Gijzenberg, Aalsmeerderweg 933, Nieuw-Vennep, Netherlands
Filed Nov. 22, 1965, Ser. No. 508,998
Claims priority, application Netherlands, Dec. 3, 1964, 6414018

U.S. Cl. 172-102
Int. Cl. A01b 19/06

3 Claims



Longitudinally spaced and transversely extending harrow beams are mounted by pairs of longitudinally extending arms adapted to oscillate in relatively opposite directions so that the harrow beams traverse substantially coextensive paths. The drive mechanism for the longitudinally extending arms comprises a pair of radial crank arms on a common shaft and projecting in relatively opposite directions therefrom and the cranks being connected by links to individual ones of the pairs of the arms and with the common shaft vertically disposed so as to limit the forces acting on the harrow beams to those contained within horizontal planes.

3,422,908

FARM TOOL CARRIER

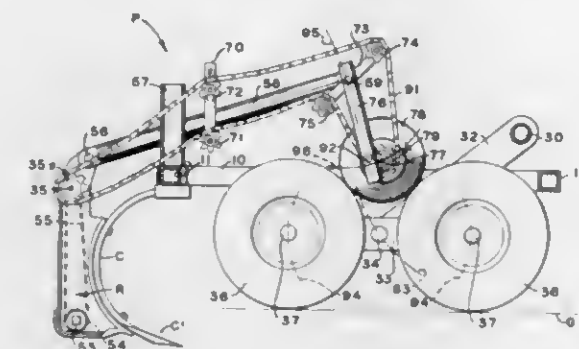
Francis W. Blake, Hereford, Colo. 80732
Filed Dec. 17, 1964, Ser. No. 419,081

U.S. Cl. 172-106
Int. Cl. A01b 35/00, 39/00

3 Claims

A farm tool carrier having a frame, an operable tool on the frame, a front to back aligned pair of tandem rockable weight-carrying main wheels mounted on the end of a pivot-crank rotatably held on and centrally of the frame, hydraulic ram means for rotatably actuating and holding the pivot-crank for effecting a raising and lowering of the frame, and a dog-leg-pendulum power take-off

means for operating said tool by power from the periphery of both of said main wheels and including a driven transmitting member generally at the same point a plane normal to the center axis of the torque transmitting mem-



wheel riding on the peripheries of both of said main wheels.

3,422,909

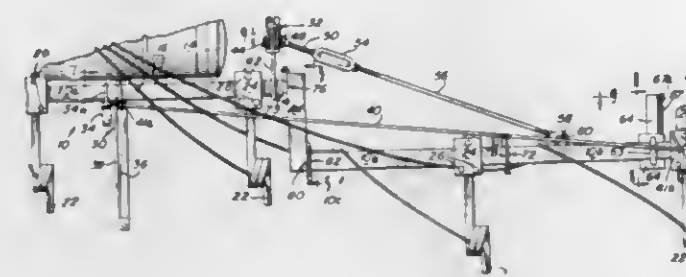
TOOL HOLDER ATTACHMENT FOR FARM IMPLEMENT

Carl M. Jacobs, Decatur, Ill., assignor to Tryco Manufacturing Co., Inc., a corporation of Illinois

Filed Oct. 21, 1965, Ser. No. 499,873

U.S. Cl. 172-629
Int. Cl. A01b 19/04, 35/12, 63/102

7 Claims



A tool bar attachment for farm implements used in soil conditioning, such as fertilizing, the attachment being of the type that is normally mounted generally transversely to the path of travel of a prime mover, characterized in that the attachment has a plurality of hinged connected sections arranged for swinging movement in different planes for rapid and facile conversion from field use to compactness for highway travel.

3,422,910

TORQUE INPUT SHAFT AIR HAMMER ATTACHING DEVICE

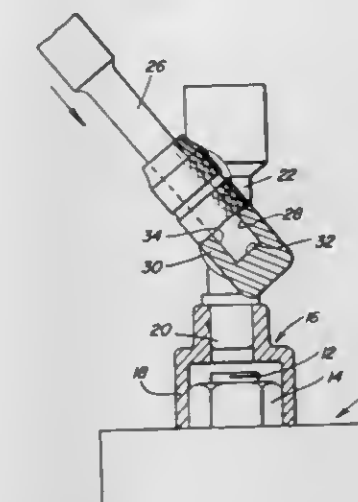
Clifford E. van Nostrand, Sr., R.D. 2, Germantown, N.Y. 12526

Filed Apr. 25, 1967, Ser. No. 633,530

U.S. Cl. 173-93
Int. Cl. B25d 15/00; B25b 19/00

3 Claims

An elongated rigid torque transmitting member including a longitudinal axis and means defining an abutment member against which impact forces may be solidly directed along a linear path inclined relative to the center axis of said transmitting member and a plane disposed normal to the center axis, the abutment member including abutment surface means against which said impact forces are adapted to be solidly directed and disposed generally in a plane normal to the aforementioned path and which intersects with the center axis of the torque



ber and containing the abutment surface means intersects with the center axis of the torque transmitting member.

3,422,911

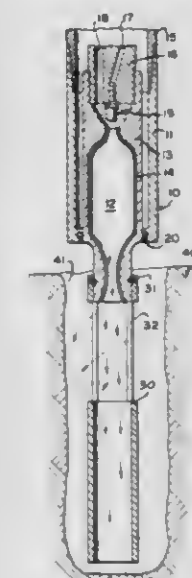
METHOD AND APPARATUS FOR FLAME WORKING SPALLABLE MATERIAL

Jules L. Dussourd, Princeton, N.J., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey

Filed Sept. 29, 1966, Ser. No. 582,886

U.S. Cl. 175-14
Int. Cl. E21b 7/14; E21c 21/00

7 Claims



A method and apparatus for flame working spallable material such as taconite which provides for alternate compression and expansion of the mixture which results from burning fuel and an oxidant. This increases the effective temperature of the burned mixture.

3,422,912

METHOD OF GEOBORING

George D. Camp, Apartado Postal 1005, Mexico City 1, Mexico

Continuation-in-part of application Ser. No. 413,349, Nov. 23, 1964. This application Mar. 20, 1967, Ser. No. 624,227

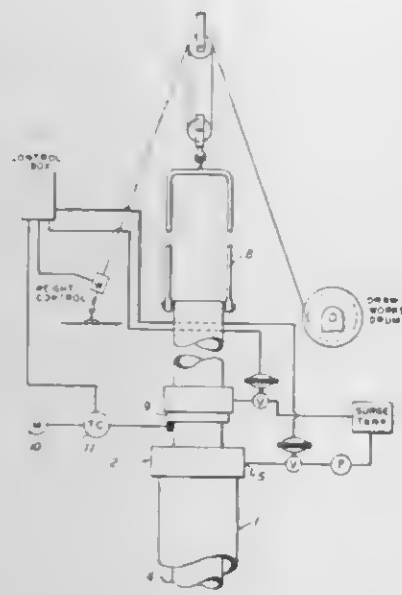
U.S. Cl. 175-40
Int. Cl. E21b 3/00, 21/04; E21c 13/02

12 Claims

A method of geoboring by trepanation, geoboring being the boring of earth formations and geological

structures of any and all kinds, the method comprising cutting, as contrasted to crushing or flaking, of a narrow, circular annulus in the earth or geological structures by means of a trepan carried on the lower end of a drill stem

housing in alignment therewith, and spaced laterally from the shank of said auger.



passing downwardly through a casing, the annulus being only of sufficient width as to afford the minimum necessary flow space for fluid between the casing and the drill stem and between the drill stem and the core cut by the trepan.

3,422,913

EARTH DIGGING AND CONVEYING APPARATUS
William O. Young, Jr., Spartanburg, S.C., assignor to Du Val Development Corporation, a corporation of South Carolina

Filed Nov. 10, 1966, Ser. No. 593,570

U.S. Cl. 175—213
Int. Cl. E21b 21/00, 17/00; E21c 13/04

7 Claims



An apparatus for digging comprising an elongated vertical housing provided with an elongated auger for cutting the earth and raising such within the housing. Compressed air is supplied to an inlet port adjacent the top of the housing for forcing the earth raised therein through an exit port carried on the opposite side of the

A flexible drillstem including separate, embedded pressure-resistant flotation members providing an upward lift to the hose when immersed in drilling fluid.

3,422,915

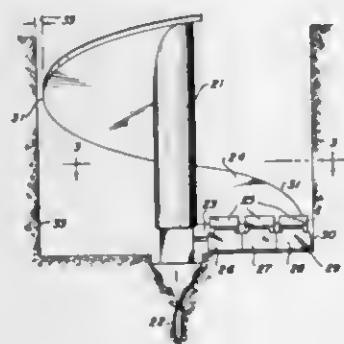
DRILLING AUGER AND CUTTING TOOTH THEREFOR

James P. Watts, 6930 E. Pinchot, Scottsdale, Ariz. 85251

Filed June 30, 1967, Ser. No. 650,379

U.S. Cl. 175—388
Int. Cl. E21b 9/32; E21c 13/04; E02f 9/28

4 Claims



Cutting teeth for drilling augers, mechanical trenchers and other earth-digging or drilling machines in which the cutting teeth form a continuous cutting edge and in which the outboard tooth extends beyond the periphery of the screw flight of the auger or the buckets and digging wheel of a trencher to provide clearance between the wall of a hole and the other components of the machine.

3,422,916

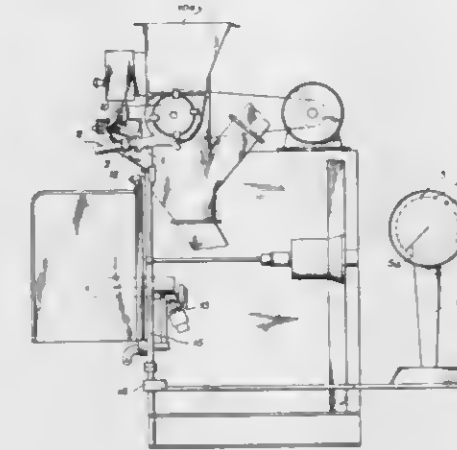
SACK FILLING MACHINE
Lothar Muller, Gartenstrasse 10, Wesseling, Bezirk Cologne, Germany

Filed Apr. 6, 1967, Ser. No. 628,937

Claims priority, application Germany, Apr. 7, 1966, D 49,813; Dec. 14, 1966, D 51,775

U.S. Cl. 177—122
Int. Cl. G01g 13/02; G01f 11/24

2 Claims



Adjustable valve means actuable by a sack weighing scale are used to control the rate of the flow of filling material into a sack.

3,422,917

HYDRAULIC POWER TRANSMISSION FOR VEHICLES

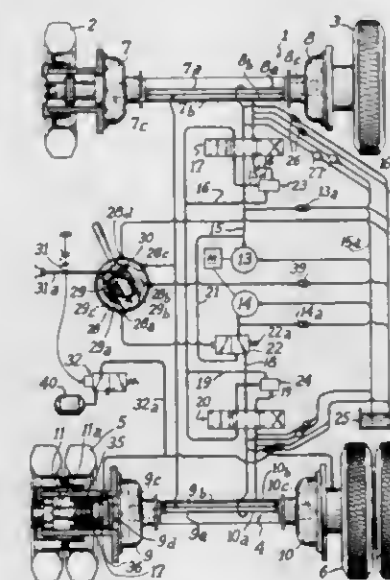
Gabriel L. Guinot, Le Plessis-Belleville, France, assignor to Societe Anonyme Poclain, Le Plessis-Belleville, Oise, France, a French society

Filed Aug. 22, 1966, Ser. No. 574,036

Claims priority, application France, Oct. 13, 1965, 34,753

U.S. Cl. 180—66
Int. Cl. B60k 3/00, 7/00

5 Claims



A vehicle having an hydraulic transmission and comprising at least two wheel axles with wheels mounted thereon. An hydraulic motor associated with each of the wheels, two hydraulic pumps adapted to be driven by a heat engine and a distribution selector for selectively connecting the pumps with the motors. The hydraulic pumps being permanently coupled to the heat engine and means whereby the delivery of pressurized fluid by the pumps to the motors is dependent upon the load applied to the

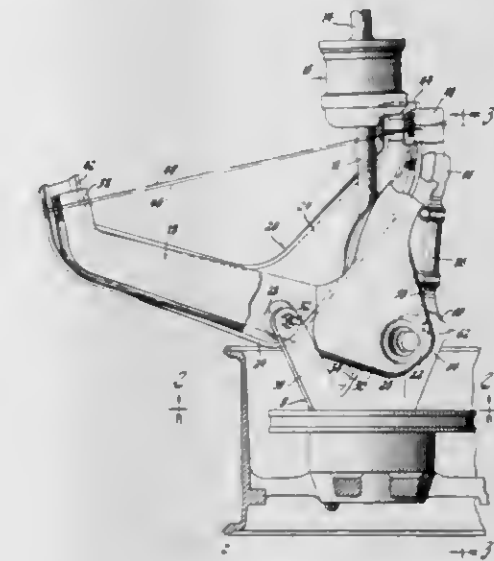
3,422,918

INDEPENDENT REAR WHEEL SUSPENSION
James G. Musser, Jr., Birmingham, and Benjamin F. Boehm, Oak Park, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed May 24, 1967, Ser. No. 640,922

U.S. Cl. 180—73
Int. Cl. B60k 17/32; B60g 11/14

11 Claims



A driven road wheel is rotatably mounted on a support member having vertically spaced portions universally pivotally connected to the outer ends of laterally extending upper and lower control arms mounted for swinging movement about spaced fixed axes. Progressive changes in steer angle during rising and falling movement of the wheel is accomplished by a laterally directed link extending between one of the arms and a portion of the support spaced longitudinally from the axis defined by the vertically spaced portions.

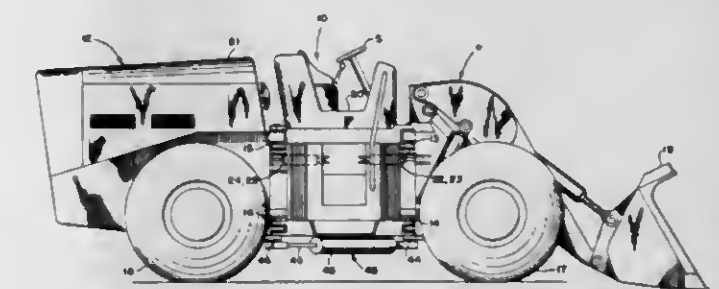
3,422,919

ARTICULATED VEHICLE STEERING
Lloyd A. Molby, Elba, N.Y., and James C. White, Jr., Louisville, Miss., assignors to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio

Filed May 4, 1966, Ser. No. 547,583

U.S. Cl. 180—79.2
Int. Cl. B62d 5/06; F15b 15/18

12 Claims



The forward and rearward end units of a double articulated tractor shovel vehicle are steered relatively to the central unit by hydraulic steering rams that are connected hydraulically in parallel and a link in the form of a further hydraulic ram is connected in a diagonal position between the end units. The three units of the vehicle are connected

by pivots that hold them against twisting in a longitudinal axis, and the diagonal ram normally is locked hydraulically so as to act as a solid link, thus coordinating the movements of the two end units while steered by the steering rams. There is a hydraulic system that can actuate the diagonal ram while certain steering rams float, so that the vehicle may have steering movements of different types, including "crab" steering.

3,422,920

ACOUSTICAL PANELS

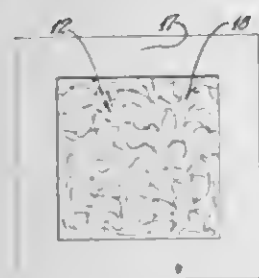
David M. Greason, Newark, and Hale J. Sabine, Granville, Ohio, assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware

Filed July 1, 1965, Ser. No. 468,867

U.S. Cl. 181—33

Int. Cl. E04b 1/82

10 Claims



Acoustical panels comprising substantially rigid bodies of sound insulation materials. A sound blocking coating or layer is applied to or formed as a part of a rear planar surface. A sound blocking coating or layer around the perimeter of a front surface is applied to or formed as a part of the front surface, defining a central sound admitting area. The rear sound blocking layer cooperates with the front perimetrical sound blocking layer to attenuate sound admitted through the central area to prevent sound leakage through edges of the panel.

3,422,921

SOUND ATTENUATING WALL FOR BLOCKING TRANSMISSION OF INTELLIGIBLE SPEECH

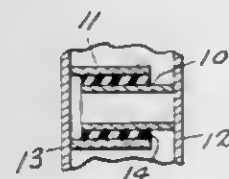
Glenn E. Warnaka, Erie, Pa., assignor to Lord Corporation, Erie, Pa., a corporation of Pennsylvania

Filed Apr. 25, 1966, Ser. No. 545,044

U.S. Cl. 181—33

Int. Cl. E04b 1/82

12 Claims



Transmission of sound in the band of frequencies required for transmission of intelligible speech is prevented by placing the critical frequency for bending waves in or below such band and by damping the bending waves. The foregoing features are applied to an acoustical partition or wall.

3,422,922

MOTORIZED SCAFFOLDS

Homer Carl Alken, 1545 Glenarm Place, Denver, Colo. 80202

Filed July 10, 1967, Ser. No. 652,297

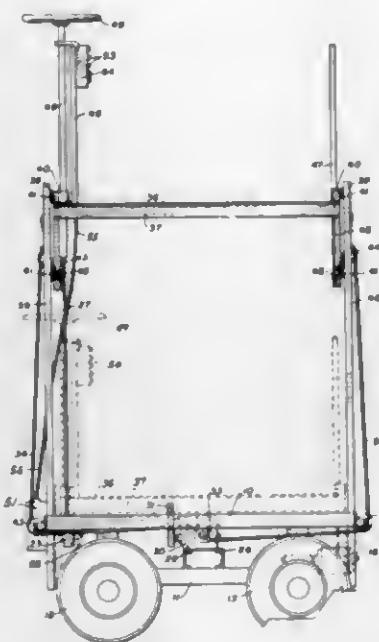
U.S. Cl. 182—14

Int. Cl. E04g 1/22

7 Claims

A motor propelled, steerable, wheeled truck carrying a vertical guide frame in which a platform is mounted for

vertical movement through the medium of tension cables wound upon a reversible motor-driven winch on said



truck, all vertical movements of said platform and all horizontal movements of said truck being controllable by an operator on said platform.

3,422,923

CONVERTIBLE COMBINATION PLATFORM AND STEP FOR LADDERS

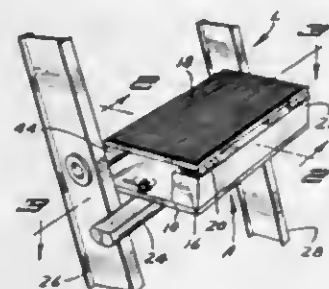
Ordell R. Lund, 1915 E. 9th St., Duluth, Minn. 55805

Filed Oct. 3, 1967, Ser. No. 672,565

U.S. Cl. 182—120

Int. Cl. E06c 7/14

6 Claims



The disclosure includes a platform for removable attachment to a ladder and includes a primary flat support having a pair of hooks for engagement with the rung of a ladder on the front side thereof and a stop bar connected to the primary support for engagement with the rails of the ladder. A secondary flat support is hingedly connected to the primary support in overlying spaced relation with the outer end of the secondary support resting on and supported by the hooks. The secondary support is hingedly extendable to a position to form a platform extended from the primary support with the hooks engaging the rung of a ladder from the rear side thereof.

3,422,924

STRUCTURAL UNIT PARTICULARLY FOR STAIRCASES

John Stanley William Bennett, London, England, assignor to J. Starkie Gardner Limited, London, England, a company of Great Britain and Northern Ireland

Filed Nov. 8, 1966, Ser. No. 592,918

Claims priority, application Great Britain, Aug. 16, 1966, 36,692/66

U.S. Cl. 182—194

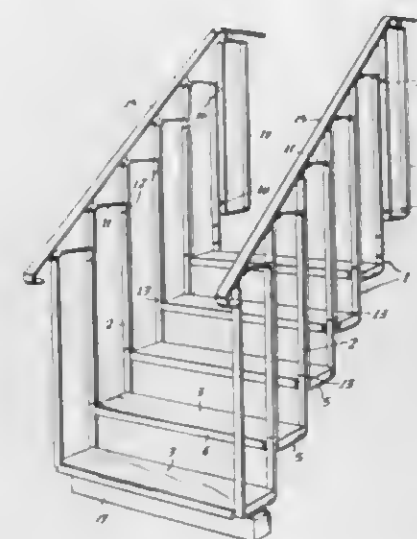
Int. Cl. E04f 11/00; E06c 7/00

10 Claims

Structural units are provided which are particularly suitable for staircases and other building structures involving a plurality of the structural units, each of which

is made up of a planar tread member supporting frames on a portion of which the tread rests and wherein a supporting frame is secured at each end of the tread member. Each supporting frame has a pair of parallel spaced-

a plurality of cylinders and a plunger assembly for each cylinder comprising an outer centrally bored piston, an inner piston in the bore of said outer piston and means



apart elongate arms one of which is disposed at the front of the tread and the other of which is disposed at the rear of the tread. The supporting frame is usually a rigid rectangular closed frame, but may be of C-shape.

3,422,925

ROPE CONNECTOR

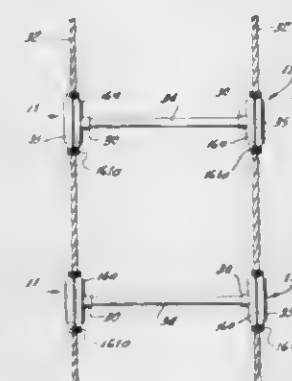
Robert M. Petrie, 8268 Fernadel, Plco Rivera, Calif. 90660

Filed Oct. 14, 1966, Ser. No. 586,759

U.S. Cl. 182—196

Int. Cl. E06c 1/56; F16g 11/06

15 Claims



A connector for attachment to spiral strand line is provided comprising in combination a split sleeve applicable laterally to extend about the line anywhere along the line length, which sleeve is elongated and has internal ribbing sized to engage with the strand of the line and retaining means removably carried by the sleeve and sized to retain the sleeve in interfitting frictional engagement with strands against longitudinal displacement along the line.

3,422,926

VARIABLE DISCHARGE LUBRICANT DISTRIBUTOR

Robert E. Stanaway, Orchard Park, N.Y., assignor to Houdaille Industries, Inc., Buffalo, N.Y., a corporation of Michigan

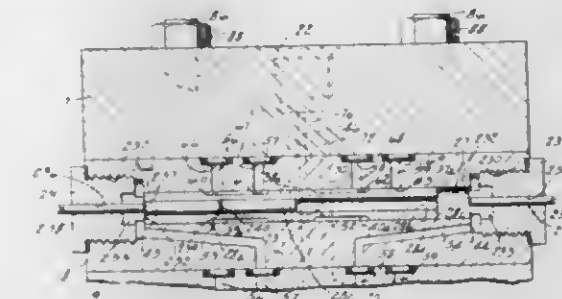
Filed Dec. 29, 1966, Ser. No. 605,773

U.S. Cl. 184—7

Int. Cl. F16n 25/02; F01b 9/02; F01b 7/20

15 Claims

A cycling lubricant distributor adapted for connection to a single pressurized-lubricant line to distribute selected charges of lubricant to diverse points of use and having



for selectively varying the stroke of the inner piston to vary the charges of lubricant distributed by the plunger assembly.

3,422,927

ELECTRIC RAZOR OILING JIG

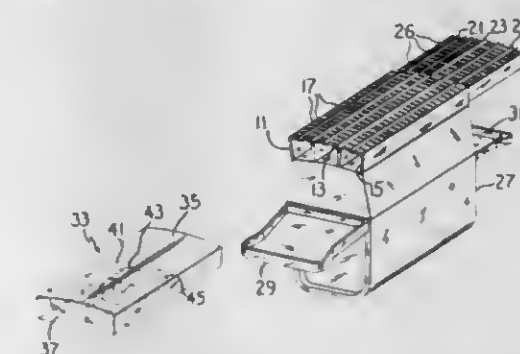
Maynard H. Menk, Rte. 1, Box 6, High Ridge, Mo. 63049

Filed Mar. 10, 1966, Ser. No. 533,358

U.S. Cl. 184—102

Int. Cl. F16n 7/12; B26b 21/40

8 Claims



An oiling jig is disclosed which is adapted to clean and oil the cutting surfaces of an electric razor of the type in which a blade slides longitudinally within a hollow cutter bar. The jig includes an elongate cap which is adapted to slide longitudinally over the cutter bar and an elongate swab which is mounted on the cap and which extends substantially parallel thereto. The swab is longer than half of the length of the cutter bar and substantially shorter than the full length so that, when the jig is applied alternately to the opposite ends of the bar, the entire length of the bar is lubricated without removing the blade therefrom.

3,422,928

ANALOG COMPUTER VARIABLE INTERVAL DISPATCHER FOR AN ELEVATOR SYSTEM WITH TRIP TIME AS A MEASURE OF TRAFFIC

William Henry Bruns, Lincolndale, N.Y., assignor to Otis Elevator Company, New York, N.Y., a corporation of New Jersey

Filed Apr. 23, 1964, Ser. No. 362,052

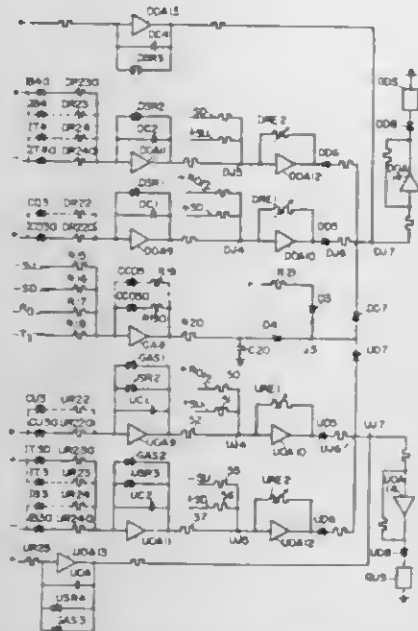
U.S. Cl. 187—29

Int. Cl. B66b 1/28

19 Claims

A dispatching and control system for selectively starting a group of elevator cars from both an upper and a lower terminal in response to dispatching signals generated at timed intervals. The amount of time included in each interval is derived independently for each terminal from a calculated separation time. The separation time is calculated by computing a probable round trip time for a car as a function of an estimated number of stops which the calls then in registration indicate the car will make in traveling from one terminal to the other and back. The separation time is equal to the probable round trip time divided by the number of cars operating under the control of the system. Individual dispatching intervals for either

terminal differ from this separation time in accordance with the amount by which previous dispatching intervals deviate from it. The amount of the deviations alter successive dispatching intervals until they equal the separation time. A dispatching signal for either terminal is generated upon a predetermined relationship existing between the magnitude of a signal characteristic of the time elapsed from the start of a dispatching interval for that terminal and the magnitude of a signal characteristic of the time included in that dispatching interval.



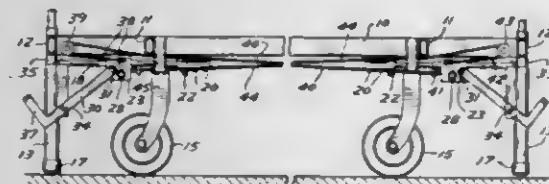
erated upon a predetermined relationship existing between the magnitude of a signal characteristic of the time elapsed from the start of a dispatching interval for that terminal and the magnitude of a signal characteristic of the time included in that dispatching interval.

3,422,929

FLOOR CONTACTING BRAKE MECHANISM
Carl W. Oja, St. Paul, Minn. (501 E. South St., Redwood Falls, Minn. 56283), and Richard L. Scheuerman, Inver Grove, Minn.; said Scheuerman, assignor to said Oja

Filed July 31, 1967, Ser. No. 657,397
U.S. Cl. 188—5
Int. Cl. B60t 1/14

8 Claims



A brake mechanism is taught for a wheeled mobile assembly, having at least one footed leg element. The brake mechanism has a horizontally oriented linear guide member such as a rod, a slidable bracket carried on that horizontal guide member, a link lever connection between that slidable bracket and a footed leg element of the wheeled mobile assembly, and a spring or other means to bias the footed leg element in retracted condition for wheeled movement of the mobile assembly with the slidable bracket in a position most remote from the footed leg element. Braking is accomplished by moving the slidable bracket toward the footed leg element and thereby causing the footed leg element to extend into braking contact with the floor, or vice versa.

3,422,930

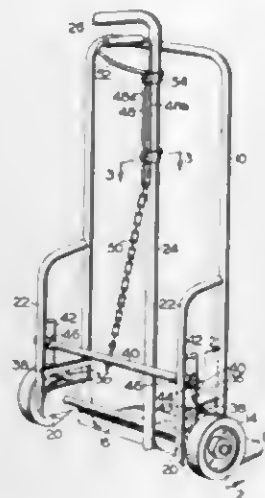
HAND TRUCK WITH BRAKE
William S. Barron, 7936 N. Wayland, Portland, Oreg. 97203

Filed Mar. 22, 1967, Ser. No. 625,057
U.S. Cl. 188—22
Int. Cl. B62b 5/04; B60t 1/06

3 Claims

A hand truck with a brake serving to control wheeling movement thereof. The hand truck mentioned herein is

of the two wheel type and is used by workmen to pick up and transport articles. The brake on the hand truck includes a movable cross member which operates a pair of straps capable of applying a braking force to brake drums on the hand truck wheels. The cross member is moved



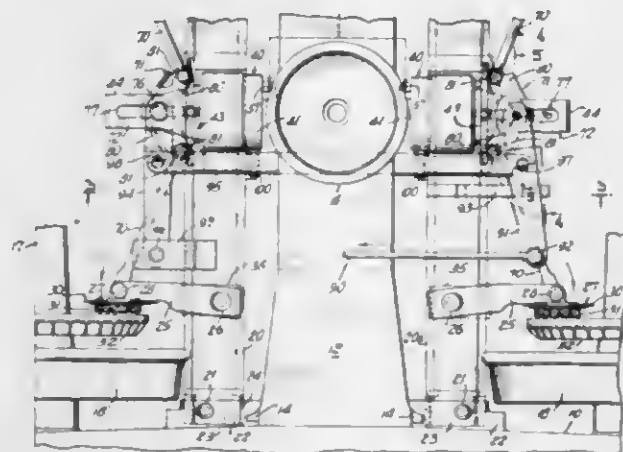
vertically by a flexible link connected between the cross member and a brake operating lever terminating in an auxiliary handle adjacent to a gripping handle for the hand truck.

3,422,931

RAILWAY CAR BRAKE MECHANISM
Edward G. Goods, Snyder, N.Y., assignor to Buffalo Brake Beam Company, a corporation of New York
Continuation-in-part of application Ser. No. 417,658, Dec. 11, 1964, now Patent No. 3,307,659. This application Jan. 26, 1967, Ser. No. 611,860

U.S. Cl. 188—59
Int. Cl. F16d 55/32; B61h 13/00

8 Claims



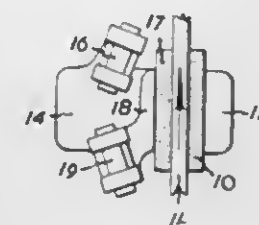
Railway brake device having brake discs rigid with car wheels, and brake means in the form of toggle joint mechanisms with rods movable into alignment for braking actions against these discs by the action of air pressure cylinders and pistons therein having connections to articulated adjoining ends of these rods by means of piston rods. Springs in these cylinders resist the movements of the pistons of the toggle joint mechanisms for braking actions. A swivel connector is provided between adjoining ends of the corresponding pair of rods in each toggle joint mechanism. The rods of the corresponding toggle joint mechanism and the corresponding piston rod are pivotally connected at spaced points to the corresponding swivel connector.

3,422,932

SELF-ENERGIZING DISC BRAKE
Alexander John Wilson, Sutton Coldfield, and Peter Charles Ingham, Blackheath, England, assignors to Girling Limited, Birmingham, England, a British company

Filed Feb. 18, 1964, Ser. No. 345,702
Claims priority, application Great Britain, Mar. 6, 1963, 8,879/63; Mar. 23, 1963, 11,615/63
U.S. Cl. 188—73
Int. Cl. F16d 55/14

16 Claims



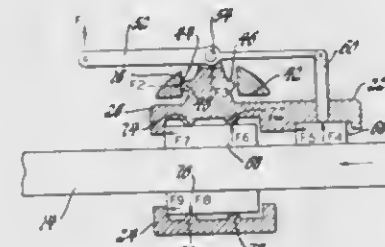
The invention relates to a self-energizing disc brake having a stationary torque sustaining member solely on one side of the disc and a pair of circumferentially spaced pivots on said stationary member for arms carrying brake pads engageable in substantial opposition to each other with the opposite sides of the discs. The pivots for the arms are positioned in directions with respect to the brake pads such that engagement of the pads with the disc while rotating in one direction produces a servo action on each of the pads to urge them with increased braking effort towards the disc.

3,422,933

SELF-ENERGIZED DISC BRAKE ASSEMBLY
Robert M. Van House, Dayton, Ohio, and Donald M. Flory, Arcanum, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Aug. 17, 1967, Ser. No. 661,245
U.S. Cl. 188—73
Int. Cl. F16d 5/06; B60t 7/12

5 Claims



A disc brake caliper is provided with brake pads on opposite sides of a rotating disc and is energized by engaging one pad with one side of the disc, causing the caliper to move to energize another pad with the other side of the disc, causing the caliper to pivot and engage another pad with a disc in a self-energized manner.

3,422,934

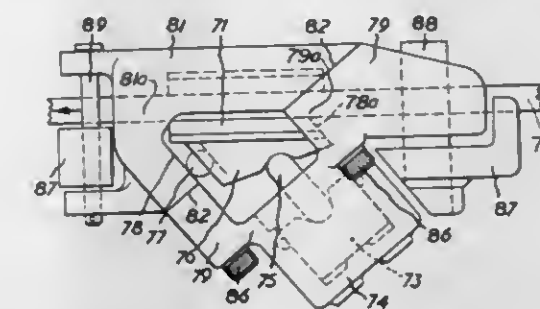
SPOT-TYPE DISC BRAKES
Stewart Kevern Hambling, Tamworth, England, assignor to Girling Limited, Tyseley, England, a British company
Continuation of application Ser. No. 277,240, May 1, 1963. This application Mar. 8, 1968, Ser. No. 711,809

U.S. Cl. 188—73
Int. Cl. F16d 55/00

3 Claims

This invention relates to improvements in disc brakes of the kind in which a directly actuated friction pad is adapted to be brought into engagement with one face of a rotatable disc by actuating means located in one limb

of a caliper or housing which straddles a portion of the periphery of the disc, a friction pad located in or on the other limb of the caliper being brought into engagement



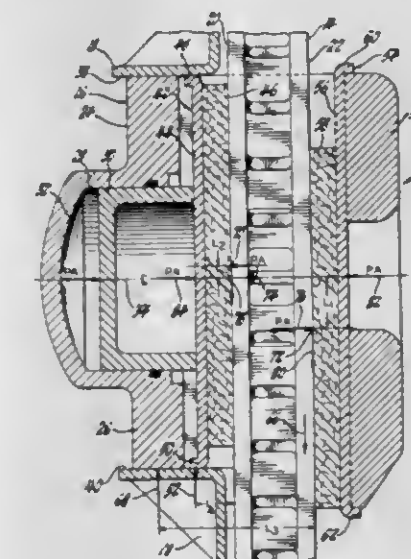
with the opposite face of the disc by the reaction on the caliper. The friction pads and actuating means move in a direction inclined to the plane of the disc.

3,422,935

DISC BRAKE ASSEMBLY
Robert M. van House, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 21, 1966, Ser. No. 588,546
U.S. Cl. 188—73
Int. Cl. F16d 55/12

12 Claims



A disc brake assembly has a sliding caliper movable in a mounting bracket positioned on one side of the disc to be braked. The outboard shoe mounted in the caliper housing is offset from the center line of the piston engaging the inboard shoe, and the inboard shoe is positioned at a predetermined offset distance relative to the piston center line so that the moments generated by the brake apply forces and the resulting friction forces which tend to rotate the caliper and cause tapered lining wear are closely balanced to minimize effective caliper rotation and therefore minimize tapered lining wear. The precise amount of offset is determined by the reaction point on the caliper mounting bracket, the amount of allowable lining wear, and the coefficient of friction between the brake shoe lining and the disc friction surfaces.

3,422,936

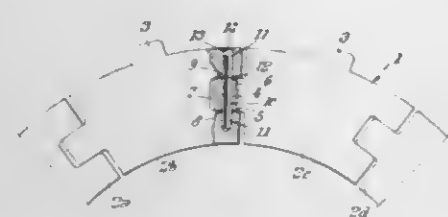
SECTOR TYPE FRICTION BRAKE DISC
Claude Louis Edouard Marcheron, Montrouge, France, assignor to Societe Hispano-Suiza-Lallemant, Bois-Colombes, France

Filed Apr. 28, 1967, Ser. No. 634,662
Claims priority, application France, May 5, 1966, 60,379

4 Claims

U.S. Cl. 188—218
Int. Cl. F16d 65/2
Improved friction disc brake wherein at least one of the annular friction discs is formed by a plurality of

sectors arranged about an axis, each sector being interconnected to adjacent sectors by a tooth and recess arrangement which includes sufficient clearance to allow circumferential play between adjacent sectors. A securing



mechanism may be provided including a pin passing radially through a set of generally coaxial apertures in the tooth and the radial inner and/or outer sides of the recess, the cross-section of the pin being less than that of the apertures.

3,422,937

BRAKE SHOE AND LINING THEREFOR

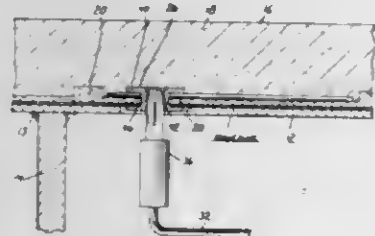
Arthur F. Gage, Warren, Mich., assignor, by mesne assignments, to Rockwell-Standard Company, Pittsburg, Pa., a corporation of Delaware

Filed Oct. 6, 1967, Ser. No. 673,438

U.S. Cl. 188-250

5 Claims

Int. Cl. F16d 19/00, 65/04, 11/00



A brake shoe and composite brake lining therefor in which the lining is bonded to the platform of the brake shoe by a thermally responsive adhesive in which an electrical heating element is interposed between the friction material and the adhesive and in which socket type electrical terminals are provided to permit electrical connection of the heating element to an external source of electrical energy.

3,422,938

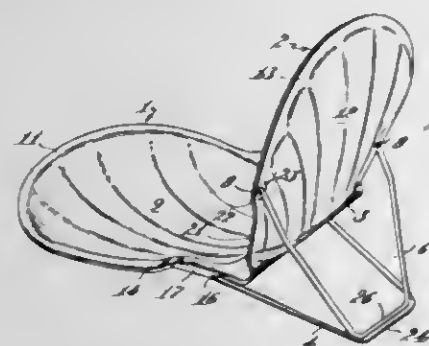
SEAT AND CARRY CASE

Gurdon S. Worcester, High St., Gloucester, Mass. 01930
Continuation of application Ser. No. 550,249, May 16, 1966. This application Jan. 22, 1968, Ser. No. 728,867

U.S. Cl. 190-8

7 Claims

Int. Cl. A45c 9/00; A47c 13/00



A combined seat and carry case formed of concave seat and back walls joined by an integral hinge and folding between a closed, case position and an open, seat

position. Bails are attached to the seat and back for carrying the case closed and for bracing the seat in open position.

3,422,939

SERVO-CONTROLLED CHANGE-SPEED TRANSMISSIONS OF VEHICLES

Edmond Henry-Biabaud, Paris, France, assignor to Societe Anonyme Andre Citroen, Paris, France

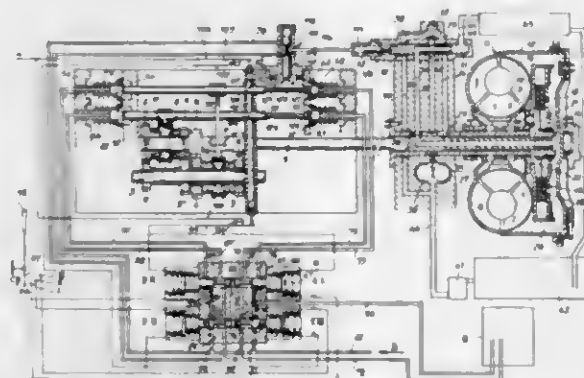
Filed Dec. 19, 1966, Ser. No. 603,004

Claims priority, application France, Dec. 23, 1965, 43,535; Mar. 29, 1966, 55,415

U.S. Cl. 192-3.5

4 Claims

Int. Cl. F16d 67/00; F16h 3/08, 5/06



Vehicle transmission system comprising a stepped-ratio change-speed mechanism with a least one gear-engaging sliding hub actuatable by means of a fork, a disconnecting clutch actuatable during gear changes by means of a control relay, and a fork control servo-mechanism, wherein a control play is provided between said fork and said sliding hub, and members operatively connected to said fork for actuating said clutch control relay, said members being so positioned in relation to said clutch that when a gear ratio is disengaged the initial stroke of the fork which corresponds to said control play is effective to actuate said relay in the direction to cause the disengagement of said disconnecting clutch.

3,422,940

HYDRAULIC TRANSMISSION SYSTEMS

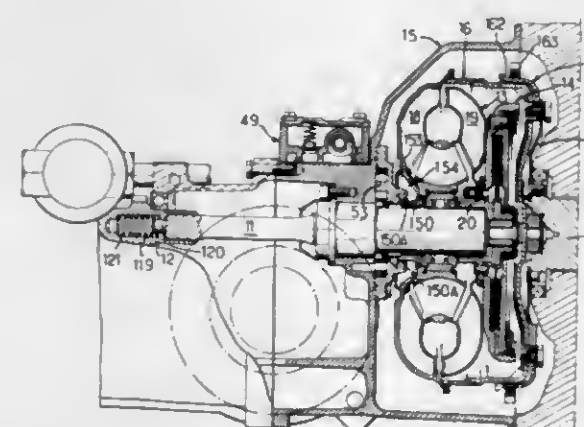
Jean Maurice, Paris, France, assignor to Societe Anonyme Francaise du Ferodo, Paris, France, a corporation of France

Filed May 29, 1967, Ser. No. 641,891

U.S. Cl. 192-3.33

12 Claims

Int. Cl. F16d 37/00



Hydraulic transmissions having, in a same bell casing filled with oil, a hydraulic coupling apparatus (torque converter or hydraulic turbo-coupling) and a clutch. The driven shaft is freely axially mounted and is applied, by means of a spring acting on one of its ends, against the bell-housing at its other end through a sealing collar.

3,422,941

ROTARY DRIVE STEPPER

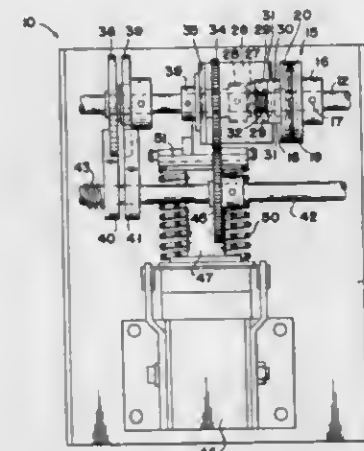
Gary D. Fredell, East Moline, Ill., assignor to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware

Filed July 6, 1967, Ser. No. 651,590

U.S. Cl. 192-12

11 Claims

Int. Cl. F16h 27/02, 29/02; F16d 67/00



Stepped unidirectional rotary movement is converted from reciprocatory motion through using a shaft on which there is supported a one-way coupling connected to a housing rotatably supported on the shaft. Appropriate means reciprocate the housing to impart unidirectional drive to the shaft through the coupling. Ratchet means are secured to the shaft and locking pawls are driven into and out of locking engagement with the ratchet means in accordance with the operating cycle of the mechanism.

3,422,942

STATIONARY COIL ELECTROMAGNETIC CLUTCH

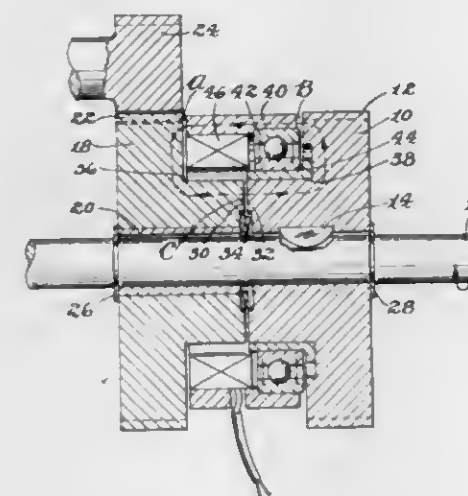
Glenn S. Spencer, Big Flats, N.Y., assignor to The Bendix Corporation, a corporation of Delaware

Filed Nov. 17, 1966, Ser. No. 595,149

U.S. Cl. 192-84

6 Claims

Int. Cl. F16d 27/04



An electromagnetic clutch having a stationary coil in which tilt loading of the bearing which interconnects the stationary sleeve and one of the rotatable torque exchanging members is greatly reduced. This reduction is achieved by maintaining the area of non-clutching air gaps equal, thereby presenting the stationary sleeve with balanced loading. All air gaps are available to contribute to the clutching force by generating axially-attractive forces on the rotary contactive components.

3,422,943

LUBRICATED CLUTCH ASSEMBLY

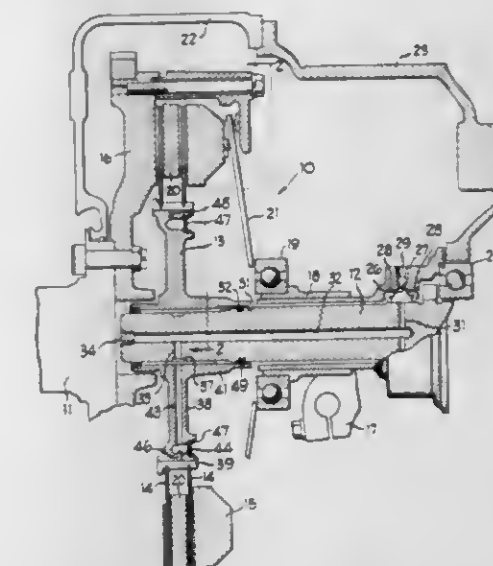
Reinhold C. Zeidler, Detroit, Mich., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

Filed Feb. 8, 1967, Ser. No. 614,646

U.S. Cl. 192-113

1 Claim

Int. Cl. F16d 13/74



A wet type friction disc clutch having a system of internal fluid distribution passages spraying fluid among the friction discs, in which fluid flow exists through a splined joint and, in one embodiment, through a damper apparatus.

3,422,944

SECTIONAL FEED WIRE

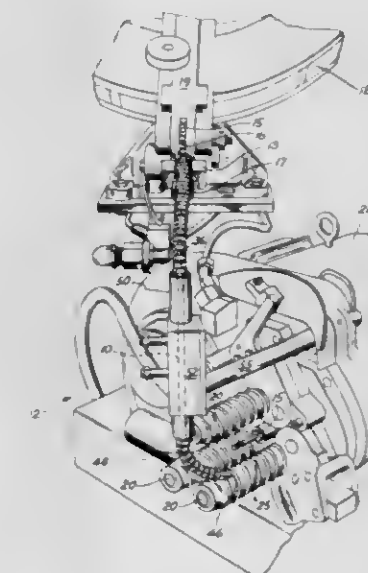
Yvan A. Coullais, Livonia, Mich., assignor to MacLean-Fogg Lock Nut Co., Mundelein, Ill., a corporation of Delaware

Filed Aug. 16, 1967, Ser. No. 661,045

U.S. Cl. 193-1

8 Claims

Int. Cl. B65g 11/00



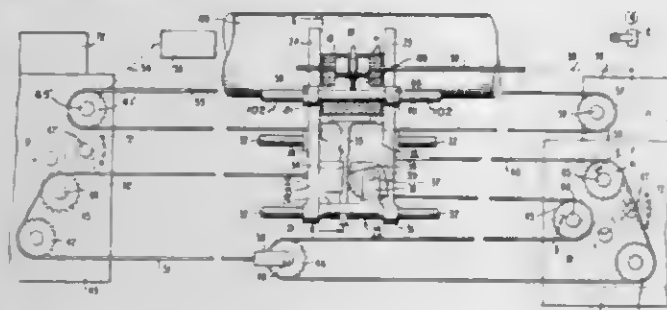
A feed wire passing through apertured work blanks for guidance from an inclined supply channel to horizontal feed rollers of a tapping machine. The wire is in two sections. The uppermost section includes an inclined length joined by a bend to a portion of vertical length. The lowermost section includes a portion of vertical length, a curved transitional length, and a horizontal length to dispose blanks for feed by the rollers. A pin, extending from the upper section, is accommodated within a socket in the lowermost section, to pivot both sections together. A support conduit receives the blanks along the vertical length portions of the coupled sections to "float" the feed

wire therein. Sufficient pressure is developed by the blanks against the feed wire and the inside of the conduit to hold the sections together whenever the horizontal length swings away from the rollers.

3,422,945 PRINTING MACHINE CHARACTER SELECTION STRUCTURE EMPLOYING DIFFERENTIAL MEANS

Manning Kirk Bethune, Rochester, N.Y., assignor to Friden, Inc., a corporation of Delaware
Filed June 29, 1967, Ser. No. 649,940

U.S. Cl. 197—16 14 Claims
Int. Cl. B41j 23/02, 1/32; H04l 15/24



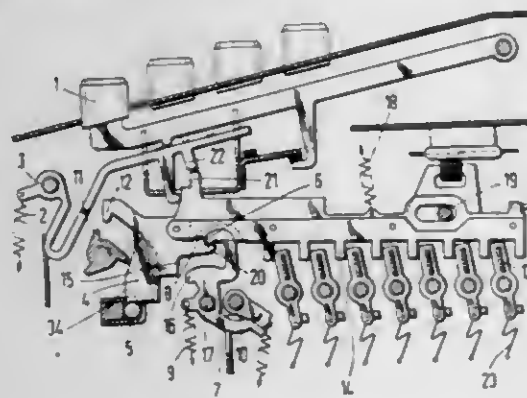
A structure for effecting selection of an individual one of plural alphanumeric and symbol character printing type confined within a type box is effected by selective positioning of the type box in a vertical direction within a type-box support frame and by selective positioning of the support frame laterally on support ways. The selective positioning of the type box is effected by a rack and pinion gear rotationally driven through microchain connection to a first type-selective differential gear assembly, the lateral positioning of the type-box support frame being likewise effected by microchain lateral drive of the frame from a second type-selective differential gear assembly mechanically interconnected by the microchain drive with the first type-selective differential gear assembly. The type-box support frame is additionally laterally displaced for character spacing by a further microchain drive coupling through the second differential gear assembly to a power source providing character-space-controlled forward drive motion of the type-box support frame in printing a line of copy and its return to initiate printing of a succeeding line of copy.

3,422,946 KEYBOARD WITH BINARY SIGNAL GENERATING STRUCTURE

Rudolf Rekewitz, Munich, Germany, assignor to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany

Filed Aug. 23, 1967, Ser. No. 662,757
Claims priority, application Germany, Aug. 25, 1966, S 105,515

U.S. Cl. 197—16 1 Claim
Int. Cl. B41j 23/02, 5/08



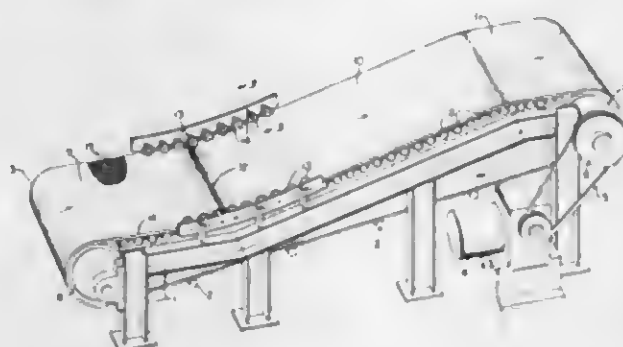
A keyboard of power-driven typewriters for the production of binary signal steps by means of selector slides

controllable through actuating keys and acting upon selector flaps by means of an accessory drive mechanism, whereby, after pivoting of the respective selector slide, responsive to actuation of the associated key, into the range of the drive mechanism, the latter acting on the selector slides in thrust direction is released, in which a single member operatively associated with an actuated key and triggered in response to travel of such key is operatively connected with such accessory drive for controlling the subsequent operating sequence in the production of such steps, and in which, according to further features of the invention, means are provided for locking a selected code selector slide in a selected position, whereby the accessory drive mechanism is released only after such locking action, and in which the selector flaps are provided with dead-center springs whereby they flip from a partially pivoted position into final actuated position independently of further movement of the associated selector slide and remain in the final position until reset.

3,422,947 CONVEYOR SYSTEM

Louis Seelbach Kraft, Stow, and Paul W. Freltag, Jr., Akron, Ohio, assignors to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Dec. 23, 1966, Ser. No. 604,254
U.S. Cl. 198—16 10 Claims
Int. Cl. B66b 9/12; B65g 15/42

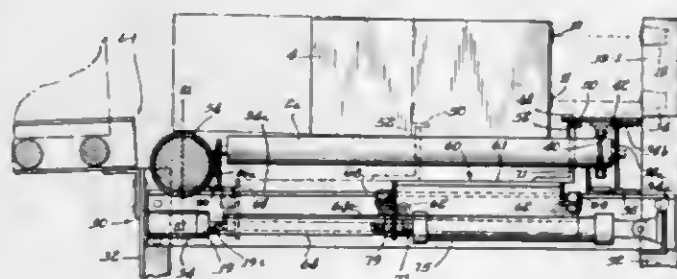


A conveyor system including a flexible endless conveyor belt having a concave curve within its contour and means associated with the edge portions of the belt to maintain the desired concave curvature while retaining the belt transversely flat as it travels through this contour.

3,422,948 APPARATUS FOR DISCHARGING ARTICLES FROM A MOVING CONVEYOR

Harold S. Burt, Wilmette, Ill., assignor to Conveyor Systems, Inc., Morton Grove, Ill., a corporation of Illinois

Filed Mar. 6, 1967, Ser. No. 620,983
U.S. Cl. 198—24 2 Claims
Int. Cl. B65g 47/82



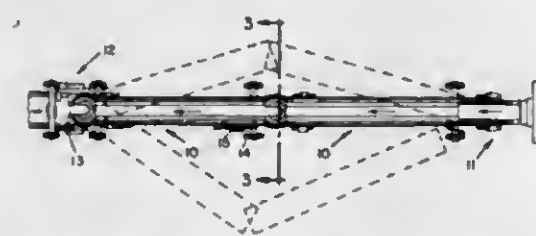
A conveyor comprising longitudinally spaced cylindrical rollers is preferably provided with a reciprocating carriage opposite each discharge station thereof, the carriage having arms extending upwardly between the rollers and carrying a straight elongated article pushing and orienting member normally positioned on the side of the rollers remote from the discharge station. When an article ap-

proaches its discharge station, the carriage quickly reciprocates back and forth once a short distance transversely of the conveyor to move the pushing member back and forth only part way across the conveyor, the pushing member engaging and pushing the article partially off the discharge station containing side of the conveyor where the projecting end thereof rides up onto a continuously rotating cylindrical friction roller which engages the article simultaneously at various points along the length and pulls the same quickly completely off the conveyor onto the discharge station.

3,422,949 MOBILE BRIDGE CONVEYOR STEERING SYSTEM

William F. Bankauf, East Paterson, and Robert M. Promln, Clifton, N.J., assignors to Hewlett-Packard Incorporated, Stamford, Conn.

Filed Feb. 28, 1967, Ser. No. 619,220
U.S. Cl. 198—92 10 Claims
Int. Cl. B65g 37/00; B62d 5/08



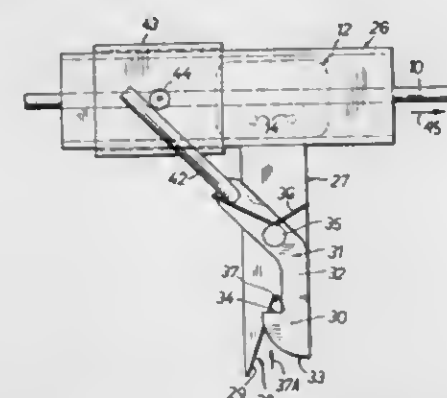
A steering system for a mobile bridge conveyor having sensing rollers which sense any misalignment of the bridge conveyor as it moves over an extensible conveyor and a hydraulic system which is actuated in response to the signal in order to turn a pair of steerable wheels and thereby correct for the misalignment.

3,422,950 CONVEYOR

Heinrich Bachmann, Kusnacht, Zurich, Switzerland, assignor to Terlinden & Co., Kusnacht, Zurich, Switzerland

Filed Aug. 29, 1966, Ser. No. 575,699
Claims priority, application Switzerland, Sept. 15, 1965, 12,788/65

U.S. Cl. 198—177 2 Claims
Int. Cl. B65g 17/20



An endless conveyor includes traction means defining a closed path, driving means for the traction means, slides anchored to the traction means at spaced intervals therealong, a hollow rail extending through a major portion of the closed path and having a longitudinal slot along a bottom wall, the traction means extending longitudinally through the rail and the slides being slidable within the rail, article carrying means each secured to a respective slide and extending through the slot, and at least one separating means disposed along the path and selectively cooperable with an article carrying means to remove a transported article from the latter during advance of the carrying means along the path.

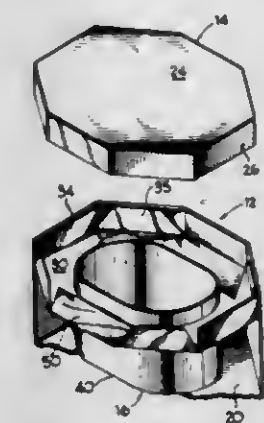
The slides and the article carrying means are formed of material having a low coefficient of friction, and preferably of synthetic plastic material with a dry lubricating filler, for example a polyamide synthetic plastic with a filler of nylon to which molybdenum disulphide has been added.

The article carrying means are arranged for ready cooperation with the separating means and, in one embodiment, comprise a scissors or tongs type holder including a pivoted arm swingable to open the article carrying means when the pivoted arm engages a separating means.

3,422,951 ONE-PIECE HAT BOX INSERT

William E. Turner and George S. Ragsdale, Chattanooga, Tenn., assignors to Container Corporation of America, Chicago, Ill., a corporation of Delaware

Filed Dec. 6, 1967, Ser. No. 688,551
U.S. Cl. 206—8 6 Claims
Int. Cl. B65d 85/18; A45c 11/02

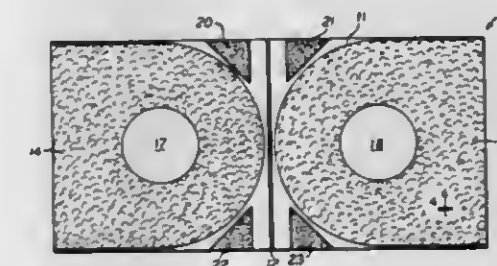


A one-piece paperboard insert for a hat box, comprising a horizontal main panel having a central opening; a pair of vertical spacer flaps hinged on opposed side edges of the main panel and disposed to lie against the walls of the box between the main panel and the top wall of the box; a tubular member disposed to extend vertically through said opening and comprising a pair of generally rectangular panels curved to fit the contour of said opening; and a pair of connecting flaps having inboard edges connected to respective panels and having outboard edges connected to corresponding side edges of said main panel.

3,422,952 PROTECTIVE RECORD JACKET

Stephen George, 247 Swinton Ave., Bronx, N.Y. 10465

Filed Sept. 20, 1967, Ser. No. 669,043
U.S. Cl. 206—62 4 Claims
Int. Cl. B65d 81/16; 85/30



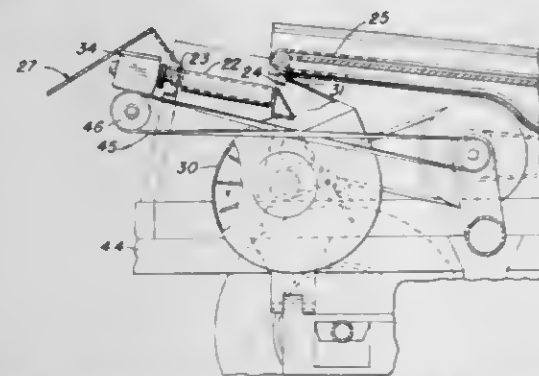
A record jacket for protectively and securely gripping a disc type phonograph record for storage in which the jacket is formed of the conventional square open-ended envelope type. In order to provide desired cushioning of the record within the jacket, the interior surface of the jacket is flocked, and in order to insure retention of the

record within the jacket, and prevent inadvertent slippage of the record from the jacket, the interior corners of the jacket are glued to restrict the interior opening of the jacket, thereby increasing the gripping action of the jacket with respect to the inner end of the record within the jacket.

3,422,953 REAR CROSS-CONVEYOR ASSEMBLY FOR HARVESTER

Lauren W. Gates, Rio Vista, Nicholas A. Holtz, Sacramento, and Fredrick L. Hill, Rio Vista, Calif., assignors to The Regents of the University of California, Berkeley, Calif.

Filed June 21, 1967, Ser. No. 647,756
U.S. Cl. 209—74 9 Claims
Int. Cl. B07b 3/08; A01g 19/00; B65g 15/62

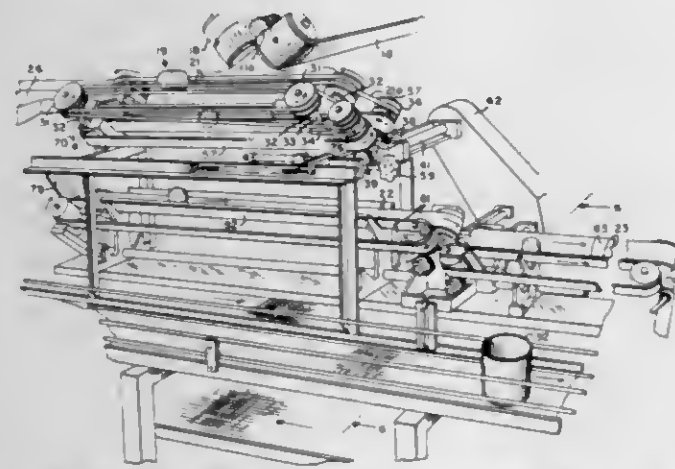


A rear cross-conveyor assembly for a harvester has a pair of forwardly extending bars engageable in sockets in the harvester frame as the sole support for said cross-conveyor assembly. A transmission supported centrally by said conveyor frame has pulley means engageable with a drive belt to provide the only other connection. A pair of inboard belt-supporting pulleys are supported on fixed axes adjacent the transmission means, and bearing means pivotally supported at each end of the conveyor frame have a rotatable idling shaft. The conveyor belts, each looped about one inboard pulley and one outboard pulley tend to swing the outboard pulley and its bearing means inwardly toward the inboard pulleys, and a spring cartridge between each bearing means and the frame tends to swing the bearing means outwardly to exert tension on the belt.

3,422,954 SORTING SYSTEM FOR FOOD ARTICLES

Lynn D. Crawford, San Jose, Calif., assignor of one-half to Genevieve I. Hanscom, Saratoga, Fla., and one-half to Genevieve I. Hanscom, Robert Magnuson, and Louis J. Duggan, as trustees of the estate of Roy M. Magnuson

Filed Feb. 11, 1966, Ser. No. 526,824
U.S. Cl. 209—102 7 Claims
Int. Cl. B07b 1/10



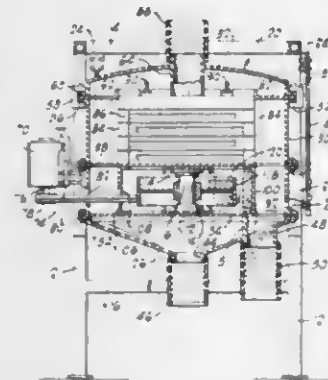
Sorting apparatus for sorting oversized articles such as meatball doubles from single meatballs for packing. The articles to be sized are dropped onto a trough-like

conveyor with a sizing slot at the bottom, the walls of the trough being formed of stretched O-ring belts which vibrate to aid the sorting action. Oversized articles are discharged by the sorting conveyor while articles of the proper size pass through the sorting slot onto a section conveyor from which they are counted into cans. A "no can" condition effects closing of the sorting belts automatically for rejection of all articles.

3,422,955 SUPERIMPOSED GYRATORY SIFTERS

Walton L. Mock and Willie Taylor, Oklahoma City, Okla., assignors to Smico, Inc., Oklahoma City, Okla., a corporation of Oklahoma

Filed Apr. 11, 1966, Ser. No. 541,647
U.S. Cl. 209—315 7 Claims
Int. Cl. B07b 1/28

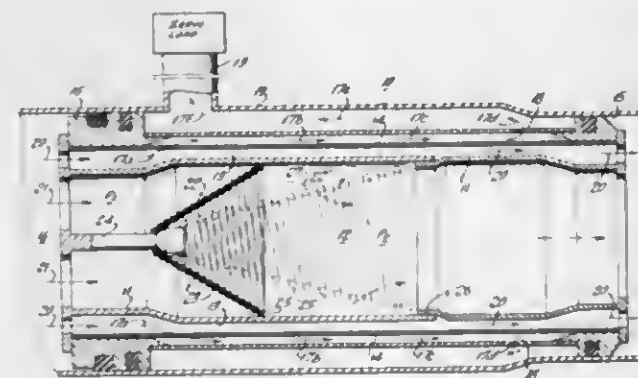


A sieve device which includes a plurality of superimposed sieves freely suspended on flexible cables and having a motor mounted on the side of the superimposed sieves. The motor is drivingly connected to an eccentric weight which has its vertical axis of rotation disposed in vertical alignment with the superimposed sieves so that the entire assembly is driven in a gyratory motion.

3,422,956 WASH FLOW

Edward H. Hadden, Granby, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Dec. 1, 1966, Ser. No. 598,323
U.S. Cl. 210—106 2 Claims
Int. Cl. B01d 35/16

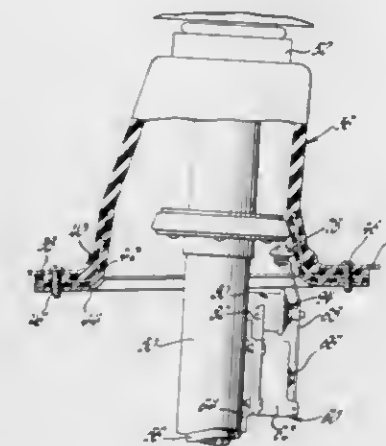


For a wash flow filter in which a cylindrically-shaped filter is disposed in one of a pair of concentrically mounted fluid flow channels. A conically-shaped helically-wound spring is mounted concentrically in the other channel and is normally in compression so that the coils abut each other and block off the flow therethrough. The pressure drop across the spring generates a force to expand the spring so that the spaces between adjacent coils permits flow to pass therethrough. This optimizes the velocity of the fluid passing in the other channel to assure continuous cleaning of the filter device in an effective manner.

3,422,957 UNBALANCED SENSING SWITCH ASSEMBLY FOR CENTRIFUGAL MACHINES

John R. Fosler, Jamestown, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed June 3, 1966, Ser. No. 555,178
U.S. Cl. 210—144 7 Claims
Int. Cl. B01d 35/14

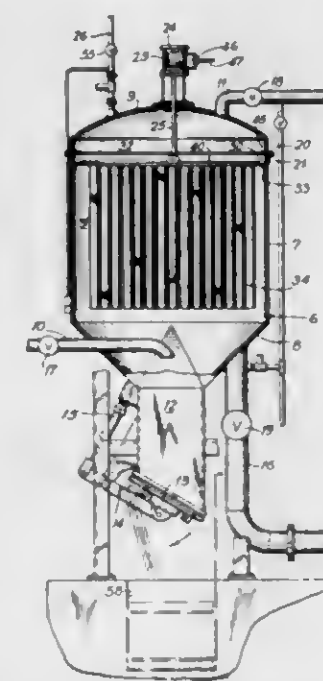


A vertical tub domestic clothes washer has an inverted cup-shaped resilient support hat which secures the spin tub to a lower bulkhead of a water container around the tub. A shaft housing depends from the hat outwardly of the container. The washer operation is in part controlled by a bump switch supported on the shaft housing below the hat. The hat protectively covers the switch assembly and constitutes a relatively restrained member against which the bump switch will hit when the machine vibrates due to unbalanced loadings in its tub.

3,422,958 PRECOAT FILTER

Marvin K. Newman, Southfield, Mich., assignor to Ajem Laboratories Inc., Livonia, Mich.

Filed Sept. 26, 1967, Ser. No. 670,738
U.S. Cl. 210—333 4 Claims
Int. Cl. B01d 25/00, 27/00, 29/00

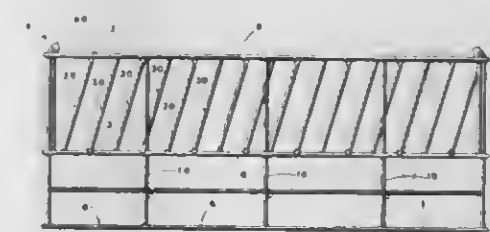


This disclosure is directed to an improved precoat filter of the type having a vessel with a septum plate dividing it into lower and upper chambers with filter tubes depending

from the septum plate into the lower chamber. The improvement resides in the construction of the filter tubes each of which has a rigid supporting member having perforations in its wall with grooves connecting adjacent perforations, a flexible covering having interlocking strands at right angles to each other, and an O-ring seal for holding the sleeve on the supporting member and sealing the joint between the tube and septum plate.

3,422,959 DISHRACK

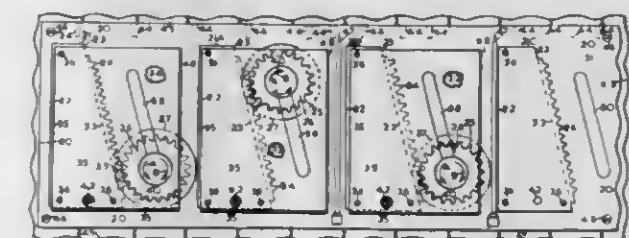
Nathan Sharaf, 125 Broadway, Boston, Mass. 02116
Filed Mar. 3, 1967, Ser. No. 620,414
U.S. Cl. 211—41 5 Claims
Int. Cl. A47g 19/08, 29/00; A47i 19/04



A stackable dishrack designed for use in storing, cleaning and dispensing dishes formed entirely of wire. Three rectangular elements parallel to and spaced from one another are secured in spaced relations by vertical struts to form a frame. Dish dividers are formed by two sets of transversely extending struts with the struts of one set parallel to one another and lying in a plane intersecting another plane in which the struts of the other set lie. The upper ends of the struts of each set are respectively secured to opposite sides of the upper, rectangular element and the lower ends of the struts of each frame are respectively secured to opposite sides of the intermediate rectangular element. The individual struts are inclined rearwardly.

3,422,960 GEAR AND RACK TOOL HOLDER

Fredrick James Ell, 1234 Argyle St., and Micheal Klisowsky, 3427 Dewdney Ave., both of Regina, Saskatchewan, Canada
Filed Oct. 10, 1966, Ser. No. 591,665
U.S. Cl. 211—60 1 Claim
Int. Cl. B25b 3/04; A47g 29/08; A44b 21/00



A gear and rack tool holder comprising a longitudinal board designed to be affixed to a wall, having a plurality of blocks being perpendicular on one of their ends and sloping on their other ends, and being spaced apart to provide room for circumferentially geared cylinders which mesh with two racks of cogs provided on the sloping ends of said blocks, whereby tools may be held between the cylinders and the adjacent perpendicular ends of the blocks.

3,422,961

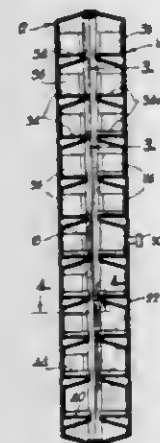
CABINET FOR CYLINDRICAL OBJECTS

Argyl D. Sponske, Overland Park, Kans., and Jean A. Mayhew and Violet M. Mayhew, Kansas City, Mo., assignors to S & M Company, Kansas City, Mo., a partnership

Filed Dec. 12, 1966, Ser. No. 600,979

U.S. Cl. 211—153
Int. Cl. A471 7/28

6 Claims



A cabinet for cylindrical objects such as film strip containers which cabinet is provided with a series of superimposed horizontally extending shelves each providing supports for each side of the objects to support the same in side by side relationship. The distance between surfaces of adjacent supports which contact the object are less than the diameter of the object and the upper surfaces of the supports are gently contoured and convex so that a force against an end object may roll the same up and over one of its supports and into engagement with the next adjacent object substantially below the top thereof. This rolls the next adjacent object up over its support and into similar engagement with the next successive object so that the objects are successively moved into engagement for shifting the objects along the shelf. In one form, the supports for a shelf are integrated into an elongated, undulating member and in the other form, the supports comprise an elongated series of spaced apart projecting rods.

3,422,962

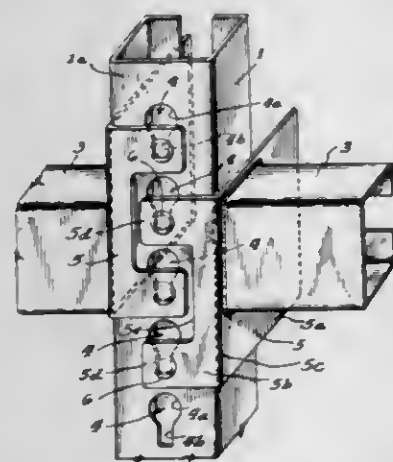
PALLET RACK

John J. Burns, Chicago Heights, and Everett A. Remus, Chicago, Ill., assignors to Interlake Steel Corporation, Chicago, Ill., a corporation of New York

Filed June 29, 1966, Ser. No. 561,492

U.S. Cl. 211—176
Int. Cl. A471 5/10

9 Claims



A connection assembly between a beam member and an upright. The upright has a single row of holes for receiving fastener means on the beam members. The fastener means are offset from the longitudinal centerlines of the beams so that the beams can be connected to the uprights along opposite sides of an upright while the beams remain in longitudinal alignment with each other.

SAFETY SUSPENSION FOR CAB OF STACKER CRANE

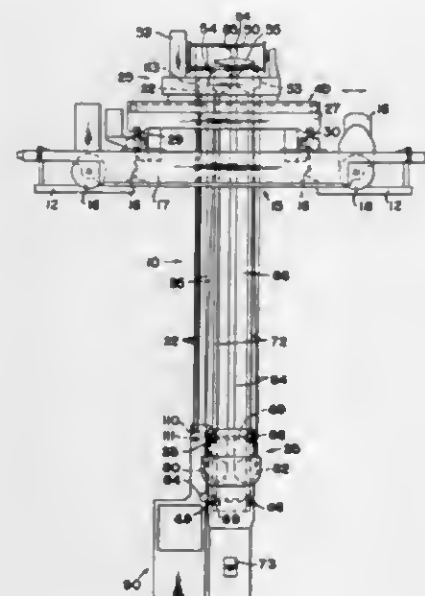
Roy F. Dehn, Wickliffe, Ohio, assignor to McNell Corporation, a corporation of Ohio

Filed May 22, 1967, Ser. No. 640,318

U.S. Cl. 212—128

Int. Cl. B66c 19/00, 17/00

5 Claims



A stacker crane including a load carriage and an operator's cab supported by separate hoist systems for vertical travel along a single mast, and safety structure for supporting the cab in the event of failure of its hoist system.

3,422,964

DETACHABLE AND LOCKABLE COUPLING BETWEEN THE DISTAL END OF AN AIR BRAKE HOSE AND THE SUPPORT CHAIN THEREFOR

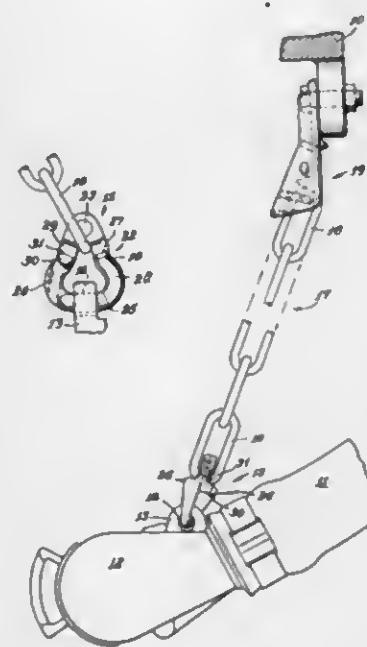
Rudolph E. Nadherny, Naperville, Ill., assignor to Illinois Railway Equipment Company, Chicago, Ill., a corporation of Illinois

Filed May 16, 1967, Ser. No. 638,894

U.S. Cl. 213—1

Int. Cl. B61g 7/00; A44b 13/00

4 Claims



The lower link of a chain supporting the distal end of a railway car air brake hose is detachably connected thereto by a lockable coupling.

3,422,965

MANIPULATOR APPARATUS

Wayne B. Lloyd, Catonsville, Baltimore, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 13, 1967, Ser. No. 615,536

U.S. Cl. 214—1

Int. Cl. B25j 3/04; B63b 3/13

2 Claims



A master-slave manipulator apparatus useful on undersea vehicles in which a master arm inside the hull is actuable by an operator to effect corresponding movement of an exterior slave arm, without requiring control feedback from the slave arm, comprising multiple-pivot slave and master arms with hydraulic rotary actuators on the slave arm joints, an open-loop control system including electro-hydraulic flow-control servo valve devices on the slave arm for controlling rate of supply of hydraulic fluid to the actuators respectively, and means for producing respective control signals for the servo valves on the slave arm according to: the angular velocity and acceleration between relatively movable parts of the master arm at each of its joints, the angular positions of such master arm parts with respect to a common reference, and the relationship between such conditions which affect gravity and inertia torque loads on the respective actuators of the slave arm.

3,422,966

METHOD OF FEEDING BLANKS TO MACHINE TOOLS AND DEVICE FOR REALIZATION OF THIS METHOD

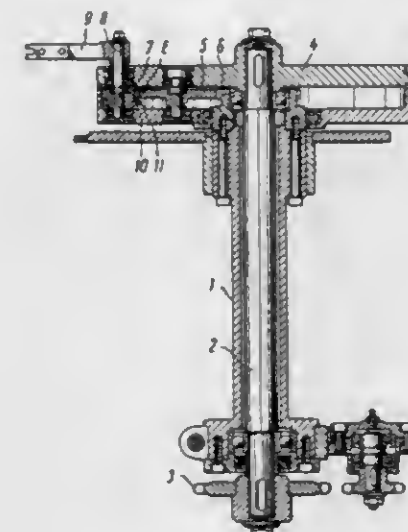
Alfred Ivanovich Jansons, Lanku ulitsa 7, kv. 3, Riga, U.S.S.R.

Filed Oct. 18, 1965, Ser. No. 497,174

U.S. Cl. 214—1

Int. Cl. B65g 29/00, 47/22

3 Claims



The feeding of blanks primarily shaped as solids of revolution from starting positions to working positions in machine tools in which the blanks are fed by feeding elements describing cycloids and with the starting and working positions of the tools are removed and unloaded respectively, being located at the reversal points of the cycloids.

3,422,967

AUTOMATIC MANIPULATOR AND POSITIONING SYSTEM

Peter A. Aron, Katonah, N.Y.

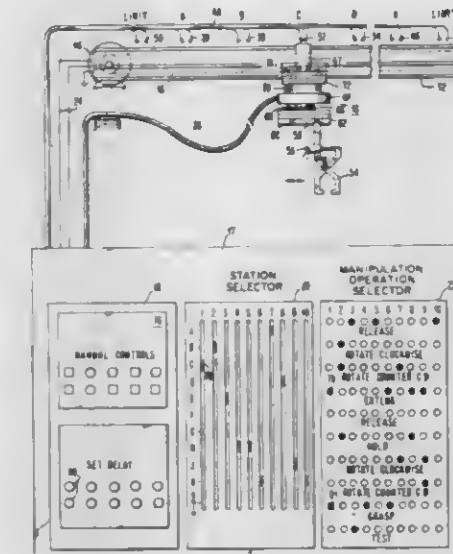
(22 E. Willow Tree Road, Spring Valley, N.Y. 10977)

Filed Oct. 24, 1965, Ser. No. 504,802

U.S. Cl. 214—1

Int. Cl. B25j 3/00; E04h 6/00; B23p 23/00

18 Claims



The system disclosed includes a manipulator 10 (FIG. 1) translationally movable along a track 12 to various selected stations A, B, C, where the presence of the manipulator is detected by switches such as switch 32. The system is operable in a series of steps, a station being selected for each step at the station selector 20. At each step one or more manipulations are performed as selected at the manipulation selector 22. After the performance of the selected manipulations, the system proceeds to the next step. The station detector switches 32 may be adjustably movable along the track 12 to provide infinite adjustment in individual station positions.

3,422,968

PILING MECHANISM

Donals Martin, Sheffield, England, assignor to Davy and United Engineering Company Limited, Sheffield, Yorkshire, England

Filed June 14, 1966, Ser. No. 557,873

Claims priority, application Great Britain, June 14, 1965, 24,995/65

U.S. Cl. 214—6

Int. Cl. B65g 60/00; B65h 29/66

8 Claims



A mechanism for piling elongate articles of the same section, such as metal angle sections, in a neat pile, includes a platform reciprocable between a position in which a plurality of the sections are positioned thereon in side-by-side relation and a position in which the sections are delivered, still in side-by-side relation onto a collecting table. The articles are removed from off of the platform by withdrawing the platform, but preventing withdrawal of the sections. By varying the speed of withdrawal of the platform between successive cycles alternate tiers of the sections piled on the table may be inverted to produce a neat pile of interlocking sections.

3,422,969

APPARATUS FOR ORIENTING CASE BLANKS

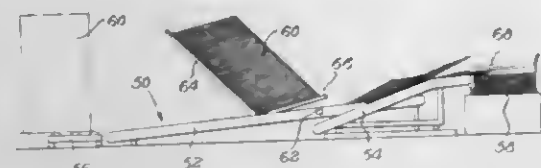
Joseph A. Miller, Englewood, and Frank A. Kruglinski, North Bergen, N.J., assignors to Georcel Corrugated Machinery Co., Inc., Palisades Park, N.J., a corporation of New Jersey

Filed Aug. 18, 1966, Ser. No. 573,336

U.S. Cl. 214—6

Int. Cl. B65g 65/03, 59/06

9 Claims



1. Apparatus for orienting case blanks comprising:

a frame;

a plurality of laterally spaced, longitudinal, moving means mounted in the frame to form a longitudinal conveyor having an input end and an output end;

means for moving the plurality of laterally spaced, longitudinal, moving means;

means for feeding a vertical stack of case blanks to the longitudinal conveyor at the input end;

a first plurality of laterally spaced, pivotable slats mounted in the frame between the laterally spaced, longitudinal, moving means, the lengths of at least some of the first plurality of pivotable slats being greater than the height of the vertical stack of case blanks;

a second plurality of laterally spaced, pivotable slats mounted in the frame between the laterally spaced, longitudinal, moving means, the lengths of at least some of the second plurality of pivotable slats being great enough to support the vertical stack of case blanks;

first means for pivoting the first plurality of pivotable slats and second means for pivoting the second plurality of pivotable slats;

both the pluralities of pivotable slats being pivoted with respect to a lateral line in a first lateral plane across the frame;

means for sensing the position of the vertical stack of case blanks with respect to the first lateral plane;

first means for actuating the first pivoting means and second means for actuating the second pivoting means

actuated by the sensing means when one vertical end of the vertical stack of case blanks is at a predetermined position with respect to the first lateral plane across the frame such that the vertical stack of case blanks is moved off the laterally spaced, moving means by the first and second plurality of laterally spaced pivotable slats and is moved to an attitude in which the case blanks are fed back onto the conveyor one by one so that they are shingled in the desired faced orientation;

means for collecting the oriented case blanks at the output end; the first plurality of pivotable slats being adjacent the input end of the conveyor and the second plurality of pivotable slats being adjacent the output end of the conveyor and both pluralities of pivotable slats being pivoted such that the faced orientation of the case blanks collected at the output end of the conveyor is the same as the faced orientation of the case blanks in the vertical stack of case blanks delivered to the input end of the conveyor; the stack being lifted and tilted towards the input end of the conveyor by the second plurality of slats, the first plurality of slats lowering the side of the stack onto the conveyor.

3,422,970

LOADING MACHINE

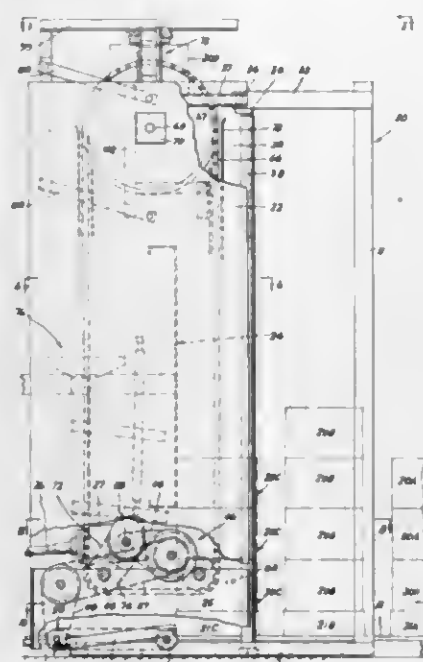
Hans Arthur Faerber, Castle Cove, New South Wales, Australia, assignor to Nid Pty. Limited, Alexandria, New South Wales, Australia

Filed May 6, 1966, Ser. No. 548,132

U.S. Cl. 214—8.5

Int. Cl. B65g 59/02, 25/08

14 Claims



This invention relates to an apparatus that unstacks a plurality of items that are arranged in a vertical stack by removing several of the items, constituting a smaller stack, from the top of the vertical stack and transporting the smaller stack to a discharge point wherein individual items are removed from the bottom of the smaller stack and placed on carrier to be transported to a point of use. Means are provided to move new vertical stacks into the apparatus as they are needed.

3,422,971

STORAGE ARRANGEMENTS

Robert Andrew Wright, Canterbury, England, assignor to The General Electric Company Limited, London, England, a British company

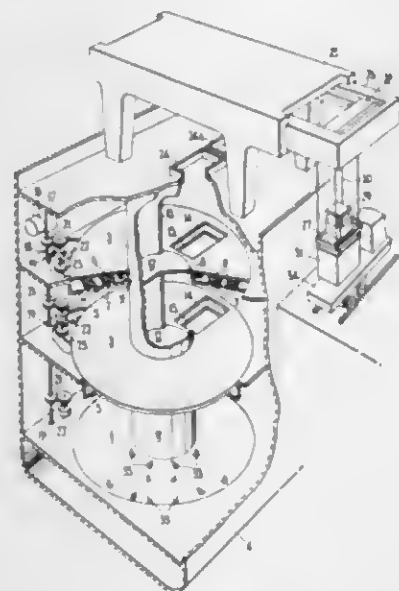
Filed Mar. 7, 1967, Ser. No. 621,244

Claims priority, application Great Britain, Mar. 8, 1966, 10,136/66

U.S. Cl. 214—15

Int. Cl. B63b 27/00

6 Claims



A storage arrangement, especially for cargo-carrying ships, having a plurality of coaxial and independently rotatable storage platforms situated one above the other, each except the lowest having an opening which can be

aligned vertically with a loading position, the arrangement enabling any selected platform to be loaded or unloaded from above without disturbing articles stored on the other platforms.

3,422,972

SILAGE DISTRIBUTOR AND SUPPORT THEREFOR

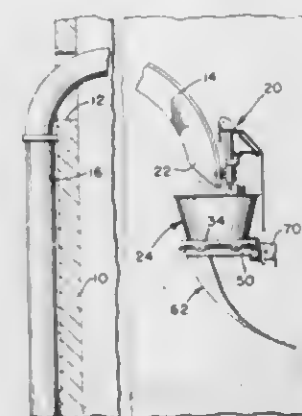
John J. Shankland, R.D. 1 Box 535, Doylestown, Ohio 44230

Filed Dec. 19, 1966, Ser. No. 602,719

U.S. Cl. 214—17

Int. Cl. B65g 65/30, 11/00; A01f 25/16

8 Claims



A distributor having a funnel with a stationary ring attached to the lower end thereof, and a distributor ring mounted for rotation relative to the stationary ring, said distributor ring having a curved blade attached thereto for rotation therewith.

3,422,973

SUGARCANE PLANTING AID

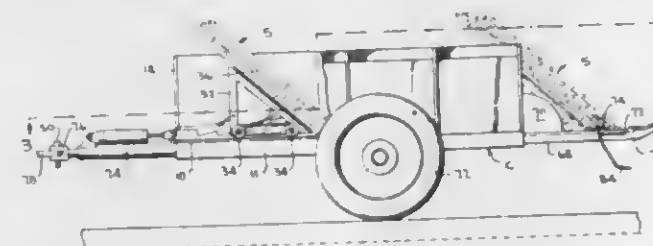
Sidney E. Longman, R.F.D. 159B, Franklin, La. 70538

Filed Oct. 11, 1966, Ser. No. 585,940

U.S. Cl. 214—83.1

Int. Cl. B60p 1/00; A01b 75/00

9 Claims



An improved sugarcane planting aid which increases the speed and efficiency of planting sugarcane. The sugarcane planting aid generally includes transverse partition means in a bin having side wall and front and rear ends. The partition means is movable longitudinally so as to advance the cane outwardly through the open rear end. A platform extends rearwardly from the bin and laterally in opposite directions beyond the side wall of the bin and cane confining means are secured to each side of the bin and the platform. Seat means are included on the platform for the workers who remove the cane from the apparatus and deposit it in the trench where it will be planted.

3,422,974

FULLY MOBILE SIT-ON TOY

William McMinn Brubaker, R.D. 2, Brockway, Pa. 15824

Filed Jan. 20, 1967, Ser. No. 610,582

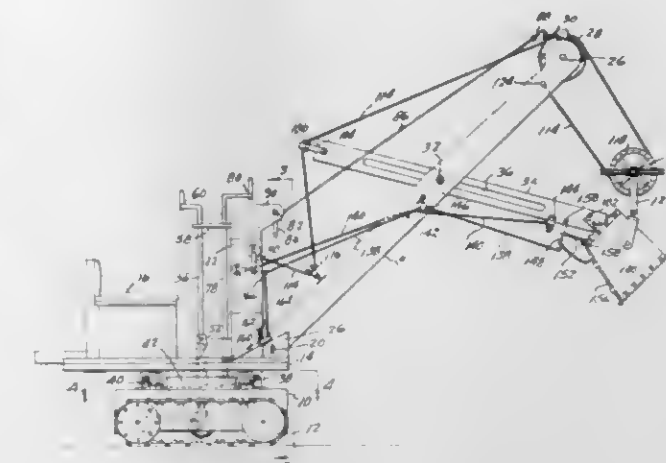
U.S. Cl. 214—135

Int. Cl. A63h 17/12; B62m 1/14; E02f 3/02

8 Claims

A toy shovel having a mobile platform; an operating platform pivoted to said mobile platform; a seat on said

operating platform; a boom pivoted to said operating platform; a scoop arm pivotally and slidably mounted on



the boom, and manually operable means on the operating platform, and within arm length of the seat, for performing all functions of the shovel.

3,422,975

VEHICLE GRAPPLE ATTACHMENT

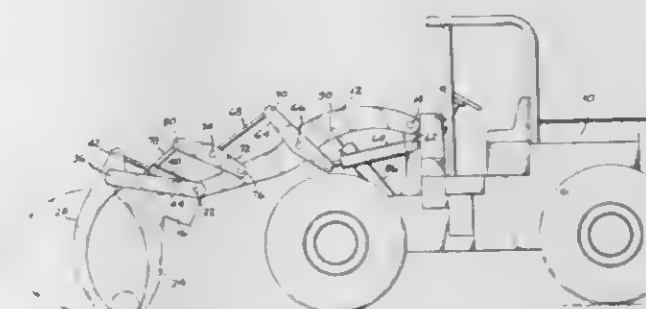
Oris L. Crisp, Box 637, Heppner, Oreg. 97836

Filed Dec. 12, 1966, Ser. No. 601,072

U.S. Cl. 214—147

Int. Cl. B66c 3/04, 3/16, 1/42

3 Claims



1. A grapple attachment for a vehicle provided with an elongated arm extension, the attachment comprising:

(a) a pair of vertical jaw support members arranged in spaced parallel relation,

(b) first pivot means pivotally attaching the lower ends of the jaw support members to the outer end of the arm extension,

(c) a pair of concavely arcuate, elongated lower jaws mounted in fixed parallel relation, one on each of the jaw support members,

(d) a transverse brace member interconnecting the forward ends of the pair of lower jaws,

(e) a pair of concavely arcuate, elongated upper jaws arranged in parallel operative relation to the lower jaws,

(f) a transverse brace member interconnecting the pair of upper jaws rearwardly of the forward ends of the latter,

(g) second pivot means adjacent the inner ends of the upper jaws pivotally attaching the upper jaws to their respective jaw support members,

(h) first reciprocating drive means mounted on the outer end of the arm and connected to the inner ends of the upper jaws for oscillating the same between open and closed positions, and

(i) second reciprocating drive means mounted on the

arm and connected to the upper ends of the jaw support members for oscillating the same, and hence the the jaws, between raised and lowered positions.

3,422,976

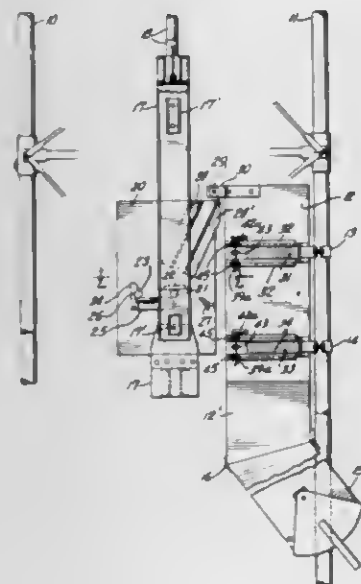
MATERIAL HANDLING APPARATUS

Fritz J. Nesslinger, College Point, and Arthur C. Borgman, Franklin Square, N.Y., assignors to Harsco Corporation, Wormleysburg, Pa., a corporation of Delaware
Filed Mar. 7, 1967, Ser. No. 621,310

U.S. Cl. 214-622

2 Claims

Int. Cl. B66f 9/06, 9/16



A skeleton type material hoisting tower includes a hopper and chute assembly adjustable to different operative positions therein. A cable supported bucket is operatively mounted in the tower for carrying material to and dumping it into the hopper. Automatic dumping is effected by operative engagement of a track or guide on the bucket with roller means on the hopper. To shift the hopper vertically from one operative position to another, it is releasably coupled to the bucket. While the hopper is in mobile relation to the tower and coupled to the bucket, said hopper is moved to a desired new position by raising or lowering the bucket, securing the hopper in the desired operative position, and releasing the coupling between bucket and hopper.

3,422,977

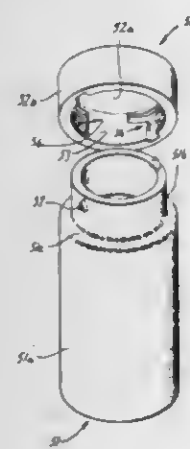
SAFETY DEVICE AND ASSEMBLY USING SAME

Howard G. Shaw, 24 Walnut Ave., Ross, Calif. 94957
Filed Mar. 17, 1967, Ser. No. 624,012

U.S. Cl. 215-9

20 Claims

Int. Cl. B65d 55/12



Safety device and assembly using same having female

and male parts with a maze to prevent release by small children or thoughtless release by adults.

3,422,978

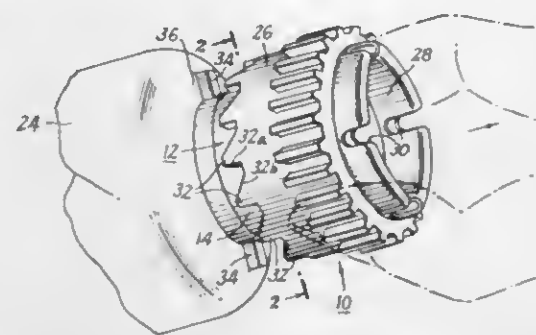
SELF-LOCKING BOTTLE CAP

Edward C. Quackenbush, Woodbridge, Conn., assignor to The Whitney Blake Company, New Haven, Conn.
Filed July 7, 1967, Ser. No. 651,918

U.S. Cl. 215-9

10 Claims

Int. Cl. B65d 55/02



The disclosed self-locking closure includes a cap threadably engageable about the mouth of a bottle. A sleeve surrounds the cap and is connected thereto by a resilient member accommodating relative axial movement therebetween. Ratchet teeth formed on the bottom edge of the sleeve engage one or more fixed pawls on the bottle as the sleeve is rotated to thread the cap on the bottle mouth. Rotation of the cap by turning the sleeve in the direction of removal is inhibited unless the sleeve is pulled away from the bottle to disengage the ratchet teeth and pawls.

3,422,979

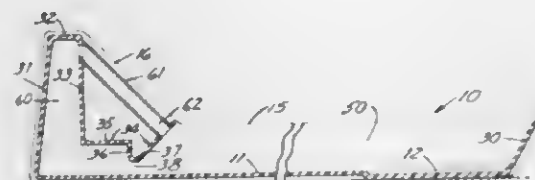
TRAY FOR LIQUIDS

Ronald A. Carlson, Lake Elmo Village, and Thomas M. Gerharter, Minneapolis, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Apr. 17, 1967, Ser. No. 631,534

U.S. Cl. 220-1

3 Claims

Int. Cl. B65d 1/36



A combination storage and processing tray for volatile or oxidizable liquids, for example, for processing photographic materials, which permits facile dispensing of the liquid from the storage area to the work area merely by laying the tray into a horizontal work position from a generally upright storage position. The liquid is returned to the storage area from the work area by raising the tray from the horizontal work position to a generally upright storage position. The configuration of the storage area restricts the surface area of the volatile or oxidizable liquid which is exposed to the atmosphere during storage.

3,422,980

SELF-SEALING TEST PLUG

William D. Richardson, Palos Heights, Ill., assignor to Tuthill Pump Company, a corporation of Illinois
Filed Mar. 21, 1967, Ser. No. 624,808

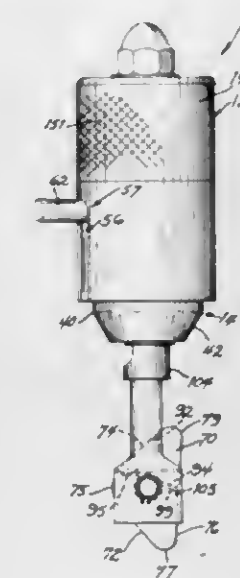
U.S. Cl. 220-25

8 Claims

Int. Cl. B65d 45/00

This invention relates to a self sealing test plug, such devices being employed to temporarily seal an open aper-

ture in a container being tested while a medium under pressure is introduced into the container for testing purposes. The test plug is of the self sealing type including a spring biased piston or plunger carrying a seal that engages the outer periphery of the aperture and a cylinder in which the piston operates, which cylinder carries a stem that is to project through the container aperture and in turn carries a locking device for cooperation with the aperture inner periphery for biasing the seal into sealing



relation with the aperture under the biasing action of the spring that is interposed between the piston and the cylinder. The locking device of the invention is in the form of a triangular pawl that retracts for insertion through the aperture and is extended by a special spring biased bushing received about the stem that extends through the seal and is biased to a position for turning the pawl to its extended position, when the cylinder is operated to permit the seal biasing spring to set the seal against the aperture.

3,422,981

SECONDARY SEAL

James H. McBrien and Gerald T. Wright, Houston, Tex., assignors to Helmerich & Payne, Inc., Houston, Tex., a corporation of Delaware
Filed Apr. 18, 1967, Ser. No. 631,638

U.S. 220-26

4 Claims

Int. Cl. B65d 87/20



A floating tank roof having a secondary seal engaging the wall of the tank and supported on the primary seal means through an adapter which is fastened to the primary seal means, and which has an enlarged portion fit-

ting within an enlarged portion of a slot in the secondary seal, and a removable filler strip for urging the slot into close engagement with the adapter.

3,422,982

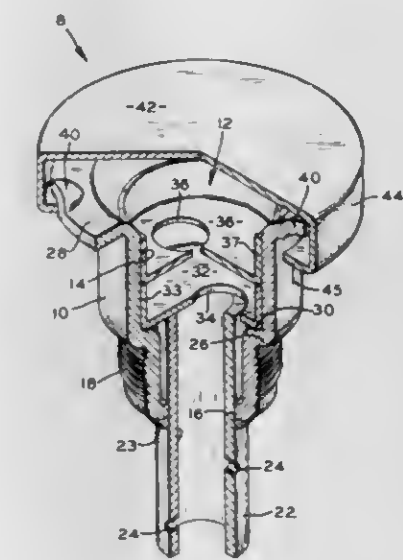
BREATHER FOR A GEAR HOUSING

Francis John TerWoerds and Gerald Lee Myers, Toledo, Ohio, assignors to Dana Corporation, Toledo, Ohio, a corporation of Virginia
Filed Apr. 17, 1967, Ser. No. 631,498

U.S. Cl. 220-44

2 Claims

Int. Cl. B65d 51/16



A breathing apparatus for a gear housing serving to expel air from the housing and having a first portion thereof inside of the housing and a second portion outside of the housing; the portions having a continuous bore extending therethrough. This breathing apparatus has a number of spaced apertures leading from the bore of the first portion to the periphery thereof; these apertures allowing air to flow into the bore therethrough to break oil films tending to climb upward through the bore. The bore also has a plurality of apertured plates disposed vertically above the apertures in the first portion which function as a secondary means to break up oil bubbles tending to move up through the bore with escaping air.

3,422,983

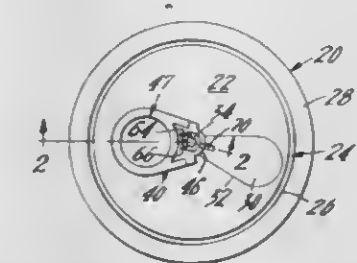
TAB-OPENING CAN

John Wilson Rouse, Ramsey, N.J., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Mar. 16, 1967, Ser. No. 623,710

U.S. Cl. 220-54

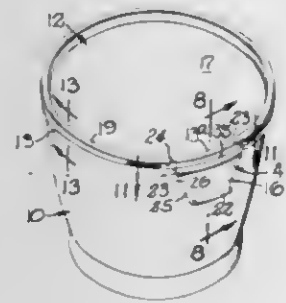
9 Claims

Int. Cl. B65d 17/20



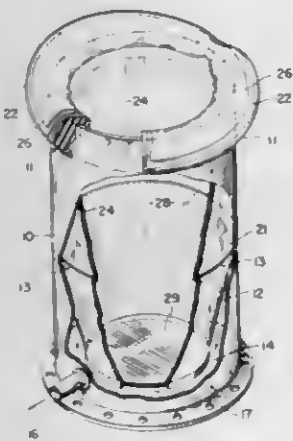
In an easy-opening can of the type wherein an opening tab is secured to a removable section defined by a principal score line, one or more auxiliary scores are impressed in the can near the point where the tear in the principal score is to be initiated to break away the removable section, the auxiliary scores functioning to reduce the force necessary to initiate the tear.

3,422,984
CONTAINER WITH LIFT TAB COVER RELEASE
 John A. Foster, Rockford, Ill., assignor to J. L. Clark Manufacturing Co., Rockford, Ill., a corporation of Illinois
 Continuation-in-part of applications Ser. No. 570,217, Aug. 4, 1966, and Ser. No. 613,778, Feb. 3, 1967.
 This application Jan. 16, 1968, Ser. No. 703,835
 U.S. Cl. 220—59 32 Claims
 Int. Cl. B65d 17/20



A sealed container comprising a cup-like body closed by a sheet metal cover having a depending skirt hooked around and beneath a lip bead or curl on the body and releasable from the bead by outward and upward swinging of a tab integral with and depending from the skirt between spaced upright score lines. A novel construction of the tab insures upward tearing of the skirt and provides for easy release and removal of the cover by continued upward lifting of the tab.

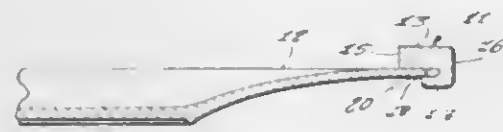
3,422,985
WASTE COLLECTION ASSEMBLY
 Dixie L. Rinehart, Dover, Del., assignor to North American Rockwell Corporation, a corporation of Delaware
 Filed Apr. 13, 1965, Ser. No. 447,807
 U.S. Cl. 220—63 12 Claims
 Int. Cl. B64d 11/02; A47k 11/02; B65d 25/16



A cylindrical cannister having a screen separating the interior into two chambers and having a suction connection on a closed one of the chambers is provided. A double wall plastic bag is inserted in the cannister so as to line the inside thereof and be held against the screen by suction. The bag has an impervious double wall portion nearer its open end and a porous closed end having sufficient porosity to pass gases and retain liquids so that a continuous gas flow passes over wastes therein and through the porous portion of the bag. After wastes are deposited in the bag in the cannister, the inner double wall thereof is lifted and the outer double wall remains against the cannister due to the suction for enveloping

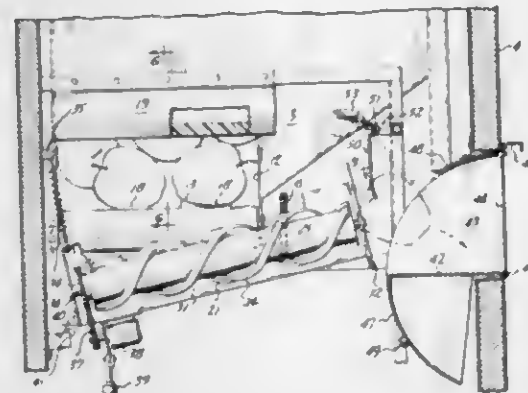
the porous portion of the bag. Wastes are thereby completely enclosed in an impervious bag without contamination of the surroundings.

3,422,986
DISH LIP PLATE ATTACHMENT
 Orie H. Tilseth, 5045 Vincent Ave. S., Minneapolis, Minn. 55410
 Filed Mar. 20, 1967, Ser. No. 624,372
 U.S. Cl. 220—85 1 Claim
 Int. Cl. B65d 25/20; A47g 19/02



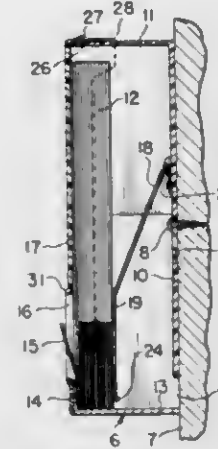
A device, attachable to a rim of a dish for the purpose of forming an abutment against which a fork may be pushed so to scoop up food in a dish, the device including a groove for receiving the rim of the plate and having an upstanding wall serving as the abutment.

3,422,987
BULK STORAGE FRUIT-VENDING MACHINE
 Jasper R. Crabb, Yakima, Wash. 98902, assignor to Pomona Service & Supply Co., Inc., Yakima, Wash., a corporation of Washington
 Filed Apr. 5, 1967, Ser. No. 628,614
 U.S. Cl. 221—13 11 Claims
 Int. Cl. G07f 11/44



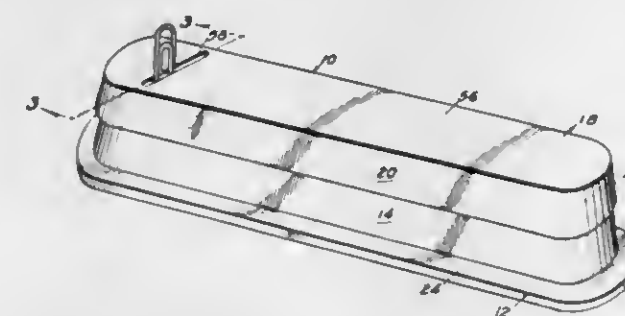
Cooled air is circulated through the bulk storage compartment to maintain the fruit at a desired cold storage temperature. From the bottom of such compartment a layer of fruit is removed by a belt forming the bottom to the compartment. Such conveyor moves units of fruit through a passage, which is yieldingly restricted in height to provide controlled passage of fruit through it onto a singling screw conveyor composed of two rotative helices rotated side by side and inclined upwardly to a dispensing device. Such dispensing device includes a gate past which individual units of fruit move into a dispensing pocket formed by a tilting gate and barrier which move simultaneously so that, as the gate is opened to afford access to the dispensing pocket, the barrier will move into a position blocking access by the customer to the interior of the machine beyond the dispensing pocket. One end of the screw conveyor suspended from a spring moves in response to fruit being supplied to or shifted along the conveyor to actuate a belt-conveyor-controlling switch. The screw conveyor drive is energized by coin-operated mechanism and is de-energized by a mercury switch mounted on an additional barrier swung by a fruit unit moving from the conveyor to the dispensing pocket.

3,422,988
BAG DISPENSER WITH LOWER FRONT RETAINING WALL
 Peter J. LaFranca, 719 Cunningham St., Rockford, Ill. 61102
 Filed July 13, 1967, Ser. No. 653,219
 U.S. Cl. 221—58 1 Claim
 Int. Cl. B65h 1/12



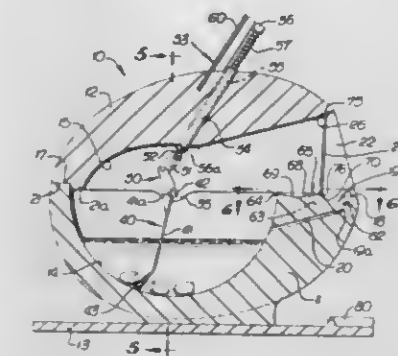
This dispenser is for bags to receive sanitary napkins. It comprises a vertical rectangular open-front case on the lower end of the front of which is pivoted in bayonet slots a vertical cover closing the entire open front but having a rectangular opening in its lower portion near the lower end, so that the folded bottom portion of the foremost bag of a vertical stack projects through the opening enough for easy removal of one bag at a time, the bags being urged forwardly by spring follower means in the back of the case against the cover and a low front wall on the case. The bayonet slots in the lower end of the cover permit swinging the cover down to a horizontal position and locking it in that position while bags are being stacked on it in abutment with the low front wall on the case. Then, as the cover with the stack of bags on it is swung upwardly and slid outwardly on its slots, the folded lower ends of the bags move clear of the low front wall and drop behind it as they deflect the follower springs inwardly and the cover is lowered into place, the cover being finally latched in closed position by a detent projection on the top of the case entering a recess in a top flange on the cover.

3,422,989
PAPER CLIP DISPENSER
 Sam L. Long, Jr., 1819 Peachtree St. NE., Atlanta, Ga. 30309
 Filed Mar. 30, 1967, Ser. No. 627,223
 U.S. Cl. 221—186 4 Claims
 Int. Cl. B65h 3/24



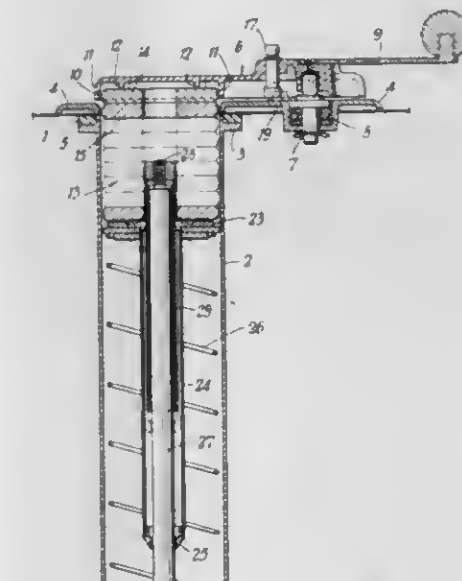
Apparatus for dispensing paper clips comprising a paper clip receiving tray resiliently mounted on a base and a camming finger disposed below the receiving tray and rigidly mounted to the base so that when the receiving tray is driven downwardly, the camming finger strikes one paper clip in the tray and pivots that clip from a horizontal to a vertical position.

3,422,990
DISPENSING APPARATUS DELIVERING ARTICLES TO RAISED STATIONARY ARTICLE SUPPORT
 Burl T. Wood, Lindsay, Calif., assignor to Consolidated Olive Growers, Lindsay, Calif., a corporation of California
 Filed Nov. 17, 1967, Ser. No. 683,890
 U.S. Cl. 221—192 9 Claims
 Int. Cl. G07f 11/44



An apparatus for dispensing food articles, such as olives, which are immersed in liquid in a receptacle. A scoop member is actuated from outside the receptacle to move through the food articles and deposit an individual article upon a shelf whereupon the article may be removed therefrom by a consumer. Means are provided to prevent liquid in the receptacle from splashing upon the consumer when the scoop member is actuated too rapidly, and for causing liquid in a hollow food article to drain therefrom when the article is deposited upon the shelf.

3,422,991
PELLET DISPENSING APPARATUS
 Ian Campbell MacDougall, Bridge-of-Allan, and John Logan Taylor, Bainsford, Falkirk, Scotland, assignor to Allied Ironfounders Limited, London, England, a British company
 Filed Apr. 10, 1967, Ser. No. 629,804
 Claims priority, application Great Britain, Apr. 14, 1966, 16,363/66
 U.S. Cl. 221—232 3 Claims
 Int. Cl. B65h 5/00, 3/00; B65g 59/00



Dispensing apparatus for heat accumulative pellets comprising a hollow column which receives a stack of pellets urged to the top of the column by a spring and a pivoted ejector head for dispensing pellets from the top of the stack in succession, the ejector head having a recess on its underside and an opening through which the uppermost pellet is ejected on horizontal movement of the head from one stop position to another.

3,422,992

DISPENSING CONTAINER

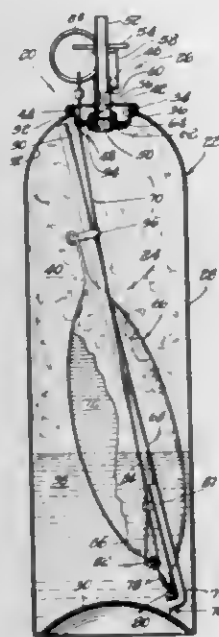
William R. Brooks, 365 Alexander, Elmhurst, Ill. 60126, and Irving C. Heinzel, 1565 Webster Lane, Des Plaines, Ill. 60018

Filed Dec. 14, 1966, Ser. No. 601,528

U.S. Cl. 222-80

Int. Cl. B67b 7/24; B65d 83/14

3 Claims



An isolating container device in which a rupturable vessel is attached to a rigid support and to a pull member, the support serving to hold the vessel against a rupturing force applied through the pull member.

3,422,993

FOAM DISPENSING DEVICE AND PACKAGE

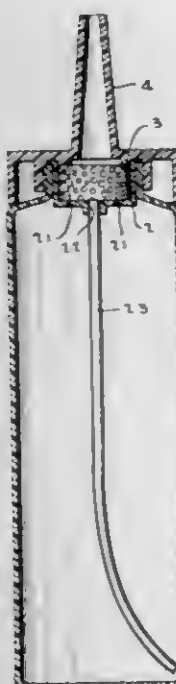
George L. Boehm and Stephen R. Horvath, Jr., Racine, Wis., assignors to S. C. Johnson & Son, Inc., Racine, Wis.

Continuation of application Ser. No. 453,256, May 5, 1965. This application July 26, 1967, Ser. No. 656,293

U.S. Cl. 222-190

Int. Cl. B65d 37/00

3 Claims



A package for dispensing fluid contained therein as a foam is described. The package comprises an outer deformable housing, rigid container within the deformable

housing and a cellular material within the rigid container. The elements are constructed and arranged in order that a fluid being dispensed from the deformable housing and air are required to simultaneously pass into the cellular element where they are admixed prior to being dispensed as a foam.

3,422,994

ICE DISPENSER HAVING STAGES WITH DIFFERENT FEED RATES

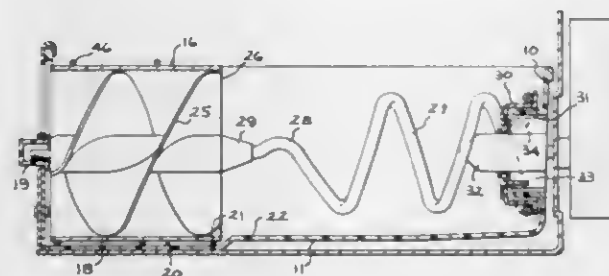
Robert J. Alvarez, Louisville, Ky., assignor to General Electric Company, a corporation of New York

Filed Sept. 18, 1967, Ser. No. 668,364

U.S. Cl. 222-240

Int. Cl. G01f 11/20

10 Claims



An ice piece dispenser comprising a storage receptacle having a dispensing outlet in the front wall thereof and rotatable dispensing means including a feed section for metering ice pieces to the outlet and a conveyor section for both conveying ice pieces to the feed section and agitating and separating ice pieces stored in the receptacle.

3,422,995

PORTIONING AND DISPENSING DEVICE INCLUDING ADJUSTMENT MEANS TO VARY THE VOLUME OF THE PROPORTIONS

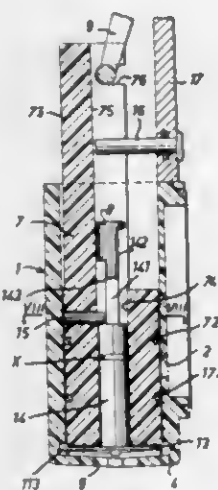
Poerio Carpiolani, Bologna, Italy, assignor to APAW S.A., Fribourg, Switzerland, a joint-stock corporation of Switzerland

Filed Nov. 13, 1967, Ser. No. 682,303

U.S. Cl. 222-309

Int. Cl. G01f 11/06, 11/16

4 Claims



Multi-piston measuring and dispensing cock of the kind described in the U.S. Patent No. 3,149,756, wherein the abutment means limiting the return movement of the portioning piston with respect to the delivery piston are in the form of a stepped abutment member connected to the upper end of the rod of the portioning piston, and cooperates with a fixed abutment pin carried by the delivery piston.

3,422,996

SAFETY ACTUATOR CAP FOR HAND-HELD DISPENSERS

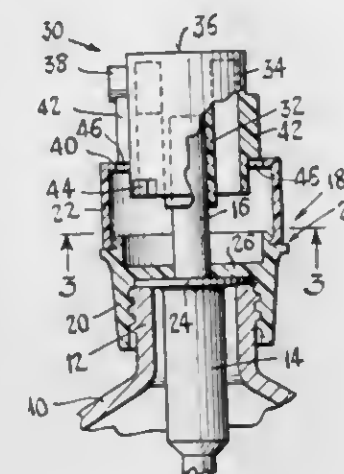
Elmer Lipman, Bridgeport, Conn., assignor to Valve Corporation of America, Bridgeport, Conn., a corporation of Delaware

Filed Nov. 25, 1966, Ser. No. 597,050

U.S. Cl. 222-402.11

Int. Cl. B65d 83/14

5 Claims



The herein disclosed actuator cap is intended for use on hand-held dispensers such as pump-type or pressurized aerosol cans, and comprises a depress button which is vertically movable in a stationary cap attachable to the container of the dispenser. The button is also turnable between limits, and is blocked against downward movement for all of its rotative positions except the position defined by one of said limits.

3,422,997

DISPENSING CAP

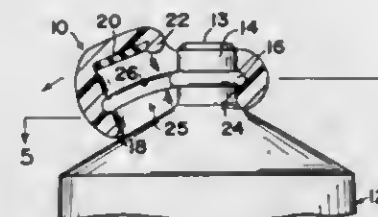
John W. Anderson, 815 Briarcliff Road, Jackson, Mich. 49203

Filed Oct. 4, 1967, Ser. No. 672,868

U.S. Cl. 222-542

Int. Cl. B67d 3/00, 5/06; B05b 1/30

7 Claims



A dispensing cap so constructed as to move along an arc relative to the longitudinal axis of the spout of the container with which the cap is used. The cap is provided with a closing recess and an outlet aperture transversely adjacent such recess. Opening and closing of the container is accomplished by lateral arcuate movement of the cap relative to the spout, which places in register with the spout either the outlet aperture or closing recess. The cap is anchored to the spout by means of a track located interiorly of the cap body and in which rides an annular rib on the container spout.

3,422,998

POUR SPOUT ADAPTER

Leonard J. Murray, 11634 Ashton, Detroit, Mich. 48228

Filed Mar. 11, 1968, Ser. No. 712,261

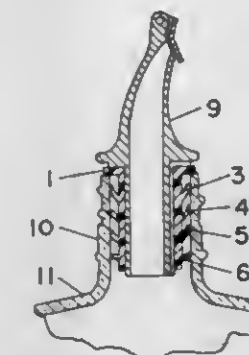
U.S. Cl. 222-567

Int. Cl. B65d 25/48

8 Claims

A pour spout adapter for containers is described. The adapter has a cylindrical body into which a pour spout can be inserted. The cylindrical body has a lip or flange at one end and a series of flexible circumferential ribs of gradually decreasing diameter spaced below the lip.

The lip acts as a gasket and stop; the ribs make the adapter easy to insert into a container—they also serve



to seal the container and allow the adapter to fit the container openings of varying size.

The combination of the adapter and a pour spout is also described.

3,422,999

MACHINE FOR BUCKLE AND TAPE ASSEMBLIES

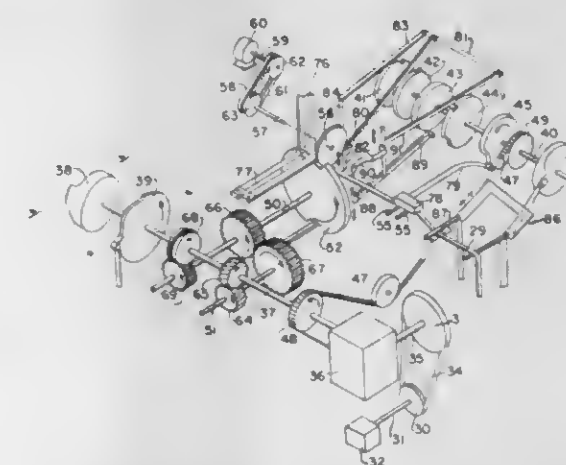
Fritz Fischer, New York, N.Y., assignor to Richard Miller, Yonkers, N.Y.

Filed May 14, 1964, Ser. No. 367,329

U.S. Cl. 223-49

Int. Cl. A41h 37/00

6 Claims



1. The combination, in a machine for attaching buckles to tape including a buckle loading station and a tape and buckle assembly unit discharge station, of a buckle holder at each of said stations, means for attaching the forward end of a continuous tape to a buckle in the holder at said loading station, means for simultaneously moving said buckle holders and the buckles therein through a circular path from one station to the other at regular time intervals, the attached buckle and succeeding ones being the means for feeding successive lengths of tape through the machine, and cutting means in advance of said buckle loading station for severing the tape of the assembled unit preceding that of the unit in process of assembly.

3,423,000

DEVICE FOR ACCUMULATING FILAMENTS DURING SPOOL-CHANGE

Peter Heinen, Oberbruch, Germany, assignor to Glanzstoff A.G., Wuppertal, Germany

Filed Nov. 7, 1966, Ser. No. 592,419

Claims priority, application Germany, Nov. 10, 1965, V 29,700

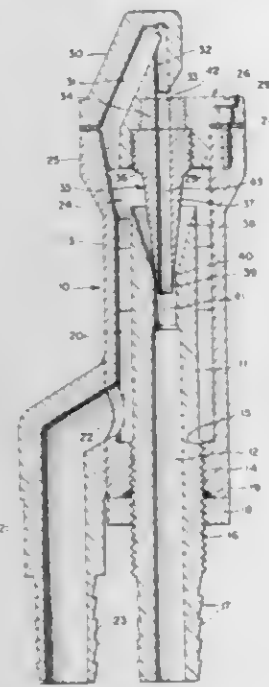
U.S. Cl. 226-97

Int. Cl. D01h 11/00, 15/00

8 Claims

Thread or filament accumulator device embodying a tubular base member with an axial thread passage there-through, a gas blast nozzle spaced from and directing its blast toward the upstream end of the passage, a tapered, annular suction nozzle in the upstream portion of said

passage, a common manifold for conveying gas (air) at superatmospheric pressure to the two nozzles, and passage means spaced slightly downstream of said blast-nozzle be-



tween said blast-nozzle and said axial passage and substantially coaxial with said axial passage for conveying thread or filaments through said passage means into said axial passage in the gas stream from said blast-nozzle.

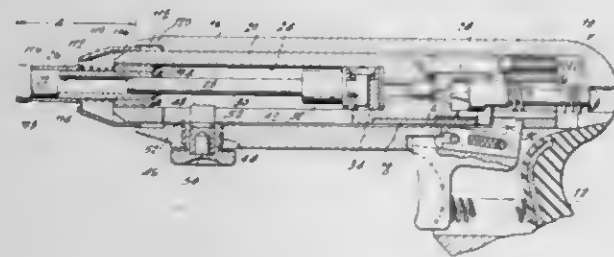
3,423,001

SAFETY DEVICE FOR AN EXPLOSIVE-OPERATED POWER TOOL

Walter Bell, Monroe, N.Y., assignor to Star Expansion Industries Corporation, Mountainville, N.Y., a corporation of Delaware

Filed Apr. 5, 1966, Ser. No. 540,381

U.S. Cl. 227-8 3 Claims
Int. Cl. B25c 1/10



The invention is directed to a safety device for an explosive-operated power tool comprising in combination a sleeve surrounding at least a major part of the barrel of the said tool in the region extending from the muzzle end thereof to the forward end of the housing of the said tool when the tool is in the uncocked condition, said sleeve being axially movable with respect to said barrel, and means for limiting the rearward motion of said sleeve with respect to said housing.

3,423,002

ELECTRIC STAPLER APPARATUS

Yasuzo Hatazaki, Osaka, and Seiji Yokogawa, Moriguchi-shi, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan

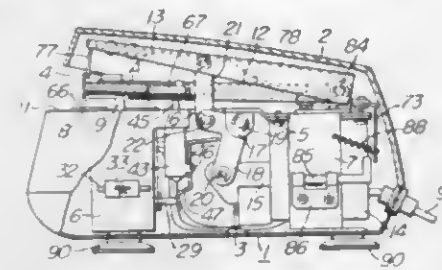
Filed Sept. 20, 1966, Ser. No. 580,662

Claims priority, application Japan, Sept. 24, 1965, 40/78,753; Sept. 25, 1965, 40/78,973; Sept. 28, 1965, 40/80,273, 40/80,274; Mar. 29, 1966, 41/29,177; Apr. 8, 1966, 41/32,994; Apr. 14, 1966, 41/35,075

U.S. Cl. 227-131 4 Claims
Int. Cl. B271 7/08

An electric stapler actuated by a microswitch which is

closed by insertion of the papers to be stapled and including means to control the positioning of the staples



in the paper and means to disable the stapler when recharging it with staples.

3,423,003

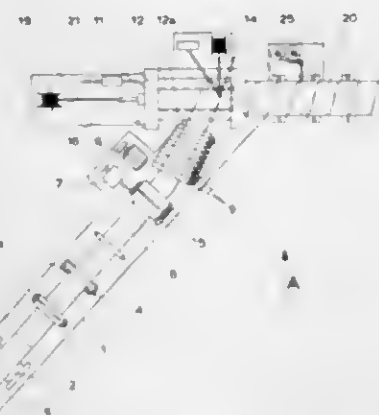
METHOD AND MEANS FOR THE MANUFACTURE OF SPIRAL PIPING

Joseph D. Fletcher, Sydenham, Johannesburg, Transvaal, Republic of South Africa, assignor to Tube and Pipe Industries (Proprietary) Limited, Elandsfontein, Transvaal, Republic of South Africa

Filed Sept. 23, 1966, Ser. No. 581,523

Claims priority, application Republic of South Africa, Sept. 28, 1965, 65/5,236; Apr. 26, 1966, 66/2,402, 66/2,403

U.S. Cl. 228-15 8 Claims
Int. Cl. B23k 29/00



The device forms a spiral pipe by welding together the abutting edges of a spirally wound strip and includes a material feed track having a bed of straightening rolls, an inverted pyramid assembly of freely rotatable forming rolls and a welding station both inside and outside the formed pipe. The bed of straightening rolls are upwardly and forwardly inclined and twisted to feed the strip over the central hollow roll of the forming assembly at a sharp angle to the axes of the forming rolls and with the edges of the strip abutting which edges that are welded together at the welding stations.

3,423,004

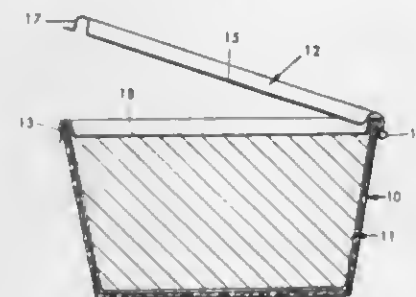
PACKAGE WITH HINGED LID

Od W. Christensson, Ekbacksvagen 32-34, Ulvsunda, near Stockholm, Sweden

Filed Apr. 28, 1967, Ser. No. 634,611

Claims priority, application Sweden, May 5, 1966, 6,150/66

U.S. Cl. 229-14 8 Claims
Int. Cl. B65d 5/56, 5/66, 25/14



A reclosable, hinged-lid package having an outer layer of relatively stiff material and an air-tight inner liner.

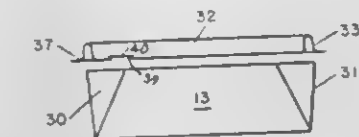
3,423,007
PACKAGE

Od W. Christensson, Ekbacksvagen 32-34, Stockholm-Ulvsunda, Sweden

Filed Sept. 7, 1966, Ser. No. 577,735

Claims priority, application Sweden, Oct. 4, 1965, 12,814/65; May 5, 1966, 6,148/66

U.S. Cl. 229-31 11 Claims
Int. Cl. B65d 4/24, 5/64, 43/00



A food package having a lower part formed by folding a blank along crease lines to form a cup-shaped container, the said shape being retained by a cooperating upper part having a channel which fits over the sides of, and preferably seals the lower part. The crease lines are sufficiently resilient to urge the sides of the lower part outwardly into plate-like form when the upper part is removed.

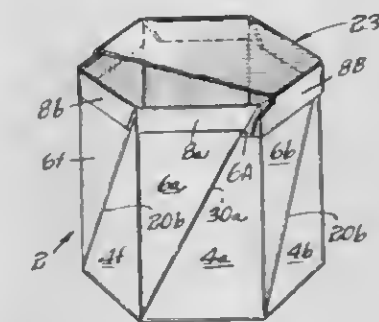
3,423,008

SEALED CARTON

Laurie G. Mykleby, Palos Park, Ill., assignor to Republic Packaging Corporation, Chicago, Ill., a corporation of Delaware

Filed Dec. 2, 1966, Ser. No. 598,713

U.S. Cl. 229-31 9 Claims
Int. Cl. B65d 5/12, 81/18



A liquid-tight carton formed from a single blank of sheet material which is folded so as to provide a carton body open at the top and having a polygonal shape with five or more substantially identical sides formed by vertical rectangular panels extending upwardly from the margins of a polygonal bottom wall. The adjacent confronting vertical margins of each pair of side panels are interconnected by a continuous liquid-tight section of material which is folded to form confronting folded pairs of triangularly shaped gusset panels. These confronting pairs of triangular shaped gusset panels are folded in the same direction around the outside surface of the carton body over the various rectangular side panels. The confronting folded pairs of triangular shaped gusset panels are held in place by downwardly turned locking flaps extending from the upper margins of the rectangular side panels of the carton body. A cover can be provided and the same is adapted to interlock with the gusset panels to affix the cover to the carton body.

3,423,009

STEEL FOIL BAND SIDE WALL SUPPORTS FOR FLEXIBLE CONTAINERS

Charles E. Palmer, Somers, Conn., assignor to Jones & Laughlin Steel Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 14, 1966, Ser. No. 579,411

U.S. Cl. 229-41 10 Claims
Int. Cl. B65d 5/12, 5/56

Containers having relatively flexible side walls are pro-

The lid is an integral part of the inner liner and is connected thereto by a hinge joint along an edge of the package for permitting movement of the lid to open and close the package.

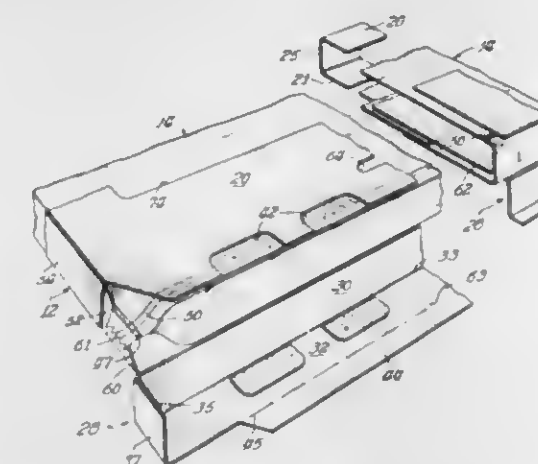
3,423,005

FOOD PACKAGE

Abraham Leibson, Philadelphia, Pa., and Edward J. Griffin, Chicago, Ill., assignors to Container Corporation of America, Chicago, Ill., a corporation of Delaware

Filed Jan. 3, 1967, Ser. No. 606,640

U.S. Cl. 229-14 11 Claims
Int. Cl. B65d 17/20, 5/08



A food package comprises a paperboard body having opposed front and rear walls, opposed end walls, a bottom wall, and a top closure, hingedly interconnected to one another at corresponding adjacent edges. A plastic pouch, suitable for confining a product, is disposed within the body, the pouch being in a form of a tube having its opposite ends sealed. A tear strip is provided in the pouch and located in the portion of the pouch which is adjacent the top of the body so that the tear strip is readily accessible when the top is opened. The top of the body has a closure flap which overlaps a portion of the front wall and is releasably secured thereto.

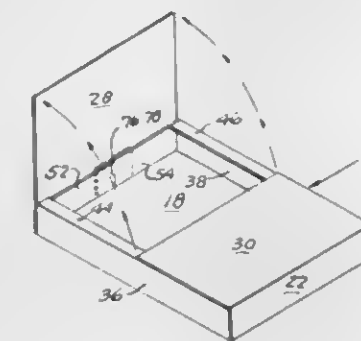
3,423,006

PRE-FLIGHT BOX

Clark R. Stedman, 671 El Encino Way, Sacramento, Calif. 95825

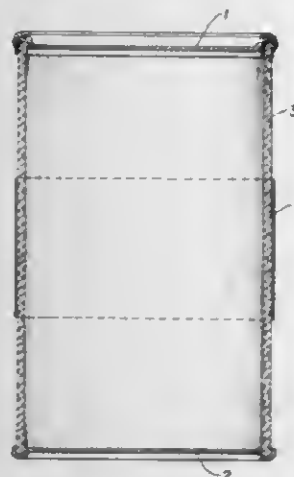
Filed Sept. 14, 1967, Ser. No. 667,725

U.S. Cl. 229-19 1 Claim
Int. Cl. B65d 5/38, 13/06



This container is a two piece unit. The outer piece is a rectangular tube. The inner piece has a base member, end and side flaps, flaps for the top, and a pair of reinforcing end panels which have interengaging slots for holding the side panels together and increasing the strength of the end.

vided with steel foil bands positioned about said side walls in wall-supporting relationship thereto. The side walls and



steel foil bands are readily collapsible so that the containers may be stored in a flattened or folded condition.

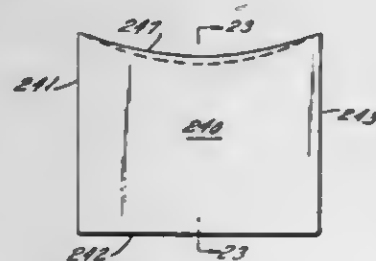
3,423,010

PLASTIC LAMINATED BAG STRUCTURE HAVING CURLED EDGES

Herbert O. Corbett, Bridgeport, Conn., assignor to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
Original application Mar. 9, 1964, Ser. No. 350,220.
Divided and this application May 26, 1967, Ser. No. 654,942

U.S. Cl. 229-53
Int. Cl. B65d 33/00

2 Claims



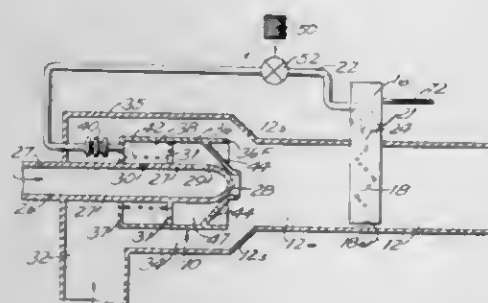
A plastic is formed of front and rear panels which are each laminates of two plastic films. The plastic films of the panels have different shrinkage stresses so that the free edges of the panels at the bag opening tend to curl out of the plane of their respective panels to permit easy gripping of the bag opening.

3,423,011
JET PUMP

Thomas B. Stepp, Keller, Tex., assignor to Bell Aerospace Corporation, Wheatfield, N.Y., a corporation of Delaware

Filed Jan. 10, 1967, Ser. No. 608,376
U.S. Cl. 230-112
Int. Cl. F04f 5/48

8 Claims



A jet pump wherein a valving arrangement is placed in the nozzle of the jet so that the volume of fluid passing through the jet can be controlled without affecting the pressure, and thus without affecting the velocity of the

fluid passing through the jet. The efficiency of the jet pump is maintained in that a decrease in flow through the nozzle will not result in a decrease in jet velocity and thus will not result in a disproportionate decrease of secondary flow. As the primary flow decreases, the secondary flow decreases proportionately so that their ratio will remain constant and thus the efficiency of the jet pump will remain constant. The nozzle valving arrangement is a variable annular orifice that employs the inside wall of the nozzle as an axially movable member whose position determines the orifice opening. The extent of orifice opening determines the mass flow rate but does not affect the velocity of the hot bleed air at the output of the nozzle.

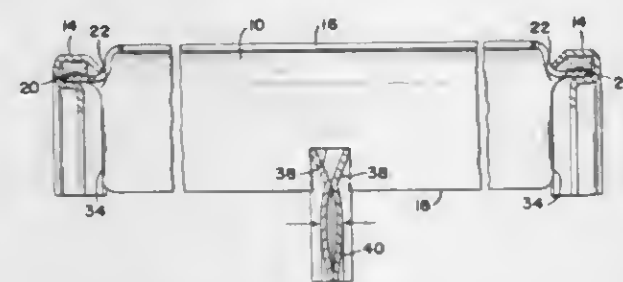
3,423,012

CENTRIFUGAL BLOWER WHEEL AND METHOD OF FABRICATING THE SAME

Harold L. Baker, Warrensville Heights, Cuyahoga, Ohio, assignor to Morrison Products, Inc., Cleveland, Ohio, a corporation of Ohio

Filed June 28, 1967, Ser. No. 649,616
U.S. Cl. 230-134
Int. Cl. F04d 29/28; B23p 15/04

5 Claims



A centrifugal blower wheel having axially extending, circumferentially spaced blades arranged in the form of a cylinder. Portions of the blade ends are integrally connected to spaced portions of circumferential strips, with the remaining blade end portions being unsupported. T-shaped reinforcing gathers bridge the remaining portions of the strips. The unsupported blade end portions are bent back forming blade-stabilizing lips. Annular, channel-shaped end rings embrace the circumferential strips and crimpingly engage the gathers.

A method of fabricating a centrifugal blower wheel of the type described including the step of applying axial, compressive forces to the assembly while simultaneously crimping both end rings.

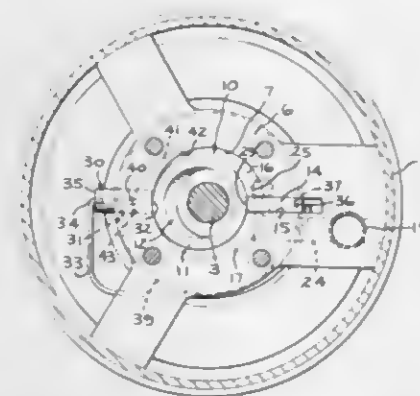
3,423,013

ROTARY COMPRESSOR

Dean C. Rinehart, Louisville, Ky., assignor to General Electric Company, a corporation of New York

Filed Aug. 25, 1966, Ser. No. 574,966
U.S. Cl. 230-139
Int. Cl. F04c 23/02, 17/02

3 Claims



Apparatus to maintain at least one vane in engagement with the rotor in a rotary compressor. The apparatus includes means slidably mounted in the cylinder wall on

the opposite side of the rotor from the vane and a U-shaped spring yoke connecting the slidably mounted means and the vane to bias both the means and the vane into engagement with the rotor in all positions of the rotor. The outer surface of the cylinder wall has a groove to partially receive and slidably support a portion of the yoke.

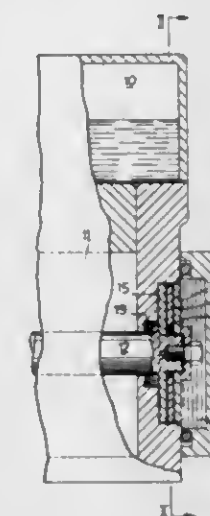
3,423,014

ROTARY VACUUM PUMPS

Harold Ernest Grindrod, Radcliffe, Manchester, and John Alfred Smith, Eccles, England, assignors to General Engineering Co. (Radcliffe) Limited, a corporation of the United Kingdom of Great Britain and Northern Ireland and the Isle of Man

Filed Feb. 6, 1967, Ser. No. 618,262
U.S. Cl. 230-207
Int. Cl. F04c 29/02, 29/08; F04d 29/06

9 Claims



A rotary vacuum pump provided with an oil reservoir, a pump chamber and a duct between the reservoir and the chamber whereby the reservoir supplies oil to the chamber for both lubrication and sealing. Valve means at the end of the duct in the reservoir biased closed. A member mounted on a pump shaft and adapted to be driven by the pump and a further member in closely axially spaced relationship from the first member and freely rotatable relative to the shaft, the second member having an engaging means adjacent its periphery, a bore from said reservoir to said chamber, a plunger in the bore which has one end in contact with the engaging means and the other end in contact with the valve means whereby it is urged open when the pump is operative.

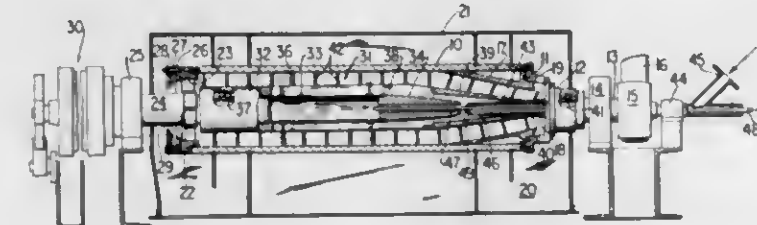
3,423,015

CONTINUOUS CENTRIFUGAL SEPARATOR WITH POOL DEPTH CONTROL

Frank O'Connor, Moline, Ill., assignor to Ametek, Inc., New York, N.Y., a corporation of Delaware

Filed Aug. 23, 1967, Ser. No. 662,739
U.S. Cl. 233-7
Int. Cl. B04b 1/06, 3/00, 5/00

8 Claims



A horizontal type centrifugal separator having a plurality of rings with varying inner diameters removably mounted at the end of the drum adjacent the liquid collecting chamber. The separator also includes a stationary pipe extending axially into the rotating element

of the separator-conveyor assembly for discharging a washing liquid therein, the liquid emerging through openings in the tubular element by centrifugal force. Further, radial vanes extend longitudinally on the outer surface of the tubular element and terminate above the pool formed along the inner wall of the drum.

3,423,016

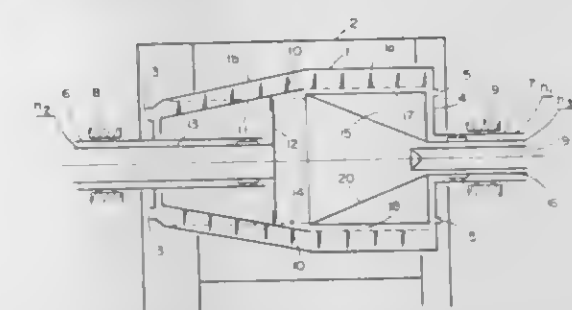
CONTINUOUSLY OPERATING SOLID-BOWL CENTRIFUGE

Wolfgang Gertrud Joseph Heckmann, Cologne-Dellbrück, Germany, assignor to Bird Machine Company, South Walpole, Mass., a corporation of Massachusetts

Filed Aug. 30, 1967, Ser. No. 664,320
Claims priority, application Germany, Sept. 9, 1966, K 60,210

U.S. Cl. 233-7
Int. Cl. B04b 3/00

5 Claims



A continuously operating solid-bowl centrifuge comprising a rotatable outer centrifuge bowl, a coaxially mounted screw conveyor within the bowl for the removal of solids, rotatable at a velocity different from that of the bowl and being immersed for a portion of its length in the centrifuge liquid pool, and a rotationally symmetric accelerating body with an inner wall shaped as a slurry feed cone within the conveyor and totally immersed in the pool, mounted cantilevered within the bowl's hollow shaft and being independently rotatable at a velocity greater than that of either the bowl or conveyor.

3,423,017

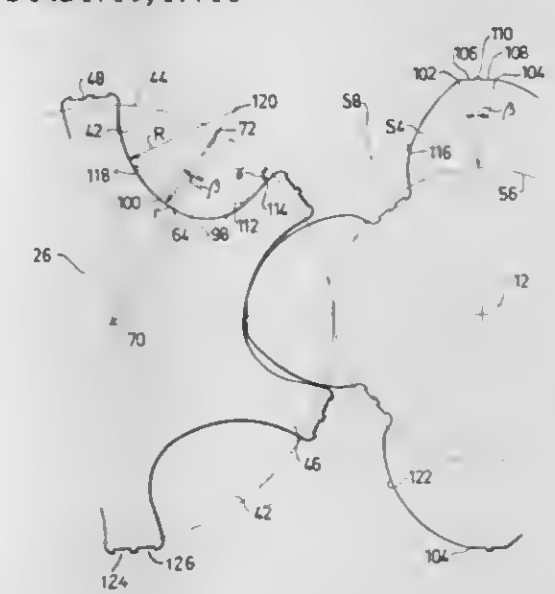
SCREW ROTOR MACHINE AND ROTORS THEREFOR

Lauritz Benedictus Schibbye, Saltsjö-Duvnas, Sweden, assignor to Svenska Rotor Maskiner Aktiebolag, Nacka, Sweden, a corporation of Sweden

Filed July 7, 1967, Ser. No. 651,891
Claims priority, application Great Britain, July 29, 1966, 34,217/66

U.S. Cl. 230-143
Int. Cl. F04c 1/10, 17/16

42 Claims



An asymmetric groove and land profile for cooperating female and male rotors in a screw rotor compressor or expander. One flank of a female rotor groove is disposed

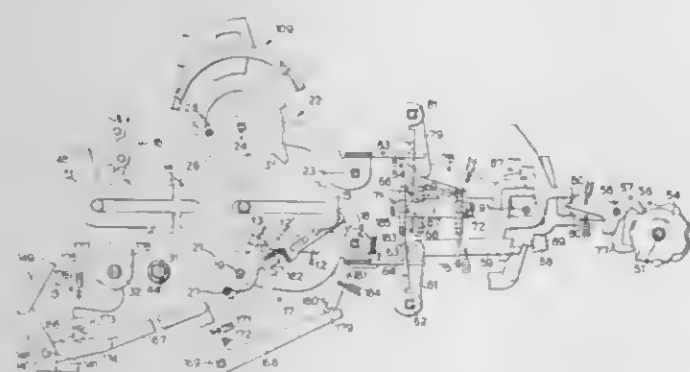
generally inside and the other flank generally outside a circular arc having its centre at the point of intersection between the pitch circle and a radial line through the innermost point of the groove, resulting in a small blow hole, negligible pockets, unidirectional thrusts on both rotors, and a large displacement volume for the size of the particular apparatus.

3,423,018

TEN KEY CALCULATING MACHINE ADAPTED TO EFFECT MULTIPLICATIONS AS WELL AS DIVISIONS

Teresio Gassino, Ivrea, Turin, Italy, assignor to Ing. C. Olivetti & C., S.p.A., Ivrea, Italy, a corporation of Italy
Filed Apr. 1, 1966, Ser. No. 539,379

Claims priority, application Italy, Apr. 10, 1965, 8,941 U.S. Cl. 235-63 12 Claims
Int. Cl. G06c 23/00



A ten key calculating machine comprises a first memory for storing a multiplicand or a quotient, and a second memory for storing a multiplier or a divisor. The second memory is transversely movable step by step under the control of an overdraft control member in a division cycle wherein no overdraft occurs. The counting member is transversely stationary and is automatically disabled upon having counted nine steps for a quotient order. A member indicating the number of orders of the quotient is moved with the second memory during the dividend-divisor alignment and is adapted to stop the division upon being restored.

3,423,019

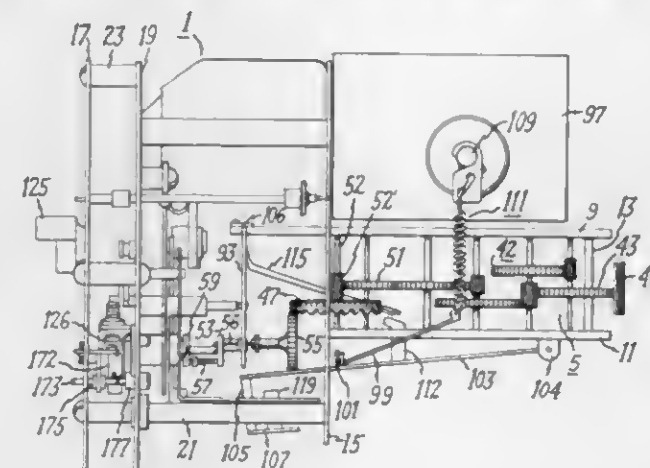
RESET MECHANISM FOR MAXIMUM DEMAND INDICATING METER

Donald M. Ham, Rochester, N.H., assignor to General Electric Company, a corporation of New York
Filed Feb. 24, 1967, Ser. No. 618,535

U.S. Cl. 235-144 6 Claims
Int. Cl. G06c 15/42

A reset mechanism for a maximum demand indicating meter which includes a number of dial indicators mounted on separate shafts interconnected by a gear train and driven upscale by driving means coupled to the gear train. The reset mechanism includes a rotatable reset shaft having a cam member and a reset dog mounted for rotation therewith. The reset mechanism also includes a slide bar,

operatively engaged by the reset dog, which operates on a pawl and ratchet assembly to drivingly connect a spring drive arrangement to the gear train. Rotation of the reset shaft to a reset position allows the cam member to cam out a plate to decouple the driving means from the gear



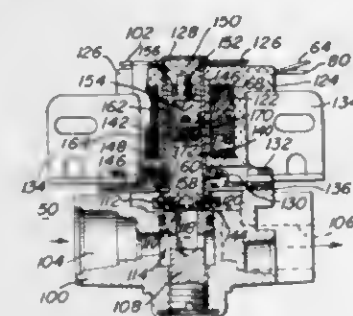
train and further allows the reset dog to move the slide bar which cocks the drive spring and couples the spring drive arrangement to the gear train through the pawl and ratchet assembly. Retention of the reset shaft in the reset position allows the spring to drive the gear train and dial indicator shafts downscale until a stop device automatically halts rotation of the dial indicator shafts at a zero position.

3,423,020

MULTI-POSITION SOLENOID AND CONTROL CIRCUIT

Leonard H. Michaels, Justice, Ill., assignor to Harper-Wyman Company, Hinsdale, Ill., a corporation of Illinois

Filed Aug. 10, 1966, Ser. No. 571,503
U.S. Cl. 236-15 15 Claims
Int. Cl. G05d 23/20



Control apparatus including electromagnetically actuating means comprising a movable armature with first and second movable armature portions that are mechanically interconnected for limited relative movement and in which selected energization of the electromagnetic actuating means effects predetermined movements of an armature portion. The armature is operatively connected as to a valve element movable from an off to predetermined low and high flow positions to control, for example, the flow of gas to provide continuous flow of gas to the burner at either high or low rate.

3,423,021

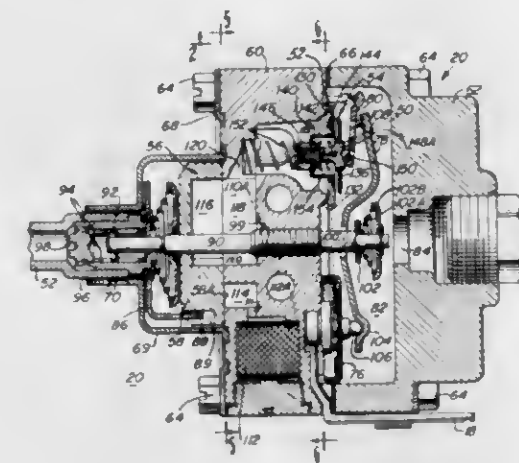
THERMOSTATIC OVEN CONTROL

Frank H. Bergquist, Hinsdale, Ill., assignor to Harper-Wyman Company, Hinsdale, Ill., a corporation of Illinois

Filed Aug. 15, 1966, Ser. No. 572,465
U.S. Cl. 236-15 11 Claims
Int. Cl. G05d 23/275

A gas oven combined thermostatic and shutoff control includes a valve body having flat lapped valve surfaces on

opposite faces, one cooperating with a rotor disc shutoff valve. The other surface supports a pair of valve elements, one controlling flow to a heater pilot and the other controlling flow to a valve which admits gas to a main burner in response to a heater flame at the pilot. A temperature responsive valve operating assembly closes the first valve at a selected temperature to discontinue flow to the pilot.



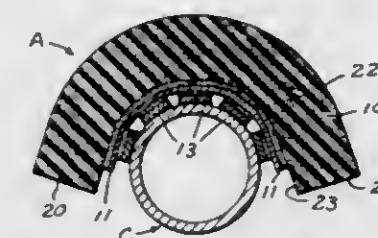
If the oven temperature increases further, as during a runaway condition, the second valve modulates flow to hold the temperature at a temperature a fixed interval above the selected temperature. The second valve also maintains a modulated flow for broiling operation, when a direct passage from the shutoff valve to the heater pilot is opened.

3,423,022

MAGNETIC DEODORANT FIXTURE

Jack C. Varley, % Jack C. Varley Inc., 6801 Hoffmann Ave., St. Louis, Mo. 63139

Filed Apr. 5, 1967, Ser. No. 628,686
U.S. Cl. 239-53 5 Claims
Int. Cl. A61H 9/04



This invention relates to pliable fixtures or carriers for disinfectants, deodorants, perfumes and like media to be removably attached to supports having flat, curved or angular faces so that the media may gradually evaporate or vaporize. Each fixture or carrier includes a plurality of spaced-apart magnets and accommodations for a driven attaching means.

3,423,023

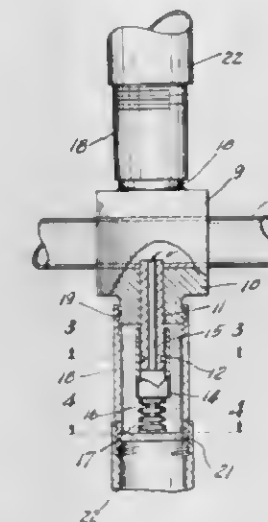
IRRIGATION SYSTEM

Ernest L. Fortier, Rte. 2, Alpena, Mich. 49707

Filed Mar. 30, 1966, Ser. No. 538,747
U.S. Cl. 239-207 5 Claims
Int. Cl. B05b 3/00; A62c 37/00; B67d 5/54

The present invention relates to an irrigation system having a plurality of water disseminating members arranged in spaced apart relation with a supply line con-

nected to a source of water to provide a continuous seepage of water above or beneath the surface of the ground,



and means regulated by the pressure in the line for opening or closing the control disseminating members.

3,423,024

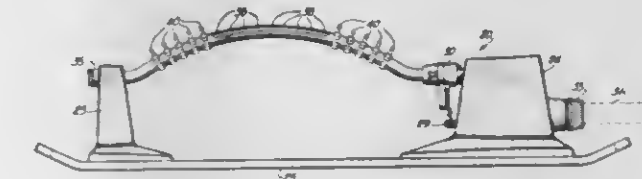
FLOW RESTRICTOR FOR LAWN SPRINKLER

Frederick Morawetz, Oak Park, Ill., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois

Filed Nov. 3, 1966, Ser. No. 591,730

U.S. Cl. 239-242 8 Claims

Int. Cl. B05b 3/16; F16k 51/00



Integral plastic flow restrictors for an oscillating lawn sprinkler having a spray tube with a series of spray apertures. The flow restrictors are assembled to the spray tube and adapted to slide therealong to selectively close a portion of the spray apertures for controlling the shape of the sprinkling pattern.

3,423,025

NOZZLE HAVING A RESILIENTLY YIELDABLE SEALING MEMBER IN COMBINATION WITH A CLEANING SYSTEM FOR VEHICLE GLASS

Andrew William Rodger, 29 Sandown Lodge, Avenue

Road, Epsom, Surrey, England

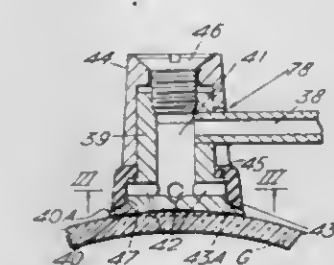
Filed Nov. 23, 1964, Ser. No. 412,913

Claims priority, application Great Britain, Nov. 25, 1963,

46,386/63

U.S. Cl. 239-284 6 Claims

Int. Cl. B05b 1/10



An apparatus for cleansing glass surfaces on vehicles employing a nozzle with a resiliently-yieldable sealing

member to release a jet of pressurized liquid of elongated thin cross-section closely adjacent and at a small angle or substantially parallel to the glass surface so as to produce a wide substantially continuous curtain of liquid which forces its way over said surface and sweeps away dirt.

3,423,026

WINDSHIELD CLEANING DEVICE UTILIZING AN OSCILLATORY FLUID STREAM

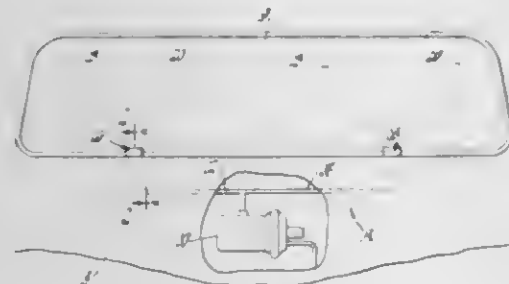
Keith H. Carpenter, Kettering, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Continuation-in-part of application Ser. No. 513,996, Dec. 15, 1965. This application Oct. 30, 1967, Ser. No. 679,010

U.S. Cl. 239—284

Int. Cl. A47I 1/02; B05b 1/10

11 Claims



This disclosure relates to windshield cleaning apparatus having fluid amplifier means for rapidly oscillating an air stream across predetermined areas of the windshield to effect removal of foreign material therefrom and to provide an air curtain between these areas and the adjacent exterior environment to prevent or substantially prevent impingement of foreign material against the windshield.

3,423,027

MOBILE ADJUSTABLE SPRAYER

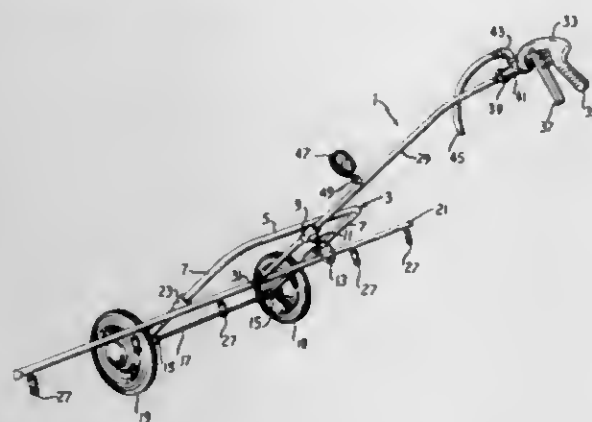
William A. Small, Ferguson, and Fred J. Gintber, Shrewsbury, Mo., assignors to Mallinckrodt Chemical Works, St. Louis, Mo., a corporation of Missouri

Continuation-in-part of application Ser. No. 610,153, Jan. 18, 1967. This application Apr. 19, 1967, Ser. No. 634,416

U.S. Cl. 239—287

Int. Cl. B05b 9/02; B62b 1/00

9 Claims



A sprayer intended to be wheeled across the ground for spraying a liquid thereon, particularly for treating golf greens and other turf. The sprayer includes an inverted U-shaped frame having an axle secured at the lower ends of the frame legs and a pair of wheels rotatably mounted thereon. A transverse spray boom having a plurality of spray nozzles is slidably received on the

frame legs and a liquid supply handle is secured to the center of the boom. A tubular guide is secured to the center of the crossbar portion of the frame, and either the supply handle or a transverse guide bar affixed thereto is slidably received in the guide. At the top of the handle is a control valve having an inlet for connection to an external supply of pressurized liquid to be sprayed, the valve delivering liquid to the handle and thence to the boom, from which it sprays out through the nozzles.

3,423,028

JET FLUID MIXING DEVICE AND PROCESS

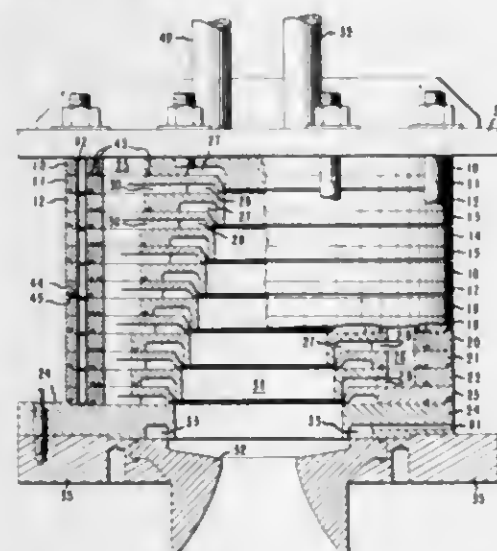
Yani S. Stupakis, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Apr. 28, 1967, Ser. No. 634,754

U.S. Cl. 239—427.3

Int. Cl. B05b 7/04; B01f 5/02

6 Claims



A multi-stage (e.g., seven-stage) jet device for mixing fluids (e.g., steam and polymer solutions) which has a plurality of annular chambers surrounding a central zone, a first set of the chambers having annular orifices for directing thin tubular sheaths of fluid (e.g., polymer solution) down the zone, each of increasing diameter, and alternating therewith along the zone a second set of fluid chambers for directing a second fluid (e.g., steam) in thin sheaths transverse to the tubular sheaths.

3,423,029

MULTIPLE TUBE SPRAY DISCHARGE NOZZLE

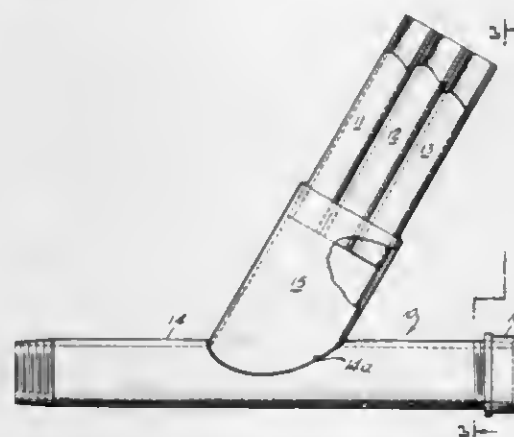
Raymond J. Demaison, Mount Vernon, N.Y., assignor to Quigley Company, Inc., a corporation of New York

Filed Mar. 3, 1966, Ser. No. 531,484

U.S. Cl. 239—565

Int. Cl. B05b 1/14

3 Claims



A plurality of discharge pipes in contact along their supply ends and either in contact or spread toward their discharge ends are arranged to receive from an angular supply pipe and from a connection aligned with the

proximate ends of the discharge pipes an abrasive material for discharge in a laterally-extended transversely-restricted zone.

3,423,030

MATERIAL UNLOADER

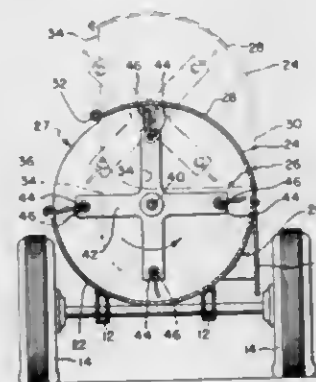
Roy Ayranto, Grimsby, Ontario, Canada, assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware

Filed Oct. 7, 1966, Ser. No. 585,030

U.S. Cl. 239—681

Int. Cl. A01c 17/00

2 Claims



A mobile tank type manure spreader including a rotatable beater for throwing material from the tank. The beater is mounted on a cover for the tank which is spaced from the tank to define a laterally directed opening for the discharge of material. Power means are mounted on the spreader for moving the cover and beater in unison toward and away from the tank.

3,423,031

METHOD AND APPARATUS FOR CONTINUOUSLY REFINING COCOA NIBS AND LIKE MATERIAL

Herbert Alfred Merges, 1 Werkstrasse, 6456 Wolfgang, near Hanau, Germany, and Josef Pasteka, am Laubersberg 19, Steinheim (Main), Germany

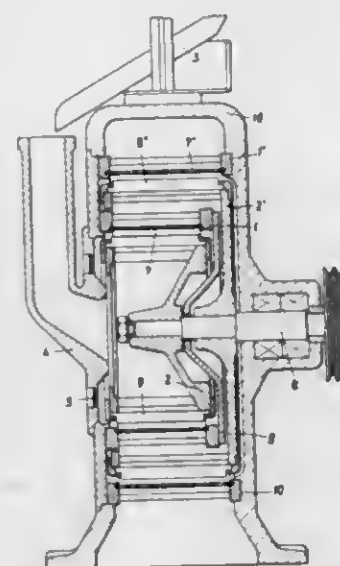
Filed Aug. 2, 1966, Ser. No. 569,665

Claims priority, application Germany, Aug. 5, 1965, U 11,944

U.S. Cl. 241—8

Int. Cl. B02c 13/09, 19/06

9 Claims



A cocoa nib paste free of excess moisture, acids and malodorous components is prepared by forming a ring of broken cocoa nib and air, beating the cocoa nib in the presence of a large volumetric excess of air to form a

mixture of the cocoa nib mass dispersed in the air, driving this mixture toward a perforated plate whereon the coarser particles are retained, while another mixture of fine particles and air pass through the plate, expanding the mixture passed through the plate, which contains the finer particles, moisture, acidic taste particles and malodorous substances extracted from the cocoa nib mass, and separating the air loaded with the moisture, acidic taste particles and malodorous substance from the finer particles.

3,423,032

METHOD AND APPARATUS FOR COMMUNITION

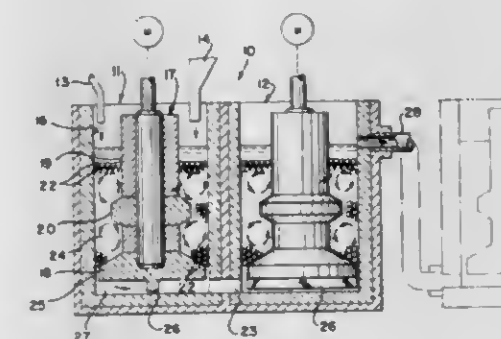
John S. Eckert, Silver Lake, Ohio, assignor, by mesne assignments, to U.S. Stoneware, Inc., a corporation of Massachusetts

Continuation of application Ser. No. 462,669, June 9, 1965, which is a continuation-in-part of application Ser. No. 303,736, Aug. 22, 1963. This application Aug. 5, 1966, Ser. No. 571,160

U.S. Cl. 241—15

Int. Cl. B02c 15/00, 17/04

12 Claims



1. A method of comminuting consisting essentially of the steps of frictionally rotating a plurality of generally spherical grinding elements substantially about the centers thereof without any significant impact therebetween, within a generally cylindrical vessel by causing relative rotation between the vessel and an agitator, in which every cross section normal to the axis thereof defines a circle, disposed coaxially in the vessel and spaced from the inner wall thereof a distance at least twice the diameter of the grinding elements, maintaining the grinding elements generally in a continuum so that the grinding elements which are not in contact with the agitator are caused to be rotated by those grinding elements which are in contact with the agitator, and passing the material to be comminuted through the spherical grinding elements so that said material is reduced in size by the shearing action between adjacent rotating grinding elements and between the rotating grinding elements and the walls of the vessel and the agitator.

3,423,033

GYRATORY CRUSHERS

Pierre Durand, Lyon, Rhone, France, assignor to Richier, Paris, France, a company of France

Filed July 5, 1966, Ser. No. 562,761

Claims priority, application France, July 8, 1965, 46,200; Jan. 21, 1966, 46,844

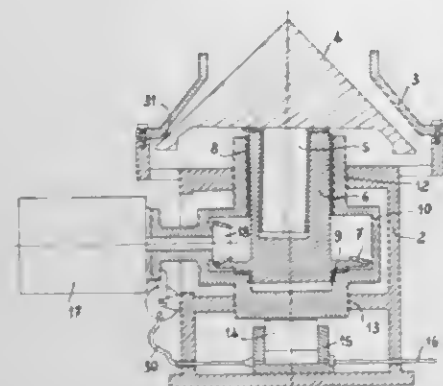
U.S. Cl. 241—32

Int. Cl. B02c 17/08, 19/00

8 Claims

A gyratory crusher in which an eccentric carries and actuates the shaft of a crushing head which is journaled in a body which is in turn freely mounted inside the frame of the crusher and rests on a hydraulic jack. The body is subjected to a torque tending to make it revolve in a direction opposite that of the crushing head but is connected to the frame of the crusher by an arrangement including a retaining device associated with the hydraulic jack so that if the torque required for the crushing operation exceeds a

predetermined value, the reverse torque on the body carrying the movable members of the crusher drives the body in the opposite direction and acts through its retaining de-



vice on the jack to reduce the gripping action of the crusher until the torque is normal again, whereupon the initial gripping action of the crusher is restored.

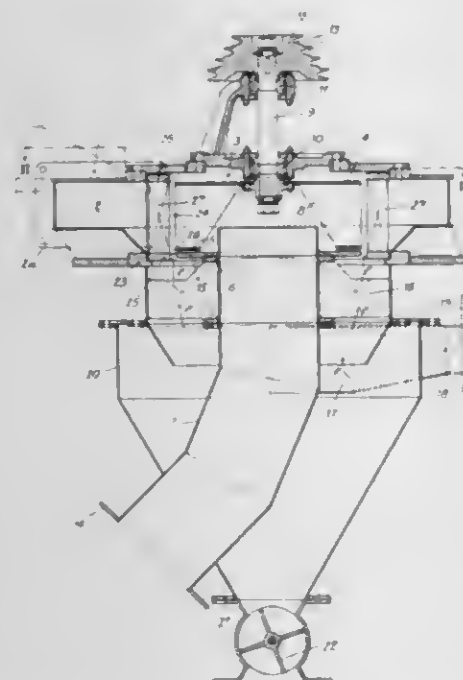
3,423,034 DYNAMICAL SELECTOR DEVICE FOR CRUSHERS

Pierre Raoul Hippert, Paris, France, assignor of one-half to Société Anonyme: Les Ateliers Reunis Broyeurs Forplex, Boulogne-sur-Seine, Hauts-de-Seine, France, a French anonymous company
Filed May 20, 1965, Ser. No. 457,370
Claims priority, application France, May 22, 1964, 975,424

U.S. Cl. 241—51

Int. Cl. B07b 3/00, 9/00, 11/00

5 Claims

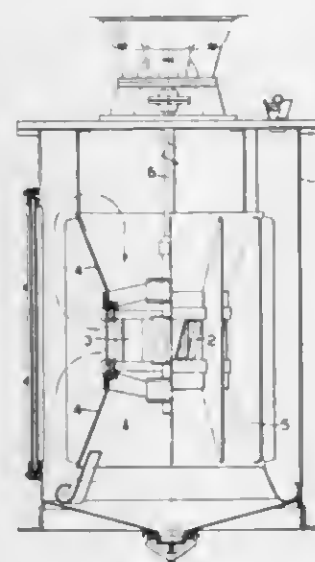


A dynamic selector comprises a casing into which the material to be classified is tangentially introduced in suspension in air. Before being subjected to the action of a rotor having wide blades that turn about an upright axis, this current of material in suspension is braked and divided by a stationary crown. A central outlet duct is connected to a suction source for the discharge of the fine particles. A horizontal disc forming a stationary diaphragm is arranged under the rotor. This disc provides along its periphery together with the braking crown a horizontal refuse-discharging gap connected with a chamber into which a secondary air inlet opens. A rising current of secondary air engages the discharged refuse material passing through said gap, thus further classifying the material.

3,423,035
APPARATUS FOR OBTAINING MOLDING POWDERS OF POLYTETRAFLUOROETHYLENE OF IMPROVED QUALITY
Giovanni Convalle, Bollate, Milan, and Pierluigi Sfondrini, Rho, Milan, Italy, assignors to Montecatini-Edison S.p.A., Milan, Italy
Filed July 11, 1966, Ser. No. 564,236
Claims priority, application Italy, July 13, 1965, 15,792/65

U.S. Cl. 241—84
Int. Cl. B02c 18/06

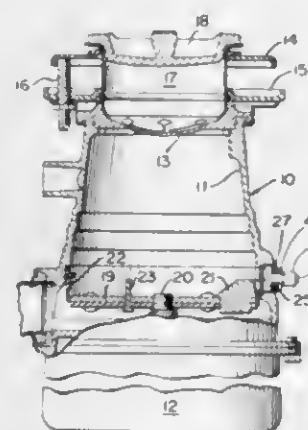
4 Claims



Grinding apparatus comprising a housing; a system of blades and counterblades disposed therein and defining a plurality of cutting pairs; and means for actuating the said system of blades and counterblades. The blade system is comprised of a plurality of blades radially arranged and parallelly affixed to the axis of a rotor disposed within the housing, which system is further disposed within a ring provided with a plurality of slot openings along its circumference. Such slot openings are slightly angled toward the direction of rotation of the said blades and provide a plurality of cutting edges substantially parallel to the cutting edges of the blades and functioning as counterblades.

3,423,036
FOOD WASTE DISPOSER
Bruce E. Stewart, St. Paul, Minn., assignor to Whirlpool Corporation, a corporation of Delaware
Filed Dec. 16, 1966, Ser. No. 602,217
U.S. Cl. 241—100.5
Int. Cl. B02c 13/02

15 Claims



A food waste disposer having a split shredder ring with means such as cam means for moving the shredder ring as by spreading it when the disposer becomes jammed. The cam means may also serve to lock the shredder ring in its grinding position under normal operation.

3,423,037
QUICK INTERMITTENT ADVANCEMENT APPARATUS AND METHOD
Paul J. Good, Springwater, N.Y., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Oct. 5, 1966, Ser. No. 584,560
U.S. Cl. 242—55.11
Int. Cl. G11b 15/32; B65h 25/04

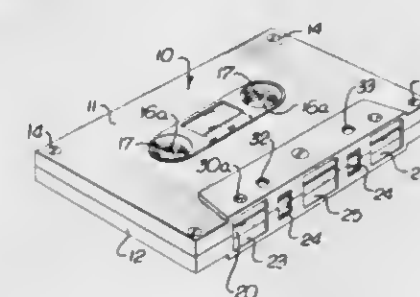
11 Claims



A resilient detent, engaging a perforation in motion picture film in the vicinity of a projection gate, prevents longitudinal movement of the film. Between the film gate and a take-up reel is a resilient feeler which moves in response to variations in longitudinal tension of the film. When the tension increases, the movement of the feeler caused thereby moves the detent out of the perforation in the film, allowing some of the film to move past the film gate, thereby decreasing the tension in the film between the gate and the take-up reel, so that the feeler moves in the opposite direction as a result of the decrease in tension, thereby allowing the detent to seat itself in another perforation of the film.

3,423,038
CASSETTE TAPE WINDING INDICATOR MEANS
Irving B. Katzev and Georges D. Abitboul, Los Angeles, Calif., assignors to Audio Magnetics Corporation, Gardena, Calif., a corporation of California
Filed Mar. 24, 1967, Ser. No. 625,775
U.S. Cl. 242—55.13
Int. Cl. G11b 15/32

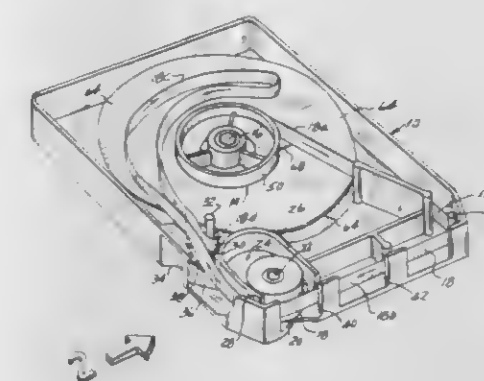
4 Claims



The disclosed tape cassette incorporates a case having an elongated opening along one edge to expose tape traveling along that edge. A first leader strip is attached at one end to a first reel and at the opposite end to magnetic tape, and a second leader strip is attached at one end to a second reel and at the opposite end to the tape. The first strip has one distinguishing color, and the second strip has another distinguishing color, to be exposed along the cassette case edge opening for indicating whether the tape is wound on the first or second reel.

3,423,039
MAGNETIC TAPE CARTRIDGE
Darrell W. Zielke, Madison Heights, Mich., assignor, by mesne assignments, to Troy National Bank, Troy, Mich.
Filed Apr. 10, 1967, Ser. No. 629,640
U.S. Cl. 242—55.19
Int. Cl. B65h 17/48

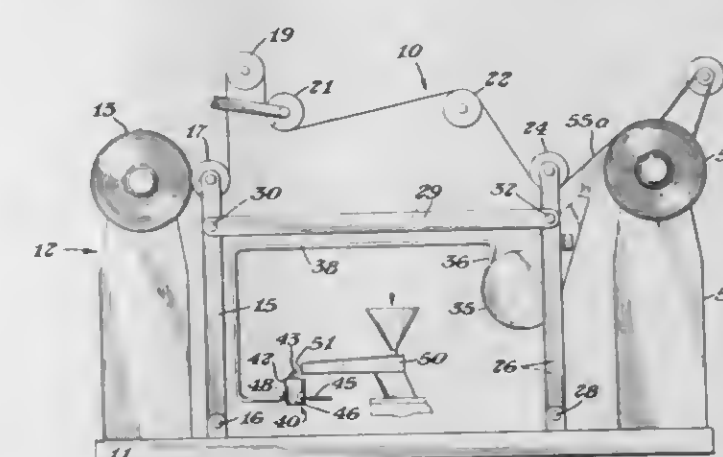
6 Claims



A single reel magnetic tape system includes tape tension adjusting means which provide relatively constant tape tension by producing a tension-reducing effect in response to high tension conditions. The tape rests on a substantially rigid annular Mylar wafer which in turn is supported by and projects radially beyond a sloping flange of the tape reel hub. The outer portion of the tape-supporting wafer slides on a series of concentric bearing ridges in the floor of the tape cartridge. When tape tension increases, the geometry of the wafer and hub flange cause an inward and downward force to be applied against the inner portion of the wafer. The hub flange edge acts as a fulcrum, and the downward force of the tape pile against the inner edge of the wafer produces a tendency for the outer portion of the wafer to rock upward about the fulcrum, thus reducing that portion of the tape pile load supported on the outer bearing ridges. This reduces the drag torque lever arm, decreasing tape tension.

3,423,040
APPARATUS FOR DUSTING OF SURFACES
Loren K. Humphrey, Alma, and Robert A. Dunning and Curtis A. Layman, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Original application June 10, 1963, Ser. No. 286,672, now Patent No. 3,359,128, dated Dec. 19, 1967. Divided and this application Aug. 12, 1966, Ser. No. 596,026
U.S. Cl. 242—67.3
Int. Cl. B65h 17/02; B05b 7/00

7 Claims



An apparatus for applying a thin, uniform, powdered coating to a plastic film surface is disclosed. A dusting chamber delivers a jet of dust-laden air onto the surface of a web of film as it is wound onto a mill roll, and said

chamber maintains its spaced relationship with the entire apparatus as the mill roll diameter increases. Application of such material reduces electrostatic cling which is characteristic of polymeric film when its surfaces are subjected to friction.

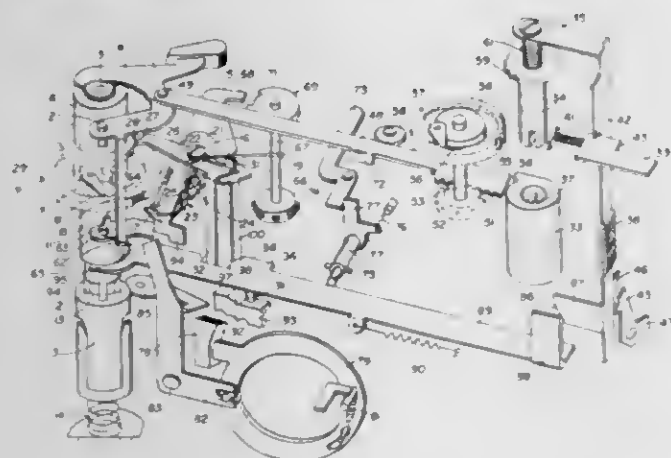
3,423,041

FILM WINDING AND REWINDING DEVICE
Kurt Steisslinger, Stuttgart-Hedelingen, and Horst Simon, Fellbach, near Stuttgart, Germany, assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed July 18, 1967, Ser. No. 654,153
Claims priority, application Germany, Sept. 23, 1966, K 60,319

U.S. Cl. 242—71.6
Int. Cl. G03b 1/04

6 Claims



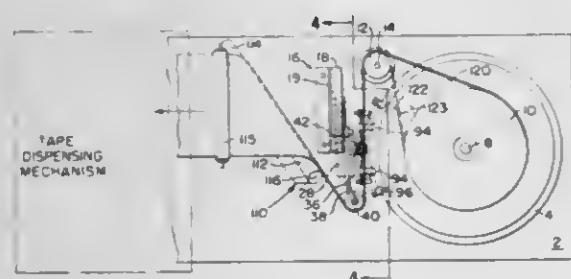
A camera provided with a film advancing and rewinding mechanism selectively operable by a single operating member, including means for withdrawing the spool engaging rewinding member from the film supply chamber to facilitate loading the camera and means for coordinating the operation of the film advancing and rewinding mechanism with that of a film metering system.

3,423,042

APPARATUS FOR TAPE DISPENSING MACHINE
Donald E. Lipfert, Woolwich, Maine, assignor to Nashua Corporation, Nashua, N.H., a corporation of Delaware
Continuation-in-part of application Ser. No. 545,761, Apr. 27, 1966. This application Mar. 31, 1967, Ser. No. 627,370

U.S. Cl. 242—75.43
Int. Cl. B65h 25/22

10 Claims



The invention comprises a horizontal platform rotatably mounted on the machine for supporting a spool of gummed tape with the axis of the spool lying in an approximately vertical direction. A brake is provided which operates under the control of the tension in the tape, by means of a dancer roll, as the tape comes from the spool, to prevent wild rotation of the latter, the brakes releasing automatically to permit tape to be withdrawn from the spool when needed. After the tape passes the dancer roll, it is then turned from its vertical plane to a horizontal plane by means of an angularly-oriented guide.

3,423,043

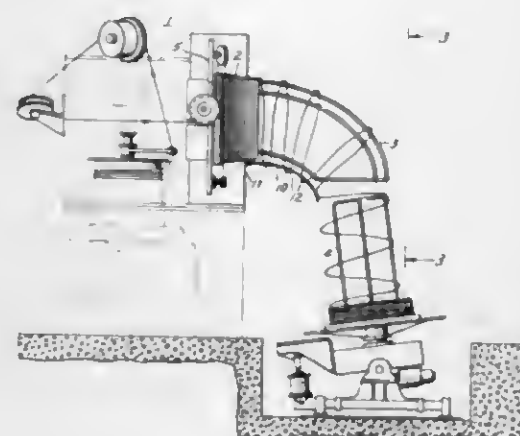
WIRE PACKAGING APPARATUS

John J. Kane and James P. Conner, Johnstown, Pa., assignors to Bethlehem Steel Corporation, a corporation of Delaware

Filed Apr. 26, 1967, Ser. No. 633,837

U.S. Cl. 242—82
Int. Cl. B21c 47/14

2 Claims



Apparatus for feeding wire coil loops onto a wire carrier including means for supporting the wire loops emerging from a wire coiling machine.

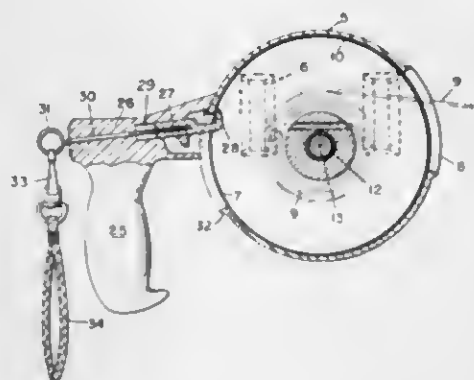
3,423,044

EXPLORING AND LIFE SAVING REELS
George E. Beiderwell, 823 Harrison St., Paducah, Ky. 42001

Filed Apr. 11, 1967, Ser. No. 630,030
U.S. Cl. 242—96

Int. Cl. B65h 75/40

5 Claims



The device of this invention is a lifeline and rescue device of reel formation constructed to wind in a long, strong cord and having a reversible handle to adapt it for use by either right or left handed persons and being also provided with belt loops to adapt it to be mounted upon the belt of a person.

3,423,045

BRAKING DEVICE FOR THREAD-FORM MATERIAL

Friedrich Frenger, Frankfurt am Main, Germany, assignor to Vickers-Zimmer Aktiengesellschaft, Planung und Bau von Industrieanlagen

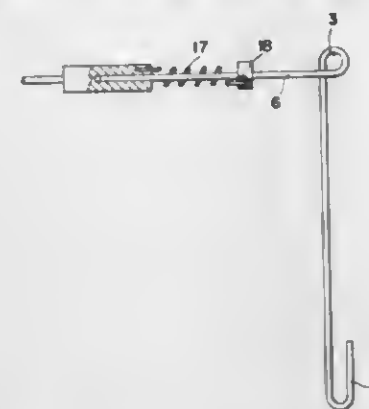
Filed Oct. 19, 1966, Ser. No. 587,767

U.S. Cl. 242—154
Int. Cl. B65h 59/12

7 Claims

This invention relates to a braking device for thread-form material comprising an elongated brake bar around which the thread is wound, means for drawing the thread from the bar, the bar lying at an acute angle to the path of the thread issuing from the bar, the bar having a free

end and a mounting end, means mounting the bar at its mounting end for swinging movement to vary its angle relative to the path of the thread, and spring means urging



the bar to swing in a direction to increase its angle relative to the path of the thread to thereby exert a braking effect on said thread-form material.

3,423,046

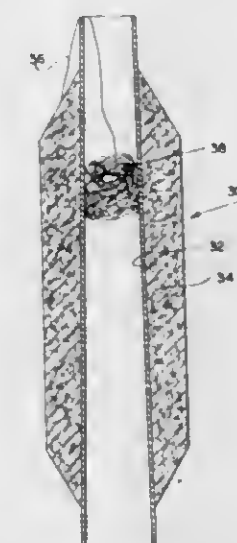
FILLED BOBBIN

Charles C. Bell, Warwick, R.I., assignor to Leeson Corporation, Warwick, R.I., a corporation of Massachusetts

Filed Sept. 22, 1967, Ser. No. 669,817

U.S. Cl. 242—164
Int. Cl. B65h 55/00

1 Claim



A yarn package illustrated in the form of a filled bobbin having a hollow core with a strand of yarn wound thereon. This strand has a free outer end by which the body of yarn may be unwound from the bobbin. The free end is formed into a bunch which is received in the hollow core and is urged into frictional holding engagement with the core to releasably retain the bunch in the core for subsequent retrieval.

3,423,047

METHOD AND APPARATUS FOR THE POSITION STABILIZATION OF A FLYING BODY

Ernst Theunissen, Ottobrunn, by Muolch, and Hans-Eckhard Sass, Munich, Germany, assignors to Bolkow Gesellschaft mit beschränkter Haftung, Ottobrunn, by Muolch, Germany

Continuation-in-part of application Ser. No. 364,616, May 4, 1964. This application Sept. 27, 1967, Ser. No. 671,077

Claims priority, application Germany, May 9, 1963, B 71,824

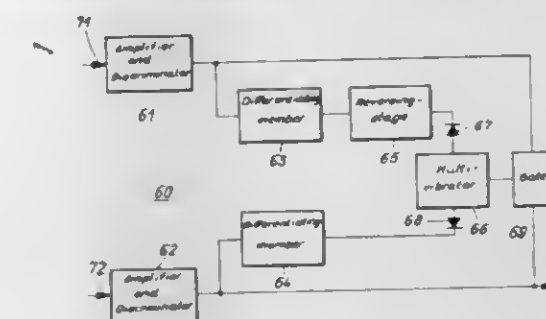
U.S. Cl. 244—3.18

12 Claims

Int. Cl. F41g 7/00; F42b 15/02; G06f 15/50

A method and apparatus for stabilizing the position of a flying body, by selectively operable position restoring means, are disclosed, in which effective position stabilization or restoration can be obtained without

measuring the rate of deviation. In accordance with the disclosure, control of the restoring means is made dependent upon whether the deviation occurs in only a small range or whether the deviation progresses into a larger range outside the small range. A first restoring action is initiated responsive to a deviation in the small



range and, if the deviation progresses into the larger range, a second restoring action is initiated with termination of the first restoring action. In the latter case, when the deviation returns into the small range, both restoring actions are made ineffective so that the body "coasts" back to its preselected position with the restoring means deactivated.

3,423,048

GAS TURBINE COMPOUND HELICOPTER POWER PLANT

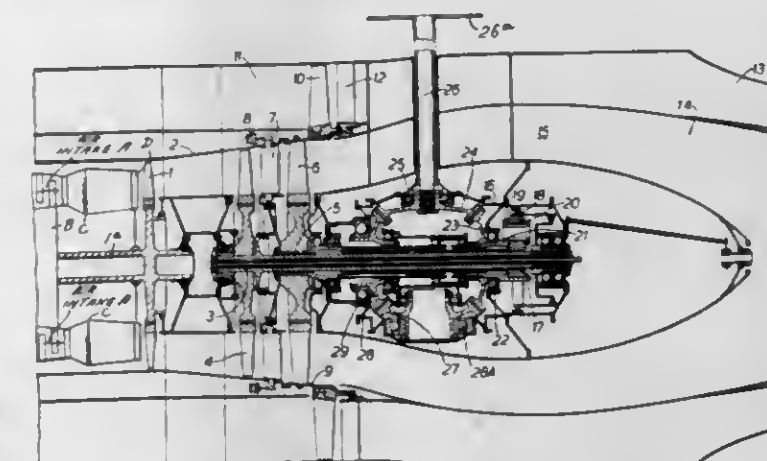
George Frederick Clarke, Stanmore, and Derek Aubrey Roberts, Bristol, England, assignors to Bristol Siddeley Engines Limited, London, England, a company of Great Britain

Filed Nov. 18, 1966, Ser. No. 595,497

U.S. Cl. 244—7

Int. Cl. B64c 27/14; F02g 3/10; F02k 3/02

4 Claims



The disclosure of this invention pertains to a gas turbine compound helicopter power plant in which the products of combustion drive a first turbine rotor arranged to drive the air compressor and then drive at least one further turbine rotor providing a source of mechanical power for transmitting power to at least one power driven device, such as a lift propeller and in which means are provided for effecting substantial variations in the mechanical power provided.

3,423,049

CONTROL DEVICES FOR FLEXIBLE WING AIRCRAFT

Francis M. Rogallo, 17 Millford Road, Newport News, Va. 23601

Original application Jan. 17, 1964, Ser. No. 338,537.

Divided and this application Sept. 1, 1967, Ser. No. 670,001

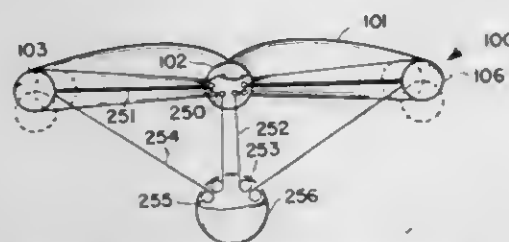
U.S. Cl. 244—43

3 Claims

Int. Cl. B64c 3/54, 3/38; B65d 19/00

This is a control device for a flexible wing aircraft. The flexible wing aircraft has a triangular-shaped superstructure which includes a central keel member and angularly

directed leading edge members connected to the apex of the keel. A flexible membrane-like material is fixed to the keel and leading edge members to form wing panels and a lift surface. The leading edge members are hinged at the



apex of the keel. The leading edge members are moved symmetrically or asymmetrically by a motivation mechanism to change the wing planform and thereby control the flight of the vehicle.

3,423,050 CONTROL DEVICES FOR FLEXIBLE WING AIRCRAFT

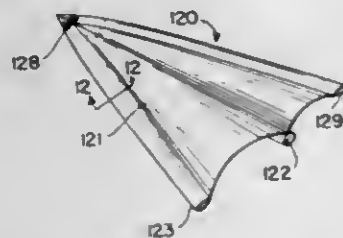
Francis M. Rogallo, 17 Milford Road,
Newport News, Va. 23601

Original application Jan. 17, 1964, Ser. No. 338,537.
Divided and this application Sept. 1, 1967, Ser.
No. 670,003

U.S. Cl. 244-43

Int. Cl. B64c 3/54, 3/38; B64d 19/00

5 Claims



This invention is a control for a flexible wing aircraft. The flexible wing aircraft has a generally triangular shaped superstructure including a centrally disposed keel and angularly disposed leading edge members. A flexible membrane-like material is fixed to the keel and leading edge members to form wing panels and a lift surface. The leading edge members being jointed at the apex of the wing superstructure and having an airfoil shape. The leading edge members are rotated by appropriate mechanism to present a variable shaped surface to the airstream, and also change the wing planform to control the vehicle. Mechanism is provided to rotate the airfoil shaped leading edge members.

3,423,051 HOMING SYSTEM FOR AIRCRAFT

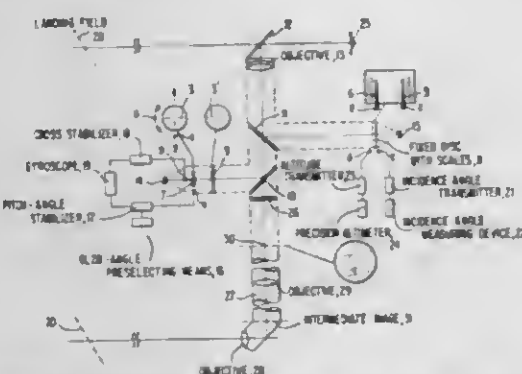
Gabor Jakab, Markdorf, Germany, assignor to Dornier-Werke G.m.b.H., Friedrichshafen, Germany

Filed Oct. 22, 1965, Ser. No. 501,512

U.S. Cl. 244-76

Int. Cl. B64c 19/00; G01c 23/00, 21/00

14 Claims



This invention comprises an adjustable sighting device whose line of sight points towards the touch-down point

on the ground at an inclination corresponding to the angle of approach. The line of sight is held at a preselectable constant angle of inclination relative to the geodetic horizontal plane by stabilizing means during all possible flight movements during approach. The azimuth direction of the line of sight is maintained either parallel to the plane of symmetry of the aircraft, or is adjustable at an angle with the plane of symmetry which angle is required by the mechanics of flight. The adjustable sighting device enables the pilot of the aircraft being landed to directly view the landing field by means of a periscope, if otherwise the pilot's vision is obstructed by fuselage parts, heat shields, etc., and portrays the necessary information required to accomplish a safe landing on an appropriate reflex sighting pane mounted on the windshield of the aircraft so that the pilot does not have to divert his view from the approaching landing field and yet is provided with all necessary information pertaining to the safe landing.

3,423,052 DE-ICING APPARATUS

William P. Lear, Wichita, Kans., assignor to Lear Jet Industries, Inc., a corporation of Delaware

Filed July 21, 1966, Ser. No. 566,958

U.S. Cl. 244-134

Int. Cl. B64d 15/00

8 Claims



The apparatus is arranged to distribute de-icing fluid, as along the leading edge of an aircraft wing. A stainless steel layer is secured along the wing, galvanically isolated therefrom. Transverse apertures in this steel layer on the wing, communicate with a fluid distribution conduit contained within the wing, supplying de-icing fluid along the wing when required.

3,423,053 WATER BOMBING SYSTEM FOR HYDROPLANES

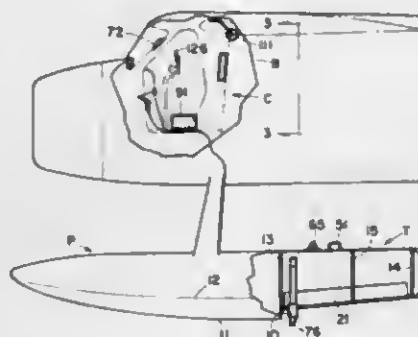
John Knox Hawkshaw, 86 Bartley Bull Parkway,
Brampton, Ontario, Canada

Filed Aug. 4, 1967, Ser. No. 658,381

U.S. Cl. 244-136

Int. Cl. B64d 1/16; E05f 15/00; G09f 9/00

9 Claims



This specification discloses a hydroplane that is equipped for water bombing with the equipment comprising: a water tank built into each pontoon with each tank having a discharge opening at the bottom and, a hinged door normally closing said opening and held in closed position by a latch. A retractable scoop is mounted on the tank bottom at one side of said door and associated therewith is a filler tube. Mechanism is provided for releasing the latch to open the door and for

closing the door. Operating means are provided for raising and lowering the scoop and this means includes a float switch for automatically raising the scoop when the water reaches a predetermined level in the tank. Controls for operating the various mechanisms are located in the cockpit and signals are provided to advise the pilot of the conditions obtaining in the bombing equipment. The mechanisms aforesaid are operated either electrically or hydraulically and manually operable emergency devices are provided to release the door or close it upon failure of such equipment.

3,423,054 BALLISTICALLY SPREAD MULTIPLE CANOPY PARACHUTE APPARATUS

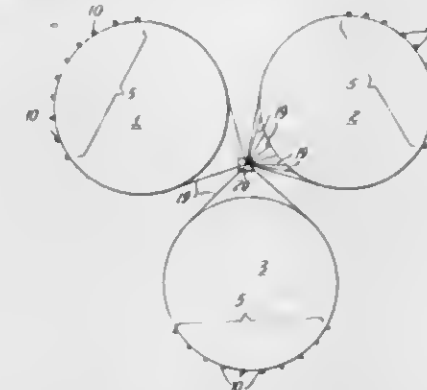
Fred B. Stencel, Asheville, N.C., assignor to Stencel Aero Engineering Corporation, Arden, N.C., a corporation of North Carolina

Filed Dec. 27, 1967, Ser. No. 693,790

U.S. Cl. 244-149

Int. Cl. B64d 17/04, 17/54, 17/72

7 Claims



In parachute apparatus including a plurality of canopies, a single power-operated spreading device is employed to spread all of the canopies simultaneously. A spreading device including an annular series of spreading projectiles is used, the series including groups of projectiles and the projectiles of each group being attached to a portion of the skirt of a different one of the canopies. For each canopy, that skirt portion to which the respective group of projectiles is attached is positively driven outwardly when the spreading device is actuated, the remainder of the skirt and the body of the canopy being spread as a result of the powered travel of the projectile-equipped skirt portion.

3,423,055 PLASTIC FASTENER AND CABLE SUPPORT

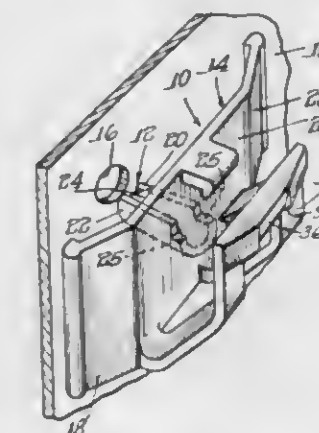
Julian V. Fisher, Carpentersville, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware

Filed Oct. 24, 1966, Ser. No. 588,976

U.S. Cl. 248-73

Int. Cl. F16l 3/12; F16b 21/08, 43/00

19 Claims



This invention relates generally to fastener studs, and more particularly to fastener studs of the type having a

shank adapted to be telescopically associated and snapped into locking association with an apertured workpiece as the head of the stud is clamped against the workpiece.

3,423,056 CAMERA LOCK FOR CONNECTING A CAMERA TO TRIPOD

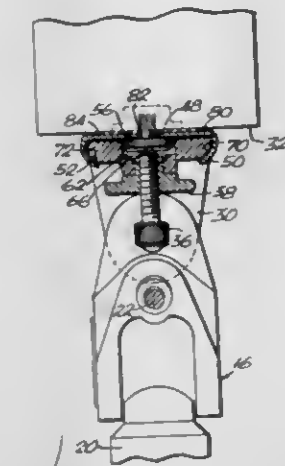
David I. Welt, 7480 SW. 128th St.,
Miami, Fla. 33143

Filed Oct. 11, 1966, Ser. No. 585,835

U.S. Cl. 248-187

Int. Cl. F16m 11/04, 11/10

5 Claims



A coupling assembly for detachably mounting and orienting a camera having a threaded aperture in one surface on a tripod support platform or the like in which an adapter element is detachably mounted by a separate fastener on the camera at the threaded aperture and includes an orienting portion complementary to a portion of a recessed slot in the surface of a support platform, and in which the platform has journaled below the platform a manually operable, captive nut having an abutment screw disposed normal to the recessed slot and abuttingly engageable with the orienting portion of the adapter element for detachably retaining the adapter element and camera to which it is attached in a fixed position relative to the support platform.

3,423,057 BRACKETS FOR MOUNTING ON A BEDSIDE TABLE OR THE LIKE

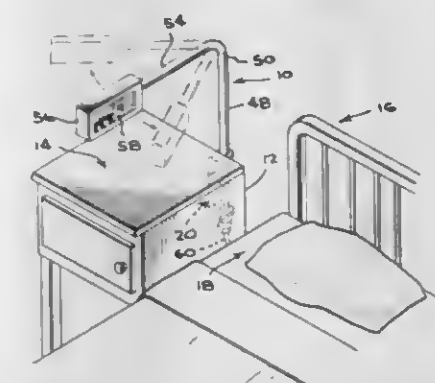
Roland N. Iverson, 2424 Converse St.,
Dallas, Tex. 75207

Continuation-in-part of application Ser. No. 458,200,
May 24, 1965. This application Jan. 27, 1967, Ser. No.
629,041

U.S. Cl. 248-296

Int. Cl. A47f 5/13

2 Claims



Brackets for mounting of communications equipment or the like including a rod-type support, the bracket and

rod being pivotally related to one another and the bracket having spring-biased detent means for holding the rod in selected relation to the bracket.

3,423,058

PROTECTIVE GARMENT HANGER BRACKET

Edward H. Kuster, Marblehead, Ohio

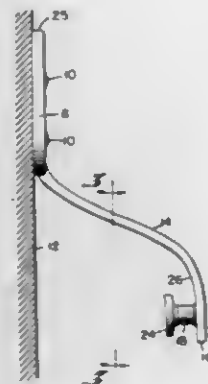
(3908 Beech St., Cincinnati, Ohio 45227)

Filed Mar. 6, 1967, Ser. No. 621,012

U.S. Cl. 248—301

Int. Cl. A47f 7/19, 5/08

2 Claims



The garment hanger bracket is constructed to suspend but one garment of fur or other material which is vulnerable to marking or defacement by contact with adjacent articles or surfaces. As constructed, the shank of the protective hanger bracket is smooth and inclined so as to induce gravity drop of any clothing or article placed thereon in contact with the garment to be protected; and the protected garment is so suspended from a nether portion of the hanger shank, as to keep said garment free of appreciable contact with a wall or other surface supporting the bracket. The nether surface of the shank guides the hook end of a conventional clothes hanger into suspension position upon the bracket shank.

3,423,059

DUAL-PURPOSE DISPLAY CARD AND WALL MOUNTING

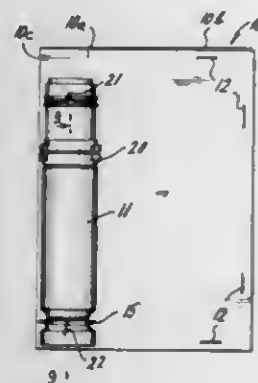
Robert D. Kahn, Rockville Centre, N.Y., assignor to Fedtro, Inc., Rockville Centre, N.Y., a corporation of New York

Filed Jan. 9, 1967, Ser. No. 607,944

U.S. Cl. 248—316

Int. Cl. A65f 5/08; B65d 73/00

4 Claims



A mounting bracket adapted to serve in the dual capacities of attaching an article of merchandise both to a wall and to a display card. The bracket includes a single lug which can be screwed to a wall and also inserted through a cut-out on the card for attachment thereto.

**3,423,060
VEHICLE SEAT HAVING SPRING SUSPENSION AND DAMPING**

Wolfgang Fulling, Solingen-Ohligs, and Manfred Ambrosius, Langenfeld, Richrath, Germany, assignors to Bremshey & Co., Solingen-Ohligs, Germany, a corporation of Germany

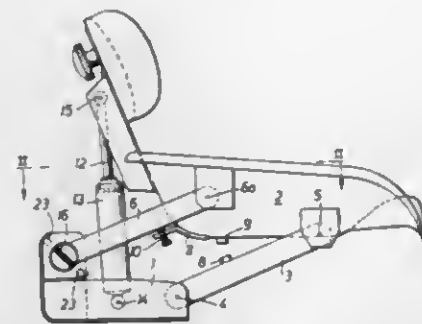
Filed Dec. 20, 1966, Ser. No. 603,265

Claims priority, application Germany, Dec. 23, 1965, B 85,111

U.S. Cl. 248—399

Int. Cl. B60n 1/02

5 Claims



Vehicle seat is provided with a prestressed torsion rod acting as a spring that has a cross-sectional shape other than a circular shape. A nonrotatable end of the length of the torsion rod that acts as a spring is mounted in a slide which is adjustable along the torsion rod. Adjustment of the slide along the torsion rod consequently furnishes a change in that length of the rod which acts as a spring and, inversely proportional therewith, a change in the spring constant thereof, i.e. in the angle about which the free end of the rod twists for a given torque.

3,423,061

MOLD WITH SUCTION HOLDERS FOR CONFECTIONS

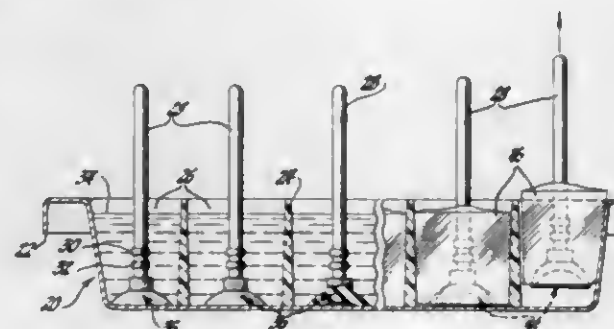
Joe P. Pietrzak, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Dec. 9, 1966, Ser. No. 600,647

U.S. Cl. 249—92

Int. Cl. F25c 7/02

3 Claims



Each compartment within the grid in the congealing tray is provided with a holder having a suction cup at the bottom adhering by suction to the surface of the tray within the compartment for keeping the holder in the desired central location therein while the liquid congeals about it.

3,423,062

SOLENOID PILOT OPERATED VALVE

Richard D. Grayson, Arcadia, Calif., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland

Filed Sept. 27, 1967, Ser. No. 670,948

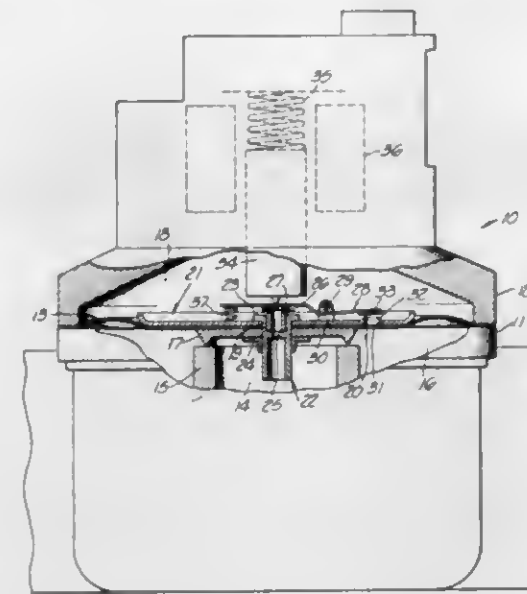
U.S. Cl. 251—30

Int. Cl. F16k 31/06, 31/145; F17d 3/00

5 Claims

The disclosure is drawn to a diaphragm operated main valve which may be maintained opened or closed by inlet pressure. The diaphragm has a first hole there-

through to allow inlet pressure to hold the main valve in a closed position. The inlet closing pressure may then be slowly bled off into the outlet by a second constricted hole through the diaphragm. Only one of the holes is



closed at a time by one of two corresponding valves on a lever operated by a spring biased solenoid plunger. The constricted hole effects slow valve opening while the unconstricted hole effects rapid valve closing.

3,423,063

VALVED SAFETY SPEED COUPLER

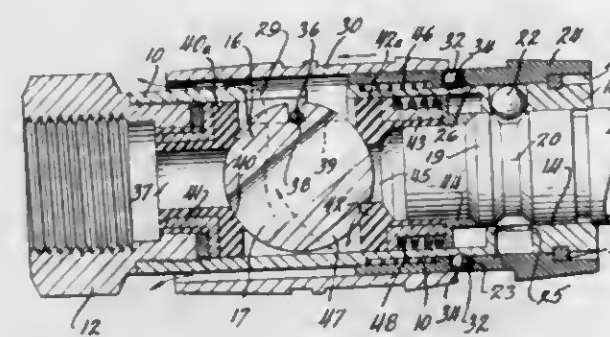
Dale F. German, Bryan, Ohio, assignor to The Aero Corporation, a corporation of Delaware

Filed Oct. 19, 1966, Ser. No. 587,768

U.S. Cl. 251—149.6

Int. Cl. F16l 37/28, 29/00

12 Claims



1. In a valved safety speed coupler, a valve and coupler body having inlet and outlet ends, a valve element therein movable to opened and closed positions, said outlet end being designed to receive a connection nipple having a peripheral locking portion, a locking element carried by said body for coaction with said locking portion of said nipple, a first sleeve slidable on said body and having a locking portion of one diameter coacting with said locking element to render it effective and another portion of larger diameter coacting with said locking element to render it ineffective and thereby permit disconnection of said nipple from said coupler, a second sleeve slidable on said body and coacting with said valve element to open it in one position thereof and close it in another position thereof, holding means for said first sleeve, and means of coaction between said first and second sleeves to actuate said holding means to its holding position when said second sleeve is in valve opened position and for releasing said holding means when said second sleeve is in valve-closed position.

3,423,064
DISPENSER VALVE MEANS

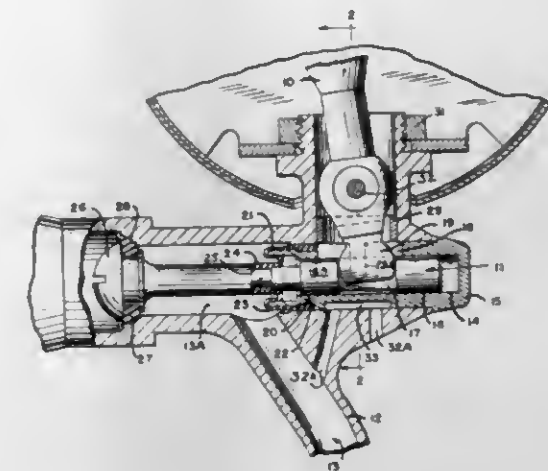
Philip W. Harland, Perkasi, and Siegfried H. A. Schmaus, Philadelphia, Pa., assignors to Ametek, Inc., New York, N.Y., a corporation of Delaware

Filed Mar. 4, 1966, Ser. No. 531,866

U.S. Cl. 251—231

Int. Cl. F16k 31/44

9 Claims



A spigot having a valve for controlling the dispensing of liquids, such as beer, wherein the valve is slidably arranged in a tubular guide having open and closed ends. A flexible seal is mounted on the open end to seal the valve parts from liquid, and the closed end of the guide prevents access to and unauthorized operation of the valve.

3,423,065

AIR VALVE

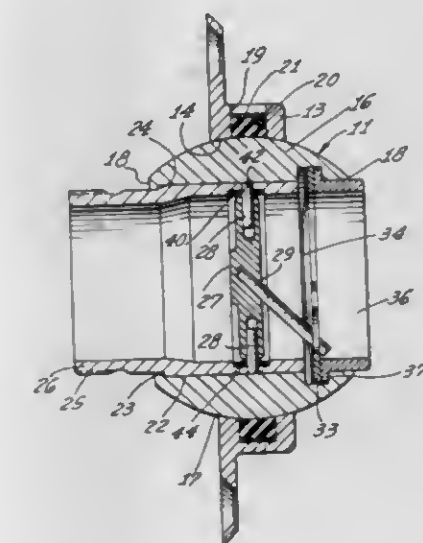
Allen Kallel and Frank J. Mufich, Los Angeles, Calif., assignors to Wemac Company, Inglewood, Calif., a corporation of California

Filed Feb. 28, 1966, Ser. No. 530,267

U.S. Cl. 251—306

Int. Cl. F16k 1/226

4 Claims



A seal for a butterfly valve member comprises a continuous thin-walled ring or narrow sleeve of resiliently deformable material mounted in an inner circumferential groove of the valve passage. The thin wall of the seal is arch shaped in cross-sectional configuration and bulges radially inwardly into yielding contact with the closed butterfly valve member, the opposite ends of the arch backing against the circumferential side walls of the groove.

3,423,066 VALVE WITH CIRCULAR BUTTERFLY VALVE MEMBER

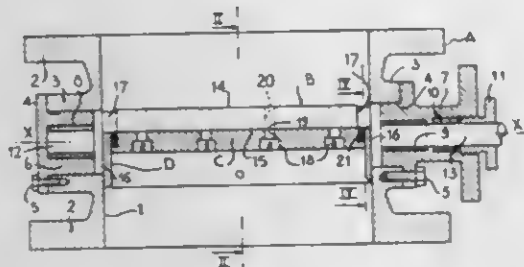
Marie Charles Emile Henrion, 11 Rue Hermite,
Nancy, France

Filed Feb. 8, 1966, Ser. No. 525,872

Claims priority, application France, Feb. 18, 1965,
6,035

U.S. Cl. 251—308
Int. Cl. F16k 5/04

10 Claims



A valve includes a body, a spindle rotatably mounted in the body and a butterfly valve member mounted on the spindle and having a fluid-tight lining seated in a groove around its periphery. The lining cooperates with a sleeve seated in the valve body to assure a fluid-tight closing of the valve. The spindle has a cylindrical body portion formed with a recess which is substantially rectangular in an axial section of the spindle and has a base lying in a chordal plane of the cylindrical body portion. The butterfly valve member is seated in this recess. Notches are provided at each end of the recess to cooperate with the sleeve in limiting movement of the valve to 90° between fully opened and fully closed positions.

3,423,067 VALVE

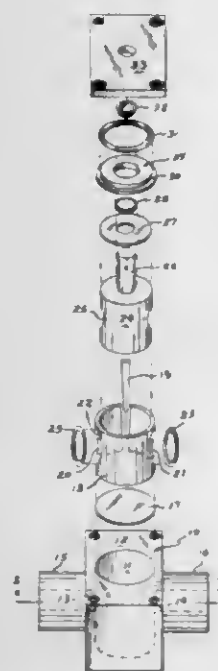
George W. Foster, Inglewood, Calif., assignor to Koehler Aircraft Products Company, Dayton, Ohio, a corporation of Ohio

Filed Sept. 30, 1965, Ser. No. 491,653

U.S. Cl. 251—309

Int. Cl. F16k 5/04, 5/10, 5/18

21 Claims



A plug type valve distinguished by a cylindrical plug element rotating in a conforming liner and in a preferred embodiment the lines superposing resilient load elements in rimming relation to flow passages.

3,423,068 PNEUMATICALLY DRIVEN SURGICAL INSTRUMENT AND CONTROL THEREFOR

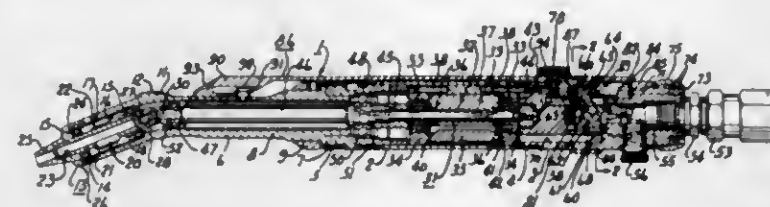
Robert M. Hall, 527 Jenkins Bldg.,
Pittsburgh, Pa. 15222

Filed Apr. 5, 1967, Ser. No. 628,629

U.S. Cl. 253—2

Int. Cl. F01d 15/06; F03b 13/00

8 Claims



A pneumatically driven surgical instrument having control valve actuator means longitudinally of the housing of the instrument which precise variable finger tip control slidably guidable along the housing body, the forward end of the housing and actuator means adapted to be received with a pen-like grip. The rotary output spindle of the instrument is angularly disposed relative to the housing for clarity of vision.

3,423,069 AIRFOIL

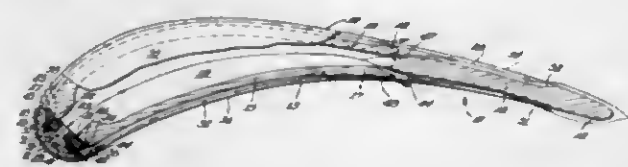
George D. Chandley, Alliance, Ohio, assignor to TRW Inc., Cleveland, Ohio, a corporation of Ohio

Filed Sept. 29, 1967, Ser. No. 671,870

U.S. Cl. 253—39.15

Int. Cl. F01d 5/08, 5/18

5 Claims



A vane or airfoil adapted for high temperature application having a plurality of parallel grooves in the outer surfaces extending from the leading edge towards the trailing edge. The vane has a cavity from which a cooling gas is delivered through ports adjacent the leading edge to the grooves to flow along the grooves to cool the surfaces of the vane and is then discharged adjacent the trailing edge in a thin layer to cool the trailing edge. Additional ports are provided between the cavity and the grooves intermediate the leading and trailing edges to supply additional cooling fluid to the grooves. The vane may further include a corrosion resistant shield made of a noble metal alloy such as platinum-20% rhodium or platinum-40% rhodium alloys which covers the leading edge to protect it from the high temperatures incurred during the use of the airfoil or vane.

3,423,070

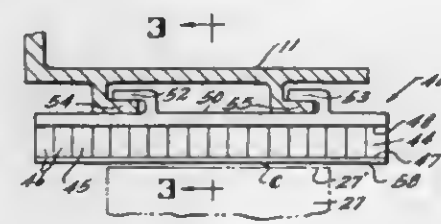
SEALING MEANS FOR TURBOMACHINERY
Charles E. Corrigan, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York

Filed Nov. 23, 1966, Ser. No. 596,613

U.S. Cl. 253—77

Int. Cl. F01d 1/04; F04d 29/08

9 Claims



A composite seal member for turbomachinery, the seal member including a core layer of honeycomb material

and surface layers of impermeate material secured to the honeycomb core.

3,423,071

TURBINE VANE RETENTION

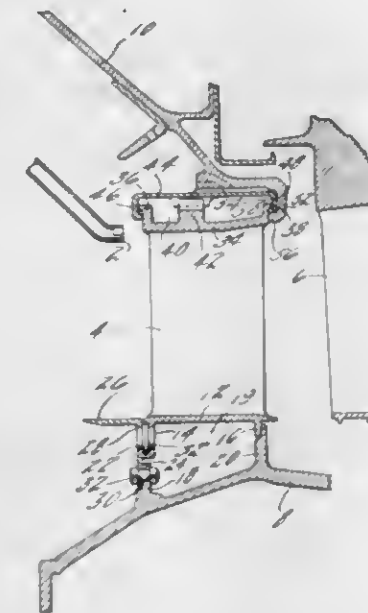
Hilmer K. Noren, Manchester, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed July 17, 1967, Ser. No. 653,716

U.S. Cl. 253—78

Int. Cl. F01d 9/02

6 Claims



A nozzle vane retention construction adapted principally for use downstream of an annular type combustion chamber in a gas turbine engine. The construction provides both vane retention capability and vane removal and replacement capability.

3,423,072

DEMOUNTABLE STRUCTURAL ASSEMBLY

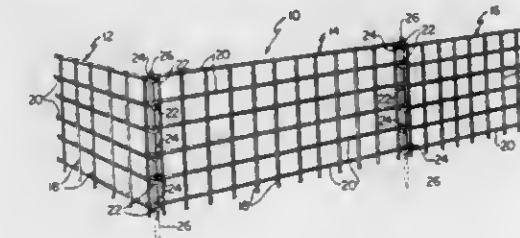
Morey Bernstein, 1819 Elizabeth, Pueblo, Colo. 81003

Filed May 18, 1967, Ser. No. 639,533

U.S. Cl. 256—24

Int. Cl. E04h 17/16

6 Claims



This invention comprises a joint for detachably and pivotally securing panel sections together to provide a composite unit, the joint between sections being comprised of a connecting or interlocking rod extending through a vertical channel formed by interdigitating unclosed hooks on the ends of adjacent sections, alternate hooks on each section opening in opposite directions.

3,423,073

CHEMICAL BLENDER

Thorstein Arge, La Canada, Calif., assignor to T. H. Arge Company, Inc., Pasadena, Calif., a corporation of California

Filed Nov. 14, 1966, Ser. No. 593,800

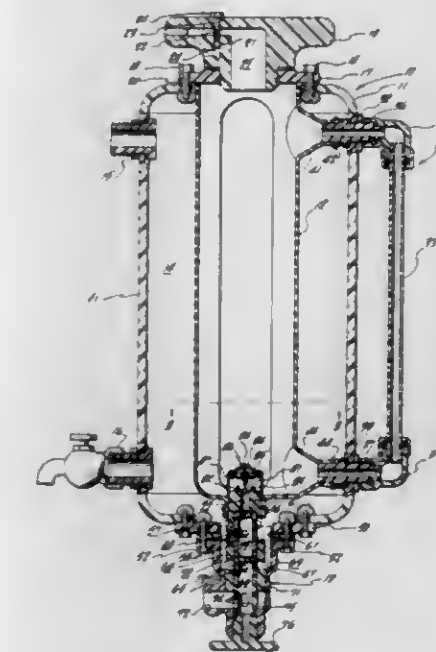
U.S. Cl. 259—4

Int. Cl. B01f 5/00; B05b 9/04

5 Claims

A housing for a first fluid contains a relatively flat, collapsible bladder for a second fluid. A plurality of hol-

low, removable inserts are serially disposed in fluid communication with the interior of the bladder. The interior of the inserts define mixing chambers which are in communication with each other through metering orifices and, independently of these orifices, the interior of the housing outside the bladder. The communication of the mixing chambers with both fluids produces a predeter-



mined blend of the fluids in each of the mixing chambers. A normally closed valve is disposed between the interior of the bladder and the mixing chambers to prevent drainage of the fluid contained in the bladder until a predetermined pressure exceeding atmospheric is exerted by the fluid outside the bladder on the fluid within the bladder.

3,423,074

MULTIPURPOSE CONTINUOUS MIXING AND/OR KNEADING APPARATUS

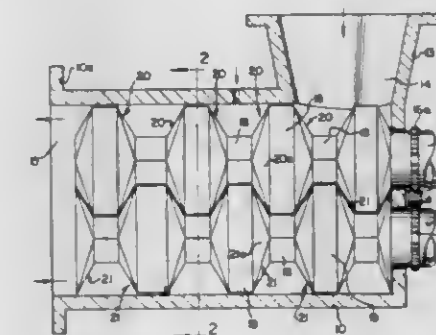
Bernard A. Loomans, Saginaw, Mich., assignor to Baker Perkins Inc., Saginaw, Mich., a corporation of New York

Filed Jan. 12, 1967, Ser. No. 608,770

U.S. Cl. 259—6

Int. Cl. B01f 7/04, 7/08; B29f 3/02

8 Claims



This invention relates to mixing and/or kneading machines of a type wherein two or more shafts are journaled in a mixer housing and pairs of radially engaging paddle-shaped sections are provided on the shafts, between a charge opening and a discharge opening, which are driven at the same speed and in the same direction of rotation to homogeneously mix and/or knead a variety of materials, which may be in plastic, liquid, granular or powder

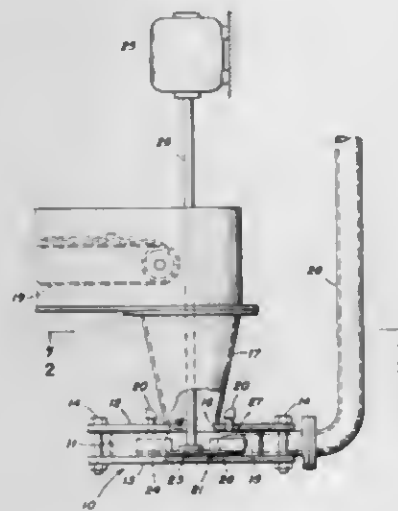
form, and are moved continuously in the mixer from the charge opening to the discharge opening.

3,423,075 MIXING DEVICE

Lawrence B. Knudsen, Middletown, and Aman D. Mun-
jee, South Orange, N.J., assignors to National Lead
Company, New York, N.Y., a corporation of New
Jersey

Filed Jan. 31, 1967, Ser. No. 612,970
U.S. Cl. 259—8
Int. Cl. B01f 7/16

8 Claims



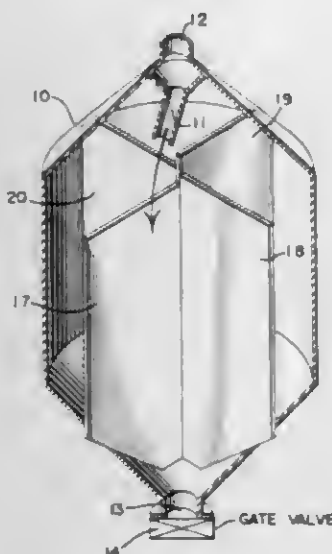
The present invention relates in general to a mixing device and more especially to a mixing pump for blending dry and wet components to form and discharge a homogeneous slurry of the same.

3,423,076 MIXING APPARATUS

Jacques M. H. Jacobs, Rozendaal, Gelderland, Andreas
A. M. Hermesen, Rheden, and Aalbert J. Hendriks and
Gerhardus A. M. Teeling, Arnhem, Netherlands, as-
signors to American Enka Corporation, Enka, N.C., a
corporation of Delaware

Filed May 6, 1966, Ser. No. 548,114
Claims priority, application Netherlands, May 12, 1965,
6506004
U.S. Cl. 259—180
Int. Cl. B01f 5/00; B28c 5/04

2 Claims



A mixing apparatus having a plurality of adjacent and interconnected compartments which communicate at dif-

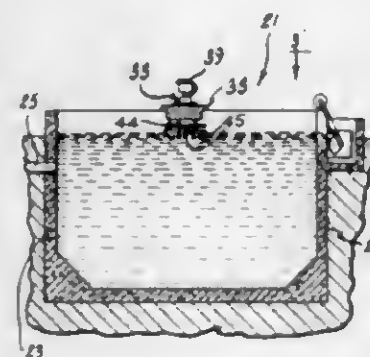
ferent levels, inlet means for discharging materials to be mixed into one of the compartments, the inlet means discharging into that compartment which communicates with an adjacent compartment at the lowest level, whereby material emerging from the inlet means first fills the one compartment to the lowest level and thereafter overflows the compartment to fill the remaining compartment to different levels in sequence and outlet means for discharging material simultaneously from all of the compartments to effect mixing thereof.

3,423,077 ADJUSTABLE WEIR

Robert C. Gloppen, Park Ridge, Ill., assignor to Yeomans Brothers Company, Melrose Park, Ill., a corporation of Delaware

Filed June 17, 1966, Ser. No. 558,459
U.S. Cl. 261—91
Int. Cl. C02b 9/00

4 Claims



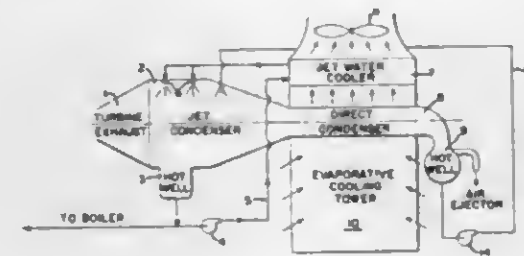
Waste treatment apparatus utilizing a mechanical surface aerator having a rotor equipped with a plurality of vanes. The level of fluid surface in the tank is remotely varied by rotating a motor-driven weir located in the outlet passageway. The outlet weir includes a rotatably mounted gate-member having a convex surface and effects a change in fluid surface level in the tank that is non-linear relative to the amount of rotation of the shaft.

3,423,078 COMBINED JET AND DIRECT AIR CONDENSER

Howard F. May, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Mar. 17, 1966, Ser. No. 535,230
U.S. Cl. 261—138
Int. Cl. F28b 1/02

1 Claim



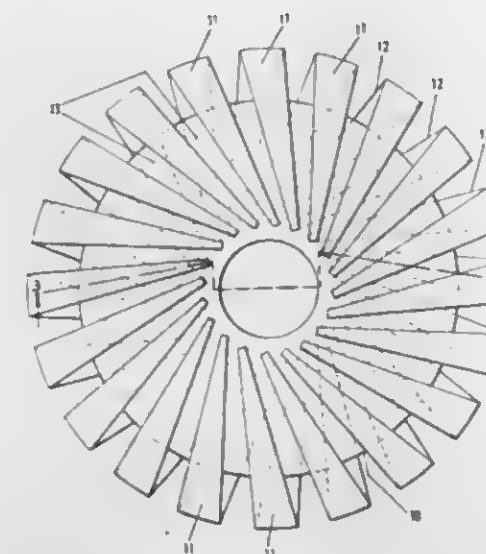
A steam condenser system having a recirculation loop connecting a first hot well with a first jet spray condenser and circulation loop including a pump connecting a second hot well with a second jet spray condenser. A pump is provided in said recirculation loop to motivate condensate from said first hot well through an air-cooled heat exchanger to said first jet condenser.

3,423,079 COIL ANNEALING CONVECTOR PLATE

Charles George McKeown, Dudley, England, assignor to Wellman Incandescent Furnace Company Limited, Stafford, England, a British company

Filed Jan. 9, 1967, Ser. No. 608,069
U.S. Cl. 263—47
Int. Cl. F27d 5/00, 21/00

4 Claims



A convector plate for use between two stacked coils of sheet metal during annealing of the latter, said plate comprising two superimposed rib systems, each composed of a plurality of separate ribs arranged so that the ribs and the passages between the ribs together define an annulus, each rib being generally wedge-shaped in plan, and having straight edges which extend between the inner and outer peripheries of such annulus and are inclined in the same sense to the radii of the annulus, the ribs of each system having their outer ends substantially coinciding with the outer ends of the ribs of the other system, but being inclined to the radii of the annulus in a sense opposite to the sense in which the ribs of the other system are inclined to the radii of the annulus, and the rib systems being constructed so that air drawn inward along the convector plate toward the interior of the coils is separated into two sets of streams, one flowing through the passages between the ribs of one system and the other flowing through the passages between the ribs of the other system, the outer portion of each passage of one rib system, adjacent the periphery of the convector plate, being merged with a passage of the other rib system, and at least half of the remainder of each passage being separated from the passages of the other rib system to minimize interference between the flow through the remainder of each passage and the flow through the passages of the other rib system.

3,423,080 ELECTRIC ARC FURNACE

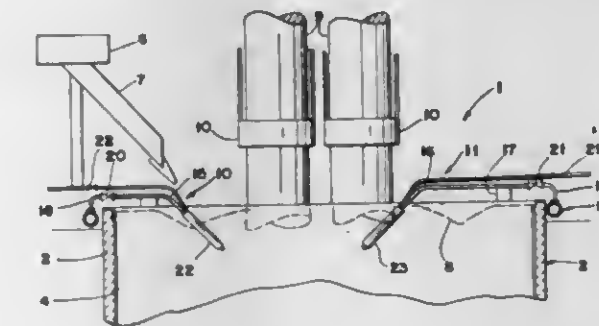
Naaman H. Keyser, Parma, Ohio, assignor to Interlake Steel Corporation, a corporation of New York

Filed Nov. 6, 1963, Ser. No. 321,908
U.S. Cl. 266—10
Int. Cl. F27b 1/08; H05b 7/18

14 Claims

1. In an electrical arc reduction furnace having a smelting zone comprising, a generally polygonal shell for receiving a charge therein, a plurality of symmetrically spaced electrodes extending into said shell and for reducing the charge within said shell, a plurality of symmetrically arranged sets of heat-resistant, lance-like members for transmitting an oxidizing media uniformly throughout the charge and into said shell, a bustle pipe disposed adjacent the top of said shell for transmitting an oxidizing media from a source of supply, said lance-

like members communicating at one end with said bustle pipe and projecting toward the other ends into the interior of said shell uniformly with respect to the electrodes and being of sufficient length to extend a predetermined distance below the surface but above the smelting zone of the charge to be reduced within said furnace, and



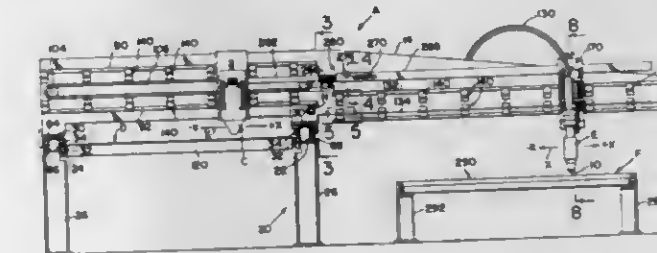
at least one of the lance-like members of each of the respective sets being disposed to project interiorly of said shell a greater distance than the other of said lance-like members and intermediate opposed pairs of electrodes for distributing oxidizing media uniformly within said shell.

3,423,081 CONTOUR CUTTING DEVICE

Howard E. Schwartz, Northfield, Ohio, assignor to Jeteut Corporation, Bedford, Ohio

Filed Nov. 9, 1966, Ser. No. 593,179
U.S. Cl. 266—23
Int. Cl. B23k 7/04

19 Claims

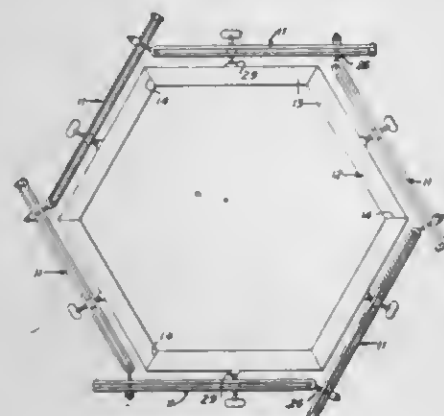


1. In a contour cutting device having a scanning head movable along a preselected pattern, the movement of said scanning head being divided into first and second generally orthogonal components, a frame movable in a y direction, a torch having a cutting nozzle, said torch being mounted on said frame and movable on said frame in an x direction, means for moving said frame in said y direction in response to said first component, means for moving said torch on said frame in said x direction in response to said second component, and means for mounting a workpiece to be cut into a shape matching said pattern in a fixed position adjacent said cutting nozzle whereby said workpiece is cut in accordance with movement of said head, the improvement comprising: said head movable on said frame in said x direction as said head moves along said pattern; and means for directly connecting said head onto said torch; said connecting means including a first elongated member connected onto said head and a second elongated member connected onto said torch, said elongated members being mutually telescoping with one member slidable into the other member, said outer telescopic member having a transverse opening, a locking element movable into said opening and into friction contact with said inner telescopic member, and means for locking said element in said friction contact whereby said locking allows slight transverse flexing without longitudinal movement between said telescoping members.

3,423,082
CLAMPING FRAMES
 Charles T. Reyner, 4118 23rd St. N.,
 Arlington, Va. 22207

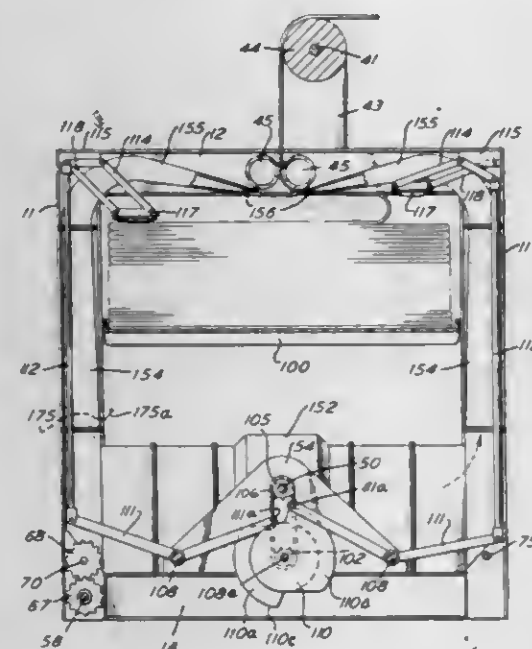
Filed June 18, 1965, Ser. No. 465,071
 U.S. Cl. 269—104 3 Claims
 Int. Cl. B25b 5/14, 11/02, 5/04

The invention relates to a clamping frame comprising individual, separable arms with means to connect them in angular relation. The frame may be assembled with three or more arms to surround work pieces having three or more sides of equal or variable lengths. An adjustable



clamp is attached to each arm for engagement with the work piece.

3,423,083
APPARATUS FOR FOLDING FABRIC
 Van D. Sherrill, Cornells Heights, Pa., assignor to Venango Engineering Co., Philadelphia, Pa., a corporation of Pennsylvania
 Filed Dec. 9, 1966, Ser. No. 600,431
 U.S. Cl. 270—69 9 Claims
 Int. Cl. B65b 45/105

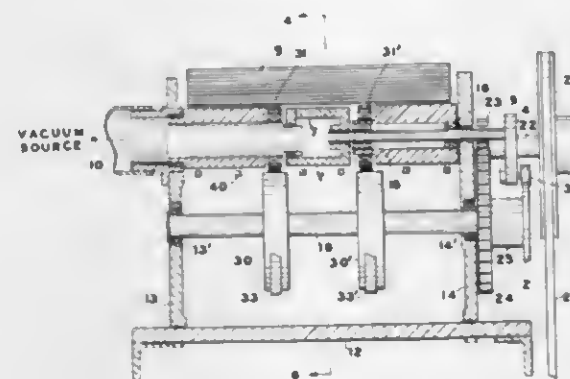


Apparatus for folding a downwardly moving continuous length of fabric which directs the moving fabric into folds onto a table by use of a plurality of alternate air streams and clamping members.

3,423,084
VACUUM FEEDER FOR HEAVY SHEET MATERIAL
 Clement R. Konazewski, Glen Cove, N.Y., assignor to Halm Instrument Co. Inc., Glen Head, N.Y.
 Filed Apr. 10, 1967, Ser. No. 629,735
 U.S. Cl. 271—29 2 Claims
 Int. Cl. B65h 3/08

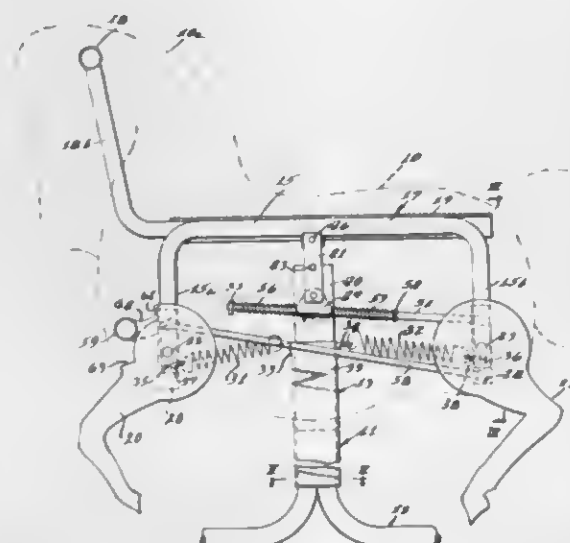
The invention comprises an oscillating vacuum sucker cylinder for feeding heavy sheets from a stack. The sur-

face of the cylinder has a flat surface with a vacuum aperture. This aperture is rotated to parallel position to the material being fed. The vacuum draws the bottom sheet to the flattened vacuum aperture. The sucker is then rotated into contact with takeaway rollers. As a first sheet



is taken away the vacuum cylinder returns to its first position and the trailing edge of the first sheet exposes the vacuum aperture which then attracts the next sheet in continuously progressive overlapping sucking relation which preserves the vacuum seal. The vacuum cylinder is not otherwise valved.

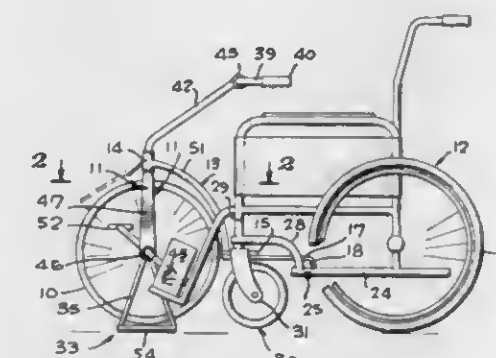
3,423,085
RESILIENTLY SUPPORTED HOBBYHORSE MOUNTED ON A PLURAL PIVOTED LINK
 Edward J. Koller, Collierville, and Thomas J. Pierce and Andrew W. Pulk, Jr., Memphis, Tenn., assignors to Wonder Products Company, Collierville, Tenn., a corporation of Tennessee
 Filed Nov. 24, 1961, Ser. No. 154,775
 U.S. Cl. 272—53.2 7 Claims
 Int. Cl. A63g 17/00



5. A resiliently supported riding toy comprising a body adapted to be ridden, a stand for supporting the body, a link pivotally connected at one point to the body, a vertical cylinder and piston assembly shaped to be non-rotatably and slidably telescoped with one end rigidly mounted on said stand and the other end pivotally connected to another point on said link with said pivotal connections affording pivotal movement about lateral horizontal axes, and fore and aft horizontal coil tension springs connected between said rigidly mounted end and the body for vertically supporting the body.

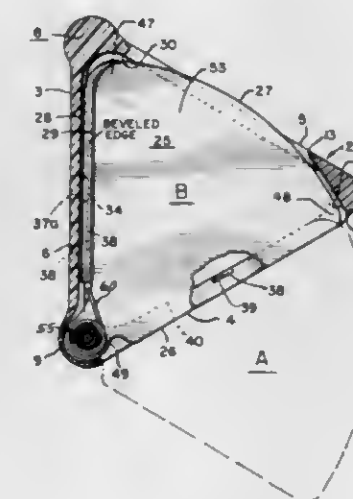
3,423,086
EXERCISING DEVICE FOR ATTACHMENT TO A WHEELCHAIR

Jonie M. T. Moore, 9300 3rd Ave.,
 Inglewood, Calif. 90305
 Filed Oct. 24, 1965, Ser. No. 504,519
 U.S. Cl. 272—73 3 Claims
 Int. Cl. A63b 23/04



A leg-exercising device for attachment to a wheelchair or walker vehicle and comprising a structure having bicycle-like peddles so positionable in front of said vehicle that an occupant thereof may operate the peddles.

3,423,087
BILLIARD BALL RACK
 Frank J. Sowa, 8829 S. Albany Ave.,
 Evergreen Park, Ill. 60642
 Filed Apr. 6, 1966, Ser. No. 540,710
 U.S. Cl. 273—22 6 Claims
 Int. Cl. A63d 15/00; B65d 1/34, 43/18

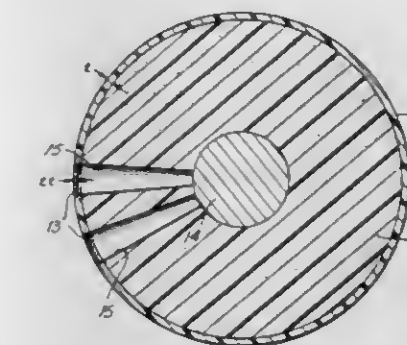


A billiard ball rack having a triangular frame with slots in two of the side elements and a bottom wall pivoted at an apex between a rear wall and one of the side walls, and a latch normally latching the bottom wall in closed position and manually operable to release a biasing element for swinging the bottom wall to open position.

3,423,088
PLASTIC PRACTICE BOWLING BALL WITH SELECTABLE COVERED FINGER HOLES
 Don D. Lawrence, Leyden St., Nesconset, N.Y. 11767
 Filed Oct. 10, 1966, Ser. No. 585,415
 U.S. Cl. 273—63 4 Claims
 Int. Cl. A63b 37/00

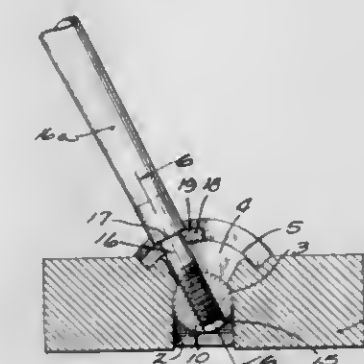
A practice bowling ball including an outer shell filled with a foam plastic material supporting a centrally posi-

tioned spherical weight. Some finger receiving recesses open through the shell and others are removably cov-



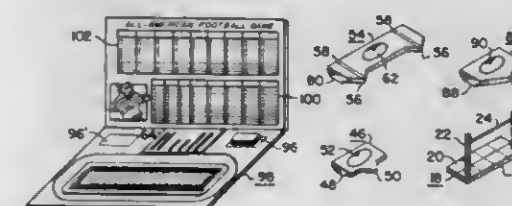
ered by reduced thickness portions of the shell so that different grips are available to a bowler.

3,423,089
ADJUSTABLE PIVOTAL CONNECTION MECHANISM WITH LOCKING MEANS
 Ernest R. Andis, 3528 N. Bay Drive,
 Racine, Wis. 53402
 Filed Mar. 11, 1966, Ser. No. 533,620
 U.S. Cl. 273—80.1 3 Claims
 Int. Cl. A63b 67/00; F16m 11/10



A mechanism for pivotally connecting two members together including a generally cylindrical nut which is snugly seated in a complementary opening and a locking clamp engaged between an arcuate surface on one member and a shoulder on the other member to function as a locking means between the members.

3,423,090
GAME APPARATUS HAVING REVERSIBLE GOAL MEANS
 Robert J. Pfund, 406 Soose Road,
 Pittsburgh, Pa. 15209
 Filed Sept. 7, 1965, Ser. No. 485,226
 U.S. Cl. 273—85 6 Claims
 Int. Cl. A63f 7/06



A game board having on its face a football field. Along the sides of the field are grooves with slidable markers.

One marker has a pointer to indicate where the ball is located and the other has two pointers spanning a ten yard increment on the field. At each end of the field there is a goal structure. Each structure consists of a rectangular base and a pair of goal posts attached adjacent one lateral edge of the base so that by turning the base 180° the goal posts can be made to lie on the 0 yard line or deep in the end zone. Also attached to the board is a scoreboard with slidable markers movable in grooves.

3,423,091

ELECTRONIC RACING GAME

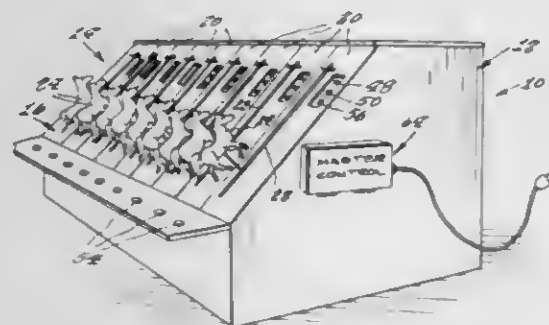
Alvin Miller, 18 Putnam Court,
Commack, N.Y. 11725

Filed May 17, 1966, Ser. No. 550,725

U.S. Cl. 273-86

Int. Cl. A63f 9/14

3 Claims



An electronic racing game comprising a housing, a front side on said housing, said front side having an inclined wall, said inclined wall being comprised of a plurality of unit panels, each of said panels having a slot therethrough forming a track, a horse configured playing piece movable along said track between a starting position at the lower end of said track and a finish line at the upper end of said track, means for moving said playing piece horse along said track, said means comprising a unit control associated with each of said panels, a singular master control associated with all of said unit controls, said master control being operated by an operator of said racing game, each of said unit panels comprising a playing station for an individual participating player.

3,423,092

SELF-MARKING FIREARM TARGET INCLUDING A RESILIENTLY DEFORMABLE MARKING SHEET

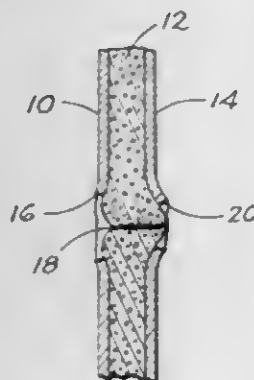
Walter Kandel, 4834 N. Interstate Ave.,
Portland, Ore. 97217

Filed Oct. 11, 1965, Ser. No. 494,317

U.S. Cl. 273-102.1

Int. Cl. A63b 63/00

4 Claims



A stiff backing sheet supports a marking sheet of bullet-puncturable, resiliently deformable foamed rubber

or plastic having glued to its front surface a bullet-puncturable target sheet the front surface of which is of a color contrasting with the color of the front surface of the marking sheet.

3,423,093

GAME BOARD AND PLAYING PIECES FOR A GAME ADAPTED TO TEACH CHEMISTRY

Noam Lahav, Rehovoth, Israel, assignor to Yisum Research Development Company of the Hebrew University of Jerusalem

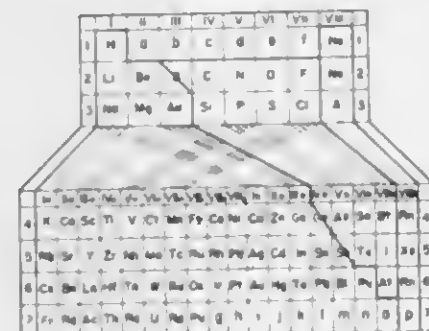
Filed Aug. 27, 1965, Ser. No. 483,168

Claims priority, application Great Britain, Feb. 1, 1965, 4,376/65

U.S. Cl. 273-135

Int. Cl. A63f 3/00; A63b 71/00; G09b 23/24

12 Claims



A game adapted to teach chemistry which includes a game board having chemical elements designated on a plurality of spaces thereon arranged like the Periodic Table of the elements, means operating by chance to direct a player to one of the spaces, playing pieces each having one of said chemical elements designated thereon and adapted to be combined with at least one other playing piece to provide a designation of a chemical compound, certain of said pieces designating metals and certain of said pieces designating non-metals with physical means on said pieces to provide for their combination.

3,423,094

GOLF STANCE CORRECTING DEVICE

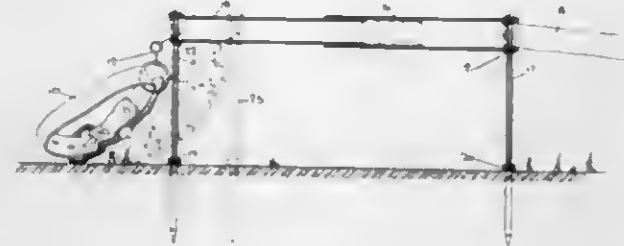
Harry Auslander, 976 W. Alisal, Apt. 8, and Gary E. Morano, P.O. Box 1141, both of Salinas, Calif. 93901

Filed Aug. 23, 1967, Ser. No. 662,640

U.S. Cl. 273-187

Int. Cl. A63b 69/36; A01k 15/00; B68b 1/14

2 Claims



A golf stance correcting device including a calibrated body of adjustable length adapted to be supported horizontally at approximately the level of the golfer's ankles between a golfer's legs and having ground penetrable spikes for anchoring the body in the ground and a pair of leg clamps at its opposite ends. One of the clamps holds one leg of the golfer closely adjacent to one end of the body and the other clamp engages the other leg of the golfer while permitting said other leg to pivot on a short linkage around the other end of the body.

3,423,095

GOLFING AID

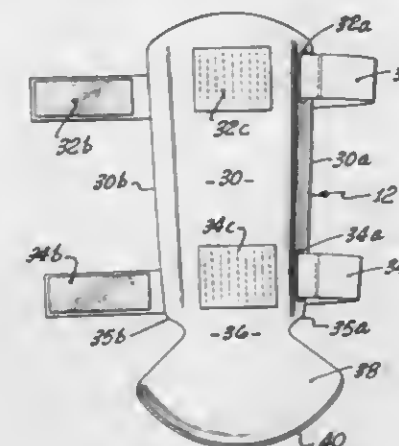
William H. Cox, 409 N. Harvard Blvd.,
Los Angeles, Calif. 90004

Filed Oct. 22, 1965, Ser. No. 501,387

U. S. Cl. 273-189

Int. Cl. A63b 69/36; A63d 5/00; A61g 7/04

2 Claims



An elongated transversely arcuate rigid sheet portion is secureable to a golfer's forearm and includes a rigid planar fan-shaped portion which spans the back of a golfer's hand to prevent the backward collapse of a golfer's wrist while executing a golf swing.

3,423,096

GOLF PRACTICE DEVICE

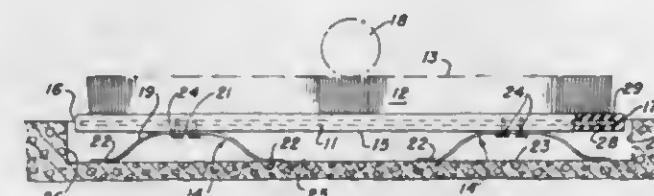
Richard N. Tone, 1803 Mezes Ave.,
Belmont, Calif. 94002

Filed Dec. 2, 1965, Ser. No. 511,209

U.S. Cl. 273-195

Int. Cl. A63b 69/36

4 Claims



A mat from which golf balls may be driven including a relatively rigid supporting member and a plurality of grass simulating bristles mounted thereon. The underside of the member mounts inverted U-shaped leaf springs which are slidable on an underlying surface. When struck with a golf club head, the supporting member yields under the impact by depressing the mounting springs.

3,423,097

APPARATUS FOR TEEING GOLF BALLS

Henry Gordon Fry, Ferndown, Dorset, England, assignor to Chalwyn Limited, Parkstone, Dorset, England, a British company

Filed Mar. 10, 1966, Ser. No. 533,182

Claims priority, application Great Britain, Mar. 11, 1965, 10,411/65

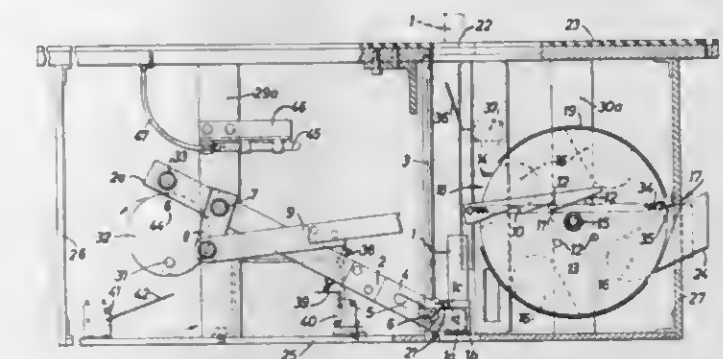
U.S. Cl. 273-201

Int. Cl. A63b 57/00; F41c 25/00

2 Claims

Apparatus for successively presenting golf balls on a tee ready for driving, with a tee, a manually operable lever for moving the tee into an upper position for driving of a golf ball thereon or a lower position for reloading, a drum having peripheral pockets each adapted to contain a golf ball delivered from a chute and an indexing lever connected to the lever moving the tee and having a

hooked end engagable with pins disposed around the drum so that, as the tee moves to the upper position, the hooked end engages another pin and as the tee moves to



its lower position, rotates the drum thereby dumping a golf ball onto the tee and presenting an empty pocket to the chute to be refilled.

3,423,098

BALL CHUCK WITH ROLL-BACK BEARING

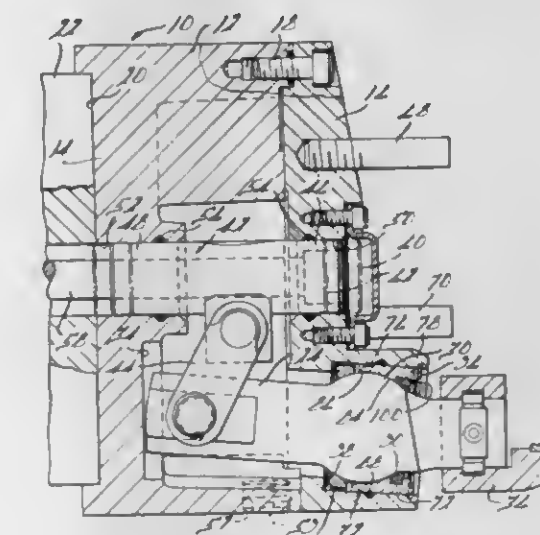
George Hohwart, Farmington, and Paul Toth, Allen Park, Mich., assignors to N. A. Woodworth Company, Farmington, Mich., a corporation of Michigan

Filed May 25, 1966, Ser. No. 552,869

U.S. Cl. 279-109

Int. Cl. B23b 31/18

6 Claims



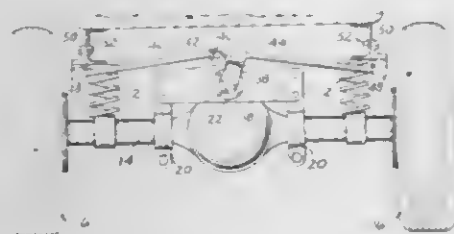
This invention is concerned particularly with improved swivel mountings for the rocker arms that carry the work clamping jaws. In this invention, the mountings are uniquely constructed to pull the workpiece back against fixed stops automatically under clamping pressure regardless of the diameter of the work or its relation to the spacing of the rocker arms. In addition, the swivel mountings are uniquely constructed to permit radial adjustment of the rocker arms to compensate for variations in different chucks due to manufacturing tolerances or other causes and to assure precise alignment of the clamped workpiece with respect to the center of the chuck. Further, in this latter connection chucks of the type here under consideration are adapted to be piloted on and fixed to the spindle of a machine tool or the like, and the adjustment feature last referred to makes it possible to move the individual rocker arms and work clamping jaws radially within limits to assure precise alignment of a workpiece clamped in the chuck with the rotational axis of the spindle. Moreover, the swivel mountings for the rocker arms have been

specially designed and constructed for easy assembly and disassembly and the seal with which mountings of this type conventionally are equipped is uniquely disposed for convenient servicing or replacement.

3,423,099

VEHICLE STABILIZER

Alfred J. De Mars, Portland, Oreg., assignor of one-half to Albert T. Strand, Sandy, Oreg.
Filed Aug. 23, 1966, Ser. No. 574,453
U.S. Cl. 280—6 5 Claims
Int. Cl. B62d 37/00; B60g 21/00

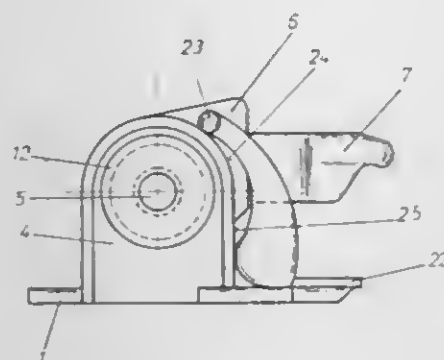


A pair of elongated stabilizer rods extend transversely of a vehicle and are connected pivotally at their outer ends to the vehicle body. The inner ends of the rods are connected pivotally to gear mechanism mounted on the vehicle frame such that longitudinal movement of one of the rods in one transverse direction of the vehicle causes simultaneous movement of the other rod in the opposite transverse direction.

3,423,100

HEEL-HOLDING DEVICE FOR SAFETY SKI BINDINGS

Otto Huss, Wallgau, via Garmisch-Partenkirchen, Germany, assignor to Hannes Marker Sicherheits-Skibindungen KG.
Filed Sept. 18, 1967, Ser. No. 668,378
Claims priority, application Germany, Sept. 26, 1966, M 71,062 2 Claims
U.S. Cl. 280—11.35
Int. Cl. A63c 9/00



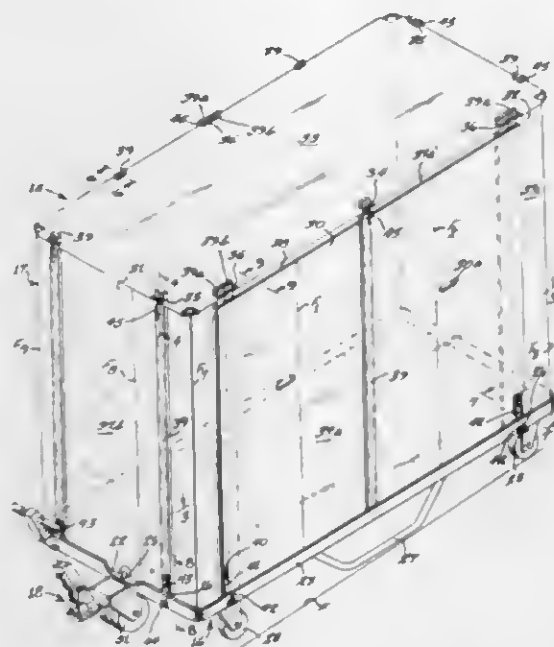
A closing pedal moves a sole holder to its locking position in response to the insertion of the skiing boot into the binding. The sole holder is movable to a release position automatically in response to an excessive tensile force, which is approximately vertically upwardly directed, or arbitrarily by the action of an opening device. The closing pedal and the sole holder are arbitrarily connected. The sole holder is secured to a carrying member, which is pivoted on an axis extending behind the heel transversely to the longitudinal direction of the ski. The closing pedal is pivoted to the carrying member on an axis which is parallel to the pivotal axis of the carrying

member. The free end of the closing pedal bears on a cam track, which is fixed to the ski.

3,423,101

FREIGHT CONTAINER

Paul F. Boeye, Rte. 1, Box 588, Mound, Minn. 55364
Filed Sept. 19, 1966, Ser. No. 580,317
U.S. Cl. 280—46 10 Claims
Int. Cl. B62b 1/04, 7/06; B65d 9/12

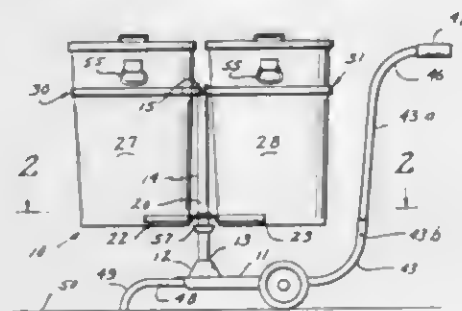


A freight container including a rigid pallet with stationary skids intermediate the ends for normally supporting the pallet and wheels elevated slightly to support the pallet when tilted by a dolly for transporting, the container also including a demountable enclosure with a plurality of sidewall panels foldable into a small compass to be collapsed and laid on the bottom side of the pallet between the skids and wheels for return to the original destination.

3,423,102

COMBINATION GARBAGE CAN CONVEYER AND RACK

Russell C. Heldenbrand, P.O. Box 178, New Iberia, La. 70560
Filed Sept. 25, 1967, Ser. No. 670,118
U.S. Cl. 280—47.19 2 Claims
Int. Cl. B62b 5/00; A47g 29/00

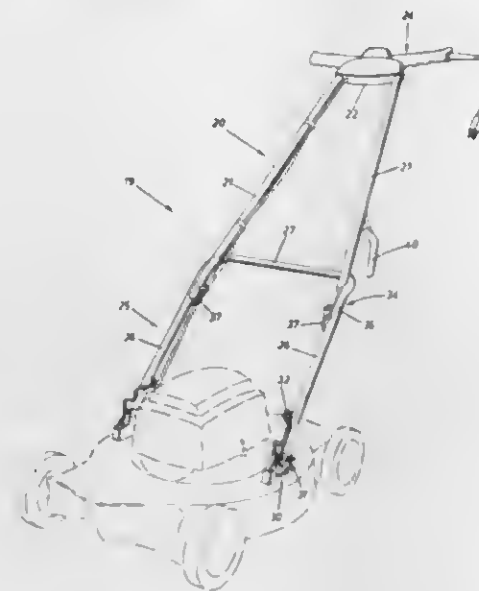


A combination garbage can, conveyer, and rack having a vertical member rotatably carried on a wheel-supported base with a slot at the upper end of the tubular member for engaging with a slot in bands that fit around garbage cans to be positioned in opposed relationship on the tubular member, and a handle connected to the base for moving the rack and the garbage can supported therein.

3,423,103

COAXIAL HANDLE ARRANGEMENT

Robert K. Maltarp, Barrie, Ontario, Canada, assignor to Canadian General Electric Company Limited, Toronto, Ontario, Canada, a corporation of Canada
Filed Feb. 2, 1966, Ser. No. 524,546
Claims priority, application Canada, Aug. 7, 1965, 937,596 7 Claims
U.S. Cl. 280—47.37
Int. Cl. B62b 3/00; A01d 53/08

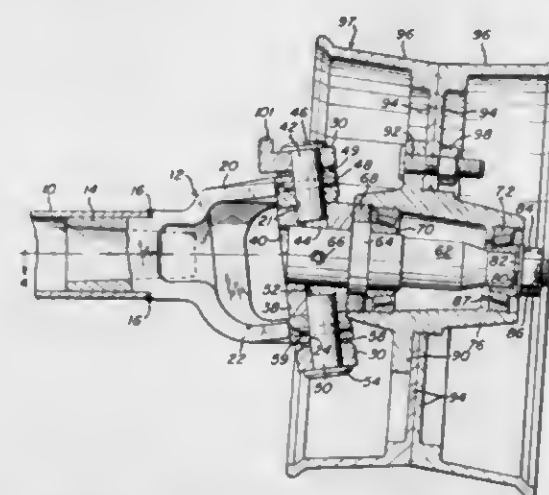


A foldable handle for a lawnmower wherein a U-shaped upper frame may be arranged in a folded position with respect to a lower frame member.

3,423,104

VEHICLE WHEEL STEERING APPARATUS

John M. Beach, Dayton, Harry H. Cecil, Brookville, Arthur R. White, Dayton, and George S. Ziegler, Miamisburg, Ohio, assignors to J. M. Beach Manufacturing, Inc., Dayton, Ohio, a corporation of Ohio
Filed Apr. 21, 1966, Ser. No. 544,259
U.S. Cl. 280—96.1 3 Claims
Int. Cl. B62d 7/06

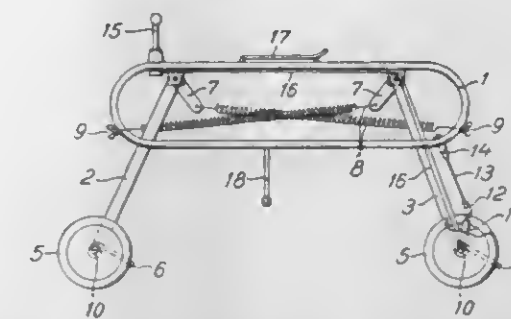


Vehicle wheel steering apparatus in which king pin structure comprises a pair of king pin members which are coaxially disposed and which pivotally join a connector member to an axle. A spindle is attached to the connector member. By this means the spindle is pivotally joined to the axle. Preferably, the connector member has a pivotal axis which is at an angle other than 90 degrees with respect to both the longitudinal axis of the axle and the longitudinal axis of the spindle. The spindle is adapted to carry a rotatable wheel member. Thus, the radius of pivotal movement of the wheel member about the axis of the king pin members is very short.

3,423,105

MOVING TOY AND EXERCISING DEVICE

Fritz Kerstholt and Gerdi Kerstholt, both of Braunfelser Str. 180, Philippstein, Germany
Filed Aug. 18, 1966, Ser. No. 573,290
Claims priority, application Germany, Aug. 24, 1965, K 52,057; June 18, 1966, K 59,532 7 Claims
U.S. Cl. 280—218
Int. Cl. B62m 29/00

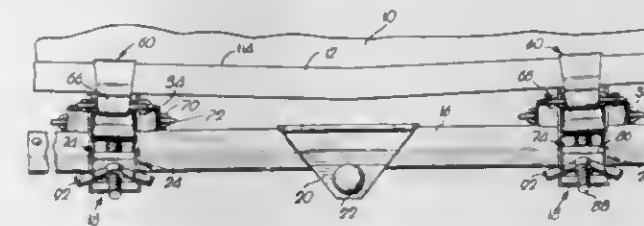


A toy and exercising device for moving a person comprising a supporting body having two rigid leg pairs pivotally secured thereto, said leg pairs each having a lever and a spring means associated therewith, each said lever and spring means acting independently of the other, and adjustable blocking means for the leg pairs whereby locomotion can be effected by alternately spreading and pulling together the leg pairs. The leg pairs may terminate in any suitable surface engaging means such as wheels or runners.

3,423,106

TRAILER HITCH

William R. Parkhurst, Sedalia, Mo., assignor to Parkhurst Manufacturing Company, Sedalia, Mo., a corporation of Missouri
Filed Mar. 9, 1967, Ser. No. 621,965
U.S. Cl. 280—502 4 Claims
Int. Cl. B60d 1/00



A hitch having a pair of units slidably carried on a drawbar, each unit including a box mount engaging the bumper of a towing vehicle and attached thereto by a chain having a hook latch secured over the upper edge of the bumper. A second chain extends below the bumper for hooking to the vehicle and is coupled to the drawbar by take-up means disposed within the mount for frictionally clamping the bar against the mount. An inclined bumper engaging member is provided on the mount and is rotatable to vary its angle as dictated by the particular configuration of the bumper, thereby maintaining the hitch in a level position.

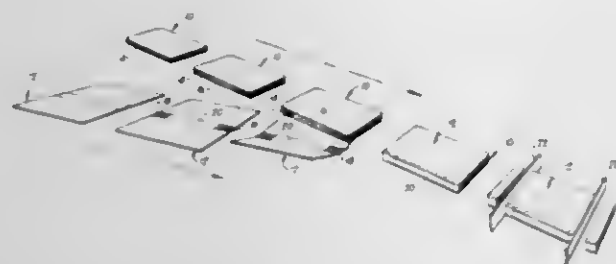
3,423,107

METHOD OF BINDING BOOKS

Charles E. Potter, Park Forest, and Paul E. Chamberlain, Frankfort, Ill., assignors to Illinois Adhesive Products Company, Chicago, Ill., a corporation of Oklahoma
Filed May 10, 1967, Ser. No. 637,546
U.S. Cl. 281—21 5 Claims
Int. Cl. B42d 1/00, 3/00; B42c 9/00

A method for manufacturing paperback books which entails initially positioning a water insoluble adhesive on a medial portion of the backbone of the book before

the cover is attached to the book so that the adhesive extends less than the length of the backbone, and does not cover the opposite end portions of the backbone. A water soluble adhesive is then placed on the web of the cover of the book on those surfaces adjacent the ends of the web which will contact the opposite end portions



of the backbone when the cover is placed in position on the book. The head and tail portions of cover and pages are then cut away by a trimming procedure so that the lines of severance extend through the end portions of the backbone and web of the cover which are adhered to each other by the water soluble adhesive.

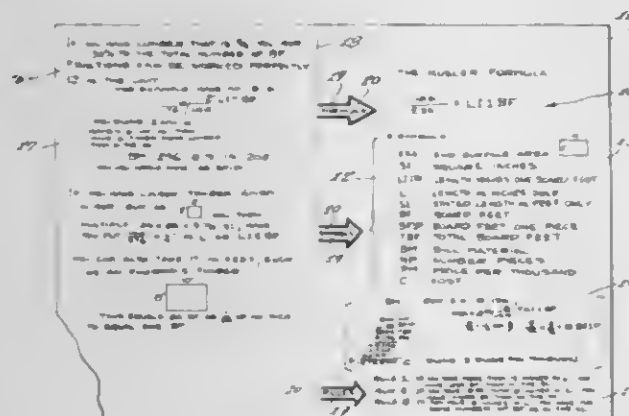
3,423,108 PAPER FOR USE WITH A FORMULA FOR MEASURING LUMBER

Calvin J. Kusler, 1113 4th Ave. W.,
Kalispell, Mont. 59901

Filed Aug. 26, 1966, Ser. No. 575,453

U.S. Cl. 283-44
Int. Cl. G09b 23/02

1 Claim



A paper including a formula for measuring lumber wherein the length is gotten for one board foot of lumber by division of the board feet per one piece and the total board feet, the formula being imprinted upon the paper which is centrally folded and having a series of struck out arrows along the fold line so as to identify portions of text also imprinted upon the paper, the text including also symbols and rules.

3,423,109 HOSE FITTING

Truman L. New and Joseph F. Phelps, Fort Worth, Tex.,
assignors to Stratoflex, Inc., Fort Worth, Tex., a corporation of Texas

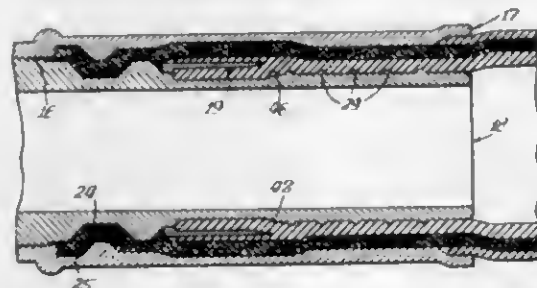
Filed Mar. 30, 1966, Ser. No. 538,688

U.S. Cl. 285-149
Int. Cl. F16I 17/02

2 Claims

This disclosure deals with a hose fitting for use with hose including a flexible inner tube and a wire reinforcement which surrounds the inner tube. The fitting includes a gripping section wherein a bared portion of the hose reinforcement is gripped, and two sealing sections, the two sealing sections being particularly effective at different

ent pressure ranges. One of the two sealing sections preferably comprises a gland-type seal, and the other of the



two sealing portions preferably comprises a compression type seal.

3,423,110 QUICK-CONNECTIVE COUPLING

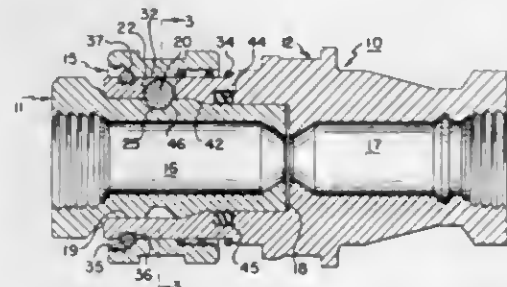
Howard J. Hansen, Bay Village, and Ralph T. Marette,
Chagrin Falls, Ohio, assignors to The Hansen Manufacturing Company, Cleveland, Ohio, a corporation of Ohio

Filed Feb. 18, 1966, Ser. No. 528,565

U.S. Cl. 285-277

Int. Cl. F16I 27/08, 37/22

16 Claims



A quick-connective coupling in which detent members in the socket part have a line contact with a shoulder on the plug part to prevent separation of the socket and plug and a line contact with a side wall of the opening in the socket member in which the detents are positioned and a line contact with a locking sleeve for holding the detent members in locking position. Detent members which are circular in cross-section throughout their length and having concavely shaped center portions of reduced cross-section, convexly curved end portions for engaging the locking sleeve and intermediate portions for engaging a side wall of the opening in the socket part for receiving the detent member.

3,423,111 PLAIN END PIPE JOINT

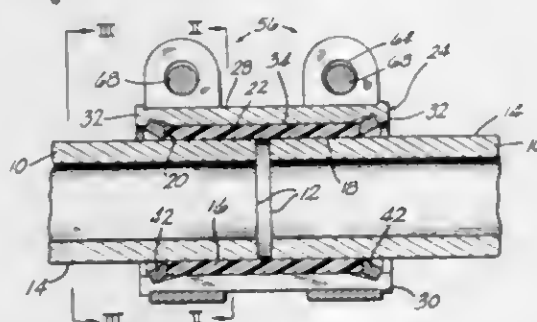
Edwin C. Elsner, Tujunga, Calif., assignor to Aeroquip Corporation, Jackson, Mich.

Filed May 10, 1967, Ser. No. 637,579

U.S. Cl. 285-340

Int. Cl. F16I 21/04

5 Claims



A joint or coupling for conduit or pipe particularly suitable for coupling plain end conduits in end-to-end relationship utilizing a tubular resilient gasket encompassed within a radially contractible sleeve. Radially contractible metal rings are located within the sleeve including a

sharpened edge which embeds into the conduits simultaneously with radial contraction of the sleeve to compress the gasket into sealing relationship with the conduit's exterior surface, the rings confining the gasket against longitudinal extrusion and preventing relative axial displacement between the conduits and the sleeve.

3,423,112 RAILROAD CAR BRAKE DEAD LEVER LINK ANCHOR

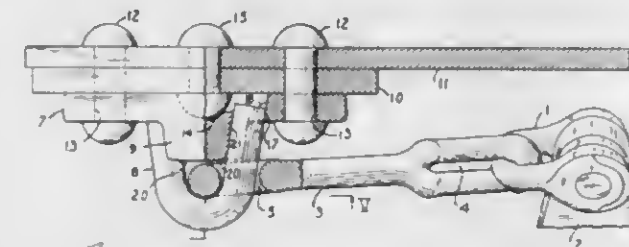
Roland E. Cale, Mount Lebanon, Pa., assignor to Schaefer Equipment Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 19, 1967, Ser. No. 668,875

U.S. Cl. 287-20.1

Int. Cl. B61h 13/02

6 Claims



A plate adapted to be fastened to an overlying railroad car body, is provided with a pair of longitudinally-spaced vertical holes in which are welded the ends of a rod bent into the form of a V-shape loop beneath the plate. One side of the loop extends through a circular opening in one end of a dead lever link. A filler block inside the loop extends from the plate downwardly nearly to the portion of the link in the loop and engages the opposite sides of the loop.

3,423,113 CONNECTOR FOR TUBULAR MEMBERS

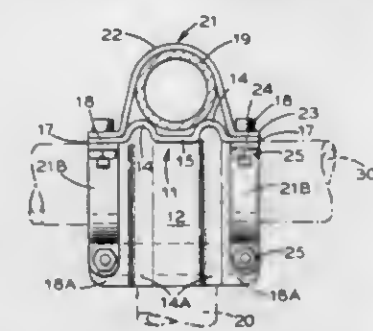
George E. Gonsalves and Felice Dosso, Brooklyn, N.Y.,
assignors to Erie Packaging Corp., Brooklyn, N.Y., a corporation of New York

Filed Jan. 10, 1966, Ser. No. 519,640

U.S. Cl. 287-51

Int. Cl. F16h 7/04; E04c 5/16; A44b 21/00

1 Claim



Angular connector means for interconnecting tubular members and other elongated members; the connector means being formed of thin sheet metal having hollow rib portions for reinforcing the connector means and further providing means for locating and cradling the tubular members in clamped relation thereto.

3,423,114 SEALING BELLOWS FOR BALL JOINTS

Rudolf Gottschald, Osterath, Germany, assignor to A. Ehrenreich & Cie., Dusseldorf-Oberkassel, Germany

Filed Dec. 12, 1966, Ser. No. 600,844

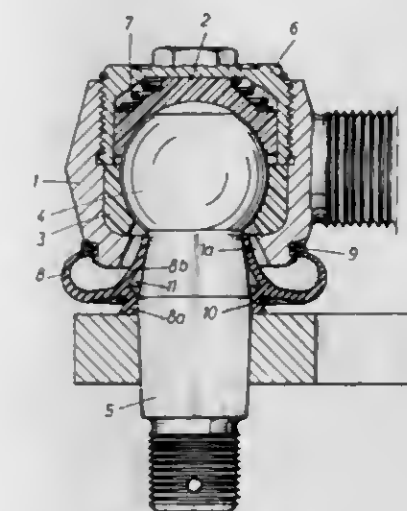
U.S. Cl. 287-87

Int. Cl. F16c 11/08

2 Claims

A ball joint which includes a bellows having its outer marginal portion firmly connected to the ball joint hous-

ing and having its inner marginal portion clamped to the ball stud while flexible cuff portion integral with said bellows tapers from an area slightly radially outwardly from



said inner marginal portion in the direction toward said ball head and resiliently and sealingly engaging said stud closely adjacent said ball head.

3,423,115 BALL AND SOCKET JOINT

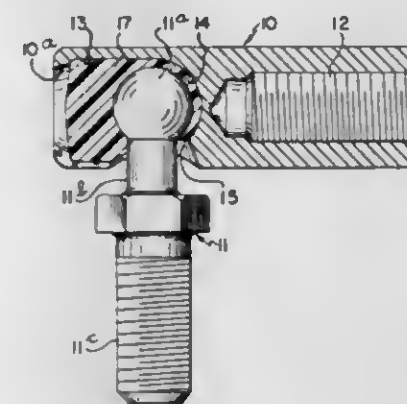
Allan J. Korecky, Cleveland, Ohio, assignor to Barmatic Machines, Inc., Cleveland, Ohio, a corporation of Ohio

Filed Oct. 4, 1967, Ser. No. 672,795

U.S. Cl. 287-90

Int. Cl. F16b 7/00; F16c 11/08

7 Claims



A simple ball and socket connection is provided between a ball stud and a rod end by providing a recess opening endwise of the rod end and terminating inwardly in a generally hemispherical inner end of the recess and then providing a generally cylindrical seat member of anti-friction elastomeric material adapted to telescope snugly into the rod recess with the seat member having an inner end complementary to the bottom of the recess. A generally spherical socket to receive the ball is provided at the inner end of the seat member opening laterally out through one side of the member and through a corresponding generally circular opening in the wall of the rod member. The socket is smaller in diameter than the ball whereby it is necessary to snap the ball into the socket utilizing the resiliency of the seat member material. A side wall of the recess is slotted from the circular opening outwardly to the end of the rod to permit passage of the stem which supports the ball; so that, after the ball is assembled in the socket of the seat member; then this assembly may be slipped endwise in the recess until the

seat member bottoms in the recess. The end of the rod member is then peened over the seat member to hold the parts assembled.

3,423,116

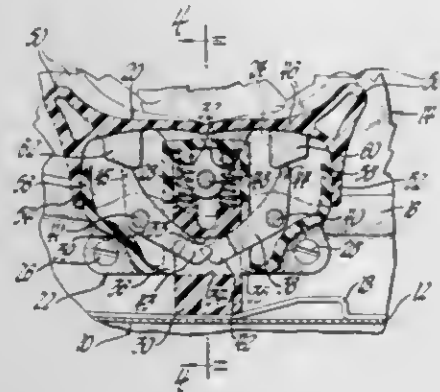
LATCH MECHANISM FOR A SLIDABLE SASH
Milton D. Dolan, Union Lake, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Sept. 9, 1966, Ser. No. 578,286

U.S. Cl. 292-165

Int. Cl. E05c 1/12, 3/22

4 Claims



A vehicle body sliding window is provided with latch mechanism for selectively engaging spaced locking shoulders on the window track. The latch mechanism comprises a pawl which is reciprocally mounted within a housing and is biased outwardly to a locking position. The pawl is retractable to an unlatched position by a pair of levers pivoted to the housing on either side of the pawl and each having an end slidably engaging a cam surface of the pawl. An operating handle is pivoted to the housing and includes a pair of depending cam members which alternately engage the other ends of the levers upon pivotal movement of the handle from a neutral position to alternate extreme positions to retract the pawl. Manual operation of the handle is such that one motion both unlatches and slides the window.

3,423,117

CLOSURE LATCH

Edwin H. Klove, Jr., Warren, and James L. Noll, Livonia, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Aug. 17, 1967, Ser. No. 661,353

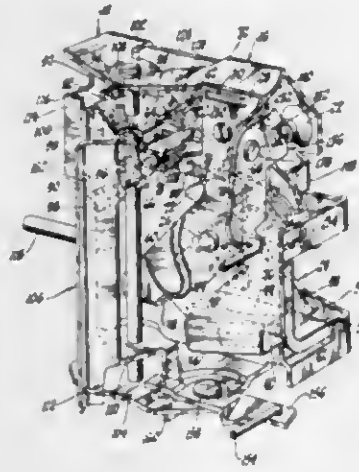
U.S. Cl. 292-216

Int. Cl. E05b 65/32; E05c 3/06

8 Claims

A vehicle body door lock includes a pivotally mounted bolt movable between unlatched, intermediate latched, and fully latched positions and having two abutments offset with respect to each other axially of the bolt. One detent of a coaxial pair is biased to detented position. The one detent includes a foot which lies in the plane of movement of one bolt abutment and is engageable only with the one abutment in detented position to hold the bolt in intermediate latched position. A second foot of the one detent is engageable with a stop on the frame to locate the one detent in detented position against the bias. The other detent includes a foot which lies in the plane of movement of the other bolt abutment and is engageable only with the other bolt abutment in detented position to hold the bolt in fully latched position. The other detent has a portion which overlies a portion of the one detent and is biased into engagement therewith. An outside operating member is pivotally and slidably mounted on a fixed pin for shifting movement along the axis of the pin between locked and unlocked positions and pivotal movement about the axis of the pin in each position. The one

detent includes a third foot which is engageable by the operating member when the operating member is pivoted about the pin in unlocked position to move both detents as a unit to undetented position. When the operating member is in locked position, the third detent foot is located out of the path of the operating member. A locking lever moves the operating member between locked and unlocked positions. An inside operating handle is coupled to the operating member in both locked and un-



locked positions to swing the operating member about the axis of the fixed pin. Should the operating member be in locked position when the door is open and subsequently closed, the ratcheting of the one detent past the respective bolt abutment swings the one detent into engagement with the operating member to move the operating member to unlocked position. This movement of the operating member can be prevented by swinging the operating member about the axis of the fixed pin and out of the path of movement of the one detent before the door is closed.

3,423,118

DOOR LATCH MECHANISM

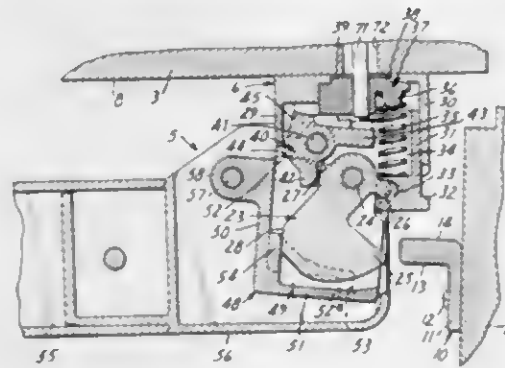
Russell W. Waldo, St. Paul, Minn., assignor to Ideal Brass Works Incorporated, St. Paul, Minn., a corporation of Minnesota

Filed Aug. 16, 1967, Ser. No. 660,987

U.S. Cl. 292-229

Int. Cl. E05c 3/02

10 Claims



Door latch mechanism including a stationary strike, a cooperating latch bolt pivotally secured in a door mounted casing and defining a ratchet portion, a pawl engaging the ratchet and an actuator for the pawl. A spring biased latch bolt driver in the casing urges the latch bolt in an unlatching direction and engages the strike to urge the door in a door opening direction when the pawl is disengaged from the ratchet portion. The actuator is moved in a door opening direction to disengage the pawl from the ratchet portion, and an anti lock-out locking device is operable to prevent disengagement from the pawl from the ratchet portion.

3,423,119

APPARATUS FOR HANDLING LOADS

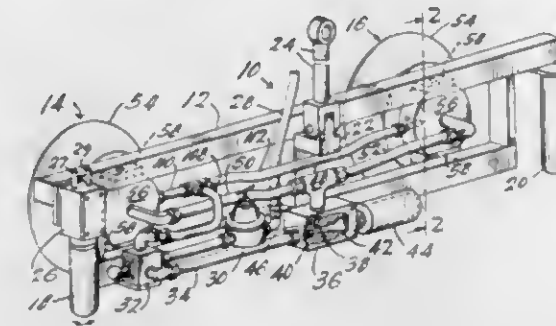
Robert W. Stanley, Toledo, Ohio, assignor to D. W. Zimmerman Mfg., Inc., Toledo, Ohio, a corporation of Ohio

Filed June 6, 1966, Ser. No. 555,442

U.S. Cl. 294-65

Int. Cl. A66c 1/02

9 Claims



A device for handling a load includes a vacuum cup for engaging and holding the load. A vacuum is established in the cup by means of a venturi tube, with a check valve located between the tube and the vacuum cup to maintain a vacuum in the cup even if air failure occurs. The cup also can be rotatably mounted to enable the load engaged thereby to be pivoted. The vacuum cup can be used with a pneumatically-operated hoist which is controlled by a valve member located adjacent the venturi tube so that the vacuum cup device and the hoist control can be mounted on a single frame.

3,423,120

CENTER LIFT

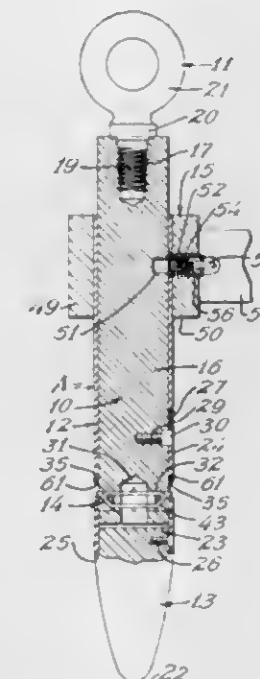
Herbert F. Daiglish, 284 Cherokee Ave., St. Paul, Minn. 55107

Filed Sept. 15, 1966, Ser. No. 584,040

U.S. Cl. 294-97

Int. Cl. B66c 1/54

8 Claims



The disclosure describes a core lift adapted to extend into a hollow core and by means of which the core and encircling roll may be lifted. The lift includes a core body encircled by a slidable sleeve. Jaws of generally triangular cross-section are supported in sockets with an apex of the jaw extending through a window in the sleeve. The jaws are biased toward retracted position, but movement of the sleeve within the core tilts the jaws about a fulcrum edge to extend into the core.

3,423,121

PROTECTIVE PARTITION AGAINST DECELERATION

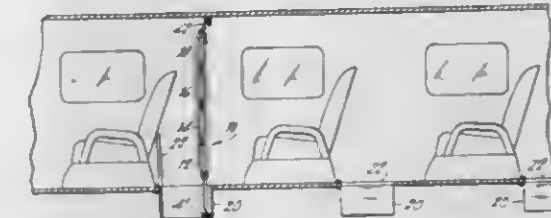
Martin Lipkin, 445 E. 86th St., New York, N.Y. 10028

Filed Feb. 10, 1967, Ser. No. 615,254

U.S. Cl. 296-24

Int. Cl. B60r 21/02

8 Claims



A device for passenger protection in rapidly moving vehicles, such as in the cabins of aircraft, or high speed trains, to prevent the passenger from being injured, lacerated or dismembered during rapid deceleration. A partition or shield is provided which is capable of suffering irreversible stretching and taking on a permanent set or deformed state upon impact against the shield by the passenger to be protected. The energy of the impact is absorbed by the work done in permanently deforming the material of the shield-partition. The partition is padded on the passenger side and foldable into a storage box under the floor level of the cabin of the aircraft or other vehicle but may be readily unfolded so that it is suspended from the cabin framework at the top and the floor of the storage box at the bottom. The body of the barrier within the padding of foam rubber or plastic is preferably made of a special alloy steel, known per se, which has a high product of yield-point stress times elongation-at-rupture, and which therefore is maximally energy-absorbing upon impact. According to a further embodiment, the barrier comprises a plurality of layers of the above-mentioned special alloy steel material, padded with plastic foam padding and permanently or temporarily suspended from the floor and ceiling of the vehicle. According to a further embodiment, the partition is made in a plurality of linked sections or portions having one end linked to the floor of the storage box and the other end linked to the ceiling of the cabin, and intermediate portions of the hinged partition extending over the lap and close to the chest of the passenger, and a passenger-operated trigger mechanism is provided for rapidly releasing the barrier device so that it does not block the passenger's exit. According to a further embodiment, the partition, comprising a plurality of layers of deformable energy-absorbing material is stored on a roll beneath floor level and may be unrolled therefrom to form a partition whose top end is suspended from the roof framework of the vehicle.

3,423,122

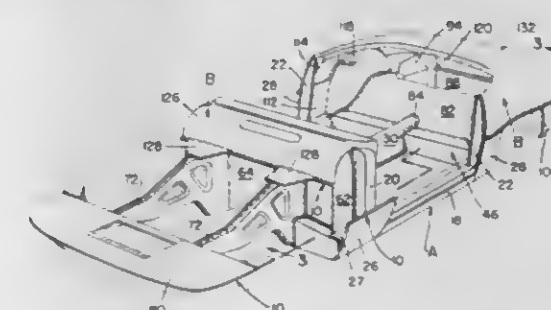
UNITIZED AUTOMOBILE BODY CONSTRUCTION
Henry W. Wessells III, Paoli, Pa., assignor to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Dec. 29, 1966, Ser. No. 605,755

U.S. Cl. 296-28

Int. Cl. B62d 23/00, 21/00

12 Claims



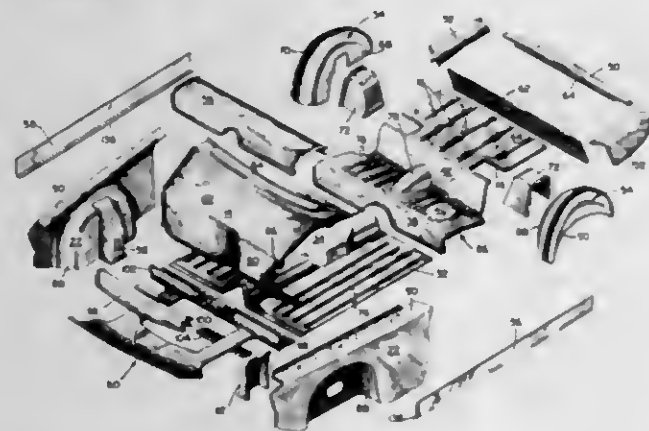
A unitized vehicle body having high rigidity and strength built into the body structure below the seat supports with-

out the use of a separate underbody frame. The body construction is simplified by the use of relatively large and shallow stampings for ease of manufacture and assembly.

3,423,123 UNITIZED LIGHTWEIGHT SEDAN AUTOMOBILE BODY CONSTRUCTION

Henry W. Wessells III, Paoli, Pa., assignor to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania

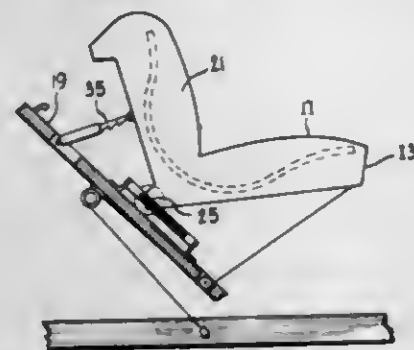
Filed Jan. 4, 1967, Ser. No. 607,224
U.S. Cl. 296—28 15 Claims
Int. Cl. B62d 23/00



A unitized lightweight automobile body in which separate longitudinally extending side sills have been eliminated by utilizing body sheet panels as shear panels for supporting the vehicle. An inexpensive body structure is provided by using the uniside skin panels as the principal load-carrying structure and combining the skin panels with interior and exterior components for producing a strong and rigid body composed of a minimum number of parts.

3,423,124 SAFETY SEAT FOR AUTOMOBILE

Harlan D. Hewitt, 1210 Astor St., Chicago, Ill. 60610
Filed Nov. 8, 1967, Ser. No. 681,398
U.S. Cl. 296—65 3 Claims
Int. Cl. B60n 1/02; B60r 21/10



A safety construction for vehicles wherein a separable passenger compartment is releasably secured to a chassis, and a passenger seat inside the passenger compartment is constructed so as to tilt rearwardly upon separation of the passenger compartment to thereby aid in absorption of collision forces imposed on the passenger.

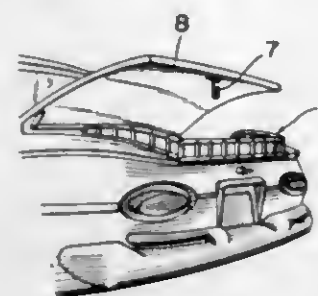
3,423,125 ATTACHMENT FOR AN AUTOMOBILE TRUNK FOR CARRYING LIVING THINGS

Nobuyoshi Saito, 1975 Haljima-cho, Akishima-shi, Tokyo, Japan
Filed Mar. 1, 1967, Ser. No. 619,760
Claims priority, application Japan, July 7, 1966, 41/64,174

U.S. Cl. 296—76 1 Claim
Int. Cl. B62d 25/12, 33/04; B60r 11/00

This invention relates to an attachment of trunk of a

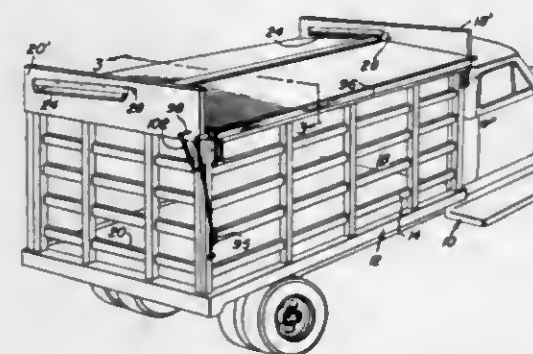
sedan type automobile for carrying living things such as dogs, flowers and the like. By using the attachment, the



trunk can be maintained in half-opened condition, for obtaining good ventilation and lighting therein.

3,423,126 RETRACTABLE TRUCK BOX COVER

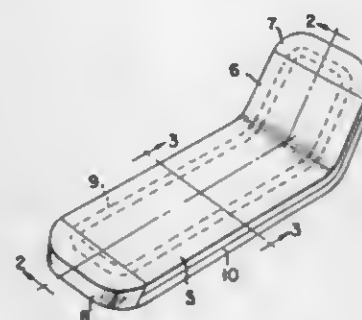
Daniel M. Galvin, 1109 8th St. NE., and Patrick J. Galvin, 1416 2nd St. SE., both of Minot, N. Dak. 58701
Filed Apr. 17, 1967, Ser. No. 631,262
U.S. Cl. 296—98 10 Claims
Int. Cl. B60j 7/02



A cover assembly including a roller having corresponding ends of a pair of elongated flexible cover panels secured thereto and concentrically wound thereon, the free end portion of one of the elongated panels being adapted for securement to one side portion of an area over which the cover assembly is to be erected and the free end portion of the other elongated panel being extendible toward the opposite side of the area to be covered by the cover assembly with means being provided for supporting the corresponding longitudinal edge portions of the panels and the adjacent ends of the roller when the cover assembly is extended over the area to be covered.

3,423,127 FLOOR PAD-CHAIR

Martin Shankman, 4750 Alhambra Circle, Coral Gables, Fla. 33146
Filed May 24, 1967, Ser. No. 640,898
U.S. Cl. 297—457 2 Claims
Int. Cl. A47c 7/20, 3/02

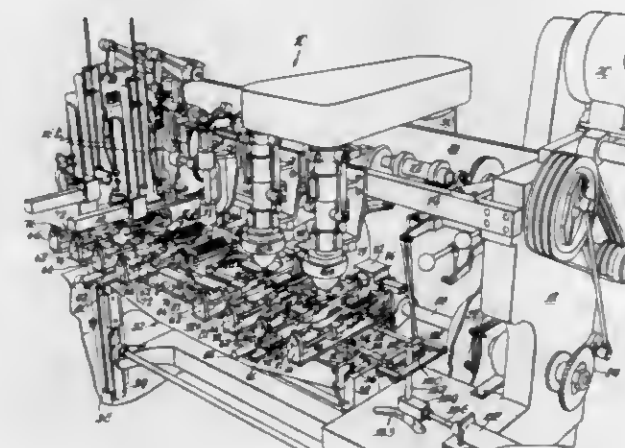


A reclining lounge is disclosed which includes a pad of resilient yieldable material with a rigid rectangular annular frame completely embedded therein, the frame having side legs which are bent along an arc with a large

radius to form a seat section, a back section and a curved section between the seat and back sections. A person can lounge on the pad with the seat section resting on the floor, and the lounge can be rocked on the curved section if desired.

3,423,128 WORKPIECE POSITIONING MECHANISM FOR BRUSHMAKING MACHINE

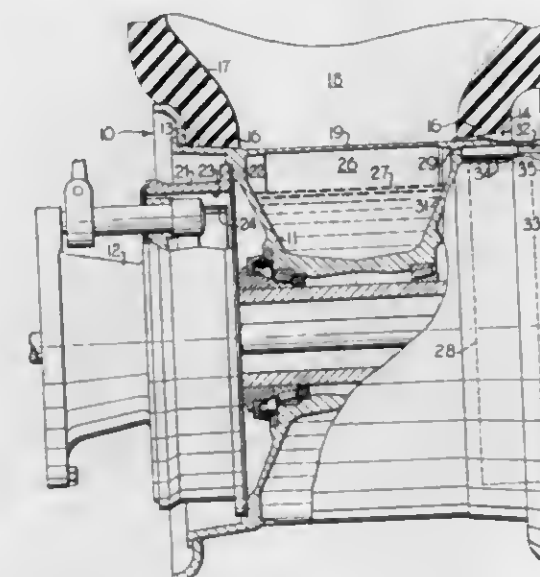
Harold J. Hazelton, Batavia, Ill., assignor to Carlson Tool & Machine Co., a corporation of Illinois
Filed May 10, 1966, Ser. No. 548,929
U.S. Cl. 300—11 6 Claims
Int. Cl. B26b 1/20; A46d 3/08



Brush holder pivoting mechanism for a brushmaking machine characterized in that the brush holders are rotated by a lever mechanism which is adjustable to change the angular displacement of the brush holders and further characterized in that the connection between the brush holders and the gear mechanism associated with the lever for imparting rotational motion to the brush holders is constructed and arranged for connection and disconnection relative to brush holders as the holders are moved toward and away from the gear mechanism.

3,423,129 COOLANT FILLED VEHICLE WHEELS

Paul B. Benner, Decatur, Marvin E. Beyers, Peoria, and Larry G. Warren, Decatur, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Apr. 5, 1967, Ser. No. 628,667
U.S. Cl. 301—6 1 Claim
Int. Cl. B60b 19/06; F16d 65/82

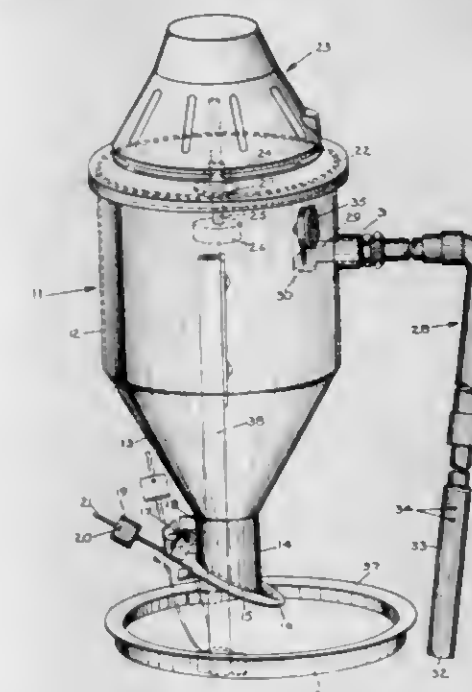


Means for preventing localized heat build-up in a vehicle wheel of a type including a pneumatic tire and having a brake drum disposed thereon. A generally annular

cavity is defined by the wheel to have at least a part of the cavity generally adjacent the brake drum. Coolant is disposed in the cavity defined by the wheel to receive and dissipate localized heat generated by the brake drum.

3,423,130 EVACUATION APPARATUS

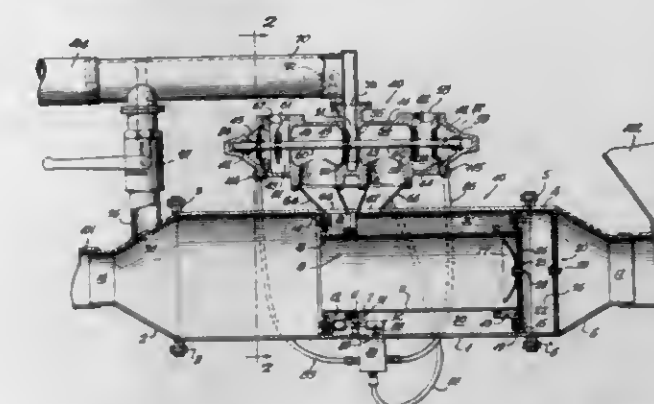
James G. Millner, 60 Fales St., Worcester, Mass. 01606
Filed Dec. 7, 1966, Ser. No. 599,945
U.S. Cl. 302—14 2 Claims
Int. Cl. B65g 53/30, 53/40



An apparatus for the transfer of liquids and solids from one container or area to another. A hopper shaped tank is completely closed and includes a suction inducing device, an entry hose, a discharge valve, and a level indicator which returns the tank to atmospheric pressure to permit the discharge valve to open automatically when the contents reach a predetermined level.

3,423,131 LINE CHARGING AND PNEUMATIC CONVEYING APPARATUS

Wyatt J. Weeks, P.O. Box 7947, Houston, Tex. 77007
Continuation-in-part of application Ser. No. 613,241, Feb. 6, 1967. This application Nov. 24, 1967, Ser. No. 685,650
U.S. Cl. 302—36 8 Claims
Int. Cl. B65g 53/40; F04h 17/00



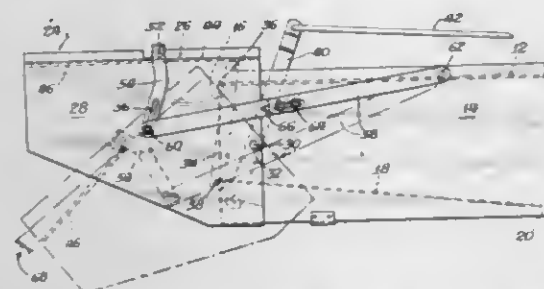
A line charging and pneumatic conveying apparatus having a hollow cylindrical housing with a material inlet and a gas material outlet. A hollow reciprocating spool-piece extends through a divider ring on the inside of the housing. A four way valve is connected to the housing and supplies elevated pressure gas alternately to a pressure chamber on either side of the divider ring for reciprocating the spool-piece.

rotating the spoolpiece. Motion of the spoolpiece creates a lower pressure zone at the material inlet for the charging of material into the housing. The rims of the spoolpiece are constructed to allow the elevated pressure gas to escape and convey material from the inlet end of the housing.

3,423,132

COTTON HARVESTER DELIVERY CONVEYOR
Albert G. Blanton and Wyatt T. Gable, Jr., Memphis, Tenn., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Nov. 13, 1967, Ser. No. 682,251
U.S. Cl. 302-61
Int. Cl. B65g 53/42

9 Claims

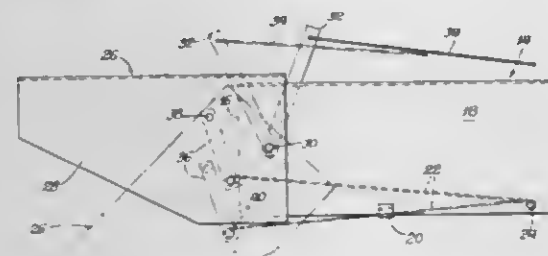


Delivery conduit having an outlet nozzle adjustable as to size, a hood for controlling the direction of flow of the air stream and cotton emerging from the conduit, the hood automatically adjusting the size of the nozzle according to different positions of the hood, with pre-settable means for varying the degree of adjusting the nozzle size.

3,423,133

COTTON HARVESTER DELIVERY CONVEYOR AND METHOD OF CONVEYING
Albert G. Blanton, Memphis, Tenn., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Sept. 29, 1967, Ser. No. 671,669
U.S. Cl. 302-61
Int. Cl. B65g 53/42

6 Claims



Delivery conduit having an outlet nozzle adjustable as to size, a hood for controlling the direction of flow of the air stream and cotton emerging from the conduit, the hood automatically adjusting the size of the nozzle according to different positions of the hood.

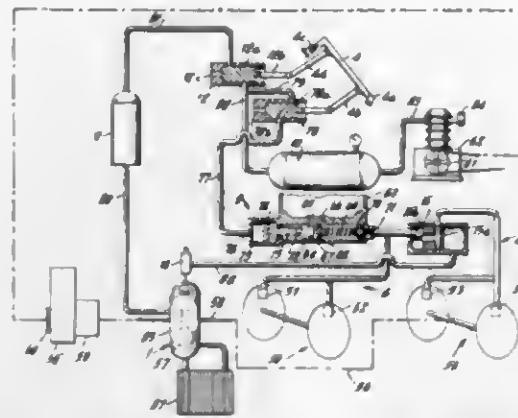
3,423,134

HYDRODYNAMIC AND HYDRAULIC BRAKE SYSTEM FOR HEAVY-DUTY MOTOR VEHICLES
Wilhelm Knapp, Bad Homburg, Germany, assignor to Alfred Teves G.m.b.H., Frankfurt am Main, Germany, a corporation of Germany
Filed Nov. 6, 1967, Ser. No. 680,936
Claims priority, application Germany, Nov. 12, 1966, T 32,506

18 Claims

A hydrodynamic brake system for an automotive vehicle having a set of driven wheels, a set of nondriven wheels and a hydrodynamic brake connected with the

power train to the driven wheels, the system including mechanism responsive to the driven-wheel brake torque developed by the hydrodynamic brake and the nondriven-wheel brake pressure for controlling the brake pressure

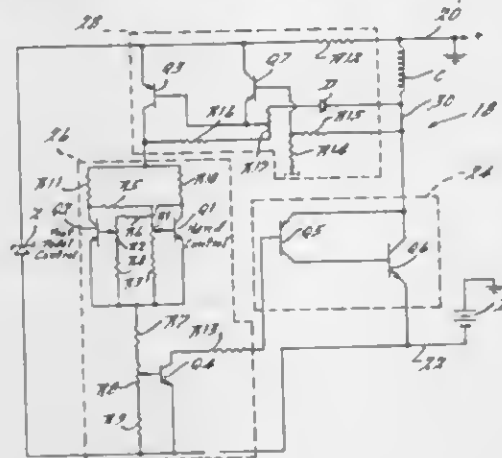


at the rear wheels in proportion to the difference of the two. The mechanism includes a valve connected between the valve cylinder and the driven-wheel brake cylinders or a differential piston forming part of the master cylinder.

3,423,135

CONTROL SYSTEM FOR ELECTRIC BRAKES
Renaldo M. Beltramo, Royal Oak, Mich., assignor to Synco Corporation, Oxford, Mich., a corporation of Michigan
Filed Oct. 20, 1966, Ser. No. 588,090
U.S. Cl. 303-3
Int. Cl. B60t 13/74, 13/68; H01h 47/34

31 Claims

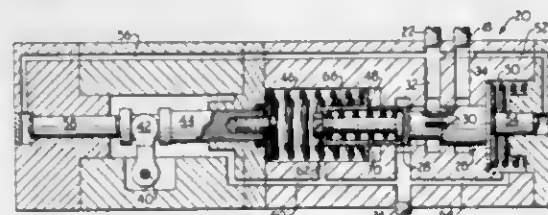


A solid state control system for electric brakes in which the magnitude of the current to the brakes is controlled by an electrical control signal.

3,423,136

PRESSURE MODULATED BRAKE VALVE
Kenneth R. Lohbauer, Joliet, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed May 23, 1967, Ser. No. 640,750
U.S. Cl. 303-54
Int. Cl. B60t 15/04, 13/16

1 Claim



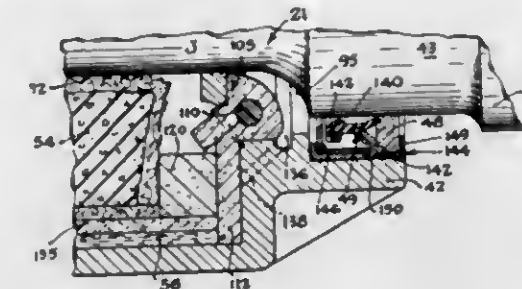
A brake valve to insure smooth rather than jerky operation of hydraulically actuated brakes, wherein upon build-up of pressure occurring when the valve is first opened, the valve is urged toward a closed position and assumes a modulating position, which results in slightly slower, smoother brake actuation.

3,423,137

BEARINGS

John A. Zupez, Ridgewood, and Llewellyn E. Hoyer, Wayne, N.J., assignors to Abex Corporation, a corporation of Delaware
Original application Dec. 26, 1963, Ser. No. 333,315, now Patent No. 3,268,276. Divided and this application
June 27, 1966, Ser. No. 560,675
U.S. Cl. 308-87
Int. Cl. B61f 17/08; F16c 33/10

3 Claims



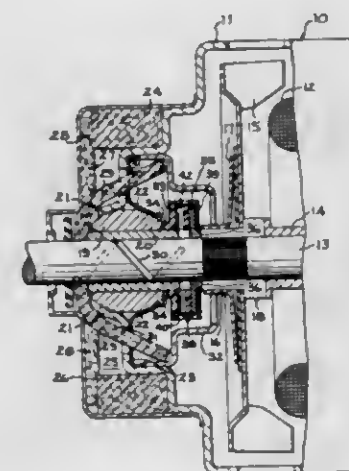
A lubricator for the journal of a railroad car axle includes a separate base pad and separate end pads each of homogeneous oil-absorbent material, preferably felt. One of the end pads is specifically configured to lubricate the collar of the journal. A piece of fabric is joined to the base pad and affords a pocket for an oil-absorbent insert which wicks oil to the fabric for lubricating most of the journal. A leaf spring is united to the lubricator to urge it into good lubricating contact with the journal.

3,423,138

THRUST BEARING

Albert L. Hardy, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Oct. 3, 1966, Ser. No. 583,745
U.S. Cl. 308-132
Int. Cl. F16c 1/24, 33/66

8 Claims



A thrust bearing assembly that is particularly adapted for use with a horizontally disposed rotatable shaft and is provided with an improved lubricating system to maintain an adequate film of lubricant between the stationary and rotating thrust bearing surfaces.

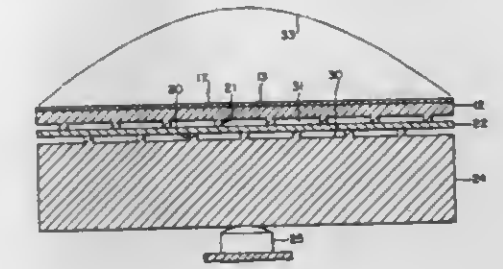
3,423,139

THRUST BEARING PAD SUPPORT STRUCTURE
Rene A. Baudry, Paris, France, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 18, 1967, Ser. No. 639,426
U.S. Cl. 308-160
Int. Cl. F16c 17/06, 17/08, 35/00

3 Claims

A thrust bearing pad arrangement comprising a relatively thick beam support means, a relatively thin pad structure having a bearing surface, and a spring plate

member disposed between the support means and the pad structure. The spring plate member is separated from and supported on the beam support means by a plurality of narrow spacers or rib portions spaced apart in a radial direction and having an elongated dimension extending generally in the direction of bearing rotation. The pad

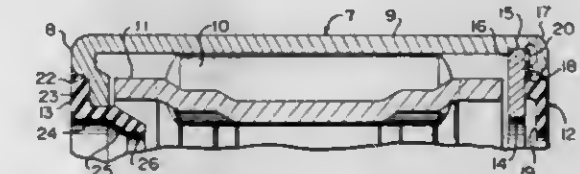


structure is similarly supported on a second plurality of rib portions disposed between the spring and the side of the pad opposite the bearing surface. The second plurality of rib portions support the pad on the spring plate member at locations alternate to those of the rib portions provided on the beam support means.

3,423,140

BEARING SEALS FOR DRAWN CUP BEARINGS
John H. Cowles, Forestville, Conn., assignor to The Torrington Company, Torrington, Conn., a corporation of Maine
Filed May 3, 1966, Ser. No. 547,234
U.S. Cl. 308-187.2
Int. Cl. F16c 1/24, 33/78

20 Claims



Improvements in drawn cup bearings of the type including an outer, drawn race providing a member enclosing a plurality of rollers are disclosed herein. Sealing of the bearing assemblies is provided by an annular washer having a seal bonded thereto, the seal extending radially inwardly for contact with the shaft about which the bearing assembly is to be situated. A portion of the outer bearing cup extends radially and axially inwardly, pinching the seal against the washer adjacent the radially outermost portion of the washer and seal.

3,423,141

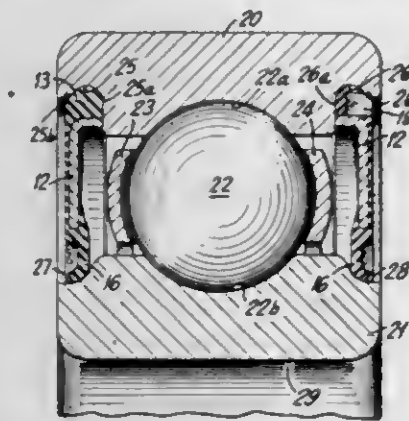
BEARING SEAL CONSTRUCTION

James J. Pethis, Farmington, Conn., assignor to The Fafair Bearing Company, a corporation of Connecticut
Filed May 24, 1966, Ser. No. 552,513
U.S. Cl. 308-187.2
Int. Cl. F16c 1/24, 33/78; F16j 15/12

6 Claims

An annular composite pop-out seal is described for closing off the annular chamber of an antifriction bearing comprising a metal ring having concentrically bonded thereto on at least one face thereof an annular sealing disc of resilient elastomeric material, said annular sealing disc having a peripheral bead of said elastomeric material which extends beyond the periphery of said metal ring, a freely projecting wiping portion extending radially inwardly and beyond the inner radial end of said metal ring, and at least one notch formed partially into one side of said elastomeric bead adjacent the periphery of the metal ring sufficient to render a peripheral portion of said metal

ring accessible to a removing tool, whereby the seal can be removed from the bearing by inserting a probe tool

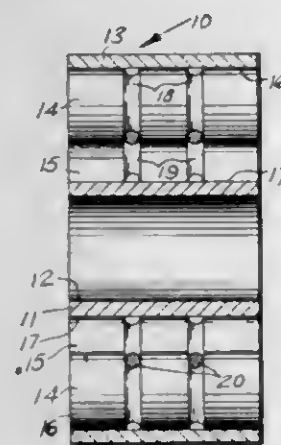


into the notch and applying pressure to said peripheral portion of the metal ring.

3,423,142 PLANETARY BEARING

Paul J. Wietrzykowski, 1617 N. Wood St.,
Chicago, Ill. 60622

Filed Dec. 5, 1966, Ser. No. 598,982
U.S. Cl. 308-206
Int. Cl. F16c 19/56 1 Claim

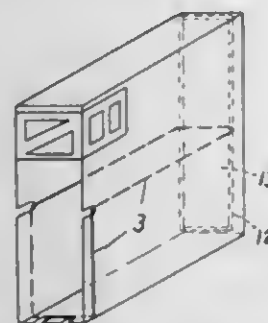


A bearing comprised of a series of rollers in planetary arrangement between an inner race and an outer race, a first group of the rollers engaging the inner race and another group of rollers engaging the outer race, the two groups of rollers engaging each other and having a keeper ring therebetween.

3,423,143 STORAGE AND SALES CONTAINER

Waldemar Bünger, Barmerstrasse 45, Schwelm,
Westphalia, Germany
Filed July 13, 1965, Ser. No. 471,576
Claims priority, application Germany, July 13, 1964,
B 77,649

U.S. Cl. 312-71
Int. Cl. A47f 1/04, 1/14; A45c 11/30 10 Claims



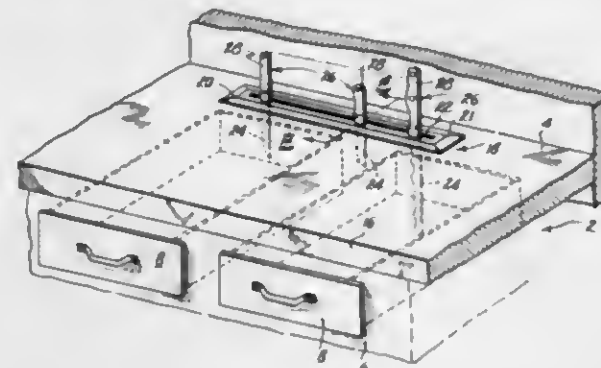
A container for shipping and dispensing sales items wherein a box having one substantially open end form-

ing a dispensing opening is provided with an elastic band extending into said box through said opening so as to surround the sales items therein biasing them toward said opening and a cover member positioned over a minor portion of the side of said box containing said dispensing opening.

3,423,144 KNIFE HOLDERS

James M. Patterson, 811 6th Ave.,
Albany, Ga. 31705

Filed Aug. 9, 1966, Ser. No. 571,245
U.S. Cl. 312-280
Int. Cl. A47b 77/14, 96/18 7 Claims

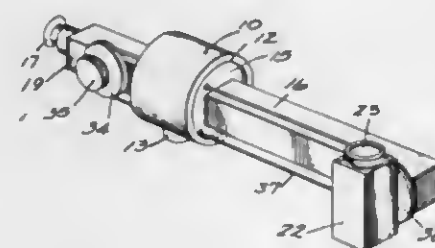


Knife holder with elongated slot and depending flanges along slot and made of angle-shaped material. The knife holder may be frictionally retained in a slot in a counter top or the like by the depending flanges, or may otherwise be detachably secured in place for ready removal and cleaning. The knife holder is combined with a counter top supported by a cabinet containing slidable drawers with the knife holder installed at a location beyond the inner end of the sliding drawers.

3,423,145 OPTICAL DEVICE FOR CAVITY INSPECTION

Richard E. Breitenross, Neshkoro, Wis. 54960

Filed Oct. 15, 1965, Ser. No. 496,294
U.S. Cl. 350-24
Int. Cl. G02b 23/02 1 Claim



A swivel objective mounted on a rotatable tube having an eyepiece aligned with the objective and interconnected pulley means to rotate the objective with and relative to said tube.

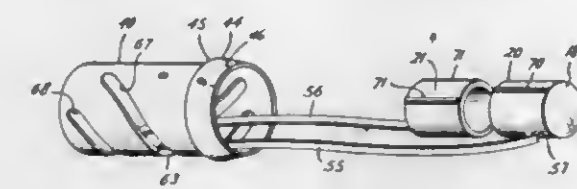
3,423,146 VARIABLE POWER TELESCOPE SIGHT WITH ELONGATED OPTICAL PLASTIC LENSES HAVING GUIDES THEREON

William R. Weaver, El Paso, Tex., assignor to W. R. Weaver Company, El Paso, Tex., a corporation of Texas

Filed Mar. 8, 1965, Ser. No. 437,932
U.S. Cl. 350-44
Int. Cl. G02b 7/04 13 Claims

A power adjustable erector system with collar stop which includes a lens support and erector lenses of optical

plastic material having guide runners thereon and coaxially slidable therewith. Each erector lens operates with

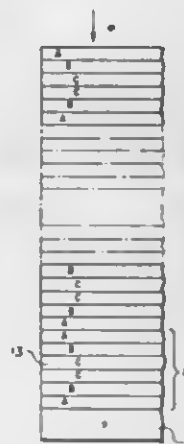


a separate radial lens biasing toggle means operated by helicoidal cam surface in the collar rotatable on a barrel.

3,423,147 MULTILAYER FILTER WITH WIDE TRANSMITTANCE BAND

Alfred J. Thelen, Santa Rosa, Calif., assignor to Optical Coating Laboratory Inc., Santa Rosa, Calif., a corporation of California

Filed Oct. 14, 1963, Ser. No. 316,099
U.S. Cl. 350-166
Int. Cl. G02b 5/28 6 Claims



Filter having wide transmittance band with layers formed of three different materials and which has a thicker central layer making it possible to suppress second, third and fourth order low transmittance bands or reflectance bands.

3,423,148 NATURAL LIGHT REGENERATING GLARE-SHIELDS

François M. Reboul, 65 Blvd. de Picpus, Paris, France
Filed Aug. 11, 1966, Ser. No. 571,780

Claims priority, application France, Aug. 11, 1965,
27,941
U.S. Cl. 350-264
Int. Cl. G02b 17/00 4 Claims



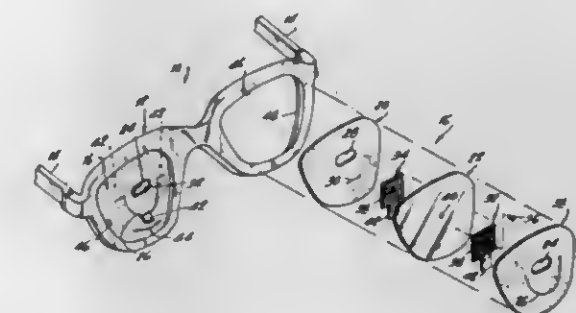
1. Glare-shield for creating at the entrance of dark and artificially illuminated passageways open to automotive

circulation a transition zone illuminated by diffuse reflection of the natural light, comprising at least a horizontal system of parallel blades ensuring a permanent occultation of the rays of the sun over the entire range of said zone, each of said blades exhibiting a plurality of plane surfaces with different inclinations, and said plurality of plane surfaces comprising at least one semireflecting surface, one diffusing surface and one absorbing surface whereby said system of parallel blades projects towards the roadway in preferential directions of high sights, a proportion of the incident light which is greater as the height of the sun is lower.

3,423,149 ADJUSTABLE POLARIZING EYEGLASSES

Harold N. Braunhut, 1812 Atlantic Ave.,
Brooklyn, N.Y. 11233

Filed Jan. 21, 1965, Ser. No. 427,029
U.S. Cl. 351-49
Int. Cl. G02c 7/12 3 Claims

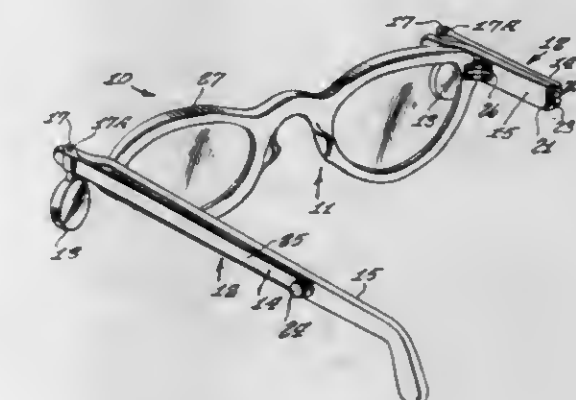


A pair of eyeglasses comprising a lens frame provided with a pair of lens means, at least one of which is opaque and having a predetermined transparent portion, and adjustable light polarizing means comprising at least one polarizing element operable at the transparent portion, said light polarizing element being pivotally mounted on support means therefor positioned between said lens means.

3,423,150 EYEGLASS FRAME WITH ADJUSTABLE REAR VIEW MIRRORS

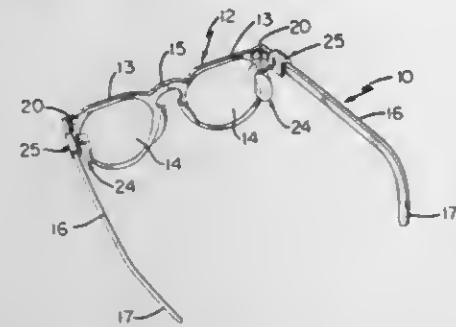
Joseph A. Freed, 849 Beck St., Bronx, N.Y. 10459

Filed Aug. 23, 1965, Ser. No. 481,466
U.S. Cl. 351-50
Int. Cl. G02c 7/14 2 Claims



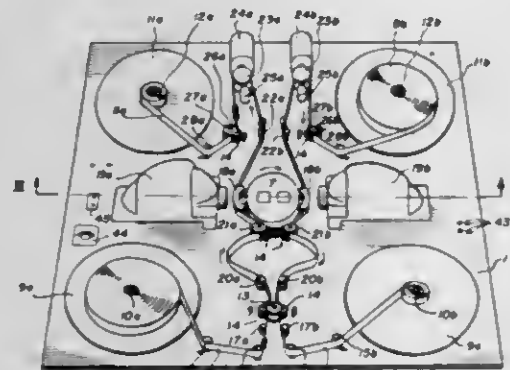
An eyeglass frame with a pair of viewing glasses including a mirror at each outer corner of the frame, each mirror being rotatable about a vertical axis so to allow adjustable rear viewing by a wearer of the frame.

3,423,151
OPTICAL PRISMATIC LENSES DETACHABLY MOUNTED ON SPECTACLE TEMPLE PIECES
 Walter Boyd White, 9100 W. 44th Ave., Wheatridge, Colo. 80033
 Filed May 17, 1965, Ser. No. 456,116
 U.S. Cl. 351-175
 Int. Cl. G02c 7/02



Optical prismatic lenses are detachably mounted to spectacle temple pieces in close relation to the rear of the main lenses to provide the wearer with a wider field of vision.

3,423,152
MOTION PICTURE PROJECTOR WITH OPPOSITELY POSITIONED LIGHT SOURCES
 Henri Chaplais and Lucien Pillon, Paris, Georges P. Carre, Chatillon-sous-Bagneux, and Lucien Rips and Rene Gambette, Paris, France, assignors to Societe Anonyme France-Ecrans, Paris, France, a corporation of France
 Filed Sept. 17, 1965, Ser. No. 488,105
 Claims priority, application France, Oct. 9, 1964, 990,879; Apr. 1, 1965, 11,629
 U.S. Cl. 352-115
 Int. Cl. G03b 41/04

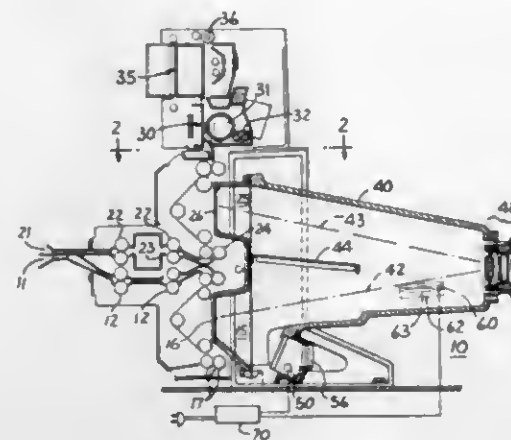


A motion picture projector having a rotating crown of lenses and two projection lamps positioned on opposite sides of the crown of lenses. The projection lamps face each other with their beams directed along an axis perpendicular to and passing through the axis of the crown of lenses. Separate film winding and guiding means co-operate with each of the projection lamps such that one film is rewound while the other is projected.

3,423,153
CONTROL OF LIGHT LEVEL IN PHOTOCOPY MACHINE
 George C. Kent, Highland Park, Ill., assignor to American Photocopy Equipment Company, Evanston, Ill., a corporation of Illinois
 Filed Jan. 14, 1966, Ser. No. 520,604
 U.S. Cl. 355-51
 Int. Cl. G03b 27/78

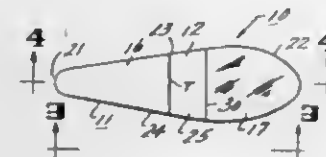
An arrangement for controlling the light level in a photocopy machine of the type in which the image of a portion of a moving original document is projected onto a corresponding portion of a moving copy sheet

in which light reflected from the portion is collected and transmitted to a photocell, with the output signal from the photocell serving to correctively and concurrently



vary the illumination of the portion of the original document so that the amount of light applied to successive portions of the copy sheet remains relatively constant.

3,423,154
GUN BORE INSPECTING DEVICE WHICH INCLUDES A DIFFUSE AND A SPECULAR REFLECTOR
 John P. Weber, Jr., 1630 Robinson Circle, Cincinnati, Ohio 45223
 Filed Dec. 28, 1964, Ser. No. 421,395
 U.S. Cl. 356-241
 Int. Cl. G01n 21/16

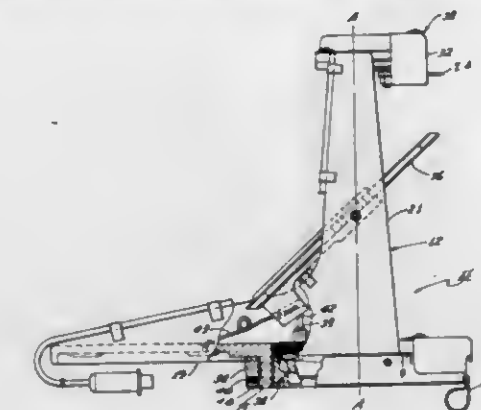


An article of manufacture for inspecting various sized gun bores, and comprising a flat member having a pair of faces opposing each other and coextensively extending throughout the length of the article. A mirror reflecting element and a non-mirror or opaque reflecting element are provided on each face, with each element positioned at an opposed curved end of the member. The positions of these elements on one face are reversed in position on the other face. The arc of curvature of each of the opposing curved ends of the member is different from that of the other.

3,423,155
OPTICAL SIGHT
 Donald W. Herrick, Gardena, and Robert A. Beam, La Habra, Calif., assignors to Northrop Corporation, Beverly Hills, Calif., a corporation of California
 Filed Apr. 13, 1964, Ser. No. 359,317
 U.S. Cl. 356-252
 Int. Cl. G02b 23/10

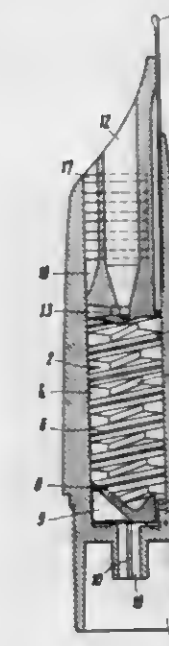
1. An optical sight comprising a frame having upright and base portions, said upright portion being of inverted U-shape with spaced legs extending upwardly from said base portion and with a horizontal member joining said legs at the summit thereof, said base portion extending generally horizontally and having a cylindrical ring part depending beneath the legs of said upright portion, a light source and an opaque disc having a light-transmit-

ting portion therein defining a reticle, said light source and said reticle being encased and mounted upon said horizontal member of said upright frame portion and adapted to project a light beam downwardly therefrom, a Mangin mirror fixed within said cylindrical ring part facing said light source, said light source including a plurality of lamps and means enabling one of said lamps to be quickly and easily moved into position directly above said mirror, a transparent viewing plate pivotally mounted between and upon said legs and between said light source and said mirror whereby an optical image of said reticle may be provided on said viewing plate, an



annular cam member surrounding and supported rotatably upon said cylindrical ring part and having an upper surface with a constant inclination with respect to a lower surface, a rigid cam follower supported for reciprocation upon said base portion and extending between said upper surface of said annular cam member and said viewing plate, and resilient means maintaining continuous contact between said cam follower, said upper surface of said cam member and said viewing plate whereby the angular relation of said viewing plate with respect to said mirror may be varied by turning said annular cam member.

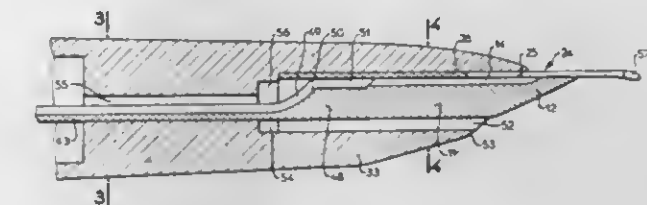
3,423,156
FEED BAR FOR FOUNTAIN PEN
 Otto Mutschler, Angelweg 29, Heidelberg, Germany
 Filed Oct. 18, 1967, Ser. No. 676,350
 Claims priority, application Germany, Jan. 21, 1967, M 72,493
 U.S. Cl. 401-240
 Int. Cl. B43k 5/18



The feed bar of a fountain pen is formed with a circumferential helical groove which defines a helical rib on the bar, and is normally closed by an internal wall of the point holder portion of the pen barrel or body. The

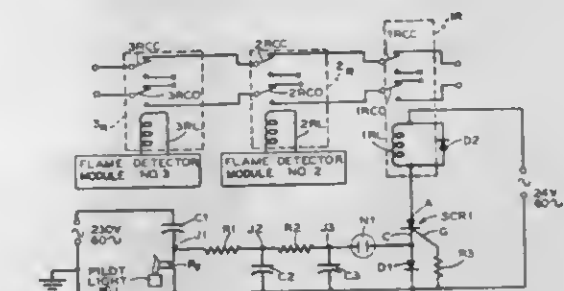
groove is a part of the compensating system which admits air to the ink compartment in the barrel. The crest of the helical rib is formed with a capillary, helical ink conduit which is radially closed by the afore-mentioned wall and supplies ink to a duct subjacent the point from the ink compartment.

3,423,157
SUPPORT AND FEEDING ASSEMBLY FOR PENS OF FOUNTAIN PENS
 Guy Frédéric Rigondaud, Paris, France, assignor to Le Foyer et Cie, Paris, France, a body corporate
 Filed Jan. 19, 1967, Ser. No. 610,391
 Claims priority, application France, Jan. 21, 1966, 46,684
 U.S. Cl. 401-242
 Int. Cl. B43k 5/18



A support and ink feed device for the nib of a fountain pen comprising a feed bar having a convex upper surface at the end of a stem having a capillary channel communicating with the ink supply of the pen, a recess being formed in the upper convex surface with shoulders at the margins thereof for supporting the lateral edges of a nib such that a main central portion of the recess is open beneath the nib. The recess communicates with the capillary channel via a duct and is of a lesser depth than that of the duct and channel.

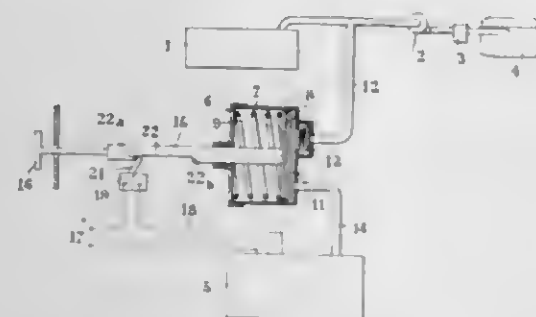
3,423,158
COMBUSTION CONTROL CIRCUIT
 Norman A. Forbes, Louisville, Ky., assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
 Filed May 12, 1966, Ser. No. 549,725
 U.S. Cl. 431-46
 Int. Cl. F23n 5/24, 5/12; G01k 7/40



This invention involves a gas burner control system for a boiler having a plurality of pilot burners. The control system employs a relay switch for each pilot burner. The relay switch will be moved between two positions, one in response to the operation of the associated pilot burner and the other in response to the non-operation of that pilot burner. The control system also includes flame-detecting means which responds to the condition of the pilot burner to operate the associated relay switch. All relay switches must be in the non-operation position at the beginning of a startup, for ignition to be successful, and all pilots must light before the main valve can be opened.

3,423,159
FEED SYSTEM OF ELECTRIC-IGNITION GASOLINE-FED AUTOMOTIVE HEATER
 Edmond Henry-Blabaud, Paris, France, assignor to Société Anonyme André Citroën, Paris, France, a French company

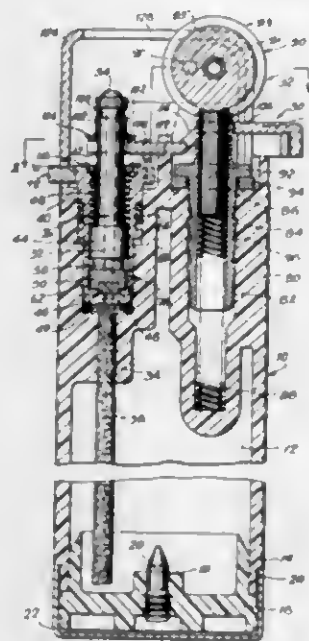
Filed June 6, 1967, Ser. No. 644,021
 Claims priority, application France, June 20, 1966, 66,147
 U.S. Cl. 431—72
 Int. Cl. F23n 5/00



System for feeding fuel to a gasoline-operated heater having electric ignition means characterized in that it comprises a sucking and forcing pump having a variable-volume chamber bounded by a spring-urged movable member such as a flexible diaphragm or a piston operatively connected to an external control member actuatable by the user, this variable-volume chamber communicating on the one hand with the fuel tank through the medium of a non-return valve, and on the other hand with the heater and a switch controlling the electric ignition circuit of the heater, said switch being so connected to the movable member of said pump as to close said circuit and start the operation of the heater at the end of the positive or suction stroke of said movable member actuated by the user, and to open said electric ignition circuit at the

end of the return or forcing stroke of said movable member which is caused by a return spring.

3,423,160
LIGHTER
 Jean Genoud, Saint-Cyr-au-Mont d'Or, Rhone, France, assignor to Ets. Genoud & Cie, Venissieux, France
 Filed Aug. 22, 1966, Ser. No. 573,926
 U.S. Cl. 431—276
 Int. Cl. F23q 2/02



A lighter having a casing which supports a valve controlling the escape of fuel and a flint member for igniting the fuel. A lever is loosely supported on a fulcrum between two lugs on which a metal cap is supported.

CHEMICAL

3,423,161
DYEABLE CHLOROMETHYLSTYRENE-VINYL-GRAFTED POLYPROPYLENE FIBERS AND PROCESS OF PRODUCING SAME

Catherine S. H. Chen, Stamford, Evalyn F. Hosterman, Greenwich, and Robert F. Stamm, Stamford, Conn., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Nov. 30, 1961, Ser. No. 156,132
 U.S. Cl. 8—55
 Int. Cl. D06p 5/08

1. A process for preparing a dyeable, preformed, colorless, heat-stable polypropylene fiber of good tensile strength, which comprises the steps of: subjecting preformed polypropylene fibers in the solid state and in the substantial absence of oxygen environment to high energy ionizing radiation at a temperature between about 70° C. and 150° C. to provide a dose between about 5,000 rads and about 20,000,000 rads while contacting the irradiated fibers with a mixture of monomers containing (1) chloromethylstyrene monomer, (2) a polymerizable vinyl monomer selected from the group consisting of styrene, methylstyrene, acrylonitrile, methacrylic acid and methylmethacrylate, and (3) a cross-linking agent selected from the class consisting of divinyl benzene, bismethylene acrylamide, triallyl cyanurate, tetraallyl melamine, hexaallyl melamine and diallyl sebacate, present in amounts sufficient to impart an overall weight increase from (1) 1% to 10%, (2) 10% to 30, and (3) 1% to 10%, respectively, by weight of the fiber, and recovering a chloromethylstyrene-vinyl-grafted polymeric fiber.

3,423,162
COMBINED ZIRCONIUM, ALUMINUM AND CHROME TANNAGE
 Antonis Papayannis, Opladen, Bruno Zorn, Cologne-Flittard, and Heinrich Spahrkäs, Bergisch-Neunkirchen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
 No Drawing. Filed Mar. 21, 1966, Ser. No. 535,721
 Claims priority, application Germany, Mar. 26, 1965, F 45,647

U.S. Cl. 8—94.25
 Int. Cl. C14c 3/06

1. Process for tanning hides and leather by applying to the hides or leather tanning agents comprising a combination of zirconium, aluminum, and chromium salts, the proportion of these metal salts, based on the metal oxides $ZrO_2:Al_2O_3:Cr_2O_3$, amounting respectively, to 100:5 to 50:2 to 30 parts by weight.

3,423,163
CELLULOSIC TEXTILE FIBERS BEARING GRAFTED N-METHYLOL AMIDE
 Eugene Edward Magat, Wilmington, Del., and David Tanner, Charlottesville, Va., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
 No Drawing. Original application June 3, 1959, Ser. No. 817,881. Divided and this application July 19, 1966, Ser. No. 566,258
 U.S. Cl. 8—116.3
 Int. Cl. D06m 13/40

A cellulosic textile fiber bearing polymeric chains grafted to the cellulosic fiber, the said chains being derived

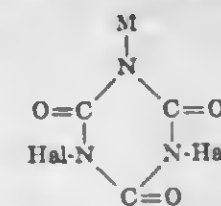
from an N-methylol amide of an unsaturated acid, said chains being grafted to said cellulosic fiber via carbon-to-carbon bonds in which one of the carbons of the bond is a cellulosic carbon. Among the fibers exemplified are cotton and rayon grafted with N-methylolacrylamide.

3,423,164
CONTINUOUS PROCESS OF SHRINKPROOFING WOOL WITH ALKALI METAL SALTS OF DICHLORISOCYANURIC ACID
 Claude Trezain, Bois-Colombes, and Jean Claude Cosnard, Juvisy-sur-Orge, France, assignors to Compagnie de Saint Gobain, Neuilly-sur-Seine, France
 Continuation-in-part of applications Ser. No. 152,640, and Ser. No. 152,641, Nov. 15, 1961. This application June 21, 1963, Ser. No. 289,497
 U.S. Cl. 8—127.6
 Int. Cl. D06m 3/20

1. A method of treating keratinous textile material against shrinking and felting which comprises passing the textile material progressively through an aqueous, concentrated solution containing between about 20 and 100 g./l. of an alkali-metal salt of N-N dichloroisocyanuric acid at about neutral pH, and through an acid bath of pH between about 1.5 and 5.

3,423,165
STABILIZING KERATINIC FIBERS THROUGH TREATMENT WITH SUBSTANTIALLY NEUTRAL SOLUTIONS OF ALKALI METAL SALTS OF DICHLOROCYANURIC ACID
 Claude Trezain, Bouffemont, and Jean Claude Cosnard, Fresnes, France, assignors to Compagnie de Saint-Gobain, Neuilly-sur-Seine, France
 No Drawing. Continuation-in-part of application Ser. No. 152,640, Nov. 15, 1961. This application July 15, 1966, Ser. No. 565,375
 Claims priority, application France, Dec. 1, 1960, 845,588, Patent 1,281,414

U.S. Cl. 8—127.6
 Int. Cl. D06m 13/08
 1. A method of preventing the felting and shrinking of keratinous fibers which comprises immersing the fibers in an aqueous solution of the compound



in which M is an alkali metal, Hal is halogen, and the aqueous solution is at substantially neutral pH.

3,423,166
POLYHYDROXY COMPOUNDS USED IN CONJUNCTION WITH REDUCING AGENTS IN WOOL SETTING PROCESSES
 Earl Peters and Joseph H. Dusenbury, Spartanburg, S.C., assignors to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware
 No Drawing. Filed Jan. 19, 1962, Ser. No. 167,420
 U.S. Cl. 8—128
 Int. Cl. D06m 13/54, 13/16, 13/36

1. A process for imparting to a fabric comprising wool fibers a propensity for subsequent durable setting comprising adding to said fabric from about 0.01 to about 20% by weight of alkanolamine sulfite and from about 3 to about 50% by weight of polyhydroxy compound; drying said fabric under substantially relaxed conditions to a moisture level suitable for shipping whereby the fabric is then characterized by a low value of area shrinkage and by a propensity for subsequent durable setting without the addition to the fabric of moisture beyond the moisture regain level of the fabric, manufacturing a garment from said fabric, and setting the garment in a desired configuration, said configuration after setting being durable to subsequent wetting and wearing conditions.

3,423,167
WET STATE CROSS-LINKING OF CARBOXYALKYL CELLULOSE ETHER MODIFIED REGENERATED CELLULOSE FIBERS
 Joseph M. Kuzmak, Media, and Wenceslao Munoz, Trainer, Pa., assignors to FMC Corporation, Philadelphia, Pa., a corporation of Delaware
 No Drawing. Filed Dec. 15, 1964, Ser. No. 418,550
 U.S. Cl. 8—129
 Int. Cl. D06m 1/22
 A process for producing softer carboxyalkyl cellulose ether modified regenerated cellulose fibers having high water imbibition is disclosed herein.

3,423,168
CESIUM DIFLUOROCHLORATE AND PROCESS FOR PRODUCING SAME
 Dale K. Huggins, Convent Station, and William B. Fox, Morristown, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
 No Drawing. Filed Sept. 15, 1966, Ser. No. 580,563
 U.S. Cl. 23—50
 Int. Cl. C01d 11/00

Cesium difluorochlorate ($CsClO_2F_2$) is prepared by reacting an activated cesium fluoride with chloryl fluoride under anhydrous conditions. The activated cesium fluoride may be obtained by decomposition of a cesium-hexafluoroacetone adduct having the formula



and also by pulverization of cesium fluoride.

3,423,169
PRODUCTION OF LEAD NITRATE
 Alfred E. Van Wirt, Glen Falls, N.Y., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware
 Continuation-in-part of application Ser. No. 515,769, Oct. 4, 1965. This application Dec. 18, 1967, Ser. No. 691,328
 U.S. Cl. 23—102
 Int. Cl. C01g 21/18

Copper, aluminum, antimony and iron impurities are precipitated from impure lead nitrate solutions with basic lead complexes which are the pre-reaction or in situ reaction products of lead nitrate and lead metal or lead oxide.

3,423,170
MANUFACTURE OF ALKALI METAL PHOSPHATES
 Robert Harry Edwards, Whitehaven, England, assignor to Electric Reduction Company of Canada, Ltd., Toronto, Canada, a corporation of Canada
 Filed May 3, 1965, Ser. No. 452,470
 Claims priority, application Great Britain, May 4, 1964, 18,345/64
 U.S. Cl. 23—107
 Int. Cl. C01b 25/30

An improvement in the process for the manufacture of alkali metal phosphates in which wet process phosphoric acid is at least partially neutralized with an alkali metal compound and the neutralized acid filtered. The improvement comprises heating the filtrate at a temperature of at least 60° C. for at least two hours thereby precipitating residual calcium, magnesium, and iron salts. The precipitated salts are filtered off, and a second filtrate recovered from which water is evaporated to form a solid alkali metal phosphate product which is heated to dryness. The alkali metal phosphate is purified by addition of an oxidiz-

ing agent selected from chlorine and alkali metal hypochlorites to the filtrate.

3,423,171

METHOD FOR MAKING ALKALI METAL SULFATE
Hans Hoppe and Heinz Scherzberg, Sondershausen, Germany, assignors to Kali-Forschungsinstitut, Sondershausen, Germany

Filed June 14, 1966, Ser. No. 557,473

U.S. Cl. 23—121

4 Claims

Int. Cl. C01d 5/10

Method for making potassium sulfate in which potassium chloride is reacted with magnesium sulfate-containing substance of the group consisting of Epsom salt, schoenite and anhydrous magnesium sulfate in the presence of a solvent which is selective for $MgCl_2$, whereby there is formed a solution of $MgCl_2$ in the solvent and a precipitate comprising potassium sulfate.

3,423,172

PRODUCTION OF PLASTER OF PARIS

Gerald Waterworth Cafferata, Epperstone, Nottinghamshire, England, assignor to BPB Industries Limited
No Drawing. Filed May 25, 1964, Ser. No. 370,023
Claims priority, application Great Britain, May 28, 1963, 21,304/63

U.S. Cl. 23—122

3 Claims

Int. Cl. C01f 1/00; C04b 11/00

A process for preparation of calcined gypsum whose crystal size is larger than that of the starting gypsum wherein the ground gypsum is suspended in from 25% to 67% of its weight of water which contains a crystal habit modifier and is calcined under pressure in an essentially quiescent condition.

3,423,173

SPRAY CONCENTRATION OF WET PROCESS ORTHOPHOSPHORIC ACID TO POLYPHOSPHORIC ACID

Richard F. McFarlin, Atlanta, Ga., and William A. Satterwhite, Lakeland, Fla., assignors, by mesne assignments, to Armour Agricultural Chemical Company, a corporation of Delaware

Filed Dec. 8, 1965, Ser. No. 512,410

U.S. Cl. 23—165

4 Claims

Int. Cl. C01b 25/18; B01d 1/16

Wet process orthophosphoric acid containing about 1–15 percent of metal impurities is concentrated to polyphosphoric acid by spray atomizing the orthophosphoric acid into fine droplets and contacting the droplets in a dehydrating zone with hot products of combustion to raise the temperature of the acid droplets to about 420–600° F., the gases and evolved vapors being withdrawn, and polyphosphoric acid having about 20–80 percent thereof in the non-ortho form is recovered as product.

3,423,174

PRODUCTION OF SULPHAMIC ACID

Austen Edgar Sowerby, Distington, Cumberland, England, assignor to Marchon Products Limited, London, England, a British company

Filed Dec. 21, 1965, Ser. No. 515,392

Claims priority, application Great Britain, Dec. 22, 1964, 52,045

U.S. Cl. 23—166

8 Claims

Int. Cl. C01b 21/54

An improved process for producing sulphamic acid by a continuous reaction of urea, sulphur trioxide, and sulphuric acid, at a temperature between 40° C. and 100° C. The rates of admission of the three reactants and the rate of withdrawal are controlled to meet the following criteria: The (a) concentration of urea in the reactor is maintained at less than 2% of the total weight

of the material in the reactor, (h) the sulphur trioxide is supplied in a proportion of

$$\left(E + \frac{T}{80}\right)$$

moles per mole of urea, where E is a number between 0.30 and 1.15 and T is the numerical value of the centigrade temperature in the reactor, and the values of E and T are chosen so that

$$\left(E + \frac{T}{80}\right)$$

is greater than one (c) the sulphuric acid is supplied in a sufficient stoichiometric excess to provide a proportion of liquid in the reactor of at least 30% by weight and (d) the mean residence time of material in the reactor is at least 4 hours.

3,423,175

MANUFACTURE OF INTERHALOGEN COMPOUNDS AND HALOGENOIDS

David Horvitz, Robert J. Shaw, and William D. Baugh, Cincinnati, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed June 13, 1966, Ser. No. 556,917

U.S. Cl. 23—205

13 Claims

Int. Cl. C01b 9/00

An oxidative catalytic process for the preparation of interhalogen compounds and halogenoid compounds is provided, useful in the preparation of iodine chloride, bromine chloride, cyanogen iodide, and cyanogen bromide from the halogens or their halides, employing molecular oxygen and a nitrogen oxide as a catalyst.

3,423,176

PROCESS FOR CARRYING OUT CATALYTIC HYDROGENATION REACTIONS IN THE PRESENCE OF SUSPENSION CATALYSTS

Gerhard Kabisch, Rheinfelden, Baden, and Hans Herzog, Bensheim-Auerbach, Germany, assignors to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany

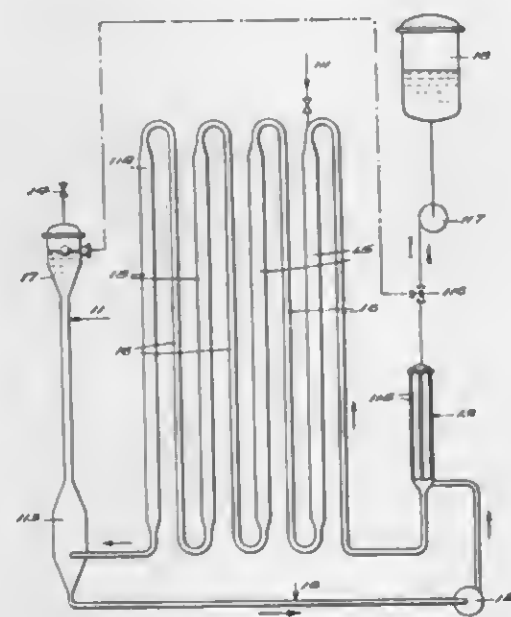
Filed Dec. 2, 1966, Ser. No. 598,716

Claims priority, application Germany, Dec. 4, 1965, D 48,829

U.S. Cl. 23—207

10 Claims

Int. Cl. C01b 15/02; B01j 9/00



A catalytic hydrogenation process in which the components of the heterogeneous system essentially composed

of a mixture of hydrogenation gas, a liquid comprising the substance to be hydrogenated and a solid suspension catalyst are passed concurrently through an elongated reaction space and the mixture is passed through such space at velocities of at least 0.5 m./sec., the reaction space preferably being sufficiently long that the hydrogen in such system has reacted completely at the end thereof.

3,423,177

PROCESS FOR GROWING DIAMOND ON A DIAMOND SEED CRYSTAL

Harold P. Bovenkerk, Madison Heights, Mich., assignor to General Electric Company, a corporation of New York

Filed Dec. 27, 1966, Ser. No. 604,792

U.S. Cl. 23—209.1

4 Claims

Int. Cl. C01b 31/06

An integrally formed diamond envelope is grown on all faces of a diamond seed crystal by placing the diamond seed within nondiamond carbon in a high temperature-pressure apparatus, in the presence of a catalyst for diamond growth, the seed crystal being connected to and spaced from the catalyst by an open channel in the nondiamond carbon. The seed crystal, carbon and catalyst are then subjected to a combined pressure and temperature above the graphite-to-diamond equilibrium line on the phase diagram of carbon.

3,423,178

TiO₂ PRODUCTION BY CHROMIUM REMOVAL FROM BENEFICIATED TITANIFEROUS ORE

Oswin B. Willcox, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 12, 1966, Ser. No. 573,135

U.S. Cl. 23—202

9 Claims

Int. Cl. C01g 23/04

1. A method for removing a chromium contaminant from a beneficiated titanium-containing material to obtain a white, porous, pigment-useful TiO_2 product; comprising intimately mixing said beneficiated material with an extractant selected from the group consisting of alkali metal molybdates and tungstates and their mixtures, calcining the resulting mixture at a temperature in the range of from about 660° C. to about 1050° C. for at least 30 minutes in an oxidizing atmosphere, removing from the calcined product water-soluble chromium compounds formed in the calcination and recovering the resulting porous white TiO_2 product.

3,423,179

CATALYST FOR GROWTH OF BORON CARBIDE CRYSTAL WHISKERS

James E. Webb, Administrator of the National Aeronautics and Space Administration with respect to an invention of Robert F. Cree, Ballston Lake, N.Y., and Arno Gatti, Norristown, Pa.

No Drawing. Filed June 22, 1966, Ser. No. 560,967

U.S. Cl. 23—208

10 Claims

Int. Cl. C01b 31/30; C22c 29/00; B01j 7/00

1. In a process of vapor deposition of boron carbide whiskers from a boron carbide source composition selected from the group consisting of non-whisker producing boron carbide powders and boron carbide producing gaseous reaction mixtures, the improvement comprising increasing the whisker producing activity of the source composition by incorporating therein a catalytic amount of a member selected from the group consisting of vanadium, niobium and molybdenum, and maintaining said catalytic amount in said composition during boron carbide whisker deposition.

3,423,180

OXIDATION OF SOLUBLE SULFIDE COMPOUNDS
James Hoekstra, Evergreen Park, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Dec. 27, 1966, Ser. No. 604,658

U.S. Cl. 23—224

11 Claims

Int. Cl. C01b 17/06

Process for oxidizing a sulfide compound to elemental sulfur by simultaneously contacting a solution of the sulfide, oxygen, and a sulfur solvent with a solid oxidizing catalyst at a temperature of 0°–200° C.

3,423,181

THERMIONIC DETECTOR FOR GAS CHROMATOGRAPHY

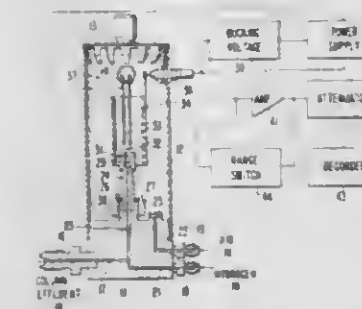
Keene P. Dimick, Santa Rosa, Charles H. Hartmann, Moraga, Dudley M. Oaks, Jr., Oakland, and Elmer Trone, Benicia, Calif., assignors to Varian Associates, Palo Alto, Calif., a corporation of California

Filed June 6, 1966, Ser. No. 555,607

U.S. Cl. 23—254

6 Claims

Int. Cl. G01n 31/12



1. A chromatographic detector, comprising in combination:

- (a) electrode means for defining an interelectrode space,
- (b) means for defining a flowpath for effluent gas emerging from a chromatographic column,
- (c) means for mixing said effluent gas with a combustible gas to form a combustible gas mixture, said mixing means also defining a flow path for the gas mixture,
- (d) a homogeneous solid salt block forming an ion source, said block having at least one flow passage therein, said ion source being positioned in the flow path of said combustible gas mixture such that the mixture flows through the flow passage in said ion source,
- (e) means for igniting said combustible gas mixture at the point where it emerges from the ion source, whereby the heat of the resulting flame ionizes material from the surface of the ion source and introduces charged particles into said interelectrode space,
- (f) means for causing an electrical current to flow across said interelectrode space, and
- (g) means for measuring the magnitude of said electrical current.

3,423,182

WATER-TREATING APPARATUS
Morris B. Klasky, 1420 S. Rexford Drive, Los Angeles, Calif. 90035

Filed Apr. 3, 1967, Ser. No. 628,010

U.S. Cl. 23—267

2 Claims

Int. Cl. B01d 11/00; E04b 3/20

A container storing a quantity of water-treating material in a bottom portion thereof and adapted for partial submerging in a body of water of changing level. A water passageway extends from the bottom portion of the container upwardly to the outside of the container above the

3,423,192

PREPARATION OF LITHIUM BOROHYDRIDE
John A. Snover, Peabody, Mass., assignor to Metal Hydrides Incorporated, Beverly, Mass., a corporation of Massachusetts

Continuation of abandoned application Ser. No. 294,371, July 11, 1963. This application Mar. 18, 1964, Ser. No. 354,202

U.S. Cl. 23—364

6 Claims

Int. Cl. C01b 6/08; B01d 11/00, 59/24

A mixture of sodium borohydride and lithium chloride is placed on a filter and diethyl ether is condensed above it and allowed to drain through the mixture into a heated distillation pot below it, where the ether is distilled off and returned to the condenser. Small amounts of lithium borohydride are dissolved in the ether as it passes through the mixture and remain in the distillation pot. The diethyl ether may be replaced by other low-boiling ethers which are solvents for lithium borohydride and nonsolvents for sodium chloride, lithium chloride, and sodium borohydride, such as dibutyl ether or diisopropyl ether.

3,423,193

BORATOZIRCONIUM CHLORIDE

James A. Stynes, Lewiston, N.Y., assignor to National Lead Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Jan. 9, 1967, Ser. No. 614,762

U.S. Cl. 23—367

11 Claims

Int. Cl. C01b 35/00; C01g 25/04

A novel compound called boratozirconium chloride is obtained by the reaction in water of zirconyl chloride and boric acid. The compound, having a composition corresponding to the formula $(\text{HBO}_3)(\text{ZrOH})\text{Cl} \cdot x\text{H}_2\text{O}$, is amorphous and water soluble and in small amounts in water produces gels with organic compounds and metallic salts. Boratozirconium bromide may be produced in a similar manner.

3,423,194

ALUMINUM SIMULTANEOUSLY IMPREGNATED WITH SALTS OF NICKEL, ALUMINUM AND METAL PROMOTER

Kenneth K. Kearby, Watchung, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed June 11, 1965, Ser. No. 463,324

U.S. Cl. 48—214

6 Claims

Int. Cl. C10g 15/06; C10k 3/02; B01j 11/26

A catalyst prepared by simultaneously impregnating an alumina support with an aqueous solution of salts of nickel and aluminum, which are thermally decomposable to the oxides, drying and calcining the impregnated alumina and thereafter reducing the nickel oxides to nickel has been found to be effective in catalyzing reactions of hydrocarbons with steam.

3,423,195

METHOD OF TREATING ALUMINA ABRASIVE GRAINS WITH IRON NITRATE AND PRODUCTS MADE THEREBY

Israel V. Steinberg, Rochester, N.Y., assignor to American Abrasive Company, Westfield, Mass., a corporation of Massachusetts

No Drawing. Filed May 16, 1966, Ser. No. 550,115

U.S. Cl. 51—295

6 Claims

Int. Cl. B24d 3/06

Abrasive grains of alumina are heated with 0.1 wt. percent to about 2 wt. percent of iron nitrate at 300° to 700° C. to improve their bonding characteristics in phenolic binders. Further improvement is shown by applying to the treated grains a thin, heat cured coating of vinyl polysiloxane.

3,423,196

GLASS ARTICLE HAVING A BIREFRINGENCE PATTERN AND METHOD OF PRODUCTION
Peter A. Olson, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Aug. 18, 1965, Ser. No. 480,604

U.S. Cl. 65—30

4 Claims

Int. Cl. C03c 21/00; C03b 27/00



1. A method of producing a birefringence element having a linear gradient of birefringence with respect to at least a portion of one major axis when light is transmitted normal to the major surface of the element, the method comprising providing a thin glass plate having a relatively thicker portion along one edge thereof, and selectively developing compressive stress within a surface layer on said thicker portion of the glass plate with respect to a corresponding surface layer of the thinner section.

3,423,197

METHOD OF FORMING A GLASS SHEET ON A MOLTEN METAL BATH

David Gordon Loukes, Eccleston Park, Prescott, and Roy Smith, Rainhill, England, assignors to Pilkington Brothers Limited, Liverpool, England, a company of Great Britain

No Drawing. Filed June 21, 1965, Ser. No. 465,732
Claims priority, application Great Britain, June 23, 1964, 25,952/64

U.S. Cl. 65—32

5 Claims

Int. Cl. C03b 18/02

Treating flat glass, which has been contacted with molten metal, to render harmless the resultant impurities in the surface of the glass, by treating the glass coming from the molten metal at an elevated temperature, e.g. 450–600° C. under non-oxidizing conditions, to render the harmful impurities harmless.

3,423,198

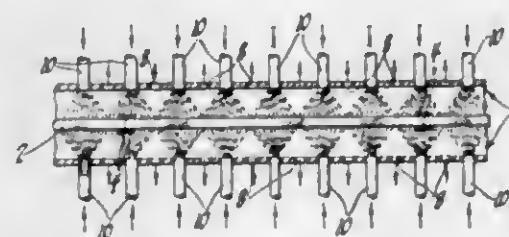
METHOD FOR TEMPERING GLASS UTILIZING AN ORGANIC POLYMER GASEOUS SUSPENSION
Harold A. McMaster, Woodville, and Norman C. Nitschke, Perrysburg, Ohio, assignors to Permaglass Inc., Woodville, Ohio, a corporation of Ohio

Filed June 14, 1965, Ser. No. 463,748

U.S. Cl. 65—111

6 Claims

Int. Cl. C03b 27/00



In accordance with this invention a glass article is tempered or otherwise heat treated by placing the article in a heat transfer medium consisting of particulate material suspended in a fluid, the particulate material moving in the fluid into and out of contact with the glass article.

3,423,199

FERTILIZERS CONTAINING MICRO- AND MACRONUTRIENTS

Otis D. Philen, Jr., Tusculuma, Julius Silverberg, Florence, and Melvin M. Norton, Sheffield, Ala., assignors to Tennessee Valley Authority

No Drawing. Filed Sept. 29, 1965, Ser. No. 491,464

U.S. Cl. 71—1

2 Claims

Int. Cl. C05c 1/02

Granules of hygroscopic fertilizer salts are coated with micronutrient powders which, when wetted with water and/or steam, react with the fertilizer constituents to form in situ stable compounds such as



or complex zinc ammonium hydroxy nitrates. The complex fertilizer compounds maintain good physical properties of the fertilizers and also act as available sources of micronutrient fertilizer elements.

3,423,200

2-TRICHLOROMETHYLBENZOXAZOLE AS A HERBICIDE

George Holan, Brighton, Victoria, Australia, assignor to Monsanto Chemicals (Australia) Limited, West Footscray, Victoria, Australia, a company of Victoria, Australia

No Drawing. Filed Dec. 16, 1965, Ser. No. 526,643
Claims priority, application Australia, Dec. 18, 1964, 53,084/64

U.S. Cl. 71—88

5 Claims

Int. Cl. A01n 5/00, 9/22

Herbicide compositions comprising 2-trichloromethylbenzoxazole.

3,423,201

METHOD FOR PRODUCING SPONGE IRON

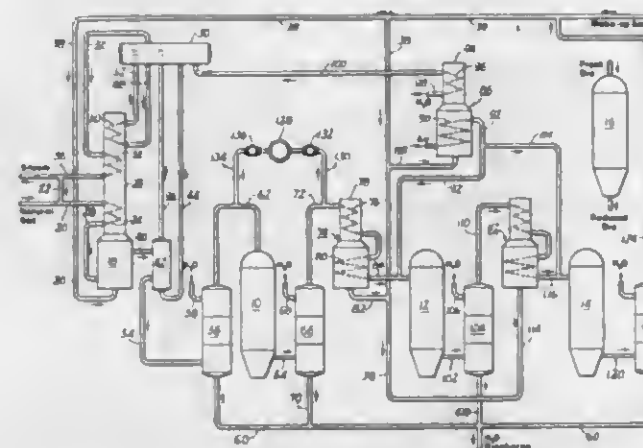
Juan Celada, Col. del Valle, Nuevo Leon, and David Villarreal and Patrick W. MacKay, Monterrey, Nuevo Leon, Mexico, assignors to Fierro Esponja, S.A., Monterrey, Nuevo Leon, Mexico

Filed Mar. 18, 1966, Ser. No. 535,537

U.S. Cl. 75—35

7 Claims

Int. Cl. C21b 13/14



1. In a method of reducing iron ore to produce sponge iron in a multiple unit reactor system of the type in which separate bodies of ferrous material are simultaneously treated in the several reactors of said system, and in which at least one of said reactors is maintained at a reduction stage in which the ore is contacted with hot carbon containing reducing gas and at least one of said reactors is maintained at a cooling stage in which the reduced ore is cooled, said method being of the type in which carbon containing reducing gas from a source of gas flows through the body of ferrous material in a reactor at said cooling stage and thereafter through a body of ferrous material in a reactor at said reducing stage, the improve-

ment which comprises cooling the body of ferrous material at said cooling stage in two sequential steps, in the first of which steps said reducing gas is passed through the body of ferrous material in said cooling stage reactor at essentially the same rate as said gas is fed to the body of ferrous material in said reducing stage reactor and in the second of which steps a portion of the reducing gas leaving the body of ferrous material in said cooling stage reactor is cooled and recirculated to the cooling stage reactor to accelerate the cooling of the body of ferrous material at said cooling stage during the latter part of the cooling cycle.

3,423,202

METHODS FOR REFINING PIG IRON

Jacques Ledune, Marchienne-au-Pont, and Paul Nilles, Embourg, Belgium, assignors to Centre National de Recherches Metallurgiques, Brussels, Belgium, and Société Anonyme des Forges de la Providence, Marchienne-au-Pont, Belgium, both Belgian companies, and Mannesmann Aktiengesellschaft, Düsseldorf, Germany, a German company

No Drawing. Filed Aug. 4, 1966, Ser. No. 570,173

Claims priority, application Belgium, Sept. 2, 1965, 669,135; Nov. 17, 1965, 672,473; Luxembourg, Dec. 28, 1965, 50,148

U.S. Cl. 75—60

5 Claims

A method of refining pig iron comprises the steps of carrying out two refining stages, separated by a deslagging stage. In the first refining stage an oxygen-containing gas is blown into a converter containing metal to be refined initially while the converter is stationary and subsequently while rotating the converter about its longitudinal axis. In the second refining stage oxygen-containing gas is blown into the converter while rotating it about its longitudinal axis. Preferably, slight additional movement is applied to the converter towards the end of the second refining stage so as to bring about increased contact between slag and metal and thus stiffen the slag.

3,423,203

TUNGSTEN-INDIUM POWDER BODIES INFILTRATED WITH COPPER

Edward J. Zdank, Lexington, and Richard H. Krock, Peabody, Mass., assignors to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware

Original application May 26, 1966, Ser. No. 553,154, now Patent No. 3,353,931, dated Nov. 21, 1967. Divided and this application Aug. 21, 1967, Ser. No. 671,182

U.S. Cl. 75—208

15 Claims

Int. Cl. B22f 7/00

A method of making a composite material comprising the step of providing a porous body consisting essentially of an admixture of tungsten and indium and contacting the porous body with a molten material consisting essentially of copper in a vacuum environment so as to substantially completely infiltrate the porous body with the molten material thereby forming a composite material consisting essentially of tungsten and an alloy of copper-indium.

3,423,204

METHOD OF PROCESSING A PHOTOGRAPHIC FILM INSERT IN AN APERTURE CARD

Arthur W. Kutcher, White Bear Lake Township, Ramsey County, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Continuation of application Ser. No. 448,507, Apr. 15, 1965, which is a division of application Ser. No. 190,062, Apr. 25, 1962, now Patent No. 3,233,532. This application Feb. 27, 1968, Ser. No. 708,711

U.S. Cl. 96—27

8 Claims

Int. Cl. G03c 5/00

The method of processing a photographic film insert in an aperture card to produce an original visible image.

The method including the steps of imparting a latent image to the film insert, isolating the film insert, contacting only the film insert with developing liquid, and drying the insert.

3,423,205

METHOD OF MAKING THIN-FILM CIRCUITS

Clyde W. Skaggs and Clifford T. Jefferson, Jr., Canoga Park, Calif., assignors to The Bunker-Ramo Corporation, Stamford, Conn., a corporation of Delaware

Filed Oct. 30, 1964, Ser. No. 407,765

U.S. Cl. 96—36.2

Int. Cl. G03c 5/24; C23f 1/02

11 Claims

A method of fabricating a thin film circuit containing resistors and conductors. The method includes the steps of providing a substrate having an etchable film of resistive material thereon covered by an etchable film of conductive material. A first positive resist image of both resistors and conductors is fixed on the film of conductive material. Both the conductive and resistive material are then etched about the first resist image to remove the unprotected conductive and resistive material. The first positive resist image is then removed and a second positive resist image of just the conductors is fixed on the film of conductive material. The film of conductive material is then etched about the second resist image to remove the unprotected conductive material to define the resistors.

3,423,206

LIGHT-SENSITIVE COLOR FORMING REPRODUCTION MATERIALS

Ernst-August Hackmann, Wiesbaden-Biebrich, Germany, assignor to Kalle Aktiengesellschaft, Wiesbaden-Biebrich, Germany

No Drawing. Filed July 6, 1965, Ser. No. 469,872

U.S. Cl. 96—48

Int. Cl. G03c 1/00

11 Claims

Light-sensitive negative-working reproduction materials suitable for use in image copying with incandescent as well as ultraviolet light source is prepared by coating a support with a light-sensitive imaging composition comprising a halogenated hydrocarbon, an indole, a ferrocene, and an aldehyde.

3,423,207

SOLUBILIZED STYRYL DYES

Donald W. Heseltine and Lewis L. Lincoln, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Sept. 1, 1964, Ser. No. 393,576

U.S. Cl. 96—84

Int. Cl. G03c 1/24

8 Claims

Solubilized styryl dyes having a sulfo group attached directly to a nuclear carbon atom of a 5- or 6-membered heterocyclic nucleus are useful, for example, in photography as light-filtering and antihalation dyes. They can be prepared by condensing nuclear sulfonated cyclammonium quaternary salts with certain aromatic aldehydes. Anhydro-2-p-dimethylaminostyryl-3-ethyl-4-p-sulphophenylthiazolium hydroxide, for example, can be prepared by condensing 3-ethyl-2-methyl-4-p-sulphophenylthiazolium p-toluene sulfonate with p-dimethylaminobenzaldehyde. The styryl dye compounds have good solubility in water, good stability to solutions of bases and acids, excellent mordant properties and are readily bleachable. They are especially useful in filter layers and in antihalation layers in photographic elements.

3,423,208
METHOD OF PRECIPITATING CASEIN FROM MILK

Arie Kuipers, Limburg, Germany, assignor to Josef A. Meggle, Reilmehring, Germany

No Drawing. Filed Feb. 17, 1966, Ser. No. 528,043

Claims priority, application Germany, Feb. 22, 1965, M 64,270

U.S. Cl. 99—20

Int. Cl. A23j 1/20

7 Claims

Production of casein by mixing skim milk with whey which has been contacted with a cation exchange material in the H-form so that the pH of said skin milk is reduced to 4.3 to 4.5 which causes precipitation of casein.

3,423,209

BREWING SELECTABLE VARIABLE QUANTITIES OF COFFEE

Robert L. Weber, Clapboard Hill Road,

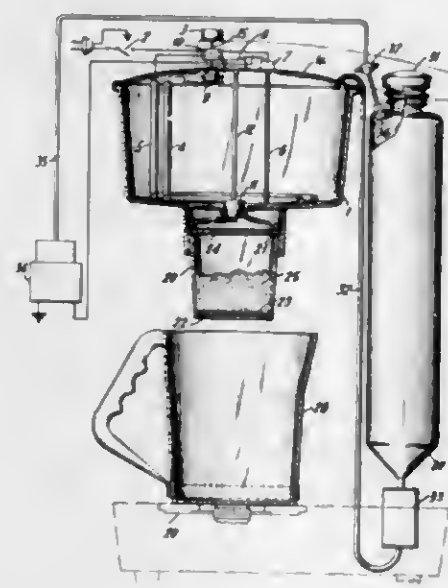
New Canaan, Conn. 06840

Filed Nov. 23, 1965, Ser. No. 509,278

U.S. Cl. 99—71

Int. Cl. A23f 1/00

2 Claims



Selectively variable quantities of coffee are brewed by placing a measured quantity of ground coffee in an infusion chamber, forcing a measured quantity of hot water into the infusion chamber by means of pressure. The flow rate of the hot water through the grounds is selectively varied to provide a constant contact time for the water and grounds, irrespective of the quantity of coffee being brewed.

3,423,210

METHOD FOR SIGNALLING THE COMPLETION OF COOKING OF A FOOD PRODUCT IN A COOKING BATH

Louis J. Martino, Lombard, Ill., assignor, by mesne assignments, to McDonald's System, Inc., Chicago, Ill., a corporation of Illinois

Original application June 4, 1962, Ser. No. 199,846, now Patent No. 3,213,778. Divided and this application May 12, 1965, Ser. No. 470,334

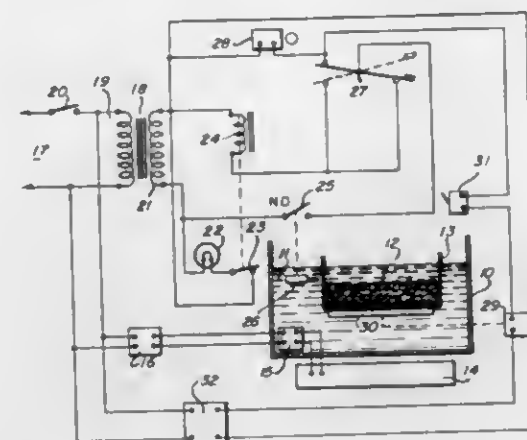
U.S. Cl. 99—100

Int. Cl. A23l 1/00; G01n 25/48

5 Claims

A method of cooking a food product comprising preheating a cooking bath to a first preselected elevated temperature, immersing a food product in the bath whereby the bath temperature adjacent the food decreases to a second temperature, sensing the adjacent temperature, sensing the temperature of the bath at a point in the bath remote from the food and maintaining the first preselected

temperature, automatically sensing before the adjacent temperature rises to the first temperature, a predetermined



rise in the temperature adjacent the food, and removing the food in response to this rise in temperature.

3,423,211

WHIPPABLE TOPPING MIX

John J. Miles, Jr., Westwood, Morton Pader, West Englewood, and Stuart W. Thompson, Upper Saddle River, N.J., assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Oct. 22, 1965, Ser. No. 502,300

U.S. Cl. 99—139

Int. Cl. A23g 3/00; A23l 1/14

19 Claims

A whippable topping mix containing a base fat, a water dispersible protein and 3-10% of a monoacetylated monoglyceride of a C₁₆-C₁₈ fatty acid and other additives.

3,423,212

METHOD FOR PACKAGING FOOD PRODUCTS

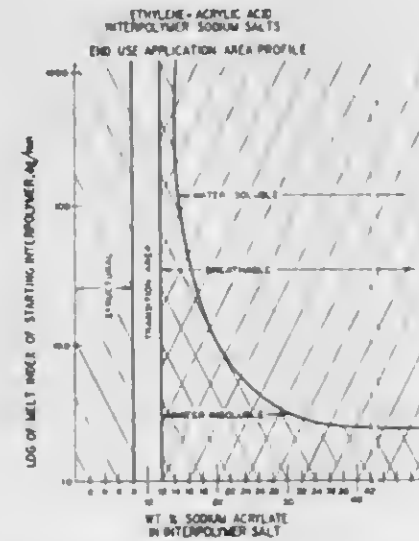
Chester L. Purcell, Somerville, and Lawrence G. Imhof, Westfield, N.J., assignors to Union Carbide Corporation, a corporation of New York

Filed Nov. 20, 1964, Ser. No. 412,677

U.S. Cl. 99—171

Int. Cl. B65b 25/02

4 Claims



Breathable films having high oxygen, carbon dioxide, and water-vapor transmission rates have been prepared from alkali metal salts of ethylene-acrylic acid interpolymers. These films are particularly useful for packaging food products, especially fresh beef where it is important to protect beef from contamination while maintaining its red appearance by providing sufficient oxygen in constant contact with the beef to keep its myoglobin in a highly oxygenated state.

3,423,213

METHOD OF PREPARING VITAMIN A-FORTIFIED FROZEN POTATO PRODUCTS

Frederick H. Vahlsing, Jr., Allentown, N.J., assignor to Vahlsing, Inc., a corporation of Delaware

No Drawing. Filed Mar. 9, 1966, Ser. No. 532,853

U.S. Cl. 99—193

Int. Cl. A23b 7/00; A23l 1/12

6 Claims

A method of providing freeze storage stable vitamin A fortification in frozen potato solids comprising frying potato solids in a frying oil which contains beta-carotene in an amount effective to fortify the vitamin A content of the potato solids and then freezing the potato solids.

3,423,214

MAGNETIC COBALT AND COBALT ALLOY PLATING BATH AND PROCESS

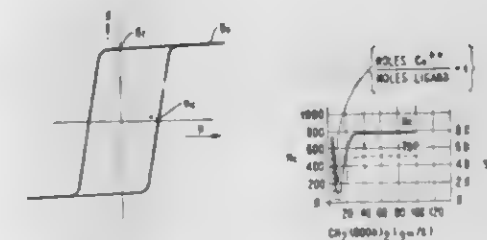
Herman Koretzky, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed June 30, 1965, Ser. No. 468,357

U.S. Cl. 106—1

Int. Cl. C09d 5/10; B44d 1/20

5 Claims



Magnetic cobalt and cobalt-base alloy films having controlled coercivity in the range of from 20 to 200 oersteds are obtained by contacting a catalytic surface with an aqueous solution comprising cobalt ions, hypophosphite ions and a ligand which comprises a saturated unsubstituted short chain aliphatic dicarboxylic anion. The molar ratio of cobalt ion to ligand anions is essentially one, and the molar ratio of cobalt ions to hypophosphite ions is between 0.15 to 2.0. The pH of the solution is adjusted to be at least 8 by the addition of ammonia molecules and hydroxyl ions. The solution is heated to a temperature between 70° C. to 80° C. to permit electrodeless deposition to proceed upon the catalytic surface.

3,423,215

VINYL RESIN COATING COMPOSITION SUITABLE FOR USE AS A COLD SET INK

Robert Frank Gerhardt, Deer Park, N.Y., assignor to American Can Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed June 17, 1965, Ser. No. 464,865

U.S. Cl. 260—30.4

Int. Cl. C09d 11/08; C08f 29/14

9 Claims

A coating composition suitable for use as a cold set ink containing a high molecular weight polyvinyl chloride dispersion resin, a lower molecular weight polyvinyl chloride solution resin, an epoxide plasticizer and an aromatic hydrocarbon vehicle for the resins which is solid at room temperature but liquid at elevated temperatures.

3,423,216

METHOD OF MAKING A CERAMIC CORE

Arthur V. Somers, Flushing, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 23, 1965, Ser. No. 503,123

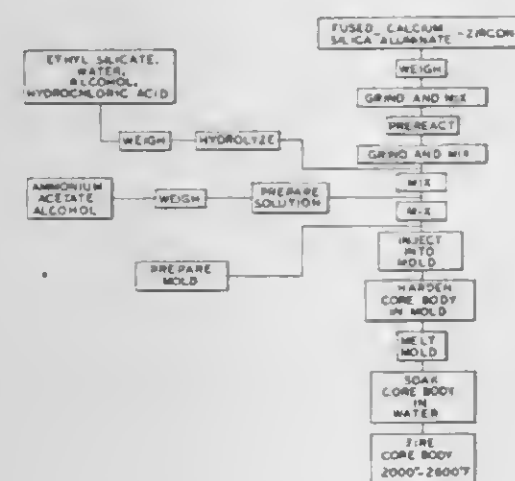
U.S. Cl. 106—38.35

Int. Cl. C04b 35/14

7 Claims

A method is disclosed for preparing ceramic molding materials for molding leachable ceramic cores. Leachable

ceramic cores are useful in precision investment casting. In a preferred embodiment ceramic components comprising fused silica and calcium aluminate are prereacted at an elevated temperature to eliminate the hydraulic reaction of the calcium aluminate. This prereaction pre-



vents over rapid curing when a binder solution of hydrolyzed ethyl silicate and ammonium acetate is mixed with the ceramic materials. As a result the moldable mixture is fluid and readily introduced into a mold defining an intricate core body.

3,423,217

METHOD OF MAKING CERAMIC SHAPES

Emil Blaha, Cheltenham, Pa., assignor to Selas Corporation of America, a place of business at Dresher, Pa., a corporation of Pennsylvania
No Drawing. Filed July 11, 1963, Ser. No. 294,242

U.S. Cl. 106—39 6 Claims
Int. Cl. C03c 3/04; C03c 7/00; C04b 35/18

1. The method of making a ceramic shape which comprises mixing ingredients into a batch which will produce a material that is essentially glass consisting of from 8% to 28% by weight of material selected from the group consisting of calcium oxide and magnesium oxide and a mixture of the two, from 10% to 25% by weight of alumina and the remainder silica, melting the batch, quenching it, pulverizing the quenched material and mixing it with from about 15% up to 25% by weight of ball clay and from about 15% up to 25% by weight of talc, moistening the latter mixture sufficiently to shape it, shaping it, and firing the shape to a temperature and for a time sufficient to sinter the pulverized glass batch to form a rigid ceramic shape.

3,423,218

BORON PHOSPHIDE COMPOSITIONS

Bernard A. Gruber, Dayton, Ohio, assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Original application Mar. 3, 1958, Ser. No. 718,465. Divided and this application July 12, 1963, Ser. No. 303,701

U.S. Cl. 106—55 5 Claims
Int. Cl. C04b 35/58

1. A composition of matter comprising cubic crystalline boron phosphide dispersed in a metallic matrix composed of a metal selected from the group consisting of aluminum, magnesium, copper, titanium, chromium, manganese, vanadium, zirconium, molybdenum, tantalum, thorium, iron, nickel, lead, tin, antimony, zinc and mixtures thereof.

3,423,219
PROCESS FOR GRINDING PORTLAND CEMENT CLINKER

James N. Stone, Jacksonville, and George H. Eick, Ponte Verda Beach, Fla., assignors, by mesne assignments, to SCM Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed July 6, 1964, Ser. No. 380,691
U.S. Cl. 106—94 4 Claims
Int. Cl. C04b 13/30

This patent application describes an improvement in process for making portland cement. The process comprises grinding portland cement clinker at a temperature above the boiling point of water with an aqueous dispersion of at least partially saponified tall oil pitch and/or tall oil rosin, the dispersion having 15–70 percent by weight non-volatile matter and 30–85 percent by weight of water, the dosage being sufficient to leave a residue of 0.01–0.5 percent by weight based on the resulting cement.

3,423,220

SALT OF β -PROPIOLACTONE ADDUCT OF ROSIN AND SIZING COMPOSITIONS MADE THEREFROM

Carl Bordenca, Ponte Vedra Beach, Fla., assignor, by mesne assignments, to SCM Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Aug. 10, 1966, Ser. No. 571,391
U.S. Cl. 106—238 10 Claims
Int. Cl. D21b 3/34

Novel salts of β -propiolactone adduct of the acids of tall oil, gum, and wood rosins, sizing compositions made therefrom, and processes for sizing a cellulosic web are described. The novel salts, sizing compositions, and processes are advantageous in that they permit the sizing of a cellulosic web with improved efficiency and the suppression of crystal formation which is undesirable in sizes.

3,423,221

CATIONIC BITUMINOUS EMULSIONS FOR USE IN SLURRY SEAL TREATMENTS

Merton J. Borgfeldt, Oakland, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

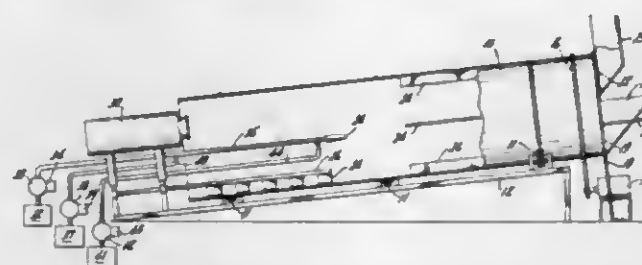
No Drawing. Filed Mar. 10, 1966, Ser. No. 533,232
U.S. Cl. 106—277 4 Claims
Int. Cl. C08h 13/00

By emulsifying from 50–75% by weight of bitumen (asphalt) in water with from 0.2–2.0% by weight of a cation-active salt of the reaction product of tetraethylenepentamine and wood resin acids, such as "Vinsol Resin," rosin, or colophony, slow-setting bituminous emulsions are formed. These emulsions are easy to apply in slurry seal paving work with mineral aggregates, and the resulting coatings display excellent wear under traffic.

3,423,222

METHOD OF MAKING A PAVING COMPOSITION

Kenneth E. McConaughay, P.O. Box 871, Lafayette, Ind. 47902
Filed May 10, 1965, Ser. No. 454,459
U.S. Cl. 106—278 8 Claims
Int. Cl. C09d 3/24; C09d 11/00; C08h 17/16



A method of making a paving composition in which a turbulent dispersion at a temperature of at least 212° F.

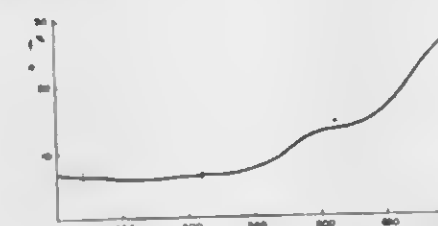
and containing from about 85% to about 95% of a thermoplastic binder and from about 5% to about 15% water is discharged onto an aggregate. Said dispersion and aggregate are mixed together while being heated to remove at least portions of said water from the resulting paving composition.

3,423,223

METHOD OF KEEPING COLOR DEVIATIONS WITHIN TOLERANCE LIMITS

Werner Schultze, Ludwigshafen (Rhine), Germany, assignor to Badische Anilin- & Soda-Fabrik, Aktiengesellschaft, Ludwigshafen (Rhine), Germany
Filed June 11, 1965, Ser. No. 463,214

Claims priority, application Germany, June 11, 1964, B 77,241; Apr. 12, 1965, B 81,430
U.S. Cl. 106—287 5 Claims
Int. Cl. C09c 1/00



Color control processes to maintain color control in reference to permissible tolerances from the standard color of a mixture of a plurality of colorants by utilization of spectral transmission or spectral reflection measurements at wave lengths corresponding substantially to maximum absorption of each colorant to determine whether the color of the tested sample is within predetermined tolerance limits with respect to said standard color, said tolerance limits being predetermined empirically or by computation with reference to samples wherein each individual colorant is added to or subtracted from the standard color.

3,423,224

METHOD FOR COATING AND RESURFACING PAVED SURFACES WITH RESINOUS MORTARS

Robert J. Schmlidt, El Cerrito, and Lawrence E. Santucci, Corte Madera, Calif., assignors to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 194,720, May 14, 1962. This application Jan. 25, 1967, Ser. No. 620,205

U.S. Cl. 117—2 2 Claims
Int. Cl. C09k 3/14; E01c 11/24

A method is provided for laying durable, flexible, skid-proof surface-coatings on paved surfaces, as in resurfacing portland cement concrete highways and roads, bridge decks and the like, by applying to the paved base a mortar formed by mixing a polyester resin, styrene and selectively graded mineral aggregate, initiating the setting of the mortar, and allowing the same to harden at ambient temperatures.

3,423,225

TEMPORARY PROTECTIVE FILMS FROM POLYOLEFIN DISPERSIONS

Charles H. Coney, and Willie E. Draper, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed July 15, 1965, Ser. No. 472,351
U.S. Cl. 117—6 2 Claims
Int. Cl. B44d 1/09

Dispersion of low-molecular weight polyolefin in a hydrocarbon or a hydrocarbon-alcohol system and a surfactant. The dispersion is useful as a temporary continuous coating adapted to be applied by means of spraying

3,423,226

PLATING OF NON-METALLIC BODIES

Darwin P. Jensen, Palos Verdes Estates, Calif., assignor to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland

No Drawing. Filed June 28, 1965, Ser. No. 467,700
U.S. Cl. 117—47 10 Claims
Int. Cl. C23b 5/08; C23c 13/04

Process for producing a securely bonded layer of nickel on the surface of a plastic body, e.g., an ABS plastic, to provide a base for subsequent electroplating. The plastic body surface is first contacted with an aqueous phosphoric acid solution of a noble metal salt, e.g., palladium chloride, followed by treatment with an electroless nickel plating bath comprising an aqueous solution of a nickel salt, e.g., nickel sulfate, and a reducing agent, e.g., sodium hypophosphite.

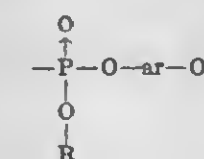
3,423,227

ORGANOPHOSPHORUS POLYMER PROTECTIVE COATING

Clayton E. Hathaway, Jr., Dayton, Ohio, assignor to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Sept. 27, 1965, Ser. No. 490,653
U.S. Cl. 117—132 14 Claims
Int. Cl. B32b 15/08

1. The process which comprises substantially uniformly applying to the surface of a substrate a fluid composition consisting essentially of a mixture of a normally solid organophosphorus polymer consisting essentially of the repeating unit



in which R and Ar are aromatic hydrocarbyl radicals free of olefinic and acetylenic unsaturation and contain from 6 to 15 carbon atoms, an inert, organic, liquid diluent for said polymer, and finely comminuted titanium dioxide in a quantity which is from 100% to 400% by weight of the polymer, evaporating off said diluent from said composition, and curing the composition remaining in an inert atmosphere at above 200° C. and below 550° C. to decrease the weight of the remaining composition by from 10 to 25% in order to obtain upon the substrate a strongly adherent in situ formed coating.

3,423,228

DEPOSITION OF CATALYTIC NOBLE METALS

Eugene A. Oster, Hamilton, Richard G. Miekka, Natick, and Henri J. R. Maget, Swampscott, Mass., assignors to General Electric Company, a corporation of New York

No Drawing. Filed Mar. 22, 1965, Ser. No. 441,921
U.S. Cl. 117—47 2 Claims
Int. Cl. C03c 17/10

A platinum metal salt is dissolved in water and the solution rendered alkaline. An anionic surface to be coated is placed in contact with the solution, and a metal borohydride is added to precipitate the platinum metal as a thin, uniform, adherent coating which is bright and reflective so as to form a mirror surface. With a transparent substrate such as glass it is noted that both surfaces of

the platinum metal coating are reflective. If a cation exchange membrane is the substrate, precipitation will occur solely on the membrane, since the entry of mobile ions into solution renders the surface of the membrane highly anionic. An additional layer of platinum metal may be applied, if desired, by electrodepositing. The ion exchange membrane may be initially exchanged to remove mobile hydrogen ions.

3,423,229

COATING WITH ZINC AND ALUMINUM POWDER IN POTASSIUM SILICATE

Andrew J. Kompanek, Jr., Lansdale, Frederick L. Phelps, Jr., North Wales, and James M. Klotz, Quakertown, Pa., assignors to Teleflex, Incorporated, North Wales, Pa., a corporation of Delaware

No Drawing. Filed May 17, 1965, Ser. No. 456,552

U.S. Cl. 117-62

12 Claims

Int. Cl. B44d 1/44; C09c 1/64; B23c 11/06

A coating composition and method for coating wherein the coating consists essentially of a mixture of generally spherical shaped aluminum powder having a grain size of 10 microns or less and zinc powder in an aqueous solution of about 20 to 50 grams per 100 cc. water of a soluble metal silicate selected from the group consisting of potassium silicate and mixtures of potassium silicate and sodium silicate, the zinc powder and aluminum powder being in a ratio of from 1:1 to 1:9 and the combined powders being present in an amount of at least 100 grams per 100 cc. of said solution. After the composition is applied it is cured to water insolubility either by the application of an acid solution, preferably an acidic phosphate solution such as phosphoric acid, or by the application of heat.

3,423,230

PREPARATION OF TIRECORD, ETC., BY TWO-STEP TREATMENT USING A CURABLE EPOXY ADHESIVE AND LATEX

Louis W. Georges, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Original application May 4, 1962, Ser. No. 192,311.

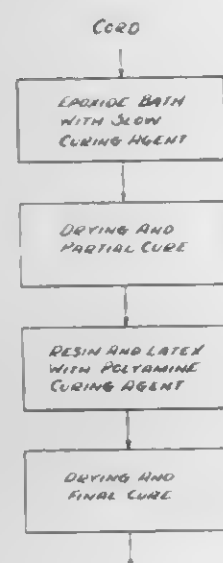
Divided and this application June 7, 1965, Ser.

No. 467,176

U.S. Cl. 117-62.2

5 Claims

Int. Cl. B29h 9/04; B32b 25/10



Tirerecords, etc. are prepared by a two-step treatment, using an epoxy adhesive and latex, with a slower curing agent in the first step which only partially cures the ad-

hesive during the drying which follows the first step, and using a faster curing agent in the second step.

3,423,231

MULTILAYER POLYMERIC FILM

Hans Harald Lutzmann, Terre Haute, Ind., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

Filed May 20, 1965, Ser. No. 457,505

U.S. Cl. 117-68.5

12 Claims

Int. Cl. B32b 27/08



A composite laminated film including at least one layer each of a polyamide film, an ethylene-acrylic acid copolymer film, and a polyolefin film. Additional layers of other films can be utilized. The ethylene-acrylic acid copolymer film serves to bond the other plies of the laminate securely together.

3,423,232

PRODUCTION OF VINYLIDENE CHLORIDE POLYMER COATINGS ON FLAT SUBSTRATES BASED ON CELLULOSE

Hans Reinhard, Limburger Palatinat, and Friedrich Hoelscher and Bernhard Dotzauer, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Jan. 17, 1966, Ser. No. 545,780

Claims priority, application Germany, Jan. 22, 1965,

B 80,217

4 Claims

U.S. Cl. 117-76

Int. Cl. B32b 23/08

1. In a method for the production of coatings on flat substrates based on cellulose by applying an aqueous polymer dispersion as a subcoat and drying the same, applying an aqueous dispersion of a copolymer of 80 to 98% by weight of vinylidene chloride and 2 to 20% by weight of copolymerizable monoethylenically unsaturated compounds as a topcoat and drying the same the improvement which comprises using as aqueous polymer dispersion for the subcoat a mixture of:

(I) an aqueous dispersion of a copolymer A of 80 to 98% by weight of vinylidene chloride and 2 to 20% by weight of copolymerizable monoethylenically unsaturated compounds, and

(II) an aqueous dispersion of a polymer of ethylenically unsaturated compounds B having a glass transition temperature of +10° to -55° C.,

the amount of the copolymer A being about 35 to 90% and the amount of the polymer B being about 10 to 65% of the weight of the sum of the polymers A and B in the mixture.

3,423,233

MAGNETIC RECORDING ELEMENT

Goro Akashi and Masaki Fujiyama, Odawara-shi, Japan, assignors to Fuji Shashin Film Kabushiki Kaisha, Minamishigara-machi, Kanagawa-ken, Japan, a corporation of Japan

Filed Jan. 25, 1965, Ser. No. 428,288

Claims priority, application Japan, Jan. 27, 1964,

39/3,588

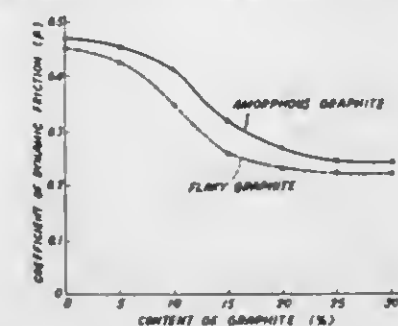
U.S. Cl. 117-121

Int. Cl. G11b 5/68

1 Claim

A magnetic recording medium having a support and a

magnetic layer applied on the support, the magnetic layer and thereafter curing at 30° to 260° C. is described. The containing graphite powder in an amount more than about siloxane copolymer has a general formula:



20% by weight of the magnetic substance in the magnetic layer.

3,423,234

DRIPLESS CONTAINER COATED WITH FLUOROALIPHATIC SILOXANES

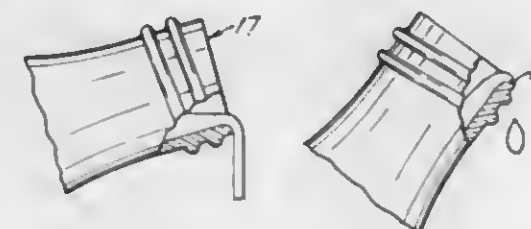
Richard F. Heine, White Bear Lake, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Continuation-in-part of application Ser. No. 467,209, June 28, 1965. This application Apr. 14, 1967, Ser. No. 630,874

U.S. Cl. 117-124

7 Claims

Int. Cl. C03c 17/30; C07f 7/12



Containers having a substantially dripless orifice, the dripless character being conferred by a soluble hydrolytically stable polar surface adherent fluoroaliphatic siloxane.

3,423,235

ORGANOSILOXANE-CONTAINING FINISHES FOR ORGANIC FIBERS

James Kermil Campbell, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

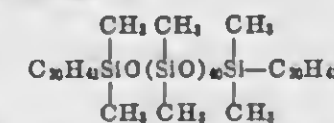
No Drawing. Filed Nov. 23, 1964, Ser. No. 413,304

U.S. Cl. 117-138.8

3 Claims

Int. Cl. D06m 15/66

Certain organosiloxanes are shown compatible with most organic oils and waxes and possessing excellent fiber lubricating properties of conventional silicone fluids. The silicone compositions include waxy materials as well as fluids and are superior to organic fiber finishes. An illustrative example being:



paraffin and hexane placed upon cotton and allowed to dry.

3,423,236

ADDUCTS OF SILICON HYDRIDE POLY-SILOXANES AND SILANES HAVING ALKENYL RADICALS

George J. Quaal, Springfield, Mass., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

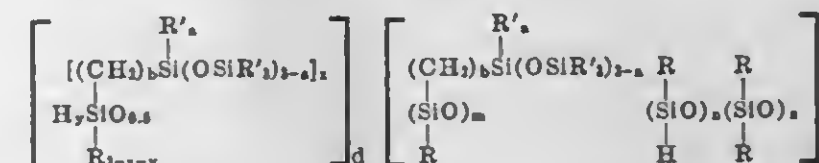
No Drawing. Filed Oct. 9, 1964, Ser. No. 402,941

U.S. Cl. 117-161

9 Claims

Int. Cl. D06m 15/66; C09k 3/18

A process rendering substrates water repellent by treating with a mixture of a catalyst and a siloxane copolymer



wherein R and R' are each alkyl or phenyl or their halogenated derivatives, a is 0 to 2, b is 2 to 4, m is 2 to 99 mol percent of the silicon atoms, z is 0 to 97 mol percent of the silicon atoms, m+n+z is 6 to 2000, x, y and d are each 0 to 2 and x+y is 0 to 2. The substrates include fabric, paper, glass, leather, wood and masonry products among others.

3,423,237

PHOTOCONDUCTIVE DEVICE

Ann Hutchinson, Dallas, Tex., assignor to General Electrodynamics Corporation, Garland, Tex., a corporation of Texas

Continuation-in-part of application Ser. No. 458,671, May 25, 1965. This application Aug. 16, 1965, Ser. No. 479,992

U.S. Cl. 117-201

13 Claims

Int. Cl. C23c 13/00; B01j 31/26; B44d 1/14

A process for preparing a target for a vidicon camera tube wherein a mixture of selenium and sulfur is deposited on a conductive coating on the face plate and is heat treated and then a layer of arsenic disulfide is deposited and heat treated so that the sensitivity and the stability of the photoconductive coating are substantially increased.

3,423,238

SLURRY MAKE-UP SYSTEM

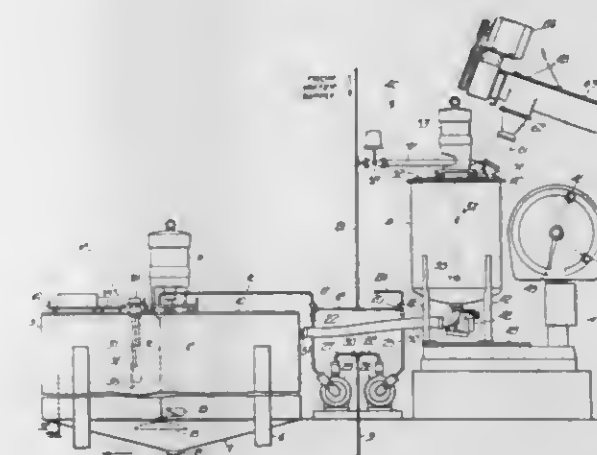
Edward Weiland, Decatur, Ill., assignor to A. E. Staley Manufacturing Company, Decatur, Ill., a corporation of Delaware

Filed Jan. 17, 1966, Ser. No. 521,149

U.S. Cl. 127-28

8 Claims

Int. Cl. C13l 1/00; B28c 5/40



6. Cyclically operating apparatus for automatically maintaining in a relatively large holding container a relatively large supply of a slurry of predetermined composition with respect to a liquid component and a solid component, which comprises: electric liquid level sensing and control means associated with said large holding container operable to electrically respond when said slurry falls below a predetermined level therein; a scale; a relatively small container resting on said scale; an electrically operated agitator within said small container;

electrically operated solids feeding means arranged to discharge into said small container; electrically operated liquid feeding means arranged to discharge into said small container; electrically operated discharge means arranged to discharge the contents of said small container into said large container; said scale having associated therewith a first switch which is actuated when said small container contains full predetermined increments of said liquid and solid components, a second switch which is actuated when said small container is empty, and a third switch which is actuated when said container contains only a full increment of said liquid; first circuit means electrically interconnecting said electrical level sensing means, said solids feeding means and said agitator so as to actuate said solids feeding means and said agitator when the slurry level falls below said predetermined level within said large container; second circuit means electrically interconnecting said first switch, said solids feeding means, said agitator and said discharge means so as to deactivate said solids feeding means and said agitator and open said discharge means when said first switch is actuated; third circuit means electrically interconnecting said second switch, said discharge means and said liquid feeding means so as to close said discharge means and activate said liquid feeding means when the contents of said small container are emptied; and fourth circuit means electrically interconnecting said third switch and said liquid feeding means so as to deactivate the latter when said small container receives a full increment of liquid.

3,423,239

PROCESS FOR THE CONTINUOUS PRODUCTION OF STARCH DEGRADATION PRODUCTS

Hanno Goos, Castrop-Rauxel, Germany, assignor to West Virginia Pulp and Paper Company, New York, N.Y., a corporation of Delaware

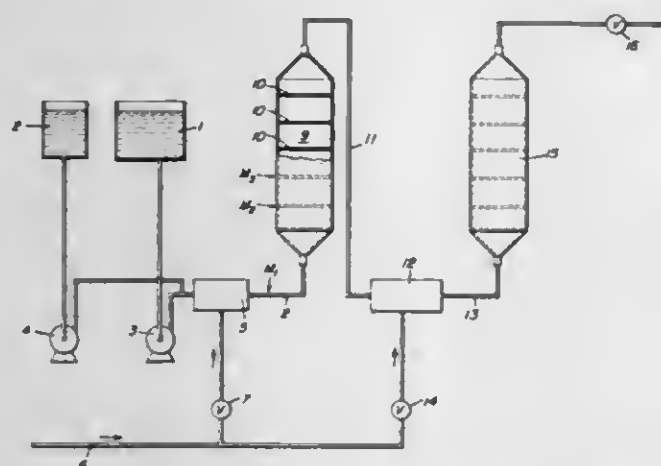
Filed Apr. 19, 1965, Ser. No. 449,067

Claims priority, application Switzerland, Apr. 22, 1964, 5,247/64

U.S. Cl. 127—38

Int. Cl. C12d 13/04; C131 1/00

4 Claims



In a continuous starch conversion process, wherein starch is converted by the use of biological or chemical catalysts, the viscosity of the reaction mixture is measured as a function of the pressure difference which exists between two points in the flow path of the reaction mixture.

3,423,240

PICKLING PROCESS

Thomas H. Oster, Dearborn, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

No Drawing, Filed Aug. 19, 1965, Ser. No. 481,068

U.S. Cl. 134—3

Int. Cl. C23g 1/08

11 Claims

A process of pickling carbon sheet steel in a hydrochloric acid bath comprising adding sodium chloride and

a sulphur containing substance to the pickling liquor to produce sodium sulphate and hydrogen chloride, including employing a thermal decomposing step and using waste sulphuric acid pickling liquor as a source of said sulphur containing substance.

3,423,241

METHOD FOR UNCLOGGING OIL PASSAGEWAYS OF ENGINES

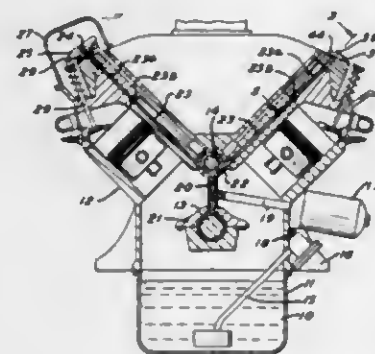
John Manzi, 1 S. Malin Road, Broomall, Pa. 19008

Filed Mar. 19, 1965, Ser. No. 441,114

U.S. Cl. 134—22

Int. Cl. C23g 5/02; B08h 9/00

1 Claim



The unclogging of an engine oil passageway extending from adjacent the cam shaft to lubricate a rocker arm shaft is accomplished by removing the rocker arm shaft from one side of the engine, supplying grease under pressure to an upper portion of said oil passageway in a direction opposite the normal direction of oil flow, and while retaining the grease trapped under static pressure in the passageway, operating the other part of the engine to heat the trapped material and increase the pressure thereon for dislodging an internal obstruction.

3,423,242

ELECTRIC CURRENT-PRODUCING CELL WITH ANHYDROUS ORGANIC LIQUID ELECTROLYTE

William F. Meyers, Blue Bell, and John W. Simmons, Philadelphia, Pa., assignors to Livingston Electronic Corporation, Montgomeryville, Pa., a corporation of New Jersey

No Drawing, Filed Oct. 28, 1964, Ser. No. 407,228

U.S. Cl. 136—6

Int. Cl. H01m 17/00

18 Claims

In an electric current producing cell utilizing an anhydrous organic liquid as electrolyte solvent there is provided, in contact with the solvent, an atmosphere of a gaseous ligand compound which forms, with the solute of the electrolyte, a coordination complex coupling the solute and the solvent resulting in improved energy output.

3,423,243

CURRENT COLLECTION MEANS FOR FUEL CELLS

Karl V. Kordes, Lakewood, and John F. Yeager, Brookpark Village, Ohio, assignors to Union Carbide Corporation, a corporation of New York

Continuation-in-part of application Ser. No. 764,342, Sept. 30, 1958. This application July 30, 1962, Ser. No. 213,249

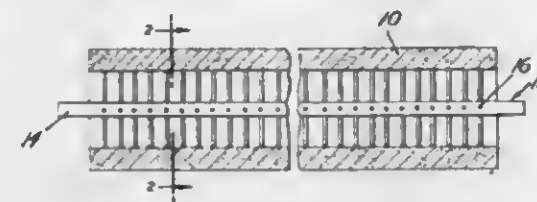
U.S. Cl. 136—86

Int. Cl. H01m 27/00

1 Claim

1. In combination a fuel cell including at least one electrode having (1) an electrochemically active electrolyte surface and a non-active fuel or oxidant surface, and (2) a current collection means comprising a central core disposed adjacent said non-active surface and a plurality of conducting bristles, each bristle having one end

attached to said core and the other end in electrical contact with said non-active surface, said bristles making



contact with said electrode over substantially all said non-active surface area.

3,423,244

METHOD OF OPERATING A FUEL CELL COMPRISING A HYDROGEN DIFFUSION OTHERWISE IMPERMEABLE ANODE

Walter Juda, Lexington, and Martin S. Frant, Newton, Mass., assignors to Prototech Incorporated, Cambridge, Mass., a corporation of Massachusetts

Continuation-in-part of application Ser. No. 260,457, Feb. 25, 1963. This application Sept. 12, 1963, Ser. No. 308,417

U.S. Cl. 136—86

Int. Cl. H01m 27/06, 27/20

1 Claim

Fuel cells are disclosed in which the resistance of a thin hydrogen-permeable otherwise impervious layer with one surface in contact with a high temperature electrolyte is substantially reduced by short-circuiting closely-spaced regions of the opposite surface of the layer while permitting access of hydrogen thereto.

3,423,245

DELAYED ACTION BATTERY

Lyle G. Waller, Clinton, Ill., assignor to National Union Electric Corporation, Stamford, Conn., a corporation of Delaware

Filed Apr. 18, 1966, Ser. No. 543,387

U.S. Cl. 136—90

Int. Cl. H01m 21/12

3 Claims

1. In a deferred action battery adapted for activation by immersion in a body of aqueous liquid and having an outer electrode disposed within a protective casing and an inner electrode disposed in spaced coaxial relationship within said outer electrode, said electrodes having a fluid passageway therebetween adapted to receive aqueous liquid therein for effecting activation thereof, upper and lower end closure means at the opposite ends of said casing with upper and lower fluid passages extending through said upper and lower end closure means, respectively, the improvement in combination therewith comprising; a cap member enclosing said lower fluid passage, said cap member having a fluid passage in a wall thereof, a flexible diaphragm member mounted within said cap member sealably closing said lower-fluid passage and being moveable out of sealable engagement with said lower fluid passage by the pressure of water entering the fluid passage

3,423,246

LEAKPROOF ELECTRODE

Manfred J. Prager and Hugh H. Horowitz, Elizabeth, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing, Filed Jan. 6, 1964, Ser. No. 336,049

U.S. Cl. 136—120

Int. Cl. H01m 27/04

8 Claims

1. An electrode of controlled hydrophobicity consisting essentially of an intimate mixture of finely divided catalytic material and binder material pressed onto an electrically conductive support, said binder material consisting essentially of a mixture of a highly hydrophobic halogenated hydrocarbon polymer and a less hydrophobic polymeric organic synthetic binder.

3,423,247 POROUS CONDUCTIVE ELECTRODE HAVING AT LEAST TWO ZONES

William G. Darland, Jr., Parma, Karl V. Kordes, Lakewood, and Johannes A. van Lier, Cleveland, Ohio, assignors to Union Carbide Corporation, a corporation of New York

Continuation-in-part of application Ser. No. 286,394, June 7, 1963. This application May 19, 1964, Ser. No. 370,394

U.S. Cl. 136—120

Int. Cl. H01m 13/02

10 Claims

9. An electrode which comprises a porous conductive body having at least two zones: a first zone extending inwardly from one surface of said body, being permeable to liquid electrolyte, and containing electrochemically active particles which are activated carbon, and a second zone adjacent to said first zone, repellent to liquid electrolyte, and containing graphite particles.

3,423,248

GAS DIFFUSION ELECTRODE FOR ELECTROCHEMICAL FUEL CELLS AND METHOD OF MAKING SAME

Heinz-Gunther Plust, Hanflandli, Spreitenbach, Aargau, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie., Baden, Switzerland, a joint-stock company

Filed Sept. 14, 1964, Ser. No. 396,094

Claims priority, application Switzerland, Oct. 8, 1963, 12,344/63

U.S. Cl. 136—120

Int. Cl. H01m 27/04

6 Claims

1. A gas diffusion electrode consisting essentially of a skeleton of a catalytically active metal containing non-metallic high melting grains having a mean diameter between 5 and 80μ embedded therein and intercommunicating pores, the pores being separated from said grains by a layer of skeleton metal of essentially constant thickness of from 1 to 30μ, while adjacent grains are interconnected by bridges of skeleton metal, said skeleton having a porosity of at least about 30%.

3,423,249

BURNER UNIT AND THERMOELECTRIC GENERATOR INCORPORATING SAME

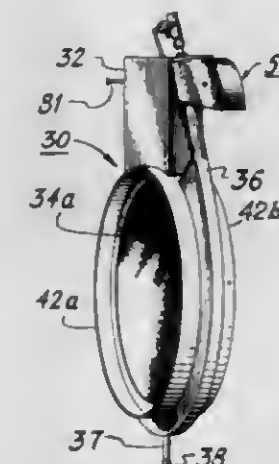
Millard N. Ross, Lutherville, and Alan J. Streb and Charles N. Young, Baltimore, Md., assignors to Martin-Marietta Corporation, New York, N.Y., a corporation of Maryland

Filed June 9, 1965, Ser. No. 462,512

U.S. Cl. 136—212

Int. Cl. H01v 1/32; F23d 3/40

19 Claims



1. A burner unit for use with a thermoelectric generator comprising in combination:

(a) spaced, perforated combustion surfaces for developing planes of substantially uniform combustion;

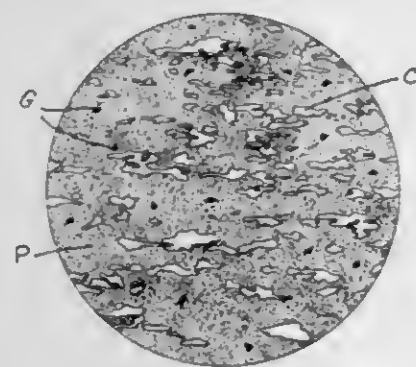
- (b) a hollow, annular manifold disposed in supporting relationship about the respective peripheries of said combustion surfaces, defining therewith a burner chamber and adapted to deliver a combustible mixture into said chamber for combustion at said surfaces;
- (c) means for introducing a pressurized combustible fuel and air into said manifold; and
- (d) flue means connected to said manifold for exhausting the products of combustion deriving from said combustion surfaces.
9. A thermoelectric generator comprising in combination:
- (a) a burner unit comprising:
- (1) spaced, combustion surfaces for developing at least one plane of combustion;
 - (2) a hollow annular manifold disposed in supporting relationship about the respective peripheries of said combustion surfaces, defining therewith a burner chamber and adapted to deliver a combustible mixture into said chamber for combustion at at least one of said surfaces;
 - (3) means for introducing a pressurized combustible fuel and air into said manifold;
 - (4) flue means communicating with said combustion surfaces for exhausting the products of combustion deriving therefrom;
- (b) at least one thermopile unit having a heat dissipating side and a heat receiving face, said latter face supported juxtaposed to said burner unit and spaced therefrom in heat receiving relationship with said perforated combustion surface; and
- (c) pressurized fuel storage means for supplying combustible fuel at uniform pressure to said first-mentioned means.

3,423,250

METHOD OF MANUFACTURING A CAST IRON ROLL

Ichiro Morizumi, Yulchiro Sato, and Kiyosbi Matsukura, Toyama, Japan, assignors to Nisso Seiko Kabushiki Kaisha, Tokyo, Japan, a Japanese corporation
Continuation of application Ser. No. 453,355, May 5, 1965. This application Dec. 22, 1967, Ser. No. 693,025
Claims priority, application Japan, Dec. 2, 1964, Sho 39/67,436

U.S. Cl. 148—2
Int. Cl. C21d 7/14

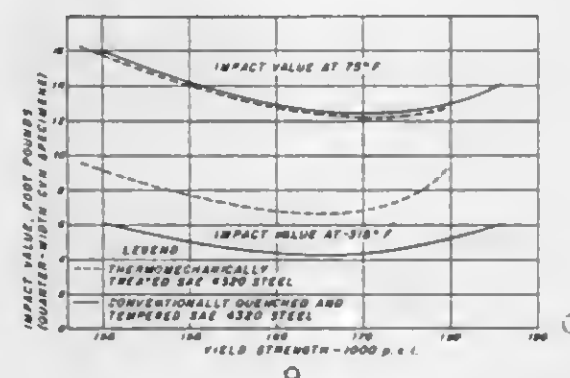


Method of preparing castings having uniform white pig iron-like structure containing from 1.7–3.8% carbon, less than 2.5% silicon, alloying elements, and less than a 0.2% total of phosphorus, silver, copper, tin, arsenic, lead, antimony, bismuth and zinc which comprises hot-working the castings at temperatures of 900–1125° C., normalizing the heat-treated hot-worked castings, and heat-treating the normalized castings.

3,423,251
PROCESS FOR DECORATING ALUMINUM
Richard T. Metcalfe and Joseph P. R. Levesque, Sturbridge, Mass., assignors to American Optical Corporation, a corporation of Delaware
No Drawing. Filed May 31, 1966, Ser. No. 553,627
U.S. Cl. 148—6.1
Int. Cl. C23f 5/04, 7/06

1. In a process of decorating a porous oxide coating on aluminum, the improvement which comprises printing on the surface of said oxide coating a design of prescribed pattern in a printing ink comprised of a number of dyestuffs dispersed in a carrier in which the dyestuffs are insoluble, subjecting the printed oxide coating to a solvent for both the dyestuffs and carrier to cause said dyestuffs to penetrate into said coating in a pattern substantially identical to that of said printing and sealing the pores of said oxide coating.

3,423,252
THERMOMECHANICAL TREATMENT OF STEEL
Raymond A. Grange, Washington Township, Westmoreland County, Pa., assignor to United States Steel Corporation, a corporation of Delaware
Filed Apr. 1, 1965, Ser. No. 444,676
U.S. Cl. 148—12
Int. Cl. C21d 7/14

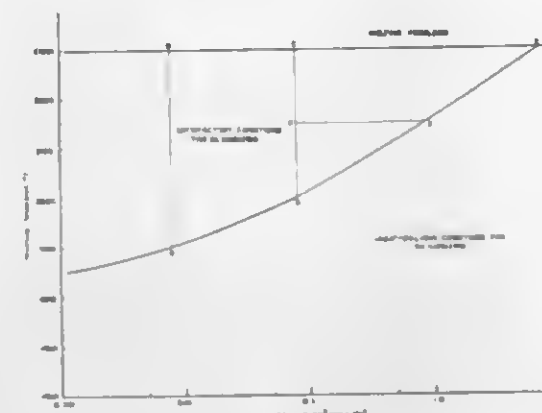


A method of producing a highly fibrous structure in hardenable hypoeutectoid steel wherein the steel is heated to produce a structure composed of a mixture of austenite and ferrite grains, drastically reducing the steel to elongate such grains while maintaining such structure and thereafter cooling the steel to transform the austenite to the desired microstructure.

3,423,253
METHOD OF INCREASING THE SILICON CONTENT OF WROUGHT GRAIN ORIENTED SILICON STEEL
Stuart Leslie Ames, Sarver, and William R. Bitter, State College, Pa., assignors to Allegheny Ludlum Steel Corporation, Brackenridge, Pa., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 422,718, Dec. 31, 1964. This application Feb. 23, 1968, Ser. No. 712,324
U.S. Cl. 148—110
Int. Cl. H01f 1/04

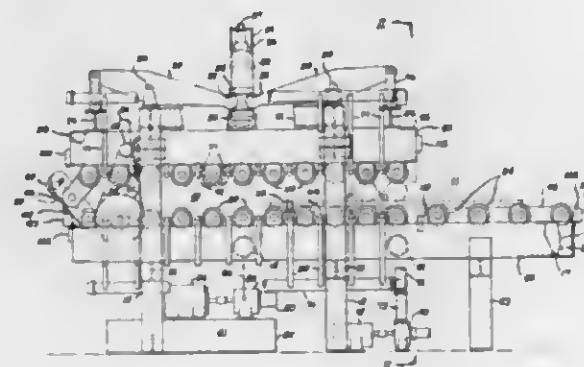
In the manufacture of wrought silicon steel containing in excess of 4% silicon, the steps comprising, reacting at an elevated temperature finish gauge silicon steel containing less than about 4.0% silicon with a siliconizing atmosphere containing a mixture of a non-reactive gas and between about 0.01% and 23% by volume of a non-reactive gas saturated with a thermally decomposable silicon compound, regulating the mean delivery rate of the siliconizing atmosphere and the elevated temperature at which reaction is effected so that both the mean delivery rate and the elevated temperature fall within the area defined by the lines connecting points ABCDEGA in

FIG. 9 of the drawings, and thereafter heat treating the reacted steel. The heat treatment may be carried out in a



magnetic field and the thermally decomposable silicon compound can be silicon tetrachloride.

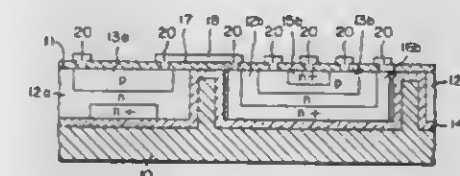
3,423,254
ROLLER PRESSURE QUENCH SYSTEM
Franklin C. Safford, Bristol Township, Bucks County, Robert A. McGrath, Northampton Township, Bucks County, and Edgar Lloyd Loveless, Bethayres, Pa., assignors to Drever Company, Bethayres, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 370,554, May 27, 1964. This application Nov. 3, 1966, Ser. No. 591,927
U.S. Cl. 148—131
Int. Cl. C21d 1/78



1. In a roller platen pressure quench system, apparatus comprising, in combination, a frame, a horizontal lower roller bed fixed to said frame and having transversely extending parallel rollers, a movable horizontal upper roller bed adapted to be guided by said frame and having transversely extending parallel rollers, said parallel rollers in said upper roller bed being directly above said parallel rollers in said lower roller bed with the axes of each superposed pair of rollers lying in a vertical plane when said beds are in relatively closed position, a centrally located vertical double-acting cylinder and piston means positioned above said beds in supported relation to said upper roller bed, rocking beam means positioned in fulcrumed relation to said frame and pivotally associated with said cylinder and piston means, ram means connected to said upper roller bed and pivotally associated with said rocking beam means to move said upper roller bed up and down respectively to open and close said beds in terms of the height of the space between them, respective sprocket and chain means for rotating the parallel rollers in each bed to provide a common direction of movement for flat work in said space engaged by said parallel rollers in said beds when closed to define an operative work space of uniform height equal to the thickness of said

work, means for pressing said beds when closed on work toward one another with a selected force, a common reversible hydraulic drive for said last-named means operative for any height of space between said beds, means for reversing said hydraulic drive to reverse said common direction of movement while said work remains within said work space, and means positioned between parallel rollers in each of said beds to supply water to the top and bottom surfaces of said work at pressure sufficient to engage said surfaces and in quantities sufficient for uniform and rapid quenching, said last-named means being operative when said beds are closed upon said work and said work is being relatively rapidly reversed in its direction of movement within said work space.

3,423,255
SEMICONDUCTOR INTEGRATED CIRCUITS AND METHOD OF MAKING THE SAME
Benjamin D. Joyce, Laurel, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 31, 1965, Ser. No. 444,208
U.S. Cl. 148—175
Int. Cl. H01l 7/36, 7/24, 7/44



In fabricating semiconductor integrated circuits having a dielectric isolation medium, a method is disclosed wherein the starting material for the fabrication operation is of different conductivity type from that in which the ultimately desired functional elements of the integrated circuit are formed. The material for functional elements is deposited, as by epitaxial growth, on the starting material. A preferential etchant may be used to remove the material of the semiconductor type of the starting material but does not, relatively, remove that of the device portions so that the position of the final device surface may be more readily controlled.

3,423,256
EXPLOSIVES CONTAINING AN IMPACT-SENSITIVE LIQUID NITRATED POLYOL AND TRIMETHYLOLETHANE TRINITRATE AND PROCESS OF CONTRITATING MIXTURES OF POLYOLS AND TRIMETHYLOLETHANE
George L. Griffith, Coopersburg, Pa., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland
No Drawing. Continuation-in-part of application Ser. No. 611,235, Jan. 24, 1967. This application Jan. 8, 1968, Ser. No. 696,106
U.S. Cl. 149—2
Int. Cl. C06b 3/00

An explosive sensitizer composition is provided including at least one impact-sensitive liquid nitrated polyol and trimethylolethane trinitrate. The trimethylolethane trinitrate decreases the impact-sensitivity of the composition as compared to the liquid nitrated polyol alone but does not decrease the detonator sensitivity. Examples of the preferred liquid nitrated polyols are nitroglycerine and ethylene glycol dinitrate.

There is also provided an explosive composition containing the above sensitizer composition, an inorganic oxidizer and a fuel.

There is further provided a process for preparing the above sensitizer by contritating a mixture and preferably

a solution of trimethylolethane and a polyol which forms an impact-sensitive nitrate ester, such as ethylene glycol and glycerol.

3,423,257 BLASTING COMPOSITION CONTAINING NITRIC ACID

Robert Alan Simpson, Orlando, Fla., and James Paul Rishel, Edinburg, and George Abraham Cross, New Castle, Pa., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed Sept. 1, 1966, Ser. No. 576,548
U.S. Cl. 149—19 4 Claims
Int. Cl. C06b 19/04, 1/04

Stable, homogeneous, gelled aqueous nitric acid blasting compositions are provided by employing, as the essential fuel component, a nitric acid-miscible carboxylic compound, such as acetic acid.

3,423,258 PREPARATION OF GELLED BLASTING AGENTS COMPRISING NITRIC ACIDS, FUELS, AND GELLING AGENTS

George Abraham Cross, New Castle, Pa., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed Dec. 12, 1966, Ser. No. 600,736
U.S. Cl. 149—19 9 Claims
Int. Cl. C06b 19/04; C06b 1/04

The storage stability of a blasting composition consisting essentially of aqueous nitric acid, a gelling agent, a cross-linking agent, ammonium nitrate and a carboxylic fuel which is miscible with the nitric acid is enhanced when the composition is formed by mixing the gelling agent with either the nitric acid or the carboxylic fuel component, or both, before bringing the gelling agent into contact with the cross-linking agent.

3,423,259 AMMUNITION PRIMING COMPOSITION OF DRY PARTICULATE INGREDIENTS WITH KARAYA GUM BINDER

Edward A. Staba, Higganum, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
No Drawing. Continuation-in-part of application Ser. No. 537,699, Mar. 28, 1966. This application May 18, 1967, Ser. No. 639,289
U.S. Cl. 149—24 6 Claims
Int. Cl. C06c 1/00; C06h 15/00, 9/00

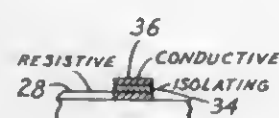
Ammunition priming compositions having improved handling properties, including enhanced safety during handling, are obtained through the use of karaya gum as binding agent. Such mixtures permit the use of higher and more effectively distributed contents of water during the handling stages than the natural or synthetic gums of the prior art, while avoiding the undesired flow of the fixture or the settling thereof and caking of the primer ingredients. Preferably, the karaya gum is initially subjected to a chemical modification corresponding to a partial deacetylation, as accomplished by heating the powdered gum and removing the evolved vapor constituents.

3,423,260 METHOD OF MAKING A THIN FILM CIRCUIT HAVING A RESISTOR-CONDUCTOR PATTERN

Herbert E. Heath and Clyde W. Skaggs, Canoga Park, Calif., assignors to The Bunker-Ramo Corporation, Stamford, Conn., a corporation of Delaware
Filed Mar. 21, 1966, Ser. No. 535,891
U.S. Cl. 156—3 4 Claims
Int. Cl. H01b 5/14; C23f 1/02

A method of fabricating a thin film circuit comprised of a composite resistor-conductor pattern. The method in-

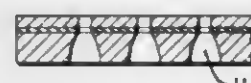
cludes the steps of (1) depositing a resistive film on a substrate; (2) etching the resistive film to define the desired composite pattern; (3) depositing a layer of isolating material over said resistive film to protect the resistive film



from contamination by a conductive film which is applied over the isolating material; and (4) separately etching the layers of isolating material and conductive film in the resistor areas of the pattern.

3,423,261 METHOD OF ETCHING FINE FILAMENTARY APERTURES IN THIN METAL SHEETS

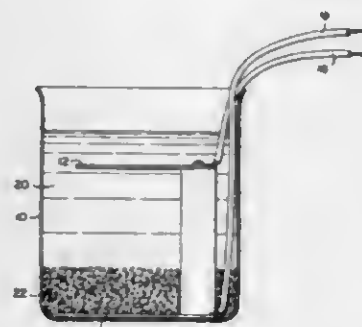
John J. Frantzen, St. Paul, Minn., assignor to Buckbee-Mears Company, St. Paul, Minn., a corporation of Minnesota
Filed Mar. 8, 1965, Ser. No. 437,969
U.S. Cl. 156—11 2 Claims
Int. Cl. C23f 1/02



A relatively thick sheet of material containing fine filamentary apertures is produced by etching a combination of a relatively thick and a relatively thin layer of the same material bonded together but separated by an extremely thin layer of another material. The latter protects each of the layers when etching the other in order to get a high degree of definition by etching the thinner layer. The intermediate layer is so thin that it has virtually no effect on the physical properties of the finished piece.

3,423,262 ELECTROPHORETIC TREATMENT OF PHOTO-RESIST FOR MICROCIRCUITY

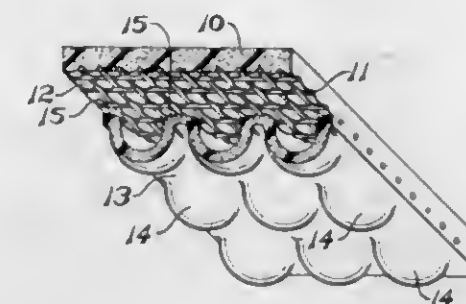
Irving F. Barditch and Charles J. Taylor, Baltimore, Md., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 23, 1964, Ser. No. 413,300
U.S. Cl. 156—13 4 Claims
Int. Cl. B01k 5/00; C23f 1/02; H01l 7/00



Electrophoretic treatment of photo-resist materials to remove a sludge so the resulting solution can be used to form high resolution masks such as for use in making microcircuits.

3,423,263 PROCESS FOR MANUFACTURING CARPET AND RUG UNDERLAY

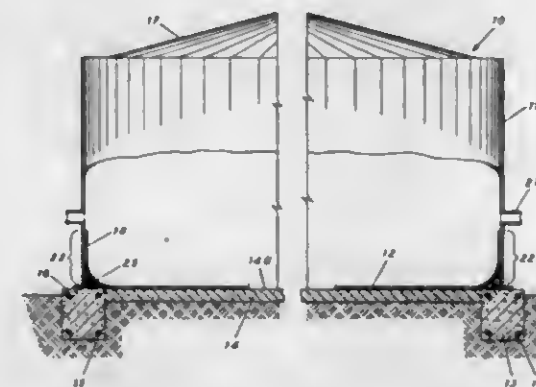
Lester Pannone, Ansonia, Conn., assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Original application Dec. 20, 1963, Ser. No. 332,053. Divided and this application Mar. 8, 1967, Ser. No. 621,520
U.S. Cl. 156—79 1 Claim
Int. Cl. B32b 5/20



An underlay for supporting a carpet or rug is produced by disposing a layer of vulcanizable expandable sponge rubber composition onto an open-mesh conveyor, a layer of fabric upon the layer of sponge rubber composition, and a second layer of vulcanizable expandable sponge rubber composition over the fabric layer. The assembly is heated which causes the layer of sponge rubber composition deposited directly onto the open-mesh conveyor to sag into the interstices of the conveyor and simultaneously causes both rubber layers to expand. Upon further heating the rubber and fabric layers are united into an integral structure.

3,423,264 METHOD OF BUILDING A CORROSION-RESISTANT STORAGE TANK

Roy R. H. Miron, Corte Madera, Donald G. Huggins, Walnut Creek, John E. Rlne, Berkeley, and Vernon E. Summerfelt, Anaheim, Calif., assignors to Chevron Research Company, a corporation of Delaware
Filed Mar. 29, 1965, Ser. No. 443,420
U.S. Cl. 156—71 4 Claims
Int. Cl. E04f 5/12; E04g 21/00; E04h 7/04



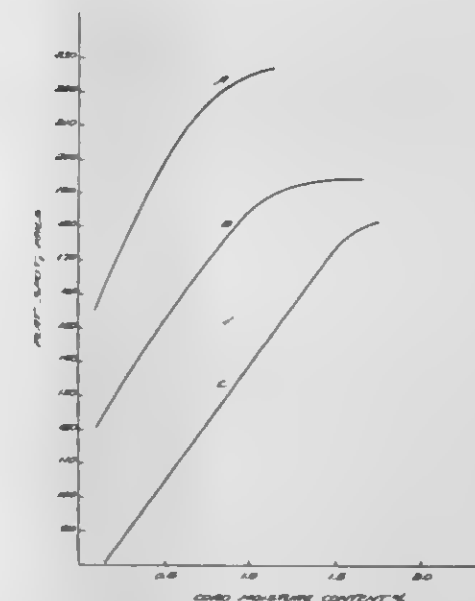
The method of forming a storage tank suitable for corrosive fluids consisting of the steps of:

- (1) forming a foundation suitable for support of said storage tank having a base enclosed by a concrete support annulus,
- (2) forming said annulus so that its depth is greater than that of said base,
- (3) assembling a closed enclosure formed of ferrous metal having a roof and a side wall,
- (4) placing the lower edge of said wall in contact with said annulus, with said roof being positioned at a location remote from said foundation, and
- (5) thereafter constructing a bottom for said enclosure exclusively of a fibrous glass reinforced ther-

mosetting resin selected from the group consisting of epoxy resins, and the reaction product of ethylenically unsaturated polyesters with a vinyl monomer.

3,423,265 TIRE FABRICATION PROCESS

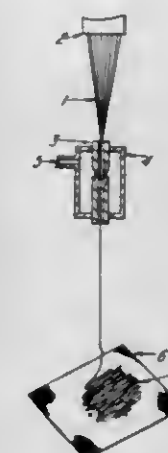
Lavern James Ables, Waynesboro, Va., and Yathiraja Iyengar, Newark, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Continuation-in-part of application Ser. No. 363,009, Apr. 27, 1964. This application Mar. 10, 1966, Ser. No. 533,273
U.S. Cl. 156—110 7 Claims
Int. Cl. B29h 17/00



Process of making a dry tire reinforced with nylon cords embedded in a skim stock containing a desiccant and having a moisture content less than 0.25%.

3,423,266 PROCESS FOR THE PRODUCTION OF A NON-WOVEN WEB OF A CONTINUOUS FILAMENT YARN

Barrie Linton Davies, Langstone, and Alan Selwood, Cwmbran, England, assignors to British Nylon Spinners Limited, Pontypool, England
Filed Dec. 30, 1964, Ser. No. 422,164
Claims priority, application Great Britain, Jan. 10, 1964, 1,229/64
U.S. Cl. 156—167 12 Claims
Int. Cl. D04h 3/16



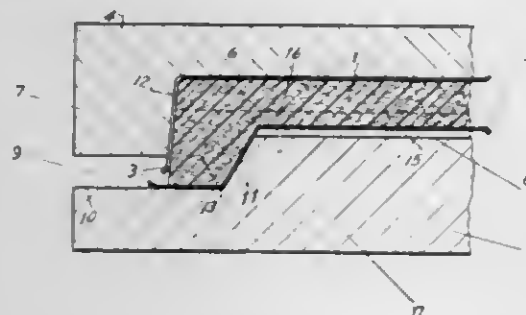
A process for the manufacture of a nonwoven web formed from a continuous filament yarn in which freshly spun filaments of synthetic high molecular weight poly-

mers are attenuated and intermingled by the action of a fluid jet, and deposited on a receiving surface in a random loopy configuration while in the non-crystalline condition.

3,423,267

METHOD FOR MANUFACTURING CHIPBOARD PLATES AND THE LIKE

Edmund Munk, Oberstenfeld, Wurttemberg, Germany, assignor to Furnier- und Sperrholzwerk J. F. Werz Jr., KG., Oberstenfeld, Wurttemberg, Germany
Continuation of application Ser. No. 278,249, May 6, 1963. This application Nov. 15, 1967, Ser. No. 683,413
U.S. Cl. 156-214 3 Claims
Int. Cl. B29j 5/02

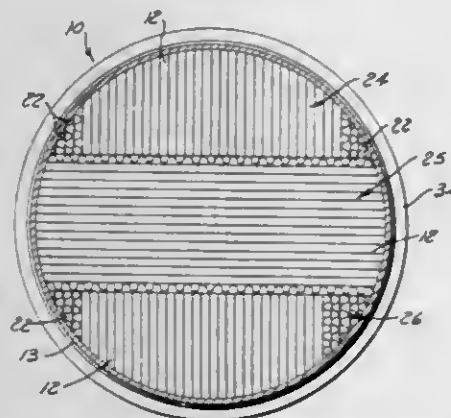


A method of molding under heat and pressure a plate-shaped object of a mixture of comminuted wood and a thermosetting resin, the object having smooth-edged surfaces extending at nearly right angles to the longitudinal plane of the plate. In order for the outer edge portion of the plate to have a solidity and compressive strength at least equal to that of the other parts of the plate, it is necessary that a back pressure at an inclined lateral direction be exerted during molding upon the inner surface of the edge portion of the blank and upon the laterally extending, nearly right angle edge portion. Achieving uniform compressive strength and solidity is especially necessary where the molded plate is to be coated with "sheet plastic" or other coating material.

3,423,268

TRANSFEROR WHEEL AND METHOD OF MAKING SAME

Howard E. Rahm and David L. Brimmer, Toledo, Ohio, assignors to Midland-Ross Corporation, Toledo, Ohio, a corporation of Ohio
Filed Apr. 19, 1967, Ser. No. 631,963
U.S. Cl. 156-250 20 Claims
Int. Cl. B32b 31/06, 33/00; F28d 19/04



This invention relates to a moisture and/or heat transfer wheel and to a method of making such a wheel. The wheel is made from a plurality of fibrous sheets, such as corrugated asbestos paper sheets, that have a flat portion and an undulating portion that form a plurality of parallel channels. An adhesive is applied to the peaks of the undulating portions and the sheets are laid on top of one

another to form a block configuration. The sheets are laid in such a manner that the channels in all the sheets extend parallel to one another throughout the entire block and the ends of the sheets are aligned to form channels of equal length. Pressure is applied normal to the flat portions until such time as the adhesive throughout the block has set. After the adhesive takes hold, the pressure is removed and the block is cut into a wheel with the axis of the wheel extending parallel to the direction of the channels. The paper is treated with a liquid to provide it with wet strength. The wheel is then impregnated with a hygroscopic solution before being placed in a housing.

3,423,269

PROCESS OF BONDING KNIFE BLADES WITHIN HANDLES

Hans Schlegel, Oberhohlingen, Geissbühl, and Beate Nowotny, Geislingen an der Steige, Germany, assignors to Württembergische Metallwarenfabrik, Geislingen an der Steige, Germany
No Drawing. Filed July 16, 1965, Ser. No. 472,712
U.S. Cl. 156-293 3 Claims
Int. Cl. B25g 3/34; C09j 1/00

Process for bonding knife blades within handles with a view to minimizing corrosion, which process comprises introducing a cement mixture of magnesium oxide and magnesium nitrate into a recess of the handle and then introducing the blade into the recess, whereby the nitrate having a corrosion inhibiting effect is present in an amount of at least 20% by weight based on the dry state of the water soluble constituents of the cement, the mixture being subsequently heated to a temperature ranging from 70-95° C. to set and harden it.

3,423,270

ADHESIVE COMPOSITION AND PROCESS FOR ADHESIVELY JOINING ELASTOMERS TO METALS

Arnold Heins, Hilden, Rhineland, Germany, assignor to Henkel & Cie, G.m.b.H., Düsseldorf-Holthausen, Germany, a corporation of Germany
Filed Oct. 24, 1962, Ser. No. 232,882
Claims priority, application Germany, Nov. 2, 1961, H 44,027

U.S. Cl. 156-330 10 Claims
Int. Cl. B32b 15/08; C09j 3/16
Compositions for forming adhesive bonds between elastomers and metals consisting of (1) an organic polyisocyanate, and (2) an aliphatic or aliphatic-aromatic epoxide compound having more than one epoxide group and an aliphatic chain of at least 8 carbon atoms; as well as the method of forming adhesive bonds between elastomers and metals.

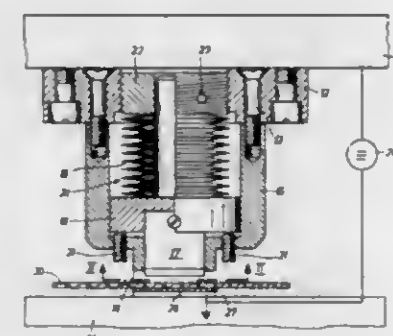
3,423,271

Alfred Kallert and Konrad Rascher, Nuremberg, Germany, assignors to G. M. Pfaff AG, Kaiserslautern, Pfalz, Germany, a corporation of Germany
Filed July 21, 1966, Ser. No. 566,873
Claims priority, application Germany, Aug. 17, 1965, P 37,468

U.S. Cl. 156-380 7 Claims
Int. Cl. B32b 31/18
1. Apparatus for the cutting of fabric workpieces composed at least in part of thermoplastic fibres comprising in combination:

- (1) a first electrode member having a first surface,
- (2) a second electrode member having a second surface and operable between a retracted position and a position of contact of said second surface with a workpiece positioned upon said first surface,
- (3) said second surface delineating a strip-like contact area conforming to a zone of predetermined width adjoining the cut to be produced in said workpiece,

- (4) a cutting knife slidably mounted within said second electrode member centrally of and in line with said area,
- (5) stop means upon said second member, to limit the projection of said knife beyond said second surface,
- (6) resilient means intervening between said knife and said second member, to normally urge said knife to a position of projection from said second surface determined by said stop means, and

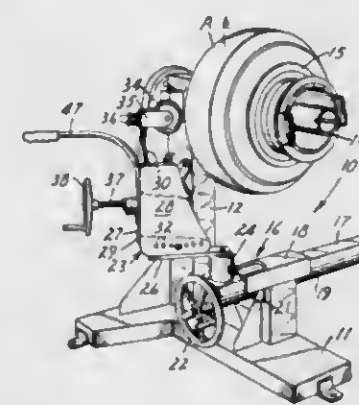


- (7) means to establish a high-frequency heating field between said first and second electrode members, whereby retraction of said knife to a position flush with said second surface against the action of said resilient means, upon operation of said second member into engagement with the workpiece, will result in the heating and plastic welding of the fabric fibres over said area and subsequent cutting of the material of the welded area while still in the plastic state by said knife by energy stored in said resilient means.

3,423,272

STITCHING MACHINE AND TIRE BUILDER

Wallace V. Sornsen, Minneapolis, Minn., assignor to Paul E. Hawkinson, Minneapolis, Minn., a corporation of Minnesota
Filed Jan. 10, 1966, Ser. No. 519,571
U.S. Cl. 156-410 9 Claims
Int. Cl. B29h 17/37



A tire tread stitcher with the stitching wheel mounted on a resilient arm having adjusting means to provide as it is passed over the surface of the retread rubber, adequate pressure throughout an arc corresponding to the crown radius of the finished tire.

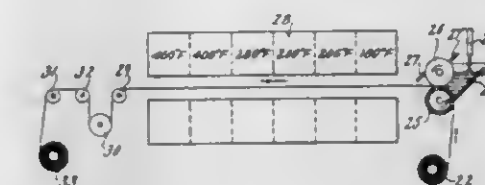
3,423,273

DECORATIVE LAMINATE AND METHOD OF MAKING THE SAME

Richard A. Mazur, Verona, Wis., assignor to Uniroyal, Inc., New York, N.Y., a corporation of New Jersey
Filed June 16, 1965, Ser. No. 464,462
U.S. Cl. 161-5 12 Claims
Int. Cl. B44f 1/00

A bright glossy coated fabric is achieved by casting a thin transparent surface layer, roll-over-roll casting a thin

flitter containing layer with the flitter dimensions narrowly circumscribed between narrowly stated dimensional boundaries with the flitter being tilted at a multiplicity of angles relative to the surface of its layer and having interspersed therewith myriad areas in which a third opaque



layer is fully visible through the flitter containing layer. A method is disclosed in which the product is produced by deaerating the transparent surface dispersion, deaerating the flitter mixture and casting the several layers. The flitter containing layer is roll-over-roll cast.

3,423,274

THERMOPLASTIC WRAPPING MATERIALS HAVING TRANSLUCENT AREAS AND PROCESS THEREFOR

William J. Lahm, Bound Brook, Peter Wilton, Plainfield, and Walter Egan, Berkeley Heights, N.J., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Aug. 30, 1965, Ser. No. 483,855
U.S. Cl. 161-6 20 Claims
Int. Cl. D06n 7/04; B44d 5/06; B29c 25/00

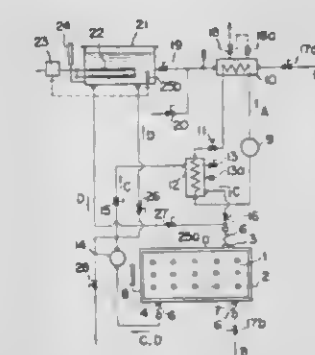
1. A self-supporting substantially crystalline polyolefin film exhibiting cling characteristics and having a repeating pattern therein segregating the film into alternate areas of glossy, transparent film and hazy, translucent film, said translucent areas being of higher crystallinity and orientation than said transparent areas, whereby the handleability of the film is substantially improved without a substantial sacrifice in cling properties.

3,423,275

HYPOTHERMIC SURGICAL OPERATION APPARATUS

Kenji Honda, 7-16 Moriai-Tanbayaji, and Teiji Kayaba, 71-1, Watari-Shiromukal, both of Fukushima-shi, Fukushima-ken, Japan
Filed July 11, 1967, Ser. No. 652,597
Claims priority, application Japan, July 14, 1966, 41/46,220

U.S. Cl. 165-26 3 Claims
Int. Cl. F25b 29/00; F28f 27/00; A61b 19/00



In a hypothermic surgical operation apparatus including means to circulate cold water and warm water through a tank containing an operating table, heat generated by a condenser of a refrigerator is utilized to heat water whereby to improve the thermal efficiency of the apparatus.

3,423,276

DECORATIVE COVERING FOR DASHBOARD PANELS AND METHOD OF APPLYING SAME

Charles J. Eckenroth, 506 E. Las Tunas Drive, San Gabriel, Calif. 91776

Filed Sept. 13, 1965, Ser. No. 486,604

U.S. Cl. 161—39

Int. Cl. B32b 33/00, 31/10

2 Claims



A decorative covering for dashboard panels and the like formed of a thin sheet of decorative wood paneling material backed by a thin, porous reinforcing sheet, with the back of the latter bearing a pressure-sensitive adhesive to adhere the sheets to a panel.

3,423,277

DISPOSABLE SURGICAL DRAPESCharles D. Dipner, Cranford, N.J., assignor to Johnson & Johnson, a corporation of New Jersey
Filed May 18, 1964, Ser. No. 367,989

U.S. Cl. 161—118

Int. Cl. B32b 5/26; A61H 15/00

7 Claims



1. A water impermeable absorbent laminate comprising a limp, drapable water impervious film of thermoplastic material having a softening temperature above 300° F., said film having in the main body thereof a thickness of not over about .3 mil and side edges being integral with the central portion of said film and having a thickness several times the thickness of the main body of said film and an absorbent flexible sheet bonded to said film along said thicker side edges and free of said film in the area between said bonds.

3,423,278

PROCESS OF MAKING A CROSS-LINKED ION EXCHANGE MEMBRANE

Russell B. Hodgdon, Jr., Hamilton, Edwin J. Alken, Magnolia, and John F. Enos, Peabody, Mass., assignors to General Electric Company, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 297,227, July 24, 1963. This application July 19, 1966, Ser. No. 566,216

U.S. Cl. 161—165

Int. Cl. C08j 1/34

6 Claims

An alkali metal alkylene sulfonate and an acrylamide may be reacted to form a linear polymer. The copolymer in either the acid or alkali metal form may be cross-linked while molding into an ion exchange membrane at elevated temperature and pressure. Where the amide is a material such as N-methylacrylamide no other cross-linking material is needed. Aldehydes are an example of a separate cross-linking agent.

3,423,279

SOLID BEARING INSERTS IN DIE CASTINGSElliott E. Grover, Columbus, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 19, 1966, Ser. No. 580,466

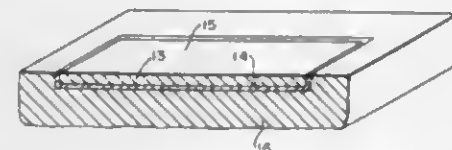
U.S. Cl. 161—189

Int. Cl. B32b 27/06; B32b 27/30; F16c 33/00

1 Claim

A bearing insert in a die casting including a die casting, a relatively thin bearing insert embedded in the cast-

ing, and a thin heat shield layer disposed between the casting and the insert. The bearing insert comprises a metal matrix and a solid lubricant such as a diselenide or disulfide of tungsten or molybdenum. The heat shield



layer is composed of a material having a maximum coefficient of thermal conductivity of about 0.03 calorie and is composed of a high temperature material such as polytetrafluoroethylene which is filled with a material such as glass fiber.

3,423,280

COPOLYESTER RESINS

Maria V. Wiener, Akron, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Sept. 18, 1964, Ser. No. 397,653

U.S. Cl. 161—194

Int. Cl. C08g 17/04; B32b 27/36; B32b 27/10

7 Claims

The invention relates to polyesters of terephthalic acid and isophthalic acid with 2-methyl-3-phenyl-1,3-propanediol and a glycol of the formula $\text{HOCH}_2(\text{CX}_2)_n\text{CH}_2\text{OH}$ which contain 3 to 30 mol percent of the 2-methyl-2-phenyl-1,3-propanediol. The polyesters have high softening points and are useful in applications where high softening resins are required.

3,423,281

COPOLYESTERS OF MIXED PHTHALIC ACIDS, ALIPHATIC DICARBOXYLIC ACIDS AND TETRAMETHYLENE GLYCOL

Maria V. Wiener, Akron, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Mar. 10, 1964, Ser. No. 350,646

U.S. Cl. 161—226

Int. Cl. C08g 17/08; C09j 3/16; B32b 9/02

4 Claims

1. A random linear copolyester resin of tetramethylene glycol, terephthalic acid, isophthalic acid and an aliphatic dicarboxylic acid containing from 6 to 12 carbon atoms, the molar proportion of the acid components of said copolyester consisting of:

terephthalate—65 to 75 mol percent
isophthalate—8 to 12 mol percent

the sum of the mol percents of terephthalate and isophthalate being from 77 to 83 mol percent and from 17 to 23 mol percent of aliphatic dicarboxylate which contains from 6 to 12 carbon atoms in the linear chain of the aliphatic dicarboxylic acid unit.

3,423,282

DELIGNIFICATION OF CHEMICAL CELLULOSE PULPS WITH OXYGEN AND THEN CHLORINE

Paul Rerolle, Nogent-sur-Marne, and Claude Richard, Herblay, France, assignors to L'Air Liquide Societe Anonyme pour l'Etudes et l'Exploitation des Procédés Georges Claude

Filed May 13, 1965, Ser. No. 455,474

Claims priority, application France, May 22, 1964, 975,380

U.S. Cl. 162—65

Int. Cl. D21c 9/10

7 Claims

Delignification and bleaching of chemical pulp in two stages is provided by treating the pulp with oxygen at an elevated temperature above room temperature for no more than a few hours and under less than 15 bars pressure, and then subsequently treating the pulp with chlorine at room temperature for not more than one hour.

3,423,283

PROCESS OF BLEACHING A SHEET OF GROUNDWOOD PULP

Herman R. Goodwald and Dale L. Schechter, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Sept. 2, 1965, Ser. No. 484,727

U.S. Cl. 162—71

Int. Cl. D21c 9/16; D21f 11/00

6 Claims

A process for bleaching groundwood pulp which comprises: contacting a groundwood pulp mass in the form of a damp sheet with an aqueous bleaching solution, subjecting the so-treated sheet to a temperature of from about 130° to 230° C., and drying said sheet.

3,423,284

MODIFICATION OF REGENERATED CELLULOSE FIBERS BY SUBJECTING THE FIBERS TO A SWELLING AGENT AND MECHANICAL MOVEMENTBruno S. V. Marek, Aarau, and Josef Gneisz, Rothenburg, Switzerland, assignors to Societe de la Viscose Suisse, Emmenbrucke, Switzerland, a Swiss corporation
Continuation of application Ser. No. 514,608, Dec. 7, 1965. This application June 28, 1966, Ser. No. 561,289

U.S. Cl. 162—157

Int. Cl. D21b 1/04; D21h 5/14

9 Claims

The process of the production of regenerated cellulose fibers with fine, hook-like filaments extending from the main fiber stem, which have a degree of polymerization of not less than 86 percent of that of the fibers from which they are made comprising subjecting a suspension of regenerated cellulose fibers in a liquid medium containing a swelling agent, such as an aqueous acid or an aqueous base. The suspension contains 3–13 percent by weight of fibers. The suspension is subjected to vigorous mechanical movement until fine hook-like filaments extend from the main fiber stem, following which the fibers are removed and washed.

3,423,285

TEMPERATURE CONTROL FOR A NUCLEAR REACTOR

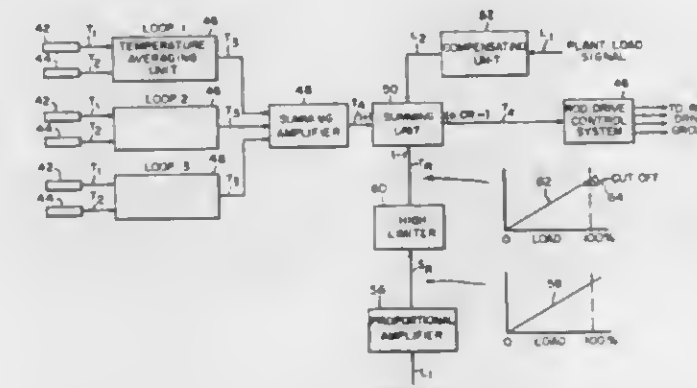
Charles F. Currey, Pittsburgh, Pa., and Roger A. Rydin, Varese, Italy, assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 27, 1966, Ser. No. 523,423

U.S. Cl. 176—24

Int. Cl. G21c 7/00; G21c 15/00

6 Claims



In a control system for a nuclear reactor primary coolant loop, a reference temperature signal is compared with an actual temperature signal and the reactivity of the reactor is varied in accordance with the difference in magnitude of the signals. The reference signal is provided to be of varying magnitude over a substantial portion of the heat removal range of the reactor load means.

3,423,286

PRESSURE SUPPRESSING ARRANGEMENT FOR USE WITH A NUCLEAR REACTOR

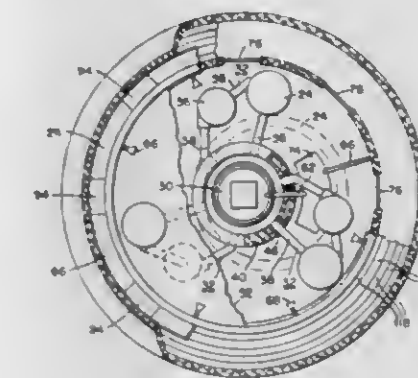
Sterling J. Weems, Chevy Chase, John A. Hinds, Bethesda, and I. Harry Mandil, University Park, Md., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 18, 1966, Ser. No. 528,639

U.S. Cl. 176—37

Int. Cl. G21c 19/00

25 Claims



A nuclear reactor containment is provided wherein energy releasable from a nuclear reactor in the unlikely event of a failure in the integrity thereof is absorbed by a solid which melts at a temperature lower than the condensation temperature of the escaping vapor. In certain examples the solid is housed in cooled compartments which are exposed to the reactor system during accident conditions.

3,423,287

NUCLEAR REACTOR FUEL ELEMENT SUPPORT

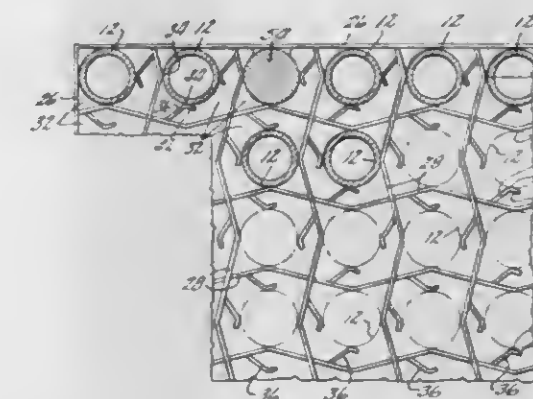
Andrew J. Anthony, Tariffville, and Adolph W. Viets, Jr., East Granby, Conn., assignors to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware

Filed Sept. 21, 1965, Ser. No. 488,852

U.S. Cl. 176—78

Int. Cl. G21c 3/30

16 Claims



2. A fuel element support grid for supporting a bundle of fuel elements comprising a plurality of intersecting grid-forming members, said members forming a plurality of fuel element compartments, each of said fuel element compartments having top and bottom edges and four relatively rigid sides formed by portions of said members, relatively resilient spring means extending into each compartment from not more than two adjacent sides of said compartments, said spring means comprising portions of said grid-forming members partially severed from said members generally midway between said top and bottom edges and bent therefrom into said compartments along lines generally parallel with said fuel elements thereby

leaving apertures in said members, said members having bends therein at locations generally corresponding to the location of said spring means to form arches above and below each spring means, the concave side of said arches being toward the corresponding spring means whereby corresponding spring means and arches extend into adjacent compartments, said spring means thereby adapted to engage fuel elements to force said fuel elements against said arches.

4. A nuclear reactor fuel element assembly comprising a plurality of fuel elements, said fuel elements having top and bottom ends and being arranged generally parallel to each other and in a plurality of intersecting rows to form a fuel bundle, and at least one support grid supporting said fuel elements in said bundle intermediate the top and bottom ends thereof, said support grid comprising elongated thin metal bands interposed between adjacent rows of said fuel elements, said bands having a rectangular cross section, the short dimension of said cross section being perpendicular to said fuel elements and the long dimension of said cross section being parallel to said fuel elements, said metal bands being bent at points opposite adjacent fuel elements, said bends alternating in direction and forming relatively rigid supporting arches which engage said adjacent fuel elements in essentially line contact, successive bends engaging fuel element on opposite sides of said band, relatively flexible spring members extending from said bands at locations generally corresponding to and in the opposite direction from said bends, said spring members comprising thin metal sheets essentially rectangular in cross section, the short dimension of said cross section being perpendicular to said fuel element and the long dimension of said cross section being parallel to said fuel elements.

3,423,288

PROCESS FOR PREPARING GENTIOBIOSE

Frank E. Halleck, Minnetonka, and Fred Smith, Wayzata, Minn., assignors to The Pillsbury Company, Minneapolis, Minn., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 319,093, Oct. 24, 1963. This application June 17, 1964, Ser. No. 375,956

U.S. Cl. 195—31

14 Claims

Int. Cl. C12d 13/02

Gentiobiose is produced by subjecting a polysaccharide gum to the action of beta 1, 3 glucanase to hydrolyze the polysaccharide to a mixture of glucose and gentiobiose.

3,423,289

REDUCTION OF GASEOUS NITROGEN TO AMMONIA

William A. Bulen, Enon, Ohio, assignor, by mesne assignments, to Kettering Scientific Research, Inc., a corporation of Delaware

No Drawing. Filed Oct. 11, 1965, Ser. No. 494,947

U.S. Cl. 195—50

19 Claims

Int. Cl. C12d 13/00

An organo-metallic catalyst for the reduction of nitrogen gas to recoverable ammonia is derived from nitrogen reducing micro-organisms by rupturing the cells, removing the solid components and separating the nucleic acids from the active soluble fraction. The active catalyst material is removed from a mixture of solubilized proteins of net negative and net positive charges by precipitation with protamine sulfate and liberating the active material by treatment with cellulose phosphate without destroying the activity of the catalyst. Thus, in the absence of cell components required for carbohydrate metabolism, the catalyst is operative at atmospheric temperatures and pressures in the presence of a phosphorylating agent and a synthetic electron donor, to reduce nitrogen gas to recoverable ammonia on a continuous basis. The catalyst includes metallic functional groups such as iron and molybdenum and mixtures thereof.

monia on a continuous basis. The catalyst includes metallic functional groups such as iron and molybdenum and mixtures thereof.

3,423,290

LYOPHILIZED REACTION MIXTURES

Robert C. Seamans, Jr., Deputy Administrator of the National Aeronautics and Space Administration with respect to an invention of Emmett W. Chappelle, Baltimore, Md.

No Drawing. Filed Aug. 3, 1966, Ser. No. 570,093

U.S. Cl. 195—99

9 Claims

Int. Cl. C12k 1/04; F21k 2/00

1. A stable dry powder composition for use in life detection reactions consisting essentially of a lyophilized mixture of luciferase, luciferin, serum albumin, and a source of magnesium ions.

3,423,291

CONTROL OF REFLUX TO A FRACTIONATOR

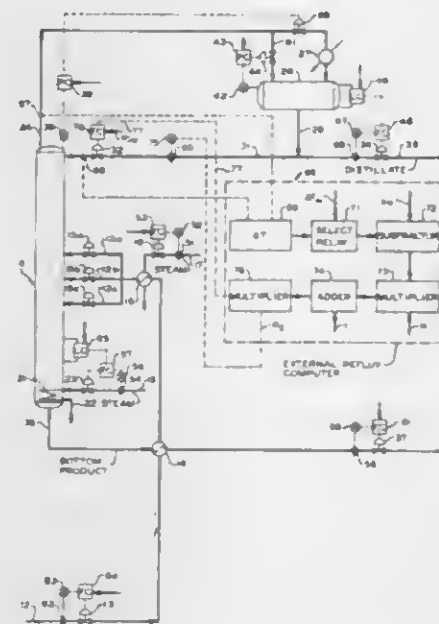
Minor W. Oglesby, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Dec. 14, 1964, Ser. No. 417,982

U.S. Cl. 202—160

7 Claims

Int. Cl. B01d 3/42



The flow of external reflux to a fractionator is controlled in response to a computation of internal reflux. In this computation, the measured temperature differential between the overhead vapors and external reflux is compared with a minimum reference ΔT , and the larger value is employed to prevent overloading of the condenser. Addition compensation can be made by use of a signal which is representative of the difference between the bubble point temperature and dew point of the external reflux.

3,423,292

APPARATUS FOR MAKING RESINOUS SOLUTIONS

Edgar B. Nichols, 325 W. Main St., Moorestown, N.J. 08057

Continuation of application Ser. No. 252,351, Jan. 18, 1963. This application June 9, 1967, Ser. No. 645,577

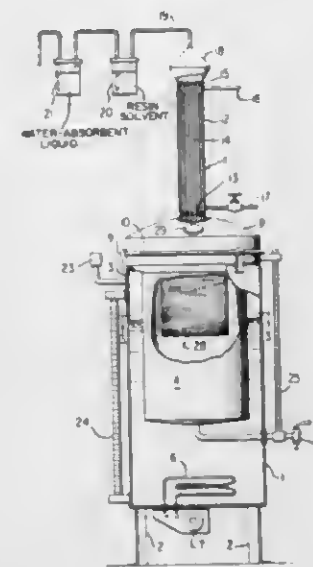
U.S. Cl. 202—169

3 Claims

Int. Cl. B01d 11/02

An apparatus for making plastic resinous solutions including an outer vessel and an inner container, mounted within the vessel, for holding an amount of solvent. A

perforated basket is arranged within the inner container cent an inside heat exchange tube surface. A spiral ribbon to retain resinous particles and a vertical reflux container is axially disposed within the tube, the edges of which



is supported above the vessel to condense any vapors back into the container.

3,423,293

APPARATUS FOR VAPOR COMPRESSION

DISTILLATION OF IMPURE WATER

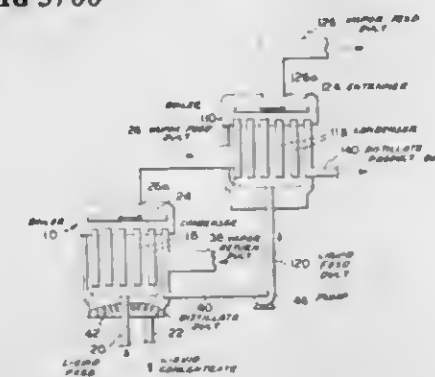
Robert B. Holden, 355 Fairlea Road, Orange, Conn. 06477

Filed Feb. 4, 1965, Ser. No. 430,324

U.S. Cl. 202—172

11 Claims

Int. Cl. B01d 3/00



Apparatus for distilling pure water from an impure source, comprising a boiler, having an integral condenser section in direct heat transfer relation to impure water introduced into the boiler, a compressor adiabatically compressing vapor produced in the boiler, a superheater for the compressed vapor, an expander in which the compressed vapor is expanded under isobaric conditions to provide energy for driving the compressor, with the expanded vapor being returned to the condenser of the boiler for condensation therein in direct heat transfer relation to the impure water. Upon release of both the superheat and latent heat of the returned vapor in the boiler condenser section, a slightly greater mass of fresh steam than the mass of vapor returned is produced from the impure water, resulting in substantial improvement in distillation efficiency obtained and/or reduction and simplification of equipment in comparison with the conventional simple or multiple effect distillation systems.

3,423,294

VORTEX FLOW FILM DISTILLATION PROCESS

Hugo H. Sephton, 35 Anson Way, Berkeley, Calif. 94707

Continuation-in-part of application Ser. No. 274,468, Apr. 22, 1963. This application Nov. 14, 1966, Ser. No. 594,165

U.S. Cl. 203—10

9 Claims

Int. Cl. B01d 3/08

Process of forming a continuous liquid annulus adja-



are spaced from the liquid annulus. Fluid of lighter density flows in a vortex created by the spiral element.

3,423,295

GOLD PLATING

Lawrence Greenspan, New York, N.Y., assignor to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware

No Drawing. Filed Feb. 23, 1966, Ser. No. 529,262

U.S. Cl. 204—43

6 Claims

Int. Cl. C23b 5/32; C23b 5/28

1. An electrolyte solution for use in the electrodeposition of gold comprising essentially from about 4 to 50 grams of an alkali metal gold cyanide, about 10 to 200 grams of an alkali metal pyrophosphate, about 10 to 100 grams of a pH adjusting acid, about 0.2 to 10 milligrams of a tri-valent arsenic compound and water to make one liter, the pH of the solution being adjusted to a value in the range of from 5 to 8.

3,423,296

NICKEL ELECTRODEPOSITING BATHS, PROCESS, AND ADDITIVE COMPOSITION COMPRISING LEVELLING AGENT THEREFOR

Jean Louis Levasseur, Paris, France, assignor, by mesne assignments, to Enthone, Incorporated, West Haven, Conn., a corporation of Connecticut

No Drawing. Filed Oct. 1, 1965, Ser. No. 492,266

Claims priority, application France, Oct. 8, 1964, 990,780

U.S. Cl. 204—49

16 Claims

Int. Cl. C23b 5/08

Aqueous acidic nickel electrodeposition baths containing as levelling agent the condensation reaction product of naphtho-1,8-sultone with a heterocyclic aromatic compound containing at least one five-membered heterocyclic ring including at least one ring nitrogen atom and at least one labile hydrogen atom. Such reaction product is prepared by heating an aqueous liquid admixture of the naphthosultone and the heterocyclic aromatic compound present in at least the stoichiometric amount under acid conditions to an elevated temperature below 65° C., maintaining the admixture at the elevated temperature below 65° C. until the naphthosultone dissolves in the aqueous liquid, then heating the resultant liquid solution to a

reaction temperature above 65° C. but below 100° C., maintaining the solution at a reaction temperature above 65° C. but below 100° C. until the viscosity of the liquid solution increases appreciably and the solution is of a syrupy consistency, and cooling the thus treated solution to ambient temperature.

3,423,297

CHROMIUM ELECTROPLATING BATH INCLUDING MIST SUPPRESSORS

Johannes Martinus Arnold Van der Horst, Olean, N.Y., assignor to Surface Research Incorporated, Olean, N.Y.

No Drawing. Filed May 12, 1965, Ser. No. 455,310

U.S. Cl. 204—51

24 Claims

Int. Cl. C23b 5/06

Halogenated organic ring compounds added in minor amount to chromium plating baths substantially eliminate atmospheric entrainment of chromic acid mist. The halogenated ring compounds do not alter the surface tension of the bath and prevent the formation of a foam on the surface of the bath incidental to the plating process.

3,423,298

PROCESS FOR COLORING ALUMINUM

Christian E. Michelson, New Haven, James F. Murphy, Hamden, and David C. Montgomery, Clinton, Conn., assignors to Olin Mathieson Chemical Corporation

No Drawing. Filed July 5, 1966, Ser. No. 562,536

U.S. Cl. 204—58

10 Claims

Int. Cl. C23b 9/02

1. A process for coloring aluminum electrolytically which comprises anodically oxidizing said aluminum at a current density of from 10 to 100 amps per square foot and a voltage of from 10 to 90 volts in an aqueous solution consisting essentially of from 0.2 to 2% sulfuric acid, from 3% to saturation of sulfamic acid, and from 0.5% to 5% of a lower aliphatic dibasic acid, said bath being maintained at a temperature of from 15 to 30° C.

3,423,299

ELECTROCHEMICAL FLUORINATION OF POLYMETHYLENE SULFONES TO PRODUCE PERFLUOROALKYLSULFONYL FLUORIDES

Lorne A. Loree, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

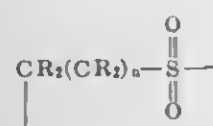
No Drawing. Filed Nov. 22, 1965, Ser. No. 509,210

U.S. Cl. 204—59

2 Claims

Int. Cl. B01k 3/00

1. The process of electrolyzing a current-conducting mixture of a composition consisting essentially of a liquid solution of



where

R is selected from the group consisting of lower alkyl radicals and hydrogen, and n has a value of from 3 to 11, and essentially anhydrous hydrogen fluoride at a cell voltage which is insufficient to produce significant amounts of free fluorine under the existing conditions, but which is sufficient to cause the production of a perfluoroalkylsulfonyl fluoride.

3,423,300 ELECTROLYTIC REGENERATION OF REDUCED CHROMIUM COMPOUNDS

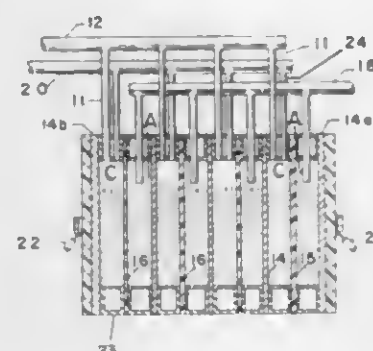
Louis A. Joe and Frank E. Snodgrass, Johnson City, Tenn., assignors to Great Lakes Carbon Corporation, New York, N.Y.

Continuation-in-part of application Ser. No. 493,995, Oct. 8, 1965. This application Oct. 25, 1967, Ser. No. 677,952

U.S. Cl. 204—89

7 Claims

Int. Cl. B01k 1/00



An electrolytic process for converting trivalent chromium values to the hexavalent form, which consists in subjecting at a temperature of about 90° C. an aqueous sulfuric acid solution to the action of direct current voltage applied in series to a water-cooled multi-unit filter press type cell assembled from frames coated with chromic acid resistant material lead plate electrodes and polytetrafluoroethylene diaphragms having a thickness of about 0.01 inch, a porosity of about 50% and a pore diameter within the range of 50 to 150 microns. The sulfuric acid content of the electrolytic solution is preferably .15% to 20% by weight and the residence time of the solution in the cell is about one hour.

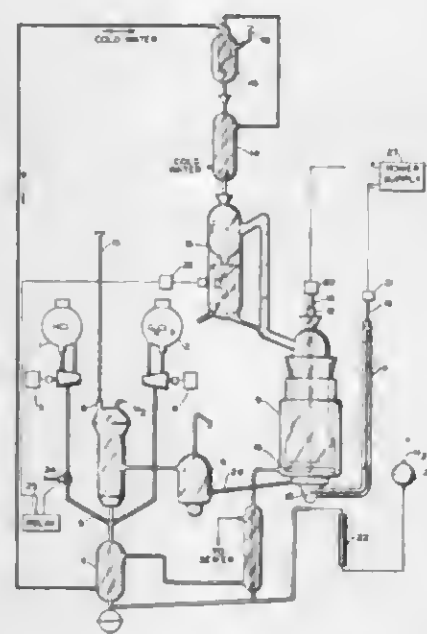
3,423,301 ELECTROLYTIC PRODUCTION OF HIGH-PURITY GALLIUM

Robert I. Stearns, St. Louis, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Continuation-in-part of application Ser. No. 245,189, Dec. 17, 1962. This application Nov. 2, 1964, Ser. No. 410,344

U.S. Cl. 204—105

8 Claims

Int. Cl. C22d 1/10



1. A process for preparing gallium by continuously electrolyzing an aqueous acidic solution of gallium ions

comprising adding to said solution during the electrolysis sufficient quantities of gallium ions and halide anions to maintain the mole ratio of $[\text{anion}]/[\text{Ga}^{+3}]$ between about 2.5 to 1 and about 3.5 to 1 during the operation of the process.

3,423,302

PHOTOCHEMICAL PREPARATION OF AZLACTONES AND TRANSFORMATION THEREOF

Harry L. Slates, Florham Park, and Norman L. Wendler, Summit, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Original application Dec. 31, 1963, Ser. No. 334,691, now Patent No. 3,275,648, dated Sept. 27, 1966. Divided and this application Feb. 17, 1966, Ser. No. 553,587

U.S. Cl. 204—158

13 Claims

Int. Cl. B01j 1/10; C07c 101/42

1. A process for converting a (D)-2,4-diloweralkyl-4-(3,4-diloweralkanoyloxybenzyl)-azlactone to a DL-2,4-diloweralkyl-4-(3,4-diloweralkanoyloxybenzyl)-azlactone which comprises the step of: (a) exposing said D-azlactone to ultraviolet light, to form the desired DL-azlactone.

3,423,303

METHOD OF MAKING A WORKPIECE AT A UNIFORM POTENTIAL DURING CATHODE SPUTTERING

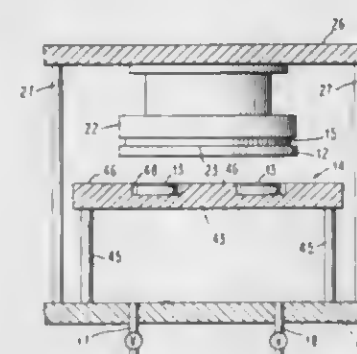
Pieter D. Davidse, Poughkeepsie, Lawrence R. Koster, Wappinger Falls, and Walter Himes, Woodstock, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed July 21, 1966, Ser. No. 566,940

U.S. Cl. 204—192

5 Claims

Int. Cl. A23c 15/00



1. In a method of sputtering a uniform deposit on a planar workpiece, including providing a sputtering environment of an ionizable gas, and in said environment, a cathode structure having a substantially planar discharge surface, a workpiece supported on an anode structure having a substantially planar surface positioned substantially parallel to the discharge surface of the cathode structure, and causing a sputtering electrical discharge to be supported between said surfaces by applying radio frequency voltage between said cathode and said anode; the improvement wherein said workpiece is recessed in said anode so that the surfaces of said anode and said workpiece are substantially coplanar and said anode and cathode are in juxtaposed relationship and spaced apart so that said anode surface is near to but not within the dark space of the sputtering discharge, whereby said coplanar workpiece surface and said anode surface are at equal potential.

3,423,304 LEAK STRUCTURE AND METHOD FOR PRODUCING SAME

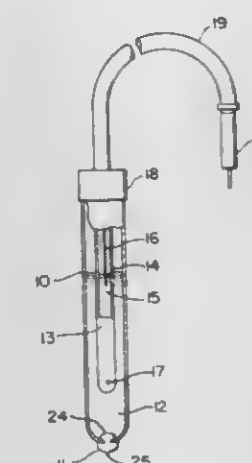
Lynn B. Leonard, Fullerton, Calif., assignor to Beckman Instruments, Inc., a corporation of California

Filed Nov. 17, 1964, Ser. No. 411,793

U.S. Cl. 204—195

18 Claims

Int. Cl. B01k 3/04



The specification discloses a leak structure for a liquid junction of a salt bridge tube such as used in a reference electrode for ion potential measurements and the method of making the leak structure. The structure comprises a salt bridge tube having an opening plugged with a non-conductive material which has essentially the same coefficient of thermal expansion as the salt bridge tube, the plug of nonconductive material being secured within the opening to form a leak passage. In the method of making the leak structure either the tube or the plug is heated to a molten state to allow the plug to be received and secured. By having material of essentially the same coefficient of expansion, changes in temperature of a sample solution into which the salt bridge tube may be placed does not alter the size of the leak passage; hence, the rate of flow of a salt bridge solution is not disturbed. To ensure against fusion of the plug to the tube a film of plastic may be used therebetween during the making of the structure.

3,423,305

CATHODIC PROTECTION APPARATUS

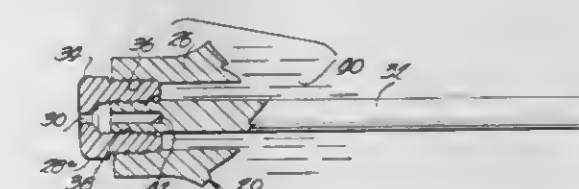
Edward F. Tausk, Downers Grove, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware

Filed Aug. 30, 1965, Ser. No. 483,475

U.S. Cl. 204—197

3 Claims

Int. Cl. C23f 13/00



Anode for cathodic protection having an internal blind opening concentric to the longitudinal axis of the anode, and penetrating through the head and body to a point such that depletion of the major portion of the anode, opens the blind end so that it becomes a nozzle to signal depletion with a thin jet of leakage water.

3,423,306 DIELECTROPHORETIC FLUID SEPARATING SYSTEM

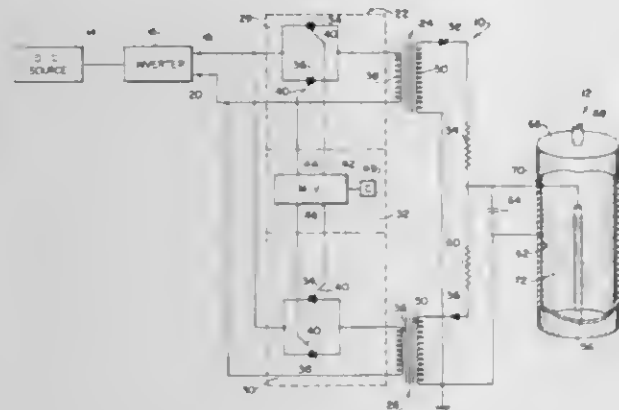
Mathew Hurwitz, Newton, John M. Reynolds, Concord, and Edward J. Fahimian, Cambridge, Mass., assignors to Dynatech Corporation, Cambridge, Mass.

Filed May 19, 1965, Ser. No. 466,495

U.S. Cl. 204-299

Int. Cl. B01k 5/00; B01d 13/02

6 Claims



A dielectrophoretic fluid separating system includes a pair of transformers, each of which has a primary and a secondary winding. An alternating magnetic flux is generated alternately in one and then the other of the secondary windings at a determined frequency so as to produce in each secondary winding an intermittent alternating output voltage. A rectifier is connected to each secondary winding to separately rectify the outputs of the transformers and a dielectrophoretic fluid separator having first and second electrodes is connected to the output of the rectifiers so that the positive going portions of the output of one of the transformers are fed to the separator and the negative going portions of the output of the other of the transformers are fed to the separator so as to apply to the separator an alternating voltage having the determined frequency.

3,423,307 START-UP OF A HYDRODESULFURIZATION REACTION

Joel D. McKinney, Indlaoa Township, Allegheny County, and William C. Offutt, Pittsburgh, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Nov. 12, 1965, Ser. No. 507,571

U.S. Cl. 208-213

Int. Cl. C10g 23/00

9 Claims

This invention relates to a start-up procedure for use in a high severity hydrodesulfurization process for the desulfurization of residual stocks containing both sulfur and asphaltic materials employing a catalyst comprising metalliferous hydrogenating components composited with a support. The hydrodesulfurization process is conducted to remove at least 70 per cent of the sulfur with a hydrogen consumption from about 1 to 5 molecular weights of hydrogen per atomic weight of sulfur removed. The start-up procedure comprises initially contacting an asphaltic-free hydrocarbon with hydrogen and the catalyst at a temperature from 250° to 500° F. and then gradually increasing the temperature until a temperature within the range of 600° and 700° F. is attained. Contacting of the asphaltic-free hydrocarbon and the catalyst is then discontinued and contacting of the asphaltic-containing residual hydrocarbon and pretreated catalyst is then commenced.

3,423,308 SOLVENT DECARBONIZING PROCESS

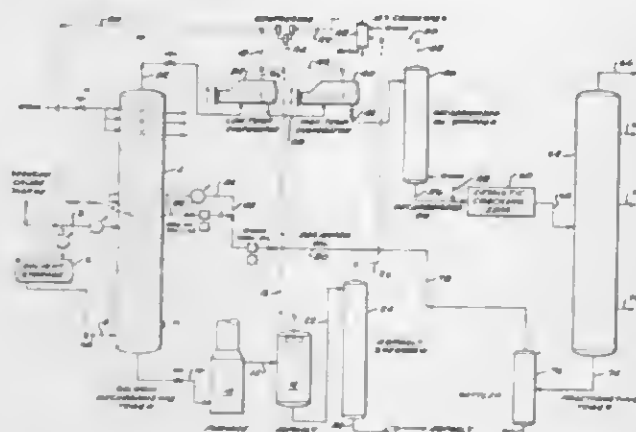
James R. Murphy, Cheswick, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

Continuation of application Ser. No. 301,733, Aug. 13, 1963. This application Apr. 4, 1967, Ser. No. 628,506

U.S. Cl. 208-309

Int. Cl. C10g 21/16

2 Claims



A high boiling feed such as a reduced crude is decarbonized with a light hydrocarbon solvent. A tar containing gas oil is added as a wash oil to the decarbonizing zone above the point of feed introduction.

3,423,309 WASTE TREATMENT FOR PHOSPHATE REMOVAL

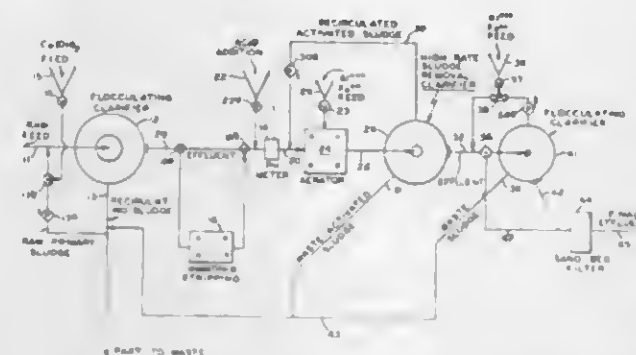
Orris E. Albertson, Norwalk, Conn., assignor to Dorr-Oliver Incorporated, Stamford, Conn., a corporation of Delaware

Continuation-in-part of application Ser. No. 570,017, Aug. 3, 1966. This application Mar. 22, 1968, Ser. No. 715,376

U.S. Cl. 210-5

Int. Cl. C02c 1/06

20 Claims



A process and apparatus for decreasing phosphorous content of organic wastes such as sewage to a high degree on the order of 5% or less of that originally present, to prevent algae growth, by a combination of lime dosage, biological removal and metal salt dosing together with recirculating of precipitated chemical containing sludges, in which each is so related to the other as to involve the lowest cost in chemicals. Also included is air stripping of ammonia and pH control of chemical feeding.

3,423,310 OSMOTIC PROCESSES AND APPARATUS

Karel Popper, Pleasant Hill, Calif., assignor to the United States of America as represented by the Secretary of Agriculture

Filed Mar. 6, 1967, Ser. No. 621,407

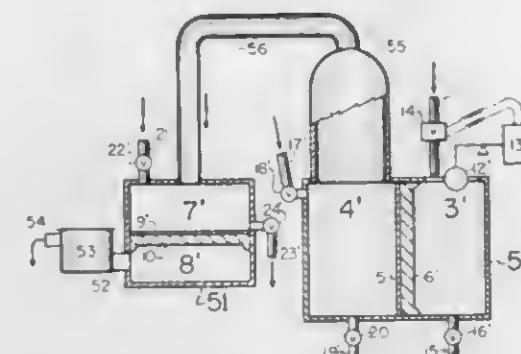
U.S. Cl. 210-23

Int. Cl. B01d 13/00

3 Claims

A direct osmosis is conducted, for example, by juxtaposing a concentrated salt solution on one side of a membrane and water or dilute salt solution on the other. The

osmotic pressure generated thereby is employed to drive a reverse osmosis operation, for example, one involving desalting of saline waters or one involving the concentra-



tion of liquid food products, such as juices. The transmission of pressure is attained without passage of the liquids through the use of a flexible diaphragm, a free piston, or a fluid piston.

3,423,311 PROCESS FOR OBTAINING COMPLETE SOFTENING OF WATERS WHERE HARDNESS EXCEEDS ALKALINITY

Richard Hetherington, Glenside, Pa., and Joseph Foley, Wilmington, Del., said Hetherington assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware, and said Foley assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 29, 1966, Ser. No. 538,251

U.S. Cl. 210-38

Int. Cl. C02b 1/42

6 Claims

1. A method for softening hard water by cation exchange, in the case of water whose total quantity of ions causing hardness exceeds the total quantity of ions responsible for the alkalinity of the water, comprising the addition of an alkalinity-causing ion, from the class consisting of the bicarbonate, carbonate and hydroxide of a monovalent cation from the class consisting of sodium, potassium, lithium and ammonium, to the water in an amount which is at least equal to the quantitative difference between the alkalinity-causing and hardness-causing ions present in the water, and then passing the water through a cation exchanging unit consisting of a weekly acidic cation exchange resin in the hydrogen form.

3,423,312 COMPOSITIONS OF MATTER AND PROCESS OF TREATING SEWAGE THEREWITH

Donald Stapf Blaisdell, 1156 Summit Ave., St. Paul, Minn. 55105, and Ruth Elizabeth Barry Klaas, Arden Hills, Minn. (10 Oriole Drive, Wyomissing, Pa. 19610)

No Drawing. Continuation-in-part of application Ser. No. 206,184, June 29, 1962, which is a continuation-in-part of application Ser. No. 724,785, Mar. 31, 1958, and Ser. No. 786,906, Jan. 15, 1959. This application July 22, 1964, Ser. No. 384,542

U.S. Cl. 210-50

Int. Cl. C02b 1/20

17 Claims

A sewage additive containing iron ore weighting agent and water-dispersible synthetic organic cationic flocculating material is disclosed. Processes for treating sewage with iron ore weighting agent and water-dispersible synthetic organic cationic flocculating material, including embodiments in which the sewage is first treated with weighting agent and flocculating material and then subjected to catalytic oxidation, are also described.

3,423,313 HIGH SOLID CONTENT SLURRY SEPARATING METHOD

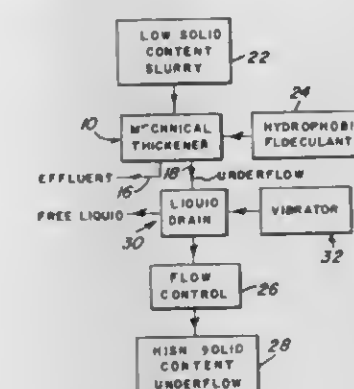
Leonard Messer, Pittsburgh, Pa. (% American Minechem Corp., P.O. Box 231, Coraopolis, Pa. 15108)

Continuation-in-part of application Ser. No. 440,727, Mar. 18, 1965. This application Feb. 15, 1967, Ser. No. 632,849

U.S. Cl. 210-54

Int. Cl. C02b 1/20

4 Claims



The separation of a high solid content underflow from the liquid phase of a low solid content slurry introduced into a mechanical type of thickener. A flocculant having a hydrophobic characteristic is added to the slurry to increase the operational speed of the thickener and a de-watering device is used to drain the pockets of liquid carried by the underflow discharged from the thickener.

3,423,314 ANTISTATIC LUBRICANT AS A PROCESS FINISH FOR SYNTHETIC FIBERS

James K. Campbell, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed Jan. 19, 1966, Ser. No. 521,493

U.S. Cl. 252-8.6

Int. Cl. B44d 5/00

10 Claims

An aqueous emulsion consisting of water, a dimethylpolysiloxane fluid, a deliquescent salt (calcium chloride and lithium chloride) and a polyhydric solubilizing agent. The emulsion is useful for treating synthetic fibers to impart exceptional antistatic and lubricity characteristics to the surface of the fiber.

3,423,315 PIPE THREAD LUBRICANT

Paul R. McCarthy, Allison Park, and Thomas R. Orem, Pittsburgh, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed May 4, 1967, Ser. No. 636,031

U.S. Cl. 252-19

Int. Cl. C10m 5/00

13 Claims

A water-washable pipe thread lubricant which is particularly useful in lubricating pipe joints of drill strings in hydraulic jet oil-well drilling consists of a mixture of

- (1) an alkali metal or alkaline earth metal soap lubricating base of grease consistency, e.g., calcium or lithium base grease;
- (2) a solid lubricant powder, e.g., powdered lead and/or graphite; and
- (3) a soluble oil base consisting of a mixture of
 - (a) an alkali metal soap of a resin acid, e.g., potassium resinate;
 - (b) an alkali metal salt of a petroleum sulfonic acid, e.g., sodium petroleum sulfonate; and
 - (c) a coupling agent, e.g., diethylene glycol and/or diethylene glycol monobutyl ether.

3,423,316 ORGANIC COMPOSITIONS HAVING ANTIWEAR PROPERTIES

Joseph J. Diekert, Jr., Lower Makefield Township, Bucks County, Pa., Israel J. Heilweil, Princeton, N.J., and Carleton N. Rowe, Lower Makefield Township, Bucks County, Pa., assignors to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed Sept. 20, 1966, Ser. No. 580,604
U.S. Cl. 252—32.7 12 Claims
Int. Cl. C10m 1/48

Industrial compositions, such as lubricating oils have improved antiwear properties by the presence therein of (1) a metal phosphorodithioate or a phosphorodithioic acid or anhydride and (2) a cyclic oxy, hydroxy or hydrazine compound or an organoammonium borohydride.

3,423,317 HIGH TEMPERATURE LUBRICANTS

Hyman R. Lubowitz, Redondo Beach, John R. Ogren, La Palma, and William P. Kendrick, Manhattan Beach, Calif., assignors to TRW Inc., Redondo Beach, Calif., a corporation of Ohio

No Drawing. Filed Nov. 21, 1966, Ser. No. 595,590
U.S. Cl. 252—37.2 2 Claims
Int. Cl. C10m 7/26

This invention relates to novel high temperature lubricants for use in metal extrusions and forgings. Poly-metal acrylates selected from the group consisting of polycalcium acrylates, polybarium acrylates, polymagnesium acrylates, and polymanganese acrylates are used in an aqueous media; as high temperature lubricants for applications where ordinary greases or soaps decompose or vaporize.

3,423,318 ORGANOPOLYSILOXANE GREASE

Ignaz Bauer, Siegfried Nitzsche, and Rudolf Riedle, Burghausen, Upper Bavaria, Germany, assignors to Wacker-Chemie G.m.b.H., Munich, Bavaria, Germany

No Drawing. Filed May 16, 1967, Ser. No. 638,766
Claims priority, application Germany, May 17, 1966, W 41,598

U.S. Cl. 252—49.6 7 Claims
Int. Cl. C10m 7/50

The use of certain diurea compounds as thickening agents in polysiloxane oils to form greases exhibiting excellent lubricant and temperature stability properties is described.

3,423,319 BIS(TRIMETHYLOLPROPANE DIALLYL ETHER) DILINOLEATE AND ITS PHOSPHONATES AND LUBRICANT COMPOSITIONS

Winfred E. Parker, Philadelphia, and Ronald E. Koos, Lansdale, Pa., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Aug. 18, 1966, Ser. No. 573,428
U.S. Cl. 252—49.8 17 Claims
Int. Cl. C10m 5/06

The invention provides thermally stable lubricant compositions having good antiwear-properties prepared from mixtures of esters of dimer acids and their phosphonates.

3,423,320 PREPARATION OF FERROMAGNETIC CHROMIUM DIOXIDE

Joseph H. Balthis, Jr., Meodenhall, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 14, 1965, Ser. No. 513,841
U.S. Cl. 252—62.51 5 Claims
Int. Cl. C04b 35/12; H01f 1/00

1. The process of preparing ferromagnetic chromium dioxide which comprises heating, at a temperature in the

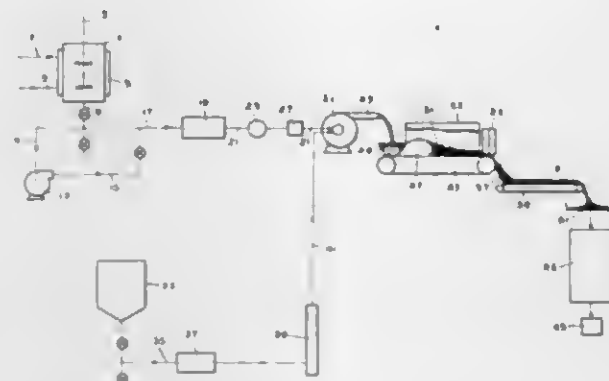
range 325–500° C. and under a pressure of at least 250 atmospheres,

at least one alkali metal chromium oxide of the formula $M\text{Cr}_2\text{O}_3$ where M is selected from the group consisting of lithium, sodium, potassium, rubidium and cesium, with at least 10% by weight, based on the weight of $M\text{Cr}_2\text{O}_3$, of water.

3,423,321 DETERGENT PROCESSES

Kenneth J. Shaver, St. Louis, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed July 17, 1964, Ser. No. 383,479

U.S. Cl. 252—135 11 Claims
Int. Cl. C11d 9/14

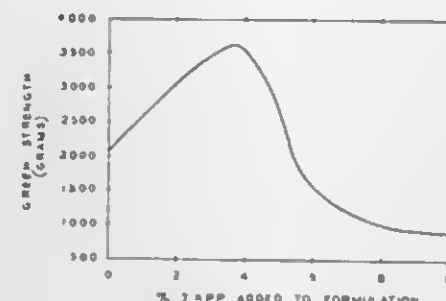


Detergent compositions are prepared by incorporating sodium tripolyphosphate hexahydrate into an aqueous slurry containing a base, sodium trimetaphosphate and permissively other conventional detergent ingredients, forming the slurry into a foam and removing sufficient water by chemical combination or evaporation to result in a solid porous product. The added sodium tripolyphosphate hexahydrate promotes the transformation of the sodium trimetaphosphate into sodium tripolyphosphate hexahydrate. An added benefit can be obtained by additionally incorporating into the slurry up to about 30 weight percent of an aryl sulfonate such as sodium benzene sulfonate or sodium eumene sulfonate.

3,423,322 TABLETED DETERGENTS HAVING IMPROVED GREEN STRENGTH

Robert S. Cooper, Park Forest, and Allen D. Urfer, Decatur, Ill., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware
Filed July 23, 1964, Ser. No. 384,583

U.S. Cl. 252—135 10 Claims
Int. Cl. C11d 3/06, 17/00



Tableted detergents having improved green strength are prepared by incorporating with a sodium tripolyphosphate builder and synthetic surfactant from about 0.17% to about 6% of a potassium pyrophosphate or polyphosphate.

3,423,323 PROCESS FOR CLEANING OLEFIN SEPARATION EQUIPMENT

Edward Allen Hunter, Lake Jackson, Tex., Warren Alfred Knarr, Baton Rouge, and Gerald Albert Byars, Denham Springs, La., and David George Skamenca, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

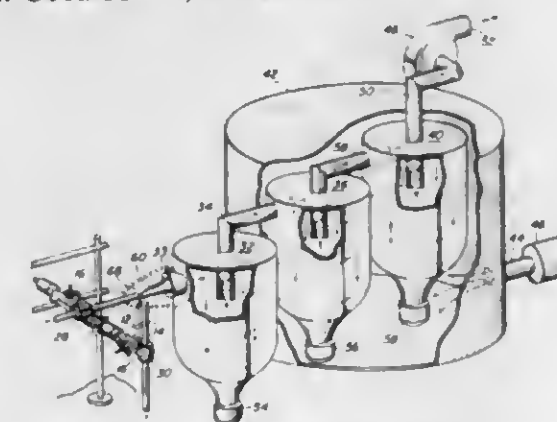
No Drawing. Filed Nov. 16, 1964, Ser. No. 411,641
U.S. Cl. 252—153 8 Claims
Int. Cl. C11d 7/32

Olefin separation equipment is cleaned by dissolving difficult to remove sorbent residues of cuprous halide salts and cuprous halide-ligand complexes in a solvent comprising an alkylolamine and either or both of a lower alkanol and a ketone.

3,423,324 APPARATUS AND METHOD FOR PRODUCING SILICA AND OTHER OXIDES

William V. Best, Independence, Mo., and Roland L. Hughes, Leawood, Kans., assignors to Owens-Illinois, Inc., a corporation of Ohio
Filed Nov. 20, 1964, Ser. No. 412,614

U.S. Cl. 252—301.4 21 Claims
Int. Cl. C01b 33/12; F23d 21/00



8. The method of producing finely divided oxides derived from at least one perhalide selected from the group consisting of volatile perhalides of metals and metalloids, said method comprising forming a conical-diffusion type of flame from a burner by bringing together two impinging gas streams A and B at a predetermined angle with respect to each other that is within the range of 85°–95°, gas stream A being a hydrogen-supplying gas and gas stream B being a gaseous mixture of an oxygen-supplying gas and at least one perhalide selected from the group consisting of volatile perhalides of metals and metalloids, the said flame having a burning cone of gas stream A that envelops a cone of gas stream B whereby hydrolysis and subsequent dehydration of the aforesaid halide takes place at the interface and within the burning cone of gas stream A; directing the said flame into the entrance port of a mechanical, non-liquid collection system while the flame is simultaneously surrounded by a blanket of a secondary gas; and collecting the resulting finely divided oxide having a high degree of purity.

3,423,325 TERBIUM OR TERBIUM AND GADOLINIUM AC- TIVATED MIXED ALKALINE EARTH ALKALI METAL BORATE LUMINESCENT SUBSTANCE

Willem Lambertus Wanmaker and Johannes Godefridus Verlijdonk, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 10, 1965, Ser. No. 478,728
Claims priority, application Netherlands, Aug. 11, 1964, 6,409,208

U.S. Cl. 252—301.4 3 Claims
Int. Cl. C09k 1/04

Terbium or terbium and gadolinium activated mixed

alkaline earth and alkali metal borate green luminescent phosphors.

3,423,326 ZINC TELLURITE GLASSES

Michael J. Redman, Belmont, Mass., assignor to Kennecott Copper Corporation, New York, N.Y., a corporation of New York

Filed Feb. 20, 1967, Ser. No. 617,362

U.S. Cl. 252—301.6 3 Claims
Int. Cl. C09k 1/04; C03c 3/28

A glass having high dielectric constant, density and refractive index, and particularly suitable as a laser host, giving secondary emissions at 1.06μ when doped with Nd, is composed of ZnO and TeO₂.

3,423,327 ORGANIC COMPOSITIONS STABILIZED AGAINST OXIDATION BY MEANS OF AMINOBENZYL THIOETHERS

David J. Tracy, Phillipsburg, N.J., assignor to GAF Corporation, a corporation of Delaware

No Drawing. Filed Feb. 23, 1967, Ser. No. 617,790

U.S. Cl. 252—402 6 Claims
Int. Cl. C09k 3/00; B01j 1/16; C07c 87/62

Organic compositions which tend to deteriorate by absorption of oxygen from the air are stabilized by incorporating into said compositions an antioxidantizing amount of an aminobenzyl thioether.

3,423,328 SILVER-BARIUM CATALYST

Carl D. Keith, Summit, Saul G. Hindin, Mendham, and Ludwig A. Galen, East Orange, N.J., assignors to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware

No Drawing. Filed Nov. 22, 1965, Ser. No. 509,168

U.S. Cl. 252—430 6 Claims
Int. Cl. B01j 11/08

Supported silver catalysts having a silver crystallite size of 150–400 Å. and having uniform composition, good adhesion and electrical conductivity are produced by precipitating Ag₂CO₃ from a silver salt at a controlled pH to give Ag₂CO₃ with a crystallite size of about 150–400 Å., washing the Ag₂CO₃ substantially free of alkali ions, blending an aqueous slurry of the Ag₂CO₃ and barium hydroxide in the proportion of 1–25 parts Ba to 100 parts Ag (by weight), impregnating an inert support with the slurry, and activating the catalyst in a H₂ containing stream at 100°–400° C. Such catalysts are highly selective and active for the oxidation of ethylene to ethylene oxide.

3,423,329 METHOD OF PRODUCING ACROLEIN AND METHACROLEIN

Wilhelm Gruber, Darmstadt, Germany, assignor to Rohm & Haas, G.m.b.H., Darmstadt, Germany

No Drawing. Filed May 28, 1965, Ser. No. 459,892

Claims priority, application Germany, May 30, 1964, R 38,009

U.S. Cl. 252—437 6 Claims
Int. Cl. B01j 11/32

Oxidation catalyst for oxidizing olefins to aldehydes containing 5 to 60% bismuth, 15 to 65% molybdenum, 20 to 31% oxygen and up to 10% phosphorus in the form of bismuth, molybdenum and phosphorus oxides, and 1 to 30% by weight, based on the total weight of the oxides, sulfate ions, and preparation thereof.

3,423,330

SILVER OXIDE CATALYSTS FOR DECOMPOSITION OF DILUTE H₂O₂

John Francis Start, Hamilton Township, Mercer County, N.J., Leonard Seglin, New York, N.Y., and Borivoj Richard Franko-Filipasic, Lower Makefield Township, Bucks County, Pa., assignors to FMC Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 410,959, Nov. 13, 1964. This application Mar. 22, 1965, Ser. No. 441,923
U.S. Cl. 252—427 4 Claims
Int. Cl. B06j 11/20

A silver oxide catalyst useful for the rapid decomposition of dilute hydrogen peroxide, comprising silver oxide carried on granules of a porous nonpowdery base such as magnesia, carbon, cellulosic fiber or cellulosic fiber impregnated with inorganic oxides of alumina or silica.

3,423,331

CATALYST FOR THE PREPARATION OF UNSATURATED ALDEHYDES

Jamal S. Eden, Akron, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
No Drawing. Original application Jan. 20, 1964, Ser. No. 338,571, now Patent No. 3,369,049, dated Feb. 13, 1968. Divided and this application May 26, 1966, Ser. No. 568,080
U.S. Cl. 252—437 4 Claims
Int. Cl. B01j 11/06

Improved catalysts for use in the oxidation of olefins comprising copper phosphate, TeO₂, and HR₂O₄ on a refractory supported are present herein.

3,423,332

HYDROTHERMAL ACTIVATION OF A SILICA-ALUMINA CRACKING CATALYST AT A HIGH pH

Philip K. Maher, Baltimore, Richard W. Baker, Ellicott City, and Carl V. McDaniel, Laurel, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
No Drawing. Continuation-in-part of application Ser. No. 330,262, Dec. 13, 1963. This application Jan. 19, 1966, Ser. No. 535,267
U.S. Cl. 252—455 4 Claims
Int. Cl. B01j 11/60; C10g 23/02

1. A process for preparing an improved silica-alumina cracking catalyst having an alumina content of about 5 to 45 percent which comprises the steps of:

- (a) selecting a suitable fresh silica-alumina catalytic base material,
- (b) adding a sufficient quantity of an alkali metal hydroxide to increase the pH of the resulting slurry to about 10 to 14,
- (c) heating the composite to about 30 to 150° C. for about 18 to 0.5 hours to complete activation and to thereby form an essentially amorphous product,
- (d) reducing the alkali metal content of the product to below about 1.0 percent by ion exchange with a solution of an ammonium salt selected from the group consisting of ammonium chloride and ammonium sulfate,
- (e) washing, drying and recovering the product.

3,423,333

ISONITRILE POLYMERS

Robert W. Stackman, Madison, and William L. Evers, Summit, N.J., assignors to Celanese Corporation, a corporation of Delaware
No Drawing. Filed Sept. 29, 1964, Ser. No. 400,212
U.S. Cl. 260—2 5 Claims
Int. Cl. C08g 33/00

1. A normally solid polymer of cyclohexyl isonitrile,

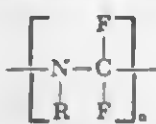
consisting essentially of recurring units having the structure



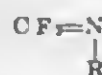
3,423,334

POLYPERFLUOROAZOMETHINE

Donald L. Miller, Norman L. Madison, and Douglas A. Rausch, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed June 21, 1965, Ser. No. 465,770
U.S. Cl. 260—2 3 Claims
Int. Cl. C08g 33/02; C07c 87/20
Poly(N - [difluoromethylene] - perfluoroalkylamines) corresponding to the structural formula



wherein R is either trifluoromethyl (—CF₃) or pentafluoroethyl (—C₂F₅) and n is an integer of at least 4, prepared by subjecting



to high energy irradiation at a dose rate of at least about 5 megarads and at a maximum temperature of about minus 80° C.

3,423,335

SYNTHETIC CROSS-LINKED POLYMERS

Leslie Nathan Phillips, Farnborough, England, assignor to National Research Development Corporation, London, England
No Drawing. Continuation-in-part of application Ser. No. 358,948, Apr. 10, 1964. This application Aug. 11, 1966, Ser. No. 571,689
Claims priority, application Great Britain, Apr. 10, 1963, 14,326/63

U.S. Cl. 260—2 10 Claims
Int. Cl. C08f 05/72, 27/00; C08g 51/74

Thermally stable, cross-linked polymers are obtained by reacting tractable linear polymers containing aromatic nuclei with paraxylylene dihalides. Aromatic containing cross-links are thus attached at the sites of hydrogen atoms nuclearly substituted on the aromatic nuclei of the tractable linear polymers without the necessity for activating groups in said aromatic nuclei.

3,423,336

WEAK BASE ANION EXCHANGE RESIN AND PROCESS OF PREPARING SAME

Richard G. Bufton, San Jose, Irving M. Abrams, Redwood City, and Frederick L. Burnett III, Sunnyvale, Calif., assignors to Diamond Shamrock Corporation, a corporation of Delaware
No Drawing. Filed Oct. 18, 1965, Ser. No. 497,528
U.S. Cl. 260—2.1 24 Claims
Int. Cl. C08f 27/14; C08f 11/84; C08f 27/08

Weak base anion exchange resins are prepared by cross-linking a polymerizable unsaturated nitrile with a compound containing at least two polymerizable unsaturated groups. The nitrile groups may be converted into imide groups by hydrolyzing the nitrile group to carboxylic groups followed by reacting with an anhydrous

alkylene polyamine. The nitrile groups also may be converted into imidazole groups by reacting the base resin with an ortho aromatic diamine under anhydrous conditions in the presence of hydrogen sulfide. The exchange capacity of these resins is quite stable in strongly acidic environment.

3,423,337

LIQUID RETICULATION OF POLYURETHANE FOAMS

Robert G. Sutton, Philadelphia, Pa., assignor to Scott Paper Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Apr. 30, 1965, Ser. No. 452,198
U.S. Cl. 260—2.5 10 Claims
Int. Cl. C08g 22/44

Process for reticulating polyurethane foam at a temperature below 50° C., by immersing a foam body in an aqueous solution of an alkaline hydroxide, a water-soluble glycol, and an aliphatic alcohol.

3,423,338

CATALYZED LIQUID RETICULATION OF POLYURETHANE FOAMS

Robert G. Sutton, Philadelphia, Pa., assignor to Scott Paper Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Apr. 30, 1965, Ser. No. 452,199
U.S. Cl. 260—2.5 10 Claims
Int. Cl. C08g 22/44

Process for reticulating polyurethane foam at a temperature below 50° C. by immersing a foam body in an aqueous solution of an alkaline hydroxide, a water-soluble glycol, and a monocyclic aromatic alcohol.

3,423,339

POLYURETHANE FOAMS UTILIZING AN OXY-ETHYLATED TALL OIL FOAM STABILIZER

William R. Andrews, Cheshire, and John L. Meehan, Hamden, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia
No Drawing. Filed July 29, 1966, Ser. No. 568,733
U.S. Cl. 260—2.5 10 Claims
Int. Cl. C08g 22/44

Oxyethylated tall oil in an amount between about 0.3 and 3.0% by weight of the foam reactants is employed as a foam stabilizer for polyurethane foams.

3,423,340

ORGANOPOLYSILOXANE ANTIFOAM COMPOSITIONS

Hedley Samuel Bowdon Marshall, Dinas Powis, and Thomas Richard Williams, Barry, Glamorgan, Wales, assignors to Midland Silicones Limited, London, England
No Drawing. Filed Dec. 20, 1963, Ser. No. 332,295
Claims priority, application Great Britain, Dec. 21, 1962, 48,273/62

U.S. Cl. 260—13 2 Claims
Int. Cl. B01d 19/02; C09k 3/00; C08g 47/02

1. An aqueous antifoam emulsion consisting essentially of (1) from 1 to 30% by weight of the emulsion of a benzene-soluble dimethylpolysiloxane, (2) from 1 to 15% by weight based on the weight of the dimethylpolysiloxane of a finely-divided silica, (3) from 10 to 90% by weight based on the weight of the dimethylpolysiloxane of sorbitan polyoxyethylene monostearate, (4) from 10 to 90% by weight based on the weight of the dimethylpolysiloxane of monostearate selected from the group consisting of sorbitan monostearate, glycerol monostearate and mixtures thereof, (5) water and containing (6) sodium carboxy methyl cellulose.

3,423,341

PROCESS FOR MAKING OIL MODIFIED ALKYD RESINS WHEREIN ALL REACTANTS ARE ADDED IN ONE CHANGE

Robert J. Klare and Grant O. Sedgwick, Minneapolis, Minn., assignors to Ashland Oil & Refining Company, Ashland, Ky., a corporation of Kentucky
No Drawing. Filed Dec. 11, 1964, Ser. No. 417,795
U.S. Cl. 260—22 13 Claims
Int. Cl. C08g 17/16

Oil-modified alkyd resins are prepared by forming a mixture of alkyd resin forming ingredients in a reaction zone, said mixture having a remaining ratio of at least about 1.07 at a selected alcoholysis temperature and a selected superatmospheric steam pressure; reacting said mixture at said selected alcoholysis temperature and said superatmospheric steam pressure to thereby produce an alcoholysis product, releasing said steam pressure and esterifying said alcoholysis product thereby producing an oil-modified alkyd resin.

3,423,342

ADHESIVE MASS SUBSTANTIALLY FREE OF SURFACE TACK

Edward R. Kendall, Geneva, Ill., assignor to Simoniz Company, a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 411,113, Nov. 13, 1964. This application Sept. 16, 1965, Ser. No. 487,916
U.S. Cl. 260—22 6 Claims
Int. Cl. C08h 11/06; C09j 3/26

A solid adhesive mass essentially free of surface tack but capable of transfer of an adhesive film to a substrate by friction rubbing of the mass on the substrate in which the composition is essentially free of solvent and consists essentially of a substantially homogeneous blend of 53–75 parts of a tack promoting rosin derivative which may be either hydrogenated wood rosin or glycerol esters thereof or glycerol esters of wood rosin, about 10–33 parts of a copolymer of ethylene and vinyl acetate, from a small but effective amount for making the mass substantially free of surface tack up to about 5 parts of paraffin wax and from a small but effective amount for friction deposition of the film up to about 25 parts of a plasticizer of the class consisting of oil modified sebacic acid alkyd, sebacic acid alkyd and oil modified dibasic acid alkyd plasticizing resins.

3,423,343

FLAME RETARDANT POLYURETHANE MATERIALS

James C. Barnett, St. Louis, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 420,453, Dec. 22, 1964. This application Dec. 7, 1965, Ser. No. 512,245
U.S. Cl. 260—2.5 11 Claims
Int. Cl. C08g 22/44, 3/28

A polyurethane is described containing a small but fire resistant imparting amount of a substantially water-insoluble ammonium polyphosphate.

3,423,344

POLYURETHANE POLYOL MIXTURE CONTAINING HYDROXYALKYLATED POLYAMINES

Alec Odinak, New Haven, Harold E. Reymore, Jr., Wallingford, and Adnan A. R. Saylgh, North Haven, Conn., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Continuation-in-part of applications Ser. No. 334,600, Dec. 30, 1963, and Ser. No. 558,561, June 20, 1966. This application Aug. 15, 1967, Ser. No. 660,614
U.S. Cl. 260—2.5 18 Claims
Int. Cl. C07c 91/40; C08g 22/44, 22/14

Polyols, useful in the preparation of polyurethane foams of high structural strength, are mixtures of (a) the

product obtained by reacting from 2 to 5 moles of alkylene oxide (propylene oxide preferred) with 1 amine equivalent of a mixture of polyamines obtained by acid condensation of aniline and formaldehyde and (b) a supplementary polyol of equivalent weight 30 to 200 and functionality from 2 to 6, inclusive. Component (a) represents from 20 to 90 percent by weight of the mixture.

3,423,345

EPOXY SYSTEM

Howard L. Hsu and Eugene R. Du Fresne, Chicago, Ill., assignors to General Dynamics Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 11, 1965, Ser. No. 494,923

U.S. Cl. 260—18 5 Claims
Int. Cl. C08g 30/14

The rate of cure of a solvent based epoxy resin-amine or amide curing agent system is controlled by formation of an amine carbamate. CO₂ is reversibly added to the system either to the amino curing agent prior to admixture or to the uncured composition. The equilibrium is controlled by application of Le Chatelier's principles; thus storage of the system at low temperature under CO₂ extends the pot life and application of vacuum or diluent gas promotes the cure.

3,423,346

LATEX COATING COMPOSITIONS

Howard C. Klauss and Ralph M. Brane, Pittsburgh, Pa., assignors to PPG Industries Inc., Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Oct. 19, 1965, Ser. No. 498,111

U.S. Cl. 260—22 14 Claims
Int. Cl. C09d 5/02; C09d 3/76; C08g 39/10

Coating compositions suitable for use as the vehicle in latex house paints comprise a blend of an interpolymers of from 30 to 80 percent of vinyl chloride, from 2 to 60 percent of alkyl acrylate containing from 4 to 10 carbon atoms in the alkyl group, and from 2 to 40 percent by weight of vinylidene chloride, combined with an alkyd resin having a drying oil fatty acid ester content between 50 and 90 percent. A particularly useful surfactant composition for use in the above latex house paint includes from 3 to 12 parts of octylphenoxy polyethoxyethanol, from 1 to 5 parts of anionic dispersing agent and from 1 to 3 parts of potassium tripolyphosphate.

3,423,347

COMPOSITIONS CONTAINING A THERMOPLASTIC RESIN AND A TETRAESTER OF PENTAERYTHRITOL

Thomas Zawadzki, Princeton, and Algirdas A. Reventas, Rockaway, N.J., and Richard M. Lee, deceased, late of Leominster, Mass., by Mary G. Lee, executrix, Leominster, Mass., and Tonnie A. Hoyle, executor, Baton Rouge, La., assignors to The Borden Company, New York, N.Y., a corporation of New Jersey

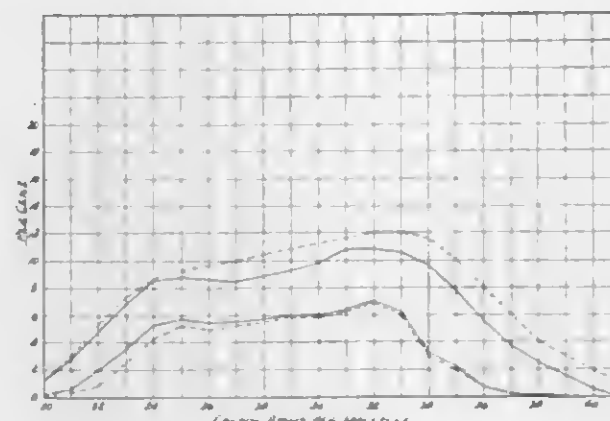
No Drawing. Continuation of application Ser. No. 177,973, Mar. 7, 1962. This application Aug. 18, 1965, Ser. No. 481,158

U.S. Cl. 260—28.5 1 Claim
Int. Cl. C08f 45/38, 29/24

This invention relates to sound records comprising a polymeric thermoplastic resin of aliphatic nature and a flow promoter consisting essentially of a tetraester of pentaerythritol with a monocarboxylic acid.

3,423,348
WEATHER RESISTANT RUBBERY COMPOSITION
Edmund Gerald Elgenfeld, Coventry Township, Summit County, and Karl Stuart Vogel, Akron, Ohio, assignors to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Sept. 1, 1965, Ser. No. 484,183
U.S. Cl. 260—28.5 12 Claims
Int. Cl. C08d 9/00; C08c 11/70



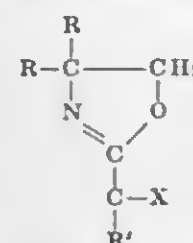
This invention relates to the protection of vulcanizable rubber compounds with a unique petroleum wax material of the paraffin type. This specific petroleum paraffin wax has a refractive index between 1.423 and 1.429 and a broad carbon atom distribution thereby giving protection to the rubber article over a wide range of ambient temperatures.

3,423,349

OXAZOLINE WATER REPELLANT COMPOSITION
Domenick D. Gagliardi, East Greenwich, R.I., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland

No Drawing. Filed June 7, 1966, Ser. No. 555,713
U.S. Cl. 260—28.5 8 Claims
Int. Cl. C08f 51/00, 53/16

A water repellent composition comprising a thermosetting resin binder and an oxazoline of the formula:



wherein R is a lower alkyl radical having from 1 to 3 carbon atoms, a hydroxy methyl radical, or the radical —CH₂—OOC—R², R² is an alkyl radical having from about 12 to about 22 carbon atoms, R³ is an alkyl radical having from 1 to about 23 carbon atoms, and X is H₂ or =CH₂.

3,423,350

AMINOPLAST FOR ANCHOR-COATING CELLOPHANE

Cornelius J. Ryan, Staten Island, New York, N.Y., assignor to E. I. du Pont de Nemours and Company, a corporation of Delaware
No Drawing. Filed Dec. 30, 1965, Ser. No. 517,819
U.S. Cl. 260—29.4 3 Claims
Int. Cl. C08g 9/30; C08g 57/30; C08j 1/38

Process for preparing aqueous aminoplast solutions for anchor-coating cellophane comprising reacting guanidine, triethanolamine, formaldehyde and water to form a first aminoplast solution (A), heating (A) with melamine to obtain a second aminoplast solution (B) and diluting (B) with formaldehyde, water and isopropanol.

3,423,351
MONODISPERSE LATICES AND PROCESS FOR PREPARING SAME

Percy E. Plerce, University Heights, and Richard M. Holsworth, Westlake, Ohio, assignors, by mesne assignments, to SCM Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Aug. 30, 1965, Ser. No. 483,735
U.S. Cl. 260—29.6 12 Claims
Int. Cl. C08f 1/13; C08d 1/09

An improvement in an emulsion polymerization process whereby concentrated aqueous suspension of polymer particles having a uniform particle size or diameter has been discovered and is described. A method whereby the uniform particle size of aqueous suspension of polymer particles can be selected and determined prior to polymerization of an aqueous emulsion of a polymerizable liquid is also described.

The improvement is in a process in which a quantity of water-emulsifiable, polymerizable organic liquid, having carbon-carbon unsaturation and restricted water solubility is polymerized in a disperse state in a volume of aqueous medium containing an anionic surfactant and a nonionic surfactant under emulsion polymerization conditions to form a suspension having a continuous aqueous phase and from about 30 to 60 weight percent, basis the weight of the suspension of a disperse phase consisting essentially of polymer particles. The improvement is for making polymer particles of virtually uniform particle diameter (D) and comprises establishing an emulsion of said polymerizable liquid in said volume of aqueous medium wherein the emulsion or dispersion has a polymerizable liquid:anionic surfactant weight ratio (R) of about 20:1 to 1200:1 and contains between about 1 and about 4 weight percent, basis the weight of the suspension, of said non-ionic surfactant and simultaneously heating the total volume of said emulsion at a temperature in the range of between 45° C. and about 75° C.

3,423,352

METHOD OF PREPARATION OF VINYL ACETATE COPOLYMER LATEX

Eli Levine, Hillside, and John R. Costanza, North Plainfield, N.J., assignors to Celanese Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 461,529, June 4, 1965. This application May 10, 1966, Ser. No. 548,850

U.S. Cl. 260—29.6 13 Claims
Int. Cl. C09d 5/02; C08f 44/24, 15/00

A method of preparing new and useful, stable aqueous emulsion of a vinyl acetate copolymer having solids contents in excess of 60% and viscosities in the range from about 1000 to about 2500 centipoises by controlling the monomer, catalyst and surfactant addition.

3,423,353

METHOD OF PREPARING HIGH SOLIDS VINYL ACETATE COPOLYMER LATICES

Eli Levine, Hillside, and John R. Costanza, North Plainfield, N.J., assignors to Celanese Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 461,529, June 4, 1965. This application June 7, 1966, Ser. No. 555,669

U.S. Cl. 260—29.6 11 Claims
Int. Cl. C09d 5/02; C08f 45/24, 15/00

Vinyl acetate copolymer emulsion having a solids content of from about 58% to about 70% by weight and low viscosity are made by polymerizing in aqueous medium a monomer mixture of at least 50% but not more than about 75% by weight vinyl acetate in the presence of a polyether surfactant, subsequently adding to the polymerized copolymer emulsion a water soluble free radical

polymerization catalyst, and reacting to substantially reduce the viscosity of the emulsion.

3,423,354

ADHESIVE COMPOSITIONS

Thomas E. O. Jones, Sutton Coldfield, England, assignor to The Dunlop Company Limited, London County, England, a British company

No Drawing. Filed July 7, 1966, Ser. No. 563,378
Claims priority, application Great Britain, July 27, 1965, 31,916/65

U.S. Cl. 260—30.6 20 Claims
Int. Cl. C08f 29/18, 45/28

Heat curable adhesive compositions are prepared by plasticizing a polymer of vinyl chloride with a suitable plasticizer therefor, mixing the plasticized vinyl chloride polymer with an organic polyisocyanate and an aliphatic acid anhydride. Preferably, the anhydride is admixed with the plasticized vinyl chloride polymer and this mixture then blended with the polyisocyanate. Suitable proportions by weight of plasticized vinyl chloride polymer:aliphatic acid anhydride:organic polyisocyanate are 100:1-5:1-30. These novel compositions have a good pot-life and exhibit no substantial skin formation or change in adhesive properties upon storage for up to three days.

3,423,355

CATALYTIC KETONE SOLUTION PROCESS FOR PREPARING HIGH BULK DENSITY, HIGH MOLECULAR WEIGHT STYRENE-MALEIC ANHYDRIDE POLYMERS

Joseph A. Verdol, Dolton, and Marc O. Thienot, Park Forest, Ill., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 21, 1965, Ser. No. 427,080
U.S. Cl. 260—32.8 9 Claims
Int. Cl. C08f 1/08, 19/02

A process for the production of high molecular weight, high bulk density polymers of styrene and maleic anhydride which comprises contacting styrene, maleic anhydride and a free-radical initiating polymerization catalyst having a half-life of up to 1 hour at 80° C. in an inert, normally liquid ketone solvent, at a temperature of about 30° C. to 80° C. to provide as a solution in said inert ketone solvent a copolymer of styrene and maleic anhydride having a kinematic viscosity in 10% acetone of at least about 10 centistokes.

3,423,356

POLYMER COMPOSITIONS COMPRISING THE REACTION PRODUCTS OF POLYEPI SULPHIDES AND PHENOLIC RESINS

John L. Smith, Coleshill, and Reginald D. Singer, Birmingham, England, assignors to The Dunlop Company Limited, London, England, a British company

No Drawing. Filed July 6, 1966, Ser. No. 563,022
Claims priority, application Great Britain, July 23, 1965, 31,462/65; Mar. 16, 1966, 11,412/66

U.S. Cl. 260—32.8 26 Claims
Int. Cl. C08g 43/02

A mixture of a major proportion of (A) a polymer of at least one alkylene episulphide having at least two reactive terminal groups with a minor proportion of (B) a potentially thermosetting phenolic resin or with (C) a phenolic compound and an aldehyde or a compound which decomposes on heating to liberate an aldehyde, the phenolic compound and the aldehyde being capable of reacting together to form a potentially thermosetting phenolic resin.

3,423,357

PLASTISOL COMPOSITIONS AND METHOD FOR PROVIDING THE SAME AS ADAPTED FOR MOLDING IN UNHEATED MOLDING SITES

Nam P. Sub, Magnolia, Mass., assignor to United Shoe Machinery Corporation, Fleming, N.J., a corporation of New Jersey

Filed Aug. 30, 1965, Ser. No. 483,611

U.S. Cl. 260—34.2 8 Claims
Int. Cl. C08f 29/18

Plastisol adapted for molding in an unheated molding site is provided by mixing plasticizer having a temperature above the plastisol gelation temperature with plasticizer-resin premix having a temperature below the plastisol gelation temperature.

3,423,358

VINYLIC FILLER PIGMENTS

Oliver W. Burke, Jr., Fort Lauderdale, Fla.
(P.O. Box 1266, Pompano Beach, Fla. 33061)

No Drawing. Original application Oct. 15, 1954, Ser. No. 462,611, now Patent No. 3,190,850, dated June 22, 1965. Divided and this application June 22, 1965, Ser. No. 466,098

The portion of the term of the patent subsequent to June 22, 1982, has been disclaimed and dedicated to the Public

U.S. Cl. 260—41 5 Claims
Int. Cl. C08f 47/06

1. A process for producing a colloidal sized pigment which process consists essentially in coloring, in aqueous dispersion, colloidal sized vinylic filler particles as hereinafter defined, by precipitating onto said particles, from solution in the aqueous phase of said dispersion, at least one coloring component as hereinafter defined; said vinylic filler material being made up essentially of polymer particles in the colloidal size range of about 5 millimicrons to about 0.5 micron average diameter; said particles being three-dimensionally cross-linked so that each particle is non-soluble in any solvent that does not break down its primary chain structure; said particles having been prepared by cross-linking polymerization, in aqueous dispersion of monomer material polymerizable therein and selected from the class consisting of the polymerizable monomers containing at least one carbon-to-carbon unsaturated group with the further limitation that the selected monomer material comprises cross-linking monomer material containing a plurality of such carbon-to-carbon unsaturated groups in at least a sufficient amount to effect, in said cross-linking polymerization, enough cross-linking within the particles to render them non-soluble as aforesaid; said coloring component comprising a metal combined in the aqueous phase in the form of a soluble metal compound, and being precipitated onto the colloidal sized vinylic filler particles in an insoluble form selected from the class consisting of free metal, metal oxides and insoluble metal compounds, and said coloring component being of such size that the resulting individual colored particles are still in the colloidal size range of about 5 millimicrons to about 0.5 micron average diameter.

3,423,359

SYNTHETIC POLYMER COMPOSITIONS STABILIZED WITH ALKYL THIOPBORATES

David W. Young, Hammond, Ill., assignor to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 16, 1963, Ser. No. 316,504

U.S. Cl. 260—45.7 8 Claims
Int. Cl. C08g 51/62; C08f 45/62; C07f 5/02

Synthetic polymer compositions having improved antioxidant and thermal stabilized characteristics are provided

by incorporating therein an effective, but stabilizing amount, such as 0.1 to 2% by weight of a boron thioalkyl compound. These boron compounds have the structure



wherein R is an alkyl radical having 1 to 20 carbon atoms.

There is disclosed a process of preparing these alkyl thioborates by reacting up to a temperature of about 200° C. a boron oxychloride with an alkyl mercaptan of 1-20 carbon atoms.

3,423,360

PROCESS FOR THE MANUFACTURE OF POLYMERS STABILIZED AGAINST THE EFFECTS OF ULTRAVIOLET RAYS

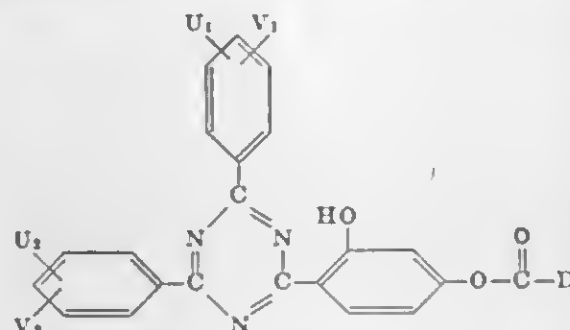
Helmut Huber, Basel, Paul Schaefer, Riehen, Hans Rudolf Biland, Basel, Christian Luethi, Munchenstein, Karl Eschle, Basel, and Max Duennenberger, Frenkendorf, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Filed Nov. 22, 1965, Ser. No. 509,178

Claims priority, application Switzerland, Dec. 4, 1964, 15,740/64

U.S. Cl. 260—47 8 Claims
Int. Cl. C08f 19/00, 45/72, 7/12

New polymers are provided which are obtained by polymerizing 0.1 to 100% of at least one compound of the formula



where U₁ and U₂ each represents a hydrogen atom, a chlorine atom or a methyl group, V₁ and V₂ each represents a hydrogen atom or a methyl group and D stands for a lower alkenyl group, and 99.9% to 0% of at least one other compound capable of reacting with alkenyl groups in the presence of a polymerization catalyst.

The polymers of this invention are protected from the harmful action of ultraviolet rays. The polymers of this invention are especially useful as stabilizers for protecting other organic materials from the action of ultraviolet rays.

3,423,361

METHOD OF MANUFACTURE OF HIGH MOLECULAR WEIGHT THERMOPLASTIC SILICIC ACID POLYESTERS

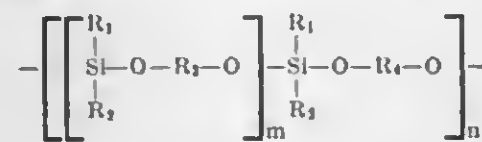
Hans-Joachim Kotzsch, Rheinfelden, and Roshdy M. Ismail, Spich, Germany, assignors to Dynamit Nobel Aktiengesellschaft, a corporation of Germany

No Drawing. Filed Sept. 11, 1967, Ser. No. 666,913

Claims priority, application Germany, Sept. 14, 1966, D 51,090

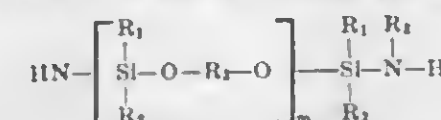
U.S. Cl. 260—47 14 Claims
Int. Cl. C08g 31/02

A process is disclosed for the production of high molecular weight thermoplastic silicic acid polyesters having the formula:



wherein R₁ is aryl, R₂ is hydrogen, aryl, alkyl or alkenyl, R₃ is arylene, R₄ is alkylene, cycloalkylene or arylene, m is a whole number of from 1 to 100 and n is a whole

number of from 1 to 200. In accordance with the invention a silicic acid ester silazane having the formula:



wherein m, R₁, R₂ and R₃ are as above defined and R₅ is hydrogen, alkyl, cycloalkyl or aryl, is reacted with an equimolar amount of a dihydroxy compound having the formula:



wherein R₄ is as above defined at a temperature of from 20 to 440° C.

The resulting polyesters are characterized by their high thermostabilities and are suitable for use as varnishes, coatings, injection molding, pressing and casting compounds, etc.

3,423,362

METHOD OF MANUFACTURE OF HIGH MOLECULAR WEIGHT THERMOPLASTIC SILICIC ACID POLYESTERS

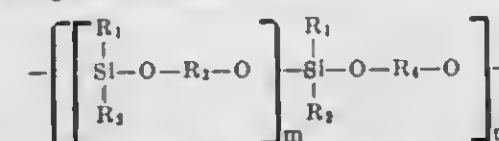
Hans-Joachim Kotzsch, Rheinfelden, and Roshdy M. Ismail, Spich, Germany, assignors to Dynamit Nobel Aktiengesellschaft, a corporation of Germany

No Drawing. Filed Sept. 11, 1967, Ser. No. 666,930

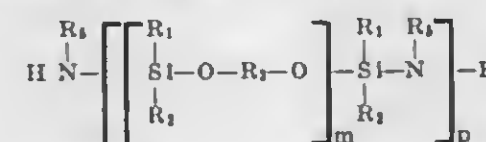
Claims priority, application Germany, Sept. 14, 1966, D 51,089

U.S. Cl. 260—47 14 Claims
Int. Cl. C08g 31/02

There is disclosed a process for the manufacture of thermoplastic silicic acid polyesters of high molecular weight having the formula:



wherein R₁ and R₂ each represent hydrogen, alkyl or alkenyl (R₁ and R₂ can be the same or different), R₃ is arylene, R₄ as alkylene, cycloalkylene or arylene and may contain hetero atoms, m is a whole number having a value of from 1 to 100 and preferably 1 to 50, and n is a whole number having a value of from 1 to 200 and preferably 2 to 100. The process is carried out by a silicic acid ester silazane of the formula:



wherein m, R₁, R₂ and R₃ are as above defined and R₅ represents hydrogen, alkyl, cycloalkyl, or aryl, and p is a whole number having a value of from 1 to 200 with an equimolar amount of a compound of the formula:



wherein R₄ is as above defined at a temperature of from 20 to 440° C.

The resulting compounds are characterized by their high thermostability and are suitable for use as varnishes, coatings, insulating injection molding, pressing and casting compounds.

3,423,363

FORMALDEHYDE POLYMERIZATION PROCESS AND APPARATUS

Francis Fournel, Paris, France, assignor to Produits Chimiques Pechiney Saint-Gobain, Paris, France

Filed Dec. 9, 1964, Ser. No. 417,081

Claims priority, application France, Dec. 13, 1963, 957,164/63

U.S. Cl. 260—67 8 Claims
Int. Cl. C08g 1/02, 35/00

The production of improved polymers and copolymers

of formaldehyde, by a new process and with new apparatus, characterized by the polymerization of the gaseous monomers in concentrated form in contact with a circulating body of granular formaldehyde polymer, the granules of the body being cooled to encourage the polymerization of the monomers solely upon the cooled granules of the polymer.

3,423,364

POLYFLUOROCARBON OXIDES PREPARED FROM A MIXTURE OF A POLYFLUOROCARBONYL COMPOUND, A PERFLUORO-OLEFIN AND OZONE

Nicholas Kowanko, Minneapolis, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Feb. 7, 1966, Ser. No. 525,325

U.S. Cl. 260—63 15 Claims
Int. Cl. C08g 15/00; C08g 23/00; C07c 43/12

Process for producing polyfluorocarbon oxides in which a mixture of polyfluorocarbon carbonyl compound, e.g. perfluorocarbon ketones or carboxylic acid fluorides, and perfluoroolefin is subjected to the action of ozone at a temperature in the range of about 20° C. to -160° C., to form polyfluorocarbon oxides which have terminal carboxyl or acyl fluoride groups. The products are useful by virtue of the reactive terminal groups, or, if treated to remove said groups, are useful as inert liquid heat transfer media.

3,423,365

CROSSLINKED POLYIMIDES AND THEIR PREPARATION

Erhard F. Hoegger, Ardentown, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 2, 1966, Ser. No. 546,553

U.S. Cl. 260—65 3 Claims
Int. Cl. C08g 20/32

Process, and product thereof, for producing infusible and insoluble aromatic polyimides by crosslinking using a free-radical producing catalyst.

3,423,366

COMPOSITION COMPRISING: (1) A BIS ESTER OF AN AROMATIC TETRACARBOXYLIC ACID, (2) AN INERT ORGANIC SOLVENT, (3) MELAMINE, AND (4) AN AROMATIC DIAMINE

Ralph E. De Brunner, Kettering, and John K. Fincke, Spring Valley, Ohio, assignors to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed June 30, 1966, Ser. No. 561,756

U.S. Cl. 260—65 8 Claims
Int. Cl. C08g 20/00, 20/32

A composition comprising: (1) a bis(hydroxyalkyl) or bis(hydrocarbyloxyalkyl) ester of an aromatic tetracarboxylic acid, (2) an inert organic solvent, (3) melamine, and (4) an aromatic diamine; said composition providing a heat-curable resin useful as a coating, impregnating or adhesive agent.

3,423,367

ALKYLATED TERPOLYMERS

Ashot Merijan, Clark, and Frederick Grosser, Midland Park, N.J., assignors to GAF Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 358,406, Apr. 8, 1964. This application Feb. 7, 1966, Ser. No. 525,374

U.S. Cl. 260—66 12 Claims
Int. Cl. C08f 7/12; C08f 7/14

Alkylated terpolymers ranging from viscous liquids to waxy solids which are soluble in organic polar and non-polar solvents are provided by the simultaneous terpolymerization and alkylation process which involves heating one mole of a mixture of monomers containing from about 5 to 99 mole percent of a 5- to 7-membered hetero-

cyclic N-vinyl monomer having a carbonyl function adjacent to the nitrogen in its heterocyclic moiety and from about 1 to 95 mole percent of a monoethylenically unsaturated polymerizable monomer other than α -olefin with 0.05 to 10 moles of α -unsaturated olefin comonomer selected from the class consisting of α -olefin of from 2 to about 180 carbon atoms, monohalo- and polyhalo- α -olefin of from 2 to 6 carbon atoms in solution of an organic solvent common to said mixture of monomers and α -unsaturated olefin monomers in the presence of 0.025 to 0.30 mole of an organic peroxide catalyst per mole of said α -unsaturated olefin comonomer at a temperature ranging from 80 to 200° C.

3,423,368

EXTRACTIVE RECOVERY OF FORMALDEHYDE

Harry E. Cier, Elizabeth, N.J.
(425 Park Ave., Linden, N.J. 07036)
Filed Oct. 14, 1965, Ser. No. 495,961

U.S. Cl. 260—67 4 Claims
Int. Cl. C08g 7/00; C07c 47/02

Formaldehyde is recovered from an aqueous stream, separated from the vaporous reaction product of H_2SO_4 catalyzed condensation of an aromatic hydrocarbon with formaldehyde to obtain a resin, by solvent extraction of the aqueous stream with an oil product stream, fractionated from the crude resin product stream, under specified conditions.

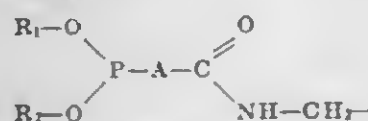
3,423,369

PHOSPHORUS-CONTAINING AMINOPLASTS AND PROCESS FOR THEIR PREPARATION

Hermann Nachbur, Riehen, Alfred Berger, Reinach, Christian Guth, Basel, and Arthur Maeder, Therwil, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss company

No Drawing. Filed Jan. 14, 1966, Ser. No. 520,669
U.S. Cl. 260—67.6 8 Claims
Int. Cl. C08g 41/00; C09k 3/28

New phosphorus-containing aminoplasts are provided which can be considered as having been obtained by replacing the hydrogen atoms attached to the amide nitrogen atoms of an aminoplast former, such as urea or melamine, with at least one group of the formula $-CH_2OR$, wherein R is hydrogen, methyl or ethyl, and at least one group of the formula



in which R_1 and R_2 each represent a monovalent aliphatic, cycloaliphatic, araliphatic or aromatic residue which may be substituted by halogen atoms such as chlorine or bromine or may be interrupted by oxygen atoms, and R_1+R_2 may also represent a bivalent aliphatic, cycloaliphatic, araliphatic or aromatic residue which may be substituted by halogen or interrupted by oxygen atoms, and A is an alkylene radical.

The phosphorus-containing aminoplasts of this invention are especially useful as flame-proofing agents for fibrous cellulosic textile materials.

3,423,370

FILM AND FIBER FORMING COPOLYESTERS

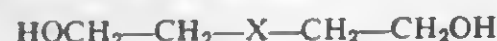
Herbert Fitz and Walter Seifried, Wiesbaden-Biebrich, Germany, assignors to Kalle Aktiengesellschaft, Wiesbaden-Biebrich, Germany, a corporation of Germany
No Drawing. Filed Sept. 10, 1964, Ser. No. 395,548

Claims priority, application Germany, Sept. 13, 1963, K 50,816

U.S. Cl. 260—75 3 Claims
Int. Cl. C08g 17/08

1. A film and fiber forming copolyester of high molecular weight which is the polycondensation product of a

mixture consisting essentially of terephthalic acid or an alkyl ester thereof with a polymethyleneglycol and an aliphatic diol ether of the formula



where X is a methylene ether bond member containing 3 to 16 atoms joined together in chain fashion and contains at most three ether oxygen atoms and, when more than one ether oxygen atom is present, they are in each case separated from each other by at least three intervening carbon atoms.

3,423,371

CROSS-LINKED POLYESTERS

Robert M. Lusskin, Neeah, Wis., Frank Backer, Albany, N.Y., and John R. Larson, Upper Saddle River, N.J., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 311,620, Sept. 26, 1963. This application June 7, 1967, Ser. No. 644,111

U.S. Cl. 260—75 10 Claims
Int. Cl. C08g 17/08

Polymeric compositions of matter which possess improved physical characteristics such as flame retardancy and color stability are prepared by reacting a compound selected from the group consisting of polyhalopolyhydro-methanonaphthalenedicarboxylic acids or anhydrides with a polymer prepared by reacting a polybasic acid with an excess of a polyol, said polymer containing at least one reactive functional group.

3,423,372

POLYLACTAMS PRODUCED BY THE ANIONIC POLYMERIZATION OF HIGHER LACTAMS USING POLYMETHYLENE POLYPHENYL ISOCYANATE AS PROMOTER

Norman E. Steely, Reading, Pa., assignor to The Polymer Corporation, Reading, Pa., a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 264,055, Mar. 11, 1963. This application Mar. 22, 1967, Ser. No. 625,027

U.S. Cl. 260—78 3 Claims
Int. Cl. C08g 20/10

Poly lactams having a high tensile impact strengths, are prepared by the anionic polymerization of higher lactams in the presence of a polymethylene polyphenyl isocyanate.

3,423,373

CATALYTIC PRECIPITATION PROCESS FOR PREPARING HIGH BULK DENSITY, HIGH MOLECULAR WEIGHT STYRENE-MALEIC ANHYDRIDE POLYMERS

Joseph A. Verdol, Dolton, and Marc O. Thienot, Park Forest, Ill., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 9, 1964, Ser. No. 409,932
U.S. Cl. 260—78.5 7 Claims
Int. Cl. C07c 1/08; 5/00

A process for the production of high molecular weight, high bulk density polymers of styrene and maleic anhydride which consists essentially of contacting at a temperature of about 85° F. to 125° F. styrene, maleic anhydride and a free-radical initiating polymerization catalyst having a half-life of up to one hour at 80° C. in an inert, normally liquid hydrocarbon solvent to provide as a precipitant therefrom a polymer having a kinematic viscosity at 30° C., in 10% solution in acetone, of at least about 10 centistokes.

3,423,374

PREPARATION OF LIQUID POLYSULFIDE POLYMERS AND THEIR PRODUCTS

Faber B. Jones and Billy D. Simpson, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed July 15, 1966, Ser. No. 565,373
U.S. Cl. 260—79 10 Claims
Int. Cl. C08g 25/00; C07c 149/26

A crosslinkable liquid polysulfide polymer is produced by reacting (1) sulfur, (2) a polythiol having the formula $R(SH)_n$, wherein R is a hydrocarbon radical selected from the group consisting of saturated aliphatic, saturated cycloaliphatic, and aromatic radicals and combinations thereof, said hydrocarbon radical having from 3 to 20 carbon atoms and having a valence equal to n, and n is an integer of at least 3, and (3) a dithiol selected from the group consisting of 3-(2-mercaptoethyl)cyclohexanethiol, 4-(2-mercaptoethyl)cyclohexanethiol and mixtures thereof. The liquid polymer can be placed in a joint and cured to produce a solid caulking or sealant material.

3,423,375

NEUTRON RADIATION SORBERS

Norman S. Strand, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Nov. 29, 1963, Ser. No. 327,103
U.S. Cl. 260—79.3 2 Claims
Int. Cl. G21f 1/10; C08f 27/04; 27/07

Polyethylene sulfonates of a metal having a thermal neutron cross section greater than 33.6 ± 1 barns have excellent neutron capture ability.

3,423,376

AIR-CURABLE SEALANT AND CAULKING COMPOSITION

Riad H. Gobran, Levittown, and Anthony F. Santaniello, Trenton, N.J., and Michael P. Mazzeo, Brooklyn, N.Y., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 299,093, July 31, 1963. This application Dec. 28, 1965, Ser. No. 517,096

U.S. Cl. 260—80.3 11 Claims
Int. Cl. C08f 25/00; 27/14

Air-curable sealant and caulking compositions of the "one-package" type are disclosed which are based on liquid interpolymers that are the product of the addition polymerization of (A) from 85 to 98 mol. percent of ethylenically unsaturated silicon-free, monomeric material, at least half of which is an elastomer precursor and (B) from 2 to 15 mol percent of at least one monomer which is a silane having attached to the silicon atom thereof (1) an ethylenically unsaturated aliphatic hydrocarbon radical of 1 to 4 carbon atoms, (2) from 1 to 3 radicals having sites for cross-linking and selected from acyloxy and alkoxy radicals having 1 to 4 carbon atoms and (3) at most two innocuous hydrocarbon radicals of 1 to 8 carbon atoms as required to make a total of four radicals attached to the silicon atom. The sealant compositions may contain the usual additive ingredients such as pigments, plasticizers, anti-oxidants, ultra-violet absorbers and fillers, as well as curing catalysts. They are curable by atmospheric moisture to form elastomeric seals.

3,423,377

LOW FRICTION ELASTOMERS

Gerald J. Tennenhouse, Oak Park, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

No Drawing. Filed May 6, 1966, Ser. No. 548,054
U.S. Cl. 260—80.7 6 Claims
Int. Cl. C08d 13/26; C08c 17/24

1. The process which comprises directly contacting

the surface of a solid elastomeric article taken from the class consisting of natural rubber, synthetic polyisoprene, polybutadiene, butadiene-acrylonitrile, butadiene-styrene-acrylonitrile, butadiene-styrene and polychloroprene, with boron trifluoride, thereby substantially reducing the coefficient of friction of the elastomer surface without substantial change in the physical form thereof.

3,423,378

COPOLYMERS OF PERFLUOROMETHACRYLYL FLUORIDE

David C. England, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 367,203, May 13, 1964. This application Sept. 26, 1967, Ser. No. 670,797

U.S. Cl. 260—80.8 10 Claims
Int. Cl. C08f 15/40; 15/02

Perfluoromethacrylyl fluoride can be copolymerized with various ethylenic comonomers using free radical catalysts to form plastic compositions.

The perfluoromethacrylyl fluoride component provides —COF side chains which can be used for post-polymerization reactions such as crosslinking to modify the properties of the copolymers.

3,423,379

MOLECULAR WEIGHT CONTROL OF POLYMERS

Lowell D. Grinninger and Harry Greenberg, Cincinnati, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Nov. 14, 1966, Ser. No. 593,629
U.S. Cl. 260—82.1 15 claims
Int. Cl. C08f 1/56; 1/28

A process is provided for control of the molecular weight of alfin polymers and copolymers by carrying out the polymerization in the presence of an alfin catalyst and an allylbenzene compound, an allylnaphthalene compound, or mixtures thereof as a molecular weight modifier.

3,423,380

ELASTOMERS HAVING A LOW COEFFICIENT OF FRICTION

Gerald J. Tennenhouse, Oak Park, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

No Drawing. Filed May 6, 1966, Ser. No. 548,049
U.S. Cl. 260—85.1 7 Claims
Int. Cl. C08d 13/26; C08c 17/24

Natural and synthetic resins selected from the group consisting of natural rubber, polyisoprene, polybutadiene and butadiene-styrene copolymer are treated with phosphorus pentafluoride or boron trichloride to reduce the coefficient of friction of the elastomer surface.

3,423,381

SIMULTANEOUS COPOLYMERIZATION AND ALKYLATION OF HETEROCYCLIC N-VINYL MONOMERS WITH α -OLEFINS

Ashot Merijan, Clark, and Frederick Grosser, Midland Park, N.J., assignors to GAF Corporation, New York, N.Y., a corporation of Delaware

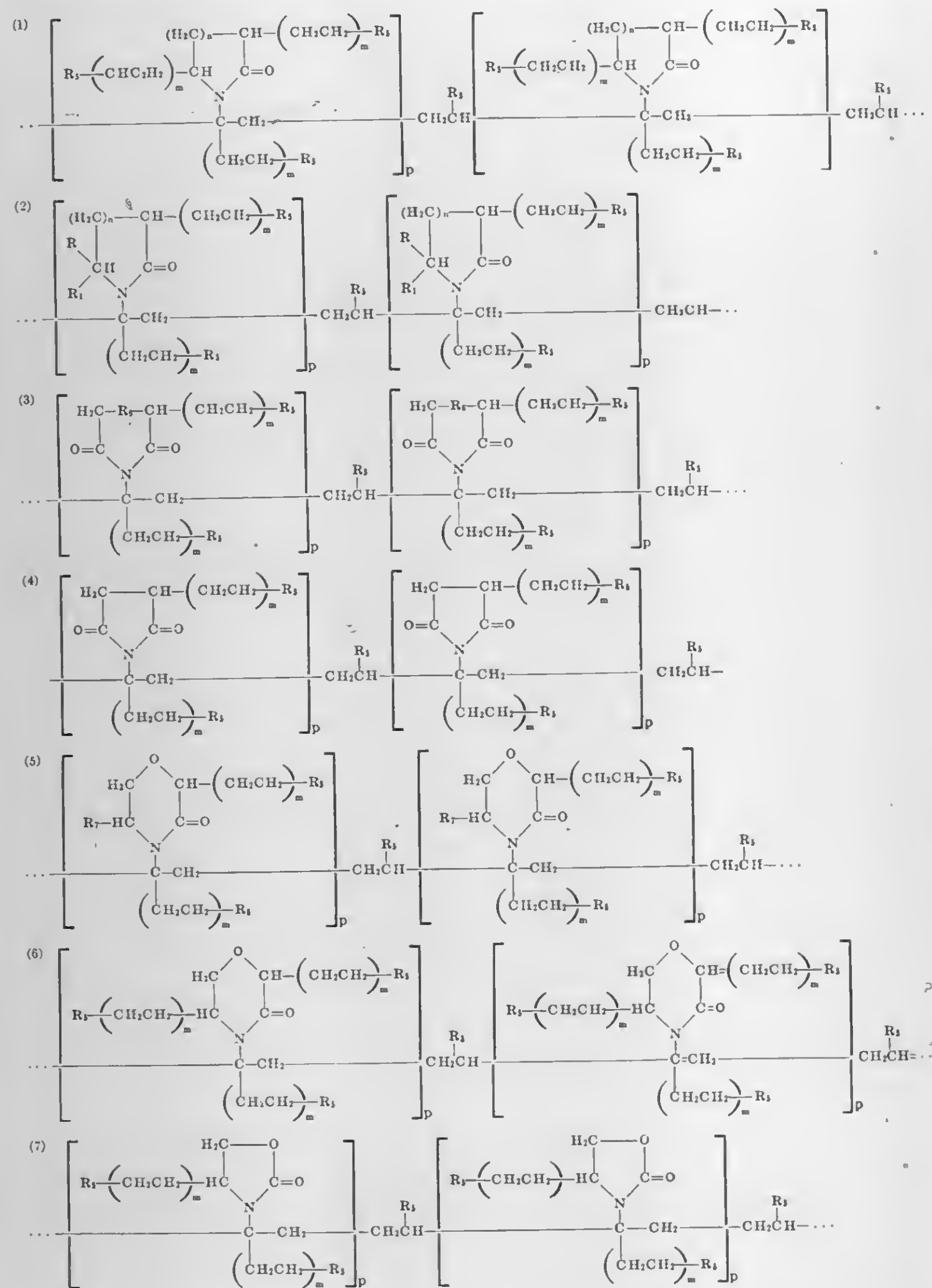
No Drawing. Continuation-in-part of application Ser. No. 358,406, Apr. 8, 1964. This application Nov. 18, 1965, Ser. No. 508,546

U.S. Cl. 260—88.1 22 Claims
Int. Cl. C08f 7/12; A61k 7/00; C10m 3/26

1. Alkylated linear copolymer of 5- to 7-membered heterocyclic N-vinyl monomer and α -olefin comprising

recurring structural units selected from the class consisting of those having the following formulae:

class consisting of hydrogen and alkyl of from 1 to about 180 carbon atoms, R_6 is a member selected from the class



wherein R and R_1 are selected from the class consisting of an oxy and methylene group, R_7 is selected from hydrogen, methyl and ethyl, R_5 is selected from the class consisting of methyl and ethyl, n is an

integer of from 1 to 3 and p is an integer of from 10 to 100, and wherein the m's independently represent a numerical value of 0 to 1; when m is zero, R_5 is hydrogen; when m is 1, R_5 is selected from the group consisting of hydrogen and alkyl of from 1 to about 180 carbon atoms, and wherein at least one of the m's in at least one of the heterocyclic N-vinyl moieties has the value of 1, said alkylated copolymer having a molecular weight of at least 5,000.

10. The process of simultaneously copolymerizing and alkylating an N-vinyl lactam with an α -olefin which comprises heating one mole of an N-vinyl lactam with 0.05 to 10 moles of an α -olefin of from 2 to about 180 carbon atoms in solution of an organic solvent common to the said N-vinyl lactam and α -olefin in the presence of 0.025 to 0.30 mole of an organic peroxide catalyst per mole of said α -olefin at a temperature ranging from 80° to 200° C.

3,423,382

POLYMERS CONTAINING CARBOXYLIC GROUPS AND THEIR PREPARATION

Sheldon Chibnik, Plainfield, N.J., assignor to Mobil Oil Corporation, a corporation of New York

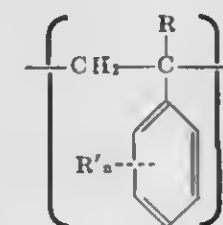
No Drawing. Filed Dec. 15, 1964, Ser. No. 418,557

U.S. Cl. 260-93.5

16 Claims

Int. Cl. C08f 27/22, 7/04

1. A process for preparing a normally solid polymer containing, as a repeating monomeric unit, a benzene ring having one to three carboxylic substituents, which process comprises providing a solution of a polymeric material containing a repeating monomeric unit having the following structure:



in which R and R' are alkyl and n is an integer of one to three, in a solvent medium containing 30-100% by volume of a lower fatty acid having two to four carbon atoms and 0-70% by volume of benzene, said solution containing a catalytic amount of a heavy metal oxidation catalyst selected from the group consisting of cobalt, manganese, nickel, chromium, vanadium, molybdenum, tungsten, tin and cerium, and contacting the solution with a free oxygen-containing gas at a temperature between about 120° C. and about 145° C.

3,423,383

METHOD OF REGULATING THE MOLECULAR WEIGHTS OF POLYDIOLEFINS

Hermann Winter and Heinrich Weber, Marl, Germany, assignors to Chemische Werke Hüls Aktiengesellschaft, Marl, Germany

No Drawing. Filed Apr. 30, 1964, Ser. No. 364,325

Claims priority, application Germany, June 6, 1963, C 30,123

U.S. Cl. 260-94.3

14 Claims

Int. Cl. C08d 1/14, 1/36

The use of esters to lower the molecular weight of polydiolefins produced on the basis of Ziegler-type catalysts.

3,423,384

PROCESS FOR THE PREPARATION OF SUBSTANTIALLY ASH-FREE POLYMERS

Hugh John Hagemeyer, Jr., and Vernon K. Park, Longview, Tex., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Continuation of application Ser. No. 218,140, Aug. 20, 1962. This application Mar. 31, 1967, Ser. No. 627,556

U.S. Cl. 260-93.7

9 Claims

Int. Cl. C08f 1/88, 3/06, 3/10

Process for purifying a solution of polymers of olefinic hydrocarbons prepared at temperatures above their melting points by first removing from about 50 to 95% of solid catalyst residue by mechanical means such as filtration or centrifugation, concentrating the polymer solution, and then contacting the concentrated solution in solid particulate form with a liquid non-polar hydrocarbon containing about .1 to about 10%, by weight, of a chelating agent to obtain a substantially ash-free, odor-free, thermally stable, and noncorrosive polymer.

3,423,385

PROCESS FOR PURIFYING BUTADIENE STREAM

Robert L. Bebb and Edward L. Kay, Akron, Ohio, assignors to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Sept. 18, 1964, Ser. No. 397,571

U.S. Cl. 260-94.2

6 Claims

Int. Cl. C07c 7/12; C08d 1/14

Butadiene and/or isoprene or a hydrocarbon stream containing same plus a hydrocarbon diluent is treated to remove acetylenic impurities, especially vinyl acetylene, ethyl acetylene and/or methyl allene, by agitating such hydrocarbon material in the liquid phase with an immiscible liquid consisting essentially of mercuric sulfate solution containing sulfuric acid. The mixture of the two phases takes place at ambient temperatures. The hydrocarbon phase is then separated and treated to remove carbonyl compounds therefrom, as by distilling the hydrocarbon away from the carbonyl compounds, treating with sodium bisulfite, treating with a solid adsorbent for carbonyl compounds (e.g. alumina, silica or molecular sieves) or by water extraction, or by a combination of any of the foregoing methods. The treatment to remove acetylenic compounds can be carried out as a batch process or as a continuous process.

3,423,386

HYDROCARBON DILUENT PURIFICATION

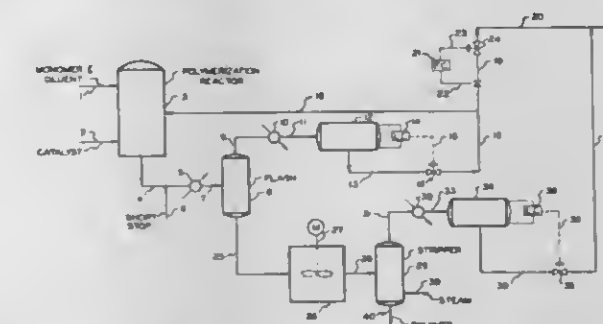
John M. Folz, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Nov. 19, 1964, Ser. No. 412,456

U.S. Cl. 260-94.3

3 Claims

Int. Cl. C08d 1/04, 13/38; B01d 3/00



A hydrocarbon diluent, containing impurities which are reactive with the catalyst employed in the reaction in which the diluent is used, is purified by first fractionating at least a portion of the diluent to separate impurities having lower boiling points and then fractionating a portion of the diluent fraction from the first fractionation step to separate impurities having higher boiling points.

3,423,387 PROCESS FOR THE POLYMERIZATION OF CONJUGATED DIENES

Shotaro Sugiura, Haruo Ueno, Shunsuke Nakatomi, Hideo Ishikawa, and Tosibiro Inoue, Yamaguchi-ken, Japan, assignors to Ube Industries, Ltd., Yamaguchi-ken, Japan
No Drawing. Filed Dec. 22, 1966, Ser. No. 603,775
U.S. Cl. 260—94.3 7 Claims
Int. Cl. C08d 1/16; C08f 1/28, 1/56

1. A process of polymerizing conjugated dienes for the production of conjugated diene polymers having high cis-1,4-addition contents which comprises contacting conjugated dienes under polymerization conditions with a catalyst prepared from (A) a material formed by electrochemically depositing at least one metal selected from the group consisting of metallic cobalt and metallic nickel on the powder of at least one metal selected from the group consisting of metallic zinc and metallic cadmium and (B) an organic aluminum compound.

3,423,388 PREPARATION OF COLORLESS 1,4-CIS-POLYBUTADIENE

Gottfried Pampus, Leverkusen, Josef Witte, Cologne-Stammheim, and Nikolaus Schon, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Nov. 13, 1963, Ser. No. 323,265
U.S. Cl. 260—94.7 9 Claims
Int. Cl. C08d 5/02, 3/08

1. In the process of recovering 1,4-cis-polybutadiene from a mixture prepared by polymerizing 1,3-butadiene in the presence of a titanium-containing catalyst in an aromatic hydrocarbon diluent, by steam distilling off aromatic hydrocarbon diluent-water vapor mixture, the improved method of obtaining colorless 1,4-cis-polybutadiene which comprises the steps of forming an intimate mixture consisting of the aforesaid mixture containing 1,4-cis-polybutadiene, a carboxylic acid having at least 10 carbon atoms which is soluble in said aromatic hydrocarbon diluent and which boils at a temperature above the vapor temperature of said aromatic hydrocarbon diluent-water vapor mixture, a non-discoloring sterically-hindered phenolic stabilizer and a polyglycol ether amine soluble in water and said aromatic hydrocarbon diluent which has a boiling point above the vapor temperature of the hydrocarbon diluent-water vapor mixture; introducing resulting mixture after color disappearance into hot water containing a weakly anionic or non-ionic wetting agent, the temperature of said water being at least equal to the vapor temperature of the aromatic hydrocarbon diluent-water vapor mixture under the ambient pressure conditions to distill off aromatic hydrocarbon diluent-water vapor mixture and recovering colorless 1,4-cis-polybutadiene.

3,423,389 ROSIN COMPOUNDS OF IMPROVED COLOR AND STABILITY

Charles Glenn Wheelus, Panama City, Fla., assignor, by mesne assignments, to Arizona Chemical Company, New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of applications Ser. No. 579,819 and Ser. No. 579,851, Sept. 16, 1966. This application Oct. 5, 1967, Ser. No. 673,000
U.S. Cl. 260—97.5 14 Claims
Int. Cl. C09f 1/00, 1/02, 1/04

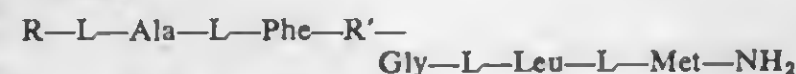
The color and color retention of tall oils, tall oil fractions, rosins and rosin compounds are improved by adding about 0.01% to 1% of a phenol sulfide monomer or polymer and heating at 180°–350° C., preferably under a blanket of nitrogen, until products of better color characteristics are obtained.

3,423,390 ACYLATED HEXAPEPTIDES RELATED TO ELEDIOISIN

Klaus Lukbe, Eberhard Schroder, and Georg Zollner, Berlin, Germany, assignors to Schering A.G., Berlin, Germany, a corporation of Germany
No Drawing. Filed May 13, 1966, Ser. No. 549,782
Claims priority, application Germany, Sept. 21, 1965, Sch 37,756

U.S. Cl. 260—112.5 8 Claims
Int. Cl. C07c 103/52

Synthetic polypeptides having hypotensive activity, bearing the C-terminal partial sequence of eledoisin of the formula



wherein R is formyl, nicotinoyl, α -hydroxyisovaleryl, chloroacetyl, α -acetyl-L-Lys, α , ϵ -diacetyl-L-Lys or ϵ -aminocaproyl and R' is L-Ileu or L-Val.

3,423,391 CONTINUOUS DIAZOTIZATION PROCESS

Hubert Klindler, Ludwigshafen (Rhine), and Dominik Schuler, Mannheim, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Rheinland-Pfalz, Germany
Continuation of application Ser. No. 414,332, Nov. 27, 1964. This application Feb. 20, 1967, Ser. No. 617,422
Claims priority, application Germany, Nov. 28, 1963, B 74,433

U.S. Cl. 260—141 3 Claims
Int. Cl. C07c 113/00; B01j

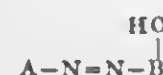
A process for a continuous diazotization of amines in which substantially all of the heat of reaction is absorbed by the reaction mixture. The amine and the diazotizing agent are passed to a mixing and reaction zone where the temperature of the reaction rises by from 20 to 50° C. The reaction product is then rapidly processed to convert the diazo compound to a stable form.

3,423,392 HETEROCYCLIC CONTAINING MONOAZO DYESTUFFS

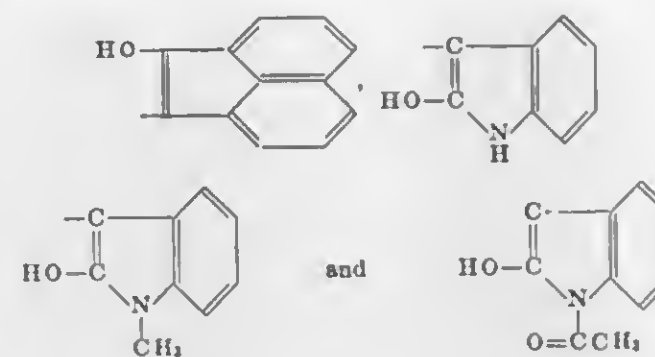
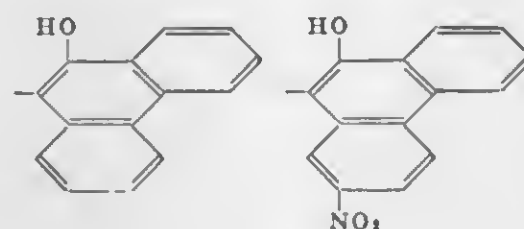
Hermann Wunderlich, Cologne-Mulheim, and Gerhard Wolfrum, Opladen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed July 27, 1965, Ser. No. 475,262
Claims priority, application Germany, Aug. 5, 1964, F 43,667

U.S. Cl. 260—146 7 Claims
Int. Cl. D06p 1/10

Novel dyestuffs useful in the dyeing of synthetic fibers are prepared and have the formula



wherein A stands for a heterocyclic residue and —B—OH stands for a member selected from the class consisting of

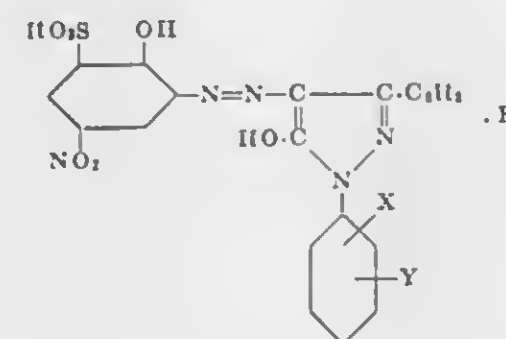


the dyestuff being free of sulphonic acid and carboxylic acid groups. The metal complex compounds of said azo dyestuffs are included.

3,423,393 IRON COMPLEXES OF PYRAZOLONE MONOAZO DYES AND METHOD OF PREPARATION

Karl J. Klein, Albany, N.Y., assignor to GAF Corporation, a corporation of Delaware
No Drawing. Filed Mar. 17, 1965, Ser. No. 440,612
U.S. Cl. 260—147 12 Claims
Int. Cl. C09b 45/00

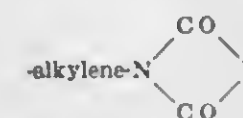
An iron complex of an azo dyestuff of the following formula:



wherein X and Y may be various radicals substituted on the phenyl ring. The iron complex dyestuff is prepared by reacting a diazotized 2-hydroxy-5-nitrometanilic acid with a lower alkyl ester of benzoylacetic acid with subsequent reaction of the resultant intermediate with a phenyl hydrazine compound with the addition of a ferric salt in an amount sufficient to produce a ratio of dye to iron of about 2:1. The iron complex dyestuffs of the present invention provide aesthetic olive-green dyes and are particularly suitable for dyeing leather.

3,423,394
BENZOTHAZOLYL MONAZO DYES
Max A. Weaver and David J. Wallace, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Oct. 14, 1965, Ser. No. 496,130
U.S. Cl. 260—158 11 Claims
Int. Cl. C09b 27/00, 49/06

Benzothiazolyl-azo-aniline compounds, having attached to the aniline nitrogen atom a group having the formula



wherein Y is —NHNH— or a chain of 2 or 3 atoms containing one or two carbon atoms and an oxygen, sulfur, or nitrogen atom, are useful as dyes for hydrophobic textile materials.

3,423,395 PROCESS FOR THE RECOVERY OF MACROMOLECULAR SILVICHEMICAL POLYMERS FROM AQUEOUS SOLUTIONS

George R. Quimby and Otto Goldschmidt, Shelton, Wash., assignors to IIT Rayonier Incorporated, New York, N.Y., a corporation of Delaware
No drawing. Continuation-in-part of application Ser. No. 311,669, Sept. 26, 1963. This application Sept. 6, 1966, Ser. No. 577,189

U.S. Cl. 260—209 7 Claims
Int. Cl. C08b 19/00

A cyclic process for recovering purified macromolecular silvichechemical polymers, from aqueous solutions containing the same by complexing the silvichechemical polymer with a high-molecular weight quaternary ammonium chloride and forming a complex precipitate in flocculant, filterable form. This precipitate is then dissolved in a lower aliphatic alcohol from which solution the desired macromolecular product is precipitated in turn with sodium or potassium chloride. The quaternary ammonium chloride and alcohol are then recovered from the filtrate for reuse.

3,423,396 METHOD OF MAKING AGAROSE

Burton A. Zabin, Berkeley, Calif., assignor to Bio-Rad Laboratories, Richmond, Calif.
No Drawing. Filed Oct. 26, 1966, Ser. No. 589,505
U.S. Cl. 260—209 16 Claims
Int. Cl. C08b 25/00

Method for obtaining agarose separated from agaropeptin by passing an agar solution through a hydrophilic loose lattice anion exchanger such as an organic modified cellulose like diethylaminoethyl cellulose, the ion exchanger being characterized by pores large enough to admit molecules having a molecular weight of 25,000 and above, the eluate obtained from the ion exchanger comprising agarose substantially free from agaropeptin.

3,423,397 TUMBLING PROCESS FOR THE PRODUCTION OF READILY SOLUBLE ALGIN

Syed M. Husaini, New Delhi, India, assignor to Adolph's Food Products Mfg. Co., Burbank, Calif., a corporation of California
Filed Aug. 12, 1965, Ser. No. 479,106

U.S. Cl. 260—209.6 14 Claims
Int. Cl. C08b 19/10

Algin, particularly sodium alginate, which normally is difficult to dissolve in water, is treated in accordance with the invention by simultaneously tumbling in a suitable mechanical device and contacting with added water or live steam. The algin undergoes a structural change, the starting mass of fibers and small particles being converted to dense, translucent, amber-like particles which are readily and speedily dispersible in water without lumping problems. The product of the tumbling process described may be used as is, or may be dried and comminuted.

3,423,398 SANGIVAMYCIN AND DERIVATIVES THEREOF

Koppaka V. Rao, Pine Brook, William S. Marsh, Wanaque, and Donald W. Renn, River Vale, N.J., assignors to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware
Continuation-in-part of application Ser. No. 228,695, Oct. 5, 1962. This application May 10, 1965, Ser. No. 454,637

U.S. Cl. 260—211.5 7 Claims
Int. Cl. A61k 27/00; C12k 1/00

1. A compound selected from the group consisting of 4-amino-5-carboxamido-7-(D-ribofuranosyl)pyrrolo-(2,3-d)pyrimidine also known as sangivamycin, the N-(lower alkyl)substituted amides thereof, the N-oxide of sangivamycin, desamidohydrazidosangivamycin, sangiva-

mycin monohydrate, and the pharmaceutically acceptable acid addition salts thereof.

3,423,399 METHOD FOR THE PRODUCTION OF 5'-RIBONUCLEOTIDE

Mikio Honjo, Takatsuki, Toru Masuda, Nishinomiya, Kinichi Imai, Takatsuki, Shoichiro Fujii, Kyoto, and Kunio Takanobashi, Suita, Japan, assignors to Takeda Chemical Industries, Ltd., Osaka, Japan

No Drawing. Filed June 9, 1966, Ser. No. 556,281
U.S. Cl. 260—211.5 17 Claims
Int. Cl. C08 6/1900

Without protecting the hydroxy groups at the 2'- and 3'-positions, 5'-ribonucleotides are prepared in good yields in the presence of a phenol directly from the corresponding ribonucleosides.

3,423,400 REGENERATED CELLULOSE FILM

Robert Otto Osborn, Buffalo, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Original application Feb. 4, 1965, Ser. No. 432,443, now Patent No. 3,280,234, dated Oct. 18, 1966. Divided and this application Apr. 27, 1966, Ser. No. 571,659

U.S. Cl. 260—212 4 Claims
Int. Cl. C08b 9/00, 29/30

Regenerated cellulose film having a specified degree of polymerization, volume swelling, and a maximum orientation angle of the voids.

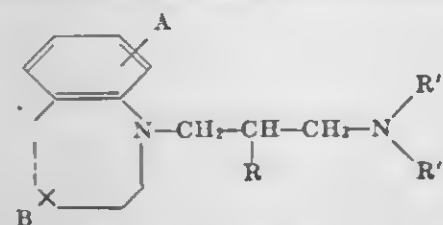
3,423,401 N-AMINO-ALKYLATED HETEROCYCLIC COMPOUND

Henri Morren, Forest, Belgium, assignor to UCB (Union Chimique Belge S.A.)

No Drawing. Filed Oct. 20, 1965, Ser. No. 499,025
Claims priority, application Great Britain, Nov. 9, 1964, 45,614/64

U.S. Cl. 260—239 9 Claims
Int. Cl. A61k 27/00; C07d 41/08

N-amino-propyl-benzazocines of the formula



wherein A is H, halogen, lower alkyl or lower alkoxy, B is H or lower alkyl, and each of R, R' and R'' is H or lower alkyl, are useful as anti-depressives.

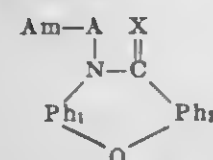
3,423,402 NOVEL BIBENZO[b,f][1,4]OXAZEPIN 11-ONES

Kuppuswamy Nagarajan, Bombay, India, assignor to Ciba Limited, Basel, Switzerland, a Swiss company

No Drawing. Filed June 20, 1966, Ser. No. 558,621
Claims priority, application Switzerland, June 23, 1965, 8,805/65; Apr. 27, 1966, 9,092/66

U.S. Cl. 260—239.3 11 Claims
Int. Cl. A61k 25/00; C07d 107/00

1. A member selected from the group consisting of compounds of the formula



in which each of the groups Ph₁ and Ph₂ is a 1,2-phenylene selected from the group consisting of unsubstituted 1,2-phenylene and 1,2-phenylene substituted by a member selected from the group consisting of lower alkyl, lower

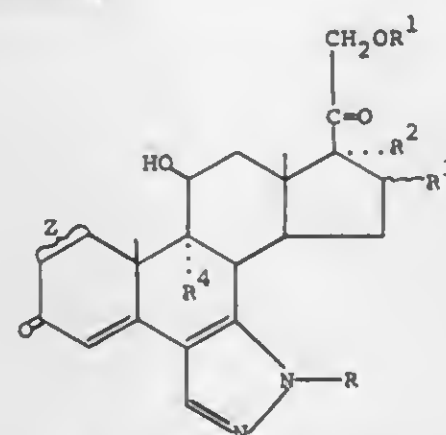
alkoxy, trifluoromethyl, nitro, amino, halogeno, and lower alkanoyl, at least one of the groups Ph₁ and Ph₂ being substituted by nitro, Am is a member selected from the group consisting of lower alkylamino, di-lower alkyl-amino, alkyleneimino with 4-6 carbon atoms in the alkylene portion, piperazino, 4-lower alkyl-piperazino, morpholino and thiamorpholino, A is lower alkylene separating Am from the ring-nitrogen atom by at least two carbon atoms, and X is oxo, and acid addition salts thereof.

3,423,403 STEROIDAL [7,6-c]-PYRAZOLES OF THE ANDROSTANE AND PREGNANE SERIES

John H. Fried, Palo Alto, Calif., and Alexander D. Cross, Mexico City, Mexico, assignors to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Filed Aug. 26, 1966, Ser. No. 575,255
U.S. Cl. 260—239.5 14 Claims
Int. Cl. C07c 173/10, 173/00, 169/22

2. A steroidal [7,6-c]-pyrazole of the pregnane series having the formula:

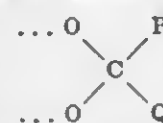


wherein Z is a carbon-carbon single bond or a carbon-carbon double bond;

R is hydrogen, methyl, phenyl or p-fluorophenyl;
R¹ is hydrogen, tetrahydropyran-2'-yl, tetrahydrofuran-2'-yl or a hydrocarbon carboxylic acyl group containing less than 12 carbon atoms;

R² is hydrogen, hydroxy or a hydrocarbon carboxylic acyloxy group containing less than 12 carbon atoms;
R³ is hydrogen, α-methyl, β-methyl, α-hydroxy or a α-hydrocarbon carboxylic acyloxy group of less than 12 carbon atoms;

R² and R³ together is the group



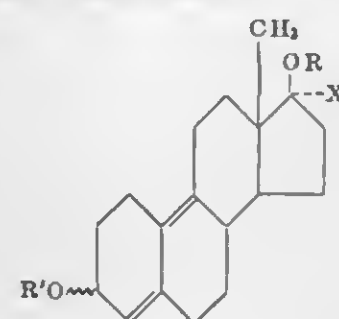
in which P is hydrogen or lower alkyl and Q is lower alkyl or aryl of up to 8 carbon atoms; and R⁴ is hydrogen or fluoro.

3,423,404 (OPTIONALLY 17-ALKYLATED) ESTRA-4,9(10)- DIENE - 3α/3β, 17β - DIOLS AND ESTERS CORRESPONDING

Paul D. Klimstra, Northbrook, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Oct. 21, 1965, Ser. No. 500,186
U.S. Cl. 260—239.55 8 Claims
Int. Cl. C07c 173/00, 169/00

1. A compound of the formula



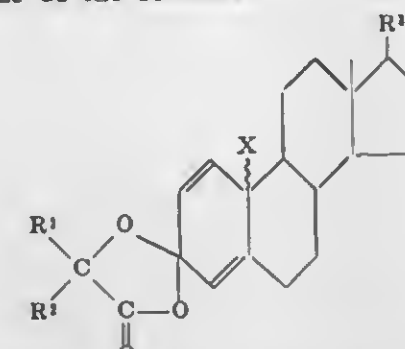
wherein R is selected from the group consisting of hydrogen, (lower cycloalkyl)-(lower alkanolyl) and tetrahydropyran-2-yl radicals, R' is a member of the class consisting of hydrogen and (lower cycloalkyl)-(lower alkanolyl) radicals and X is selected from the group consisting of hydrogen and a lower alkyl radical.

3,423,405 PREPARATION OF 1,3,5(10),9(11) STEROIDS AND NOVEL INTERMEDIATES THEREOF

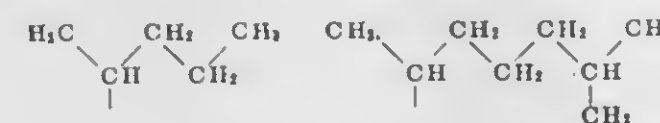
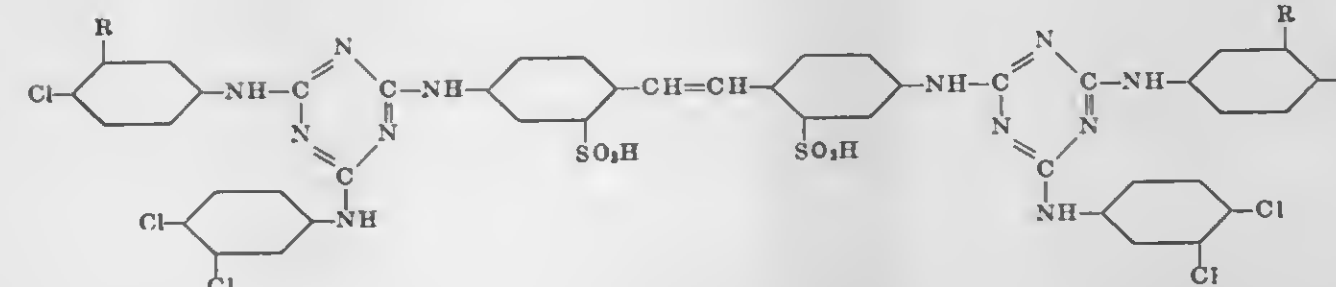
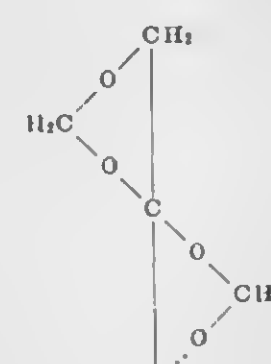
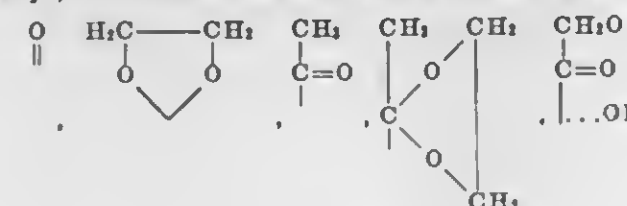
Alexander D. Cross, Mexico City, Mexico, assignor to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Filed May 31, 1966, Ser. No. 553,679
U.S. Cl. 260—239.57 19 Claims
Int. Cl. C07c 173/00, 169/08

12. Steroids of the formula:



wherein each of R¹ and R² is hydrogen, (lower)alkyl, cyclic hydrocarbon, aromatic hydrocarbon, or when taken together with the carbon to which they are attached cyclohexyl; X is bromo or iodo; and R³ is one of groups



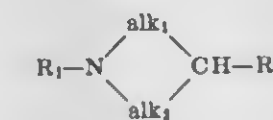
3,423,406 N-ALKENYL-3-ARALKYL-ALKYLENEIMINES

Robert Paul Mull, Florham Park, and Renat Herbert Mizzoul, Loog Valley, R.D., N.J., assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 480,147, Aug. 16, 1965, which in turn is a continuation-in-part of application Ser. No. 416,144, Dec. 4, 1964. This application May 8, 1967, Ser. No. 636,617

U.S. Cl. 260—240 10 Claims
Int. Cl. A61k 25/00; C07d 29/12

N-alkenyl-3-aralkyl-alkyleneimines of the formula



R₁=alkenyl, cycloalkyl-alkenyl or aralkenyl

alk₁=alkylidene

alk₂=alkylene with 2-6 ring-C

R₂=aralkyl

quaternaries and salts thereof, e.g., the N-methyl-3-benzhydrylpiperidine, inhibit gastric secretion.

3,423,407 4,4'-BIS[4,6-DI(CHLOROANILINO)-S-TRIAZIN-2- YLAMINO] - 2,2' - STILBENEDISULFONIC ACID BRIGHTENERS

Albert F. Strobel, Delmar, and Sigmund C. Catino, Castleton, N.Y., assignors to GAF Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 382,364, July 13, 1964. This application Oct. 30, 1967, Ser. No. 679,259

U.S. Cl. 260—240 2 Claims
Int. Cl. C09b 23/00

This invention relates to fluorescent brightening agents selected from the group consisting of the free acid and salts of the disulfonic acid of the formula:

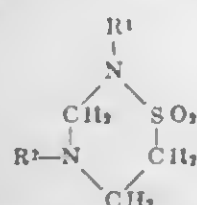
wherein R represents a member of the group consisting of hydrogen and chlorine. These fluorescent brightening agents which are characterized by a 4-anilino or 3,4-

anilino substituent in each of the 4- and 6-positions of the triazine rings are characterized by a high degree of stability to hypochlorite bleach, which is frequently used in laundering.

3,423,408
PERHYDRO-1,2,4-THIAZINEDIOXIDES-(1,1)
AND THEIR PREPARATION

Rolf Wilhelm Pfirrmann, Lucerne, Switzerland, assignor to Ed. Geistlich Sohne AG fur Chemische Industrie, Lucerne, Switzerland, a Swiss body corporate
No Drawing. Filed Oct. 4, 1965, Ser. No. 492,930
Claims priority, application Great Britain, Oct. 6, 1964, 40,734/64

U.S. Cl. 260—243 17 Claims
Int. Cl. C07d 93/22, 93/32
There are provided novel perhydro-1,2,4-thiazinedioxides of the formula



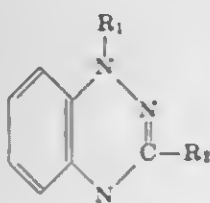
(where R¹ and R² which may be the same or different are hydrogen atoms, alkyl groups having 1-8 carbon atoms, cycloalkyl group, aralkyl groups, aryl groups or heterocyclic groups or together with the perhydrothiazinedioxide ring to which they are attached form a ring of perhydrothiazinedioxide nuclei separated by methylene groups joining nitrogen atoms of adjacent nuclei) and their physiologically acceptable acid addition salts. The new compounds are prepared by reacting a taurineamide of the formula



with formaldehyde or a substance liberating formaldehyde, and they show strong bactericidal activity against both gram negative and gram positive bacteria and against fungi.

3,423,409
TRIAZINES

Herbert Morton Blatter, Irvington, N.J., assignor to Ciba Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 1, 1965, Ser. No. 505,981
U.S. Cl. 260—248 11 Claims
Int. Cl. C07d 55/10; A01n 9/22
Stable free dihydro-1,2,4-triazinyl radicals, e.g., those of the formula



R_{1,2}=aryl, e.g., phenyl are useful polymerization inhibitors. Corresponding quaternaries are useful disinfectants.

3,423,410
METHOD FOR PRODUCING MELAMINE

Nobuhiko Takahashi, Ryo Kokubo, Mizuhiko Nagakura, and Mitsuhiro Koguchi, Fuchu-machi, Nei-gun, and Atsuo Murata, Tokyo, Japan, assignors to Nissan Kagaku Kogyo Kabushiki Kaisha, Tokyo, Japan
Filed Dec. 10, 1965, Ser. No. 513,020
Claims priority, application Japan, Dec. 18, 1964, 39/7,100

U.S. Cl. 260—249.7 3 Claims
Int. Cl. C07d 55/28

A method for starting up of melamine production for urea in a main reactor in liquid phase at high tempera-

tures and pressures, comprising melting melamine in a small volume melting tank, introducing the melt into a small sub-reactor having internal upper and lower heaters until lower heaters are immersed in molten melamine, introducing urea and ammonia into bottom of the sub-reactor to initiate reaction until sub-reactor is filled, actuating upper heaters, passing the molten melamine to a main reactor and thereafter introducing urea and ammonia into said main reactor. Among known uses of melamine is the formation of synthetic resins with formaldehyde.

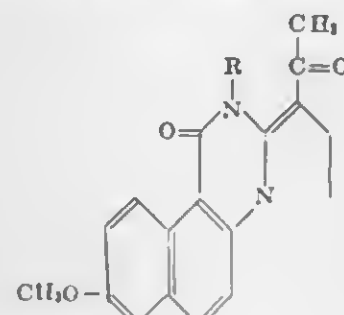
3,423,411
PURIFICATION OF MELAMINE SOLUTIONS
Ibrahim Dakli, Busto Arsizio, Pietro Ercole, Legnano, and Franco Jacobelli, Busto Arsizio, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy
Filed Oct. 18, 1966, Ser. No. 587,473
Claims priority, application Italy, Oct. 22, 1965, 23,716/65

U.S. Cl. 260—249.7 6 Claims
Int. Cl. C07d 55/24

1. A process for the purification of melamine solutions, which comprises treating the melamine containing solution with CO₂ in order to precipitate the oxy- and oxyaminotriazines, filtering off the solids and percolating the filtrate through a column filled with a cationic exchange resin whereby melamine is separated from the other nitrogen containing organic impurities and from the alkali ions.

3,423,412
BENZOPYRROLOQUINAZOLINONES
Edward C. Taylor, Princeton, N.J., and Youval Shvo, Rehovoth, Israel (both of 1500 Spring Garden St., Philadelphia, Pa. 19101)
No Drawing. Filed Nov. 21, 1966, Ser. No. 595,583
U.S. Cl. 260—251 6 Claims
Int. Cl. C07d 51/48

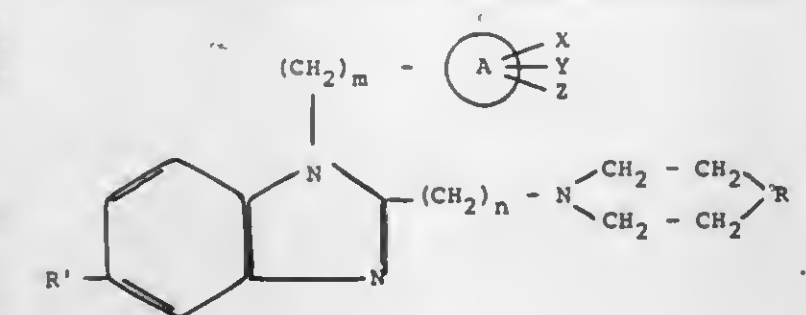
1. A compound of the formula



where R is hydrogen or acetyl.

3,423,413
1-HYDROXY OR CHLORO BENZYL-2-[4 METHYL-ETHYL OR HYDROXYETHYL-PIPERAZINO METHYL] BENZIMIDAZOLES
Hans Priewe, Dieter Rahtz, and Reinhard Hempel, Berlin, and Helmer Richter, Grafting, near Munich, Germany, assignors to Schering A.G., Berlin, Germany
No Drawing. Filed July 20, 1965, Ser. No. 473,512
Claims priority, application Germany, July 23, 1964, Sch 35,513; June 10, 1965, Sch 37,199, Sch 37,200
U.S. Cl. 260—268 4 Claims
Int. Cl. C07d 51/70

A substance selected from compounds of the formula



and salts of the compounds with physiologically tolerated acids, wherein

(A) is a ring selected from the group consisting of benzene and pyridine rings,
X, Y, Z are members of the group consisting of hydrogen, halogen having an atomic weight of less than 100, hydroxyl, lower alkoxy, lower alkanoyl-oxy, lower-alkoxy-(lower)-alkoxy, and the nitro radical,
m is an integer between zero and two,
n is an integer between one and three,
R is a member of the group consisting of oxygen and N—R', wherein
R' is a member of the group consisting of hydrogen, lower alkyl, lower hydroxyalkyl, lower-alkanoyl-(lower)-hydroxy-alkyl, phenyl-(lower)-alkyl, and lower-alkoxy-(lower)-alkyl,

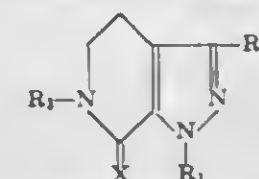
and wherein

R' is a member of the group consisting of hydrogen, halogen having a molecular weight of less than 100, and lower-alkoxy.

An example is 1-(4-chlorobenzyl)-2-(1-methyl-4-piperazinyl)-methylbenzimidazole.

The compounds are useful agents against any kind of hypersensitivity and allergy.

3,423,414
PYRAZOLOPYRIDINES
Herbert Morton Blatter, Irvington, N.J., assignor to Ciba Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Jan. 13, 1966, Ser. No. 521,241
U.S. Cl. 260—296 7 Claims
Int. Cl. C07d 57/04; A61k 25/00
Pyrazolo[3,4-c]pyridines, e.g. those of the formula

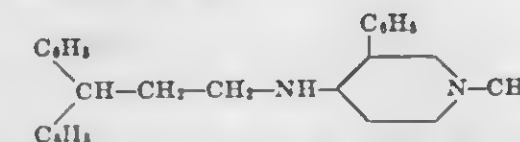


R_{1,2}=H, aliphatic or aromatic radical
R₂=amino, free, esterified or etherified OH or SH
X=H₂, alkyl, H+alkyl or O

N-oxides, quaternaries and salts thereof exhibit anti-inflammatory effects.

3,423,415
4 - [N - (3,3 - DIPHENYL - PROPYL) - AMINO] - 1-METHYL-3-PHENYL-PIPERIDINE AND INTERMEDIATES THERETO
Ernst Jucker, Ettingen, and Rudolf Süess, Bettingen, Switzerland, assignors to Sandoz Ltd. (also known as Sandoz A.G.), Basel, Switzerland
No Drawing. Filed Mar. 19, 1965, Ser. No. 441,350
Claims priority, application Switzerland, Mar. 25, 1964, 3,992/64

U.S. Cl. 260—293 2 Claims
Int. Cl. C07d 29/28; A61k 25/00
Compound of formula

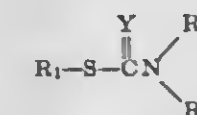


in which two asymmetric carbon atoms are present, and their acid addition salts, have significant coronary dilative activity. The compounds have low toxicity and are valuable in the treatment of angina pectoris and stenocardiac illnesses. The compound can be produced by reacting 1-methyl-3-phenyl-4-amino piperidine with (a) a 3,3-diphenylpropionic acid halide and the reaction product re-

duced or (b) 3,3-diphenyl-propionic aldehyde and the reaction product reduced or (c) a 3,3-diphenyl-propyl halide or alternatively, 1-methyl-3-phenyl-4-piperidone can be reacted with 3,3-diphenyl-propyl amine and the reaction product reduced.

3,423,416
NOVEL AROMATIC N-HETEROCYCLIC ESTERS OF DIARYLCARBAMOYL OR DIARYLTHIO-CARBAMOYL HALIDES
Asher A. Hyatt, Lexington, Mass., assignor to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Dec. 3, 1965, Ser. No. 511,519
U.S. Cl. 260—294.8 3 Claims
Int. Cl. C07d 31/34; A61k 27/00

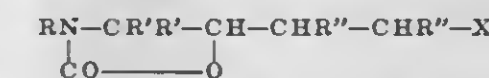
Novel aromatic N-heterocyclic esters of diarylcarbamoyl or diarylthiocarbamoyl halides of the following formula:



wherein R₁ is a 2 pyridyl radical, Y is oxygen or sulfur and R₂ and R₃ are phenyl radicals, lower alkyl substituted phenyl radicals, phenethyl radicals and naphthyl radicals. Compounds are useful as biological toxicants.

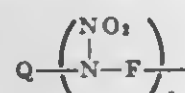
3,423,417
FLUOROALKYLAMIDOMETHYLPYRIDINIUM COMPOUNDS
William C. Sheehan, Birmingham, Ala., and George R. Thomas, Framingham, Mass., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army
No Drawing. Filed Apr. 20, 1965, Ser. No. 449,620
U.S. Cl. 260—295 8 Claims
Int. Cl. D06m 13/00; C07d 31/34
Novel fluoroalkylamidomethylpyridinium compounds, prepared by reacting a fluoroalkylamide with pyridine, formaldehyde and an acid, which compounds impart hydrophobic and oleophobic properties to materials treated therewith.

3,423,418
3-SUBSTITUTED-5-(2-HALOETHYL)-2-OXAZOLIDINONES AND PRODUCTION OF SAME
Carl D. Lunsford and Marvel L. Felden, Richmond, Va., assignors to A. H. Robins Company, Incorporated, Richmond, Va., a corporation of Virginia
No Drawing. Continuation-in-part of application Ser. No. 451,970, Apr. 29, 1965. This application Apr. 11, 1966, Ser. No. 541,483
U.S. Cl. 260—307 27 Claims
Int. Cl. A61k 27/00; C07d 85/28
3-substituted-5-(2-haloethyl)-2-oxazolidinones of the formula:

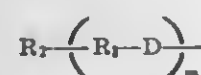


wherein X is halo selected from the group consisting of bromo and chloro,
wherein R is selected from the group consisting of lower-alkyl, lower-cycloalkyl, and phenyl-lower-alkyl, wherein R' is selected from the group consisting of hydrogen and methyl, and
wherein R'' is selected from the group consisting of hydrogen and methyl,
and process for making same, which comprises reacting a 1-substituted-3-pyrrolidinol with a carbonyl dihalide, and further reacting the product with a tertiary amine, the products of the invention being useful intermediates for the preparation of tranquilizers and analgesics.

3,423,419
N-FLUORO-N-NITROAMINE COMPOUNDS AND METHOD OF PREPARATION
 Vytautas Grakauskas, Arcadia, and Kurt Baum, Los Angeles, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
 No Drawing. Filed July 9, 1962, Ser. No. 208,981
 U.S. Cl. 260—308 17 Claims
 Int. Cl. C07d 55/56, 111/00
 1. Compounds of the formula



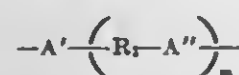
wherein Q is selected from the group consisting of monovalent and divalent organic radicals and c is a whole number from 1 to 2, with the proviso that when c is 1, Q is a monovalent radical having from 1 to 20 atoms and selected from the group consisting of alkyl, cycloalkyl, aryl, alkaryl and aralkyl 5-tetrazolyl radicals, radicals having the formula



and radicals having the formula

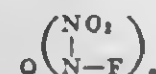


and when c is 2, Q is a divalent radical selected from the group consisting of —A— and

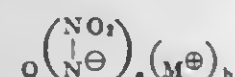


wherein in the foregoing formulae R₁ is a radical having from 1 to 10 carbon atoms and selected from the group consisting of alkyl and aryl radicals, Z is selected from the group consisting of —NH₂ and —O—R₄ wherein R₄ is selected from the group consisting of alkyl and aryl radicals having from 1 to 10 carbon atoms, D, A, A' and A'' are alkylene radicals, R₂ is selected from the group consisting of —NH—, nitraza, oxygen and sulfur, R₃ is selected from the group consisting of oxygen, sulfur and NH, and m is a small whole number of from 1 to 5.

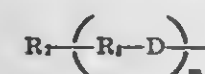
11. The method of preparing novel organic compounds of the formula:



which comprises reacting fluorine in the presence of a substantially inert moderator with a compound of the formula:



wherein M is selected from the group consisting of hydrogen and an alkali metal ion; a, b and c are small whole numbers from 1 to 2; and wherein Q is selected from a group consisting of monovalent and divalent organic radicals with the proviso that when c is 1, Q is a monovalent radical having from 1 to 20 atoms selected from the group consisting of alkyl, cycloalkyl, aryl, alkaryl, aralkyl, 5-tetrazolyl radicals having the formula:



and radicals having the formula:



and when c is 2, Q is a divalent radical selected from the group consisting of:



wherein in the foregoing formulae R₂ is a radical having from 1 to 10 carbon atoms and selected from the group consisting of alkyl and aryl radicals; Z is selected from the group consisting of —NH₂ and —O—R₄; wherein R₄ is selected from the group consisting of alkyl and aryl radicals having from 1 to 10 carbon atoms; D, A, A' and A'' are alkylene radicals; R₃ is selected from the group consisting of NH, nitraza, oxygen and sulfur; R₅ is selected from the group consisting of oxygen, sulfur and NH; and m is a small whole number of from 1 to 5.

3,423,420

HERBICIDAL 1-SUBSTITUTED 2,4,5-TRIBROMO-IMIDAZOLES

Karl H. Büchel, Hangelar, Wilfried Draber, Ippendorf, and Friedrich W. A. G. Korte, Hangelar, Germany, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 2, 1965, Ser. No. 476,719

Claims priority, application Germany, Aug. 7, 1964, S 92,531

U.S. Cl. 260—309 11 Claims
 Int. Cl. C07d 49/36; A01n 9/22

Herbicide 1-substituted 2,4,5-tribromoimidazoles, herbicide compositions containing them and methods for their use as herbicides.

3,423,421

SUBSTITUTED DIHYDRO-11H-ISOINDOLO[2,1-a]BENZIMIDAZOL-11-ONES AND RELATED COMPOUNDS

Theodore S. Sulkowski, Narberth, Pa., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 336,615, Jan. 9, 1964. This application Feb. 1, 1966, Ser. No. 523,930

U.S. Cl. 260—309.2 8 Claims
 Int. Cl. C07d 57/02

The reaction of 2-acylbenzoic acids, their lactols, or their lower alkyl esters, with an o-phenylenediamine results in the formation of a dihydro-11H-isoindol[2,1-a]benzimidazol-11-ones. The thus obtained isoindolobenzimidazolones possess hypertensive, central nervous system depressant and antiinflammatory activities.

3,423,422

2-(ARYL)-2-IMIDAZOLINES

Halbert C. White, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Apr. 4, 1967, Ser. No. 628,298

U.S. Cl. 260—309.6 5 Claims
 Int. Cl. C07d 49/34; A61k 27/00

The new compounds, 2-(2,3,6-trichlorobenzyl)-2-imidazoline, and their physiologically-acceptable salts such as the hydrochloride. The new compounds are useful as analgesics, sedatives and tranquilizers.

3,423,423
2-(2,4,5-TRICHLOROBENZYL)-2-IMIDAZOLINE
 Halbert C. White, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
 No Drawing. Filed Apr. 4, 1967, Ser. No. 628,305
 U.S. Cl. 260—309.6 4 Claims
 Int. Cl. C07d 49/34

The new compound 2-(2,4,5-trichlorobenzyl)-2-imidazoline, and its physiologically-acceptable salts such as the hydrochloride, which have analgesic activity.

3-PHENYL-4-DIALKYLAMINOALKYL-PYRAZOL-5-OL COMPOUNDS

Donald L. Trepanier, Indianapolis, Ind., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Sept. 28, 1966, Ser. No. 582,490
 U.S. Cl. 260—310 2 Claims
 Int. Cl. C07d 49/18; A01n 9/22, 23/00

3-phenyl-4-dialkylaminoalkyl-pyrazol-5-ol compounds are prepared by the reaction of an α-benzoyl-ω-dialkylamino acid ester with hydrazine. The novel compounds are useful as anthelmintic agents as piscicides.

3,423,425

11-AMINOALIPHATIC - 5,10 - METHANODIBENZO-[a,d][1,4]CYCLOHEPTADIENES AND THE SALTS THEREOF

Max Wilhelm, Allschwil, Switzerland, assignor to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 18, 1965, Ser. No. 456,828
 Claims priority, application Switzerland, June 19, 1964, 8,060/64

U.S. Cl. 260—326.14 13 Claims
 Int. Cl. C07c 87/28; A61k 27/00

5,10-methanodibenzo[a,d][1,4]cycloheptadienes, especially containing in 11-position an aliphatic hydrocarbon radical substituted by an amino group as the only substituent, and their salts. The compounds may contain further substituents. For example, substituents may be present on the aromatic nuclei (positions 1-4 and 6-9). Such substituents are above all lower alkyl radicals, lower alkoxy groups, halogen atoms or trifluoromethyl groups. The compounds may also be substituted in 5-position and/or 12-position, for example, by hydrocarbon radicals, for example, alkyl radicals. The compounds are useful, inter alia, as sedatives, tranquilizers and histaminolytics.

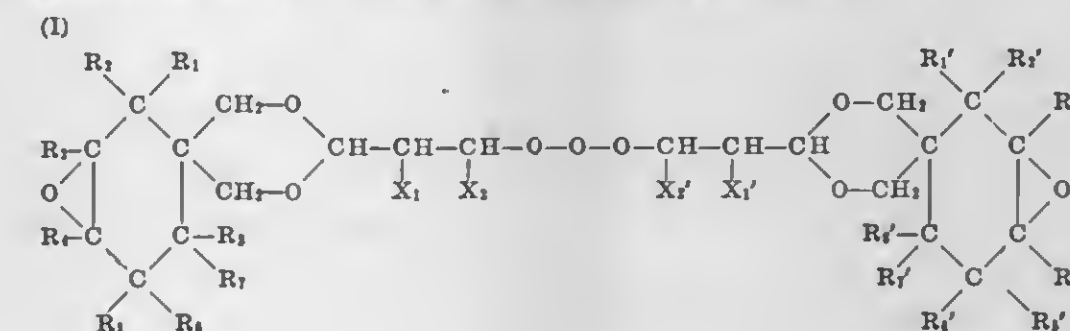
3,423,426

N-(POLYHALOALKYLTHIO) ALKENYL-SUCCINIMIDES

Gustave K. Kohn, Berkeley, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed Jan. 25, 1966, Ser. No. 522,852
 U.S. Cl. 260—326.5 5 Claims
 Int. Cl. C07d 27/10; A01n 9/22

N-(polyhaloalkylthio)-2-alkenylsuccinimide in which the polyhaloalkyl group is of 1 to 2 carbon atoms and at



least 3 halogen atoms, at least one of said halogens being bonded to the alpha carbon atom, and the alkenyl group is of 3 to 6 carbon atoms. These succinimides are useful as fungicides.

3,423,427 SELECTIVELY SUBSTITUTED METHANE LEUCO DYES

Lawrence Anthony Cescon and Rolf Dessauer, Wilmington, and Catharine Elizabeth Looney, Centerville, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
 No Drawing. Continuation-in-part of application Ser. No. 290,648, June 26, 1963. This application Apr. 13, 1967, Ser. No. 630,534

U.S. Cl. 260—329 10 Claims
 Int. Cl. D06p 1/00; C09b 57/00; C07d 65/00

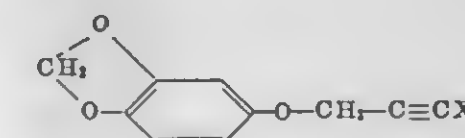
Leuco bis [4-disubstituted amino-2-ethyl (or fluoro or methyl) phenyl]-2-thienyl (or 2-furyl), 3,4-methylene-dioxyphenyl, 2-methoxy-4-(C₁ to C₈) alkoxyphenyl) methanes, methanols, or cyanomethanes, leuco salts thereof; and dyes formed by the oxidation of the leuco dyes or their salts. The dyes are gray-to-black and of high tinctorial strength, making them useful as graphic art inks or pigment dyes. The leuco forms are useful in conjunction with photooxidants in imaging systems by conversion to the dye form when the oxidant is photolized. The leuco cyanomethanes can be converted to the dye form by direct photolysis and fixed with cyanuric derivatives or arylsulfonic acids. The leuco dyes are storage-stable, resisting air or heat-induced oxidation. They are prepared by conventional procedures.

3,423,428

3,4-METHYLENEDIOXYPHENYL-3-HALO-2-PROPYNYL ETHERS

Josef Fellig, Glen Rock, and Albert Israel Rachlin, Verona, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
 No Drawing. Filed Mar. 3, 1966, Ser. No. 531,371
 U.S. Cl. 260—340.5 3 Claims
 Int. Cl. C07d 13/10; A01n 9/02, 9/24

1. A compound of the formula



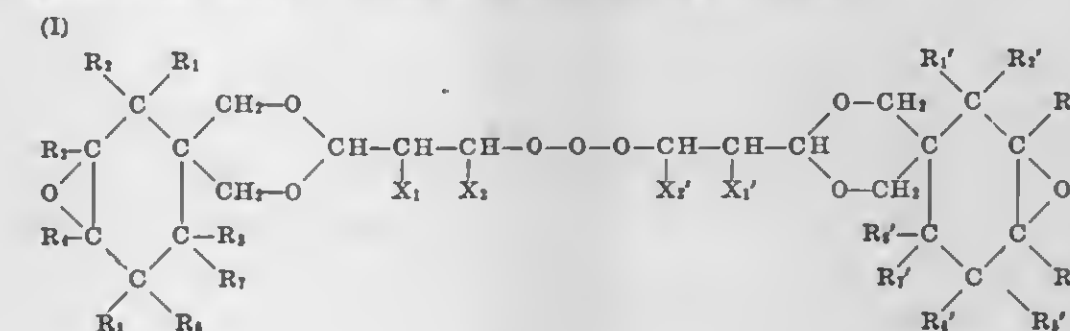
wherein X represents hydrogen, iodine, bromine or chlorine.

3,423,429

HYDROXYLATED DIEPOXIDES OF ETHER ACETALS OF 1,1-BIS(HYDROXYMETHYL)CYCLOHEXANE

Karl Metzger, Muenchenstein, Daniel Porret, Binningen, and Hans Batzer, Arlesheim, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss company
 No Drawing. Filed Mar. 28, 1966, Ser. No. 537,711
 Claims priority, application Switzerland, Apr. 2, 1965, 4,587/65

U.S. Cl. 260—340.7 3 Claims
 Int. Cl. C07d 15/04; C08g 30/02, 30/12
 Diepoxy compounds of the formula



where R_1 to R_8 and R_1' to R_8' each represents a monovalent substituent such as a halogen atom, an alkoxy group or an aliphatic hydrocarbon residue, preferably a lower alkyl radical containing 1 to 4 carbon atoms, or a hydrogen atom, and R_1+R_2 and $R_1'+R_2'$ may also represent an alkylene radical such as a methylene group; X_1 , X_1' , X_2 and X_2' each stands for a hydrogen atom or a methyl group, and G for the residue obtained on eliminating two hydroxyl groups from glycerine react with the usual curing agents for epoxy compounds to furnish cured products having improved mechanical properties, especially good elasticity and reduced tendency to develop stress fissures, combined with a good heat distortion point according to Martens (DIN).

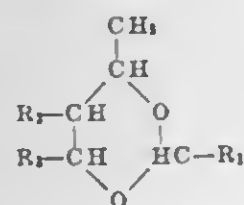
3,423,430

2-ALKYL SUBSTITUTED-4-METHYL-1,3-DIOXANES
Arno Cahn, Pearl River, N.Y., and Allan H. Gilbert, West Englewood, N.J., assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine
No Drawing. Original application Sept. 4, 1962, Ser. No. 221,318, now Patent No. 3,326,746, dated June 20, 1967. Divided and this application Sept. 13, 1966, Ser. No. 623,476

U.S. Cl. 260—340.7

Int. Cl. C07d 15/04

1. A perfume having the structure:



wherein R_1 is an alkyl group having 4 to 9 carbon atoms; R_2 is selected from the group consisting of hydrogen and a C_1 to C_4 alkyl group; and R_3 is selected from the group consisting of hydrogen and methyl.

3,423,431

PHOTOLYTIC PROCESS FOR PREPARING POLYCYCLIC FUSED RING DIANHYDRIDES

Leon Starr, Plainfield, and Michel E. Mullier, Princeton Junction, N.J., assignors to Mohil Oil Corporation, a corporation of New York
Filed Sept. 12, 1966, Ser. No. 578,806

U.S. Cl. 260—346.3

Int. Cl. C07d 5/00; C08g 51/80, 30/12

Polycyclic fused ring dianhydrides are prepared by exposing (1) maleic anhydride or lower alkyl substituted maleic anhydride and (2) Δ^4 -tetrahydrophthalic anhydride or an endo group-containing Δ^4 -tetrahydrophthalic anhydride, wherein the endo group is oxy or lower alkylene, to electromagnetic radiation of a wave length of 2000 to 4000 angstrom units. The compounds are useful as epoxy curing agents, as monomers for making polyimides or polyamide acids, and as plasticizers when reacted with an alcohol.

3,423,432

PROCESS FOR PREPARATION OF METHYLENE-2-PROPANEDIOL-1-3 AND ITS DERIVATIVES

Francis Weiss, Pierre-Benite, Rhone, and Rena Bensa, Lyon, Rhone, France, assignors to Societe d'Electrochimie, d'Electro-Metallurgie et des Acleries Electriques d'Ugine, Paris, France, a corporation of France
No Drawing. Filed Nov. 21, 1963, Ser. No. 325,493
Claims priority, application France, Nov. 27, 1962, 916,757

U.S. Cl. 260—347.8

Int. Cl. C07c 33/02, 35/28

A method for the preparation of methylene-2-propanediol-1-3 and its derivatives by the Diels-Alder reaction of

an alpha-beta ethylenic aldehyde and a dienic compound to form a cyclic aldehyde; the cyclic aldehyde is reacted with formaldehyde in an alkaline medium and includes an aldol condensation followed by a Cannizzaro reaction to form a gem-dimethylolated derivative that is subjected to pyrolysis to form methylene-2 propanediol-1-3 and to regenerate the dienic compound.

3,423,433

METHOD OF PRODUCING 3-KETO-4,6-BISDEHYDRO-6-HALOGENO-9 β ,10 α -STEROIDS

Pieter Westerhof and Jan Hartog, Houtenlaan, Weesp, Netherlands, assignors to North American Phillips Company Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed June 24, 1965, Ser. No. 466,817
Claims priority, application Switzerland, June 26, 1964, 8,465/64; Great Britain, Jan. 22, 1965, 2,919/65

U.S. Cl. 260—397.3

Int. Cl. C07c 167/16, 169/24, 169/36

Production of 3-keto-4,6-bisdehydro-6-halo-9 β ,10 α -steroids by oxidation of the corresponding 3-alkoxy-3,5-bisdehydro-6-halo-9 β ,10 α -steroid in a solvent, in the presence of manganese dioxide under neutral or weakly acidic conditions. An example is 3-ethoxy-6-chloro-17 α -hydroxy-9 β ,10 α -pregna-3,5-dien-20-one 17-acetate oxidized to 6-chloro-17 α -hydroxy-9 β ,10 α -pregna-4,6-diene-3,20-dione 17-acetate.

U.S. Cl. 260—397.3

Int. Cl. C07c 167/16, 169/24, 169/36

PROCESS FOR THE PREPARATION OF $\Delta^{1,4}$ -3-KETO STEROIDAL COMPOUNDS

David Adriaan Van Dorp and Stefan Antoni Szpilfogel, Oss, Netherlands, assignors to Organon, Inc., Orange, N.J., a corporation of New Jersey
No Drawing. Filed May 29, 1956, Ser. No. 587,946
Claims priority, application Netherlands, May 31, 1955, 197,688

U.S. Cl. 260—397.3

Int. Cl. C07c 167/00

1. A process which comprises heating at an elevated temperature a 1(2)-saturated steroid of the Δ^4 -3-keto androstene series with at least one equivalent of selenium dioxide in an organic solvent and recovering the corresponding $\Delta^{1,4}$ -3-keto androstadiene produced.

U.S. Cl. 260—397.3

Int. Cl. C07c 167/00

PROCESS AND INTERMEDIATES FOR MANUFACTURE OF 3-HYDROXY-17-KETO STEROIDS

Paul D. Klimstra, Northbrook, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware
No Drawing. Filed June 30, 1965, Ser. No. 468,578

U.S. Cl. 260—397.4

Int. Cl. C07c 169/22, 167/14, 167/10

A novel process and novel intermediates useful for the manufacture of 3-hydroxy-17-keto steroids. In that process a 3-keto group is reduced while the 17-acyloxy-17-cyano group is maintained intact and the latter protecting group is subsequently removed by alkaline cleavage to regenerate the 17-ketone.

3,423,436

1-CYANO-ANDROSTANES

Albert Bowers, Mexico City, Mexico, assignor to Syntex Corporation, Panama, Panama, a corporation of Panama
No Drawing. Filed Sept. 16, 1963, Ser. No. 309,302
U.S. Cl. 260—397.45

Int. Cl. C07c 169/22, 167/00

1-cyano androstanes having a 17 β -hydroxy or 17 β -acyloxy group, oxygenated or not at C-11, which have a favorable anabolic-androgenic ratio and which exhibit

anti-estrogenic, anti-gonadotrophic, anti-fibrillatory activity and appetite stimulating properties.

3,423,437

PROCESS FOR THE MANUFACTURE OF 17 α ,21-DIHYDROXY-20-KETOSTEROIDS

Georg Anner, Basel, Helmut Ueberwasser, Riehen, and Charles Meystre, Reinach, Basel-Land, Switzerland, assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed May 27, 1966, Ser. No. 553,298
Claims priority, application Switzerland, July 9, 1965, 9,633/65; Apr. 6, 1966, 5,133/66

U.S. Cl. 260—397.45

Int. Cl. C07c 169/34, 171/06

Process for the manufacture of 17 α ,21-dihydroxy-20-ketosteroids which comprises treating a steroid containing the 17 α ,20; 20,21-bismethylenedioxy grouping with a solution obtained by mixing anhydrous hydrogen fluoride with urea or a mono-, di- or tri-N-lower alkyl substituted derivative thereof.

PROCESS FOR THE PREPARATION OF STEROIDS
John A. Edwards, Palo Alto, Calif., assignor to Syntex Corporation, Panama, Panama, a corporation of Panama
No Drawing. Filed Sept. 2, 1966, Ser. No. 576,825
U.S. Cl. 260—397.45

Int. Cl. C07c 169/10, 169/08

1. A process for the preparation of a 3-hydroxy- $\Delta^{1,3,5(10),9(11)}$ -steroid of the estrane series which comprises treating a corresponding 3-keto- $\Delta^{4,9}$ -steroid with at least a molar equivalent of selenium dioxide.

3,423,439

PROCESS FOR THE PREPARATION OF STEROIDS

John A. Edwards, Palo Alto, Calif., assignor to Syntex Corporation, Panama, Panama, a corporation of Panama
No Drawing. Filed Sept. 2, 1966, Ser. No. 576,868
U.S. Cl. 260—397.45

Int. Cl. C07c 169/10, 169/08

1. A process for the preparation of a 3-hydroxy- $\Delta^{1,3,5(10),9(11)}$ -steroid of the estrane series which comprises treating a corresponding 3-keto- $\Delta^{4,9}$ -steroid with at least a molar equivalent of 2,3-dichloro-5,6-dichloro-1,4-benzoquinone.

3,423,440

PREPARATION OF MONOGLYCERIDE PHOSPHORIC ACID AND SALTS THEREOF

John D. Cawley and Mary Patricia O'Grady, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Dec. 29, 1965, Ser. No. 517,463
U.S. Cl. 260—403

Int. Cl. C11c 3/04

Method for preparing lysophosphatidic acid or lysophosphatidates by reacting in solution a glycidyl ester of an aliphatic fatty acid having 6–22 carbon atoms or benzoic acid with anhydrous phosphoric acid to produce the acid, which is then recovered. For a univalent salt, the reaction mixture is neutralized with an alkali metal hydroxide instead of recovering the acid. When a polyvalent metallic salt is desired, there is a subsequent double decomposition reaction between an aqueous solution of the univalent salt and a water soluble salt of the polyvalent metal.

3,423,441

PROCESS FOR PREPARATION OF IODINATED LECITHIN

Kazuo Makabe, Kanagawa-ken, Japan, assignor to Dalichi Yakuhin Sangyo Kabushiki Kaisha, Tokyo-to, Japan, a company of Japan
No Drawing. Filed June 28, 1966, Ser. No. 561,000
Claims priority, application Japan, July 24, 1965, 40/44,457

U.S. Cl. 260—403

Int. Cl. C11c 3/00

Iodinated lecithin is prepared by adding iodine and coarse particles of at least one of the metals magnesium, zinc, aluminum, titanium, manganese, nickel, cobalt, cadmium and copper to lecithin dissolved in glacial acetic acid and heating the resultant mixture with stirring. The product is useful as an iodine-containing medical preparation.

3,423,442

PROCESS AND APPARATUS FOR IMPROVING FATS

Friedrich Eichler, Kempten, Allgau, Germany, Paulus Johannes Seip, Zwijndrecht, Netherlands, and Peter Czedik-Eysenberg, Vienna, Rodann, Austria, assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine
Filed Mar. 19, 1965, Ser. No. 441,378
Claims priority, application Great Britain, Mar. 20, 1964, 11,861/64

U.S. Cl. 260—420

Int. Cl. C11b 3/00

A liquid phase process for refining glyceride oils is described in which the oil in liquid condition is treated with an aqueous liquid treating agent in a bed of chemically inert packing material of uniform depth under conditions providing numerous interfaces between the two liquids.

3,423,443

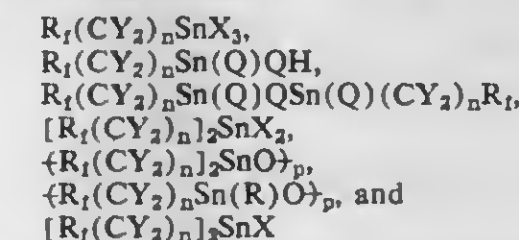
FLUOROALKYLITIN COMPOUNDS

Walter Blochl, Karlsruhe, Germany, assignor to FMC Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed July 23, 1965, Ser. No. 474,481
Claims priority, application Germany, July 28, 1964, B 77,863

U.S. Cl. 260—429.7

Int. Cl. C07f 7/22; C08g 31/32

Fluoroalkyltin compounds, useful as stain repellents, have the following formulae:



in which Y is hydrogen or lower alkyl; X is chlorine, bromine, iodine, alkoxy, acyl, hydrogen, siloxyl or stannoxyl; Q is oxygen or sulfur; R is lower alkyl; R_f is



where Z is fluorine, chlorine or hydrogen and m is 4–25; n is 2–8; and p designates a polymer.

3,423,444

PROCESS FOR PRODUCING ALUMINUM ALKYL AND ALPHA-OLEFINS

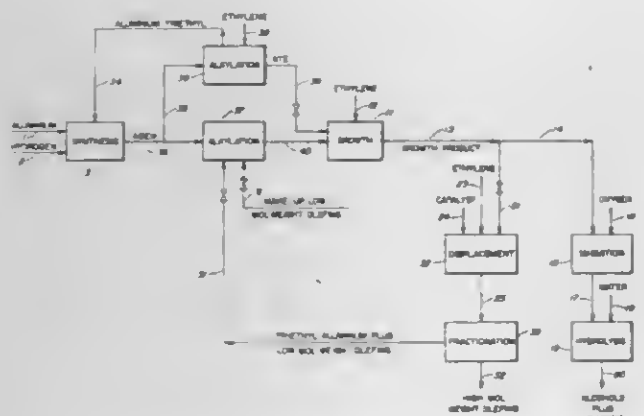
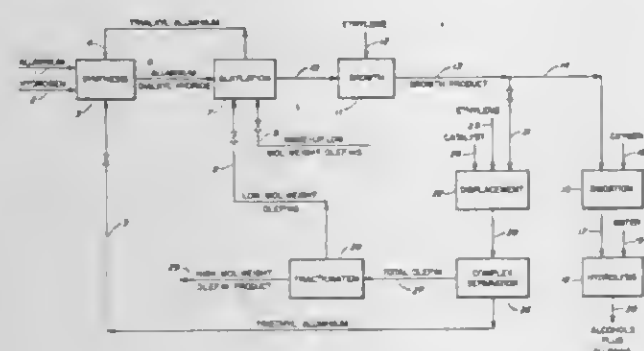
Mark T. Atwood, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed May 17, 1965, Ser. No. 456,296
U.S. Cl. 260—448

Int. Cl. C07f 5/06

The usual Poisson distribution curve of alkyl group size in aluminum alkyls by the growth process is shifted up-

wardly by a process which comprises alkylation of an aluminum dialkyl hydride with a mixture of low molecu-

vinyllic magnesium compound with a triorganoaluminum compound.



lar weight alpha-olefins, the latter mixture being obtained by a displacement and subsequent separation of aluminum alkyl growth product, or from an extraneous source.

3,423,445 PENTAHALOPHENYLETHYLSILANES AND SILOXANES

George W. Holbrook and Ogden R. Pierce, Midland, Mich., assignors to Dow Corning Corporation, Midland, Mich., a corporation of Michigan
No Drawing. Filed May 21, 1965, Ser. No. 457,822
U.S. Cl. 260-448.2 10 Claims
Int. Cl. C07f 7/02, 7/04, 7/18

Monomers, homopolymers and copolymers or organo-silicon compounds of the formula



are disclosed. Illustrative of this class of compounds is



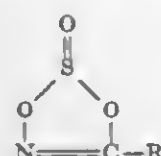
The novel compounds have utility as coating compounds, holding compounds, lubricants, and as ingredients in silicone elastomer stocks.

**3,423,446
PREPARATION OF VINYLIC MAGNESIUM
ALUMINUM COMPOUNDS**
Paul Kobetz and Wilford H. Thomas, Baton Rouge, La., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Oct. 26, 1964, Ser. No. 406,585
U.S. Cl. 260-448 2 Claims
Int. Cl. C07f 5/06, 3/02

This invention discloses a new process for the preparation of organometallic complex compounds by mixing a

**3,423,447
PROCESS FOR PREPARING AROMATIC
MONOISOCYANATES**
Donald D. Carlos, Crown Point, Ind., and Emmett H. Burk, Jr., Glenwood, Ill., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 22, 1965, Ser. No. 502,345
U.S. Cl. 260-453 4 Claims
Int. Cl. C07c 119/04; C07d 95/00

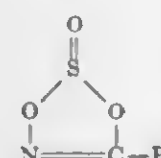
Aromatic monoisocyanates are prepared by subjecting to thermal decomposition aromatic mono(nitrile sulfites) which are essentially free of chlorine-containing impurities and which correspond to the general formula:



wherein R is an aromatic hydrocarbon radical of 1 to 3 aromatic hydrocarbon rings and up to about 20 carbon atoms.

**3,423,448
PROCESS FOR PREPARING ALIPHATIC
MONOISOCYANATES**
Emmett H. Burk, Jr., Glenwood, Ill., and Donald D. Carlos, Crown Point, Ind., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 22, 1965, Ser. No. 502,381
U.S. Cl. 260-453 7 Claims
Int. Cl. C07c 119/04; C07d 95/00

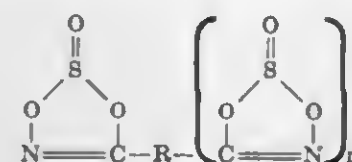
Aliphatic monoisocyanates are prepared by subjecting to thermal decomposition a cyclic nitrile sulfite which is free of chlorine-containing impurities and which has the structure:



wherein R is an aliphatic (including cycloaliphatic) hydrocarbon of 1 to about 50, preferably 1 to about 30, carbon atoms.

**3,423,449
PROCESS FOR PREPARING ALIPHATIC
POLYISOCYANATES**
Emmett H. Burk, Jr., Glenwood, Ill., and Donald D. Carlos, Crown Point, Ind., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 22, 1965, Ser. No. 502,382
U.S. Cl. 260-453 9 Claims
Int. Cl. C07c 119/04; C07d 95/00

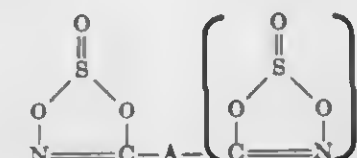
Aliphatic polyisocyanates are prepared by subjecting to thermal decomposition a cyclic nitrile sulfite which is free of chlorine-containing impurities and which has the structure:



wherein R is an aliphatic (including cycloaliphatic) hydrocarbon of 1 to about 50, preferably 1 to about 30, carbon atoms and n is an integer of 1 to 3, preferably 1.

**3,423,450
PROCESS FOR PREPARING AROMATIC
POLYISOCYANATES**
Emmett H. Burk, Jr., Glenwood, Ill., and Donald D. Carlos, Crown Point, Ind., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 22, 1965, Ser. No. 502,566
U.S. Cl. 260-453 14 Claims
Int. Cl. C07c 119/04; C07d 95/00

Aromatic polyisocyanates are prepared by subjecting to thermal decomposition a cyclic nitrile sulfite which is free of chlorine-containing impurities and which has the structure:

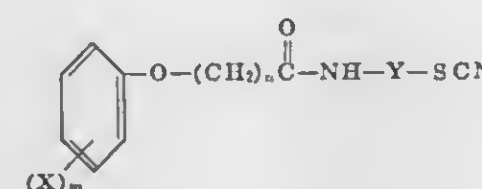


wherein A is aromatic hydrocarbon of 1 to 3 aromatic hydrocarbon rings and n is an integer of 1 to 3. Preferably, A contains 6 to about 20 carbon atoms and n is 1 or 2.

**3,423,451
N-(THIOCYANATOALKYL)HALOPHENOXYACYL-
AMIDES**

William E. Weesner, Kettering, Ohio, assignor to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Jan. 3, 1966, Ser. No. 517,962
U.S. Cl. 260-454 4 Claims
Int. Cl. C07c 161/02; A61k 27/02; A01n 9/18

1. A N-(thiocyanatoalkyl)halophenoxyacylamide of the formula



wherein X is halogen having an atomic weight greater than 30, Y is alkylene having from 2 to 5 carbon atoms, m is an integer of from 1 to 5, and n is an integer of from 1 to 3.

**3,423,452
SYNTHETIC TANNING AGENTS FOR PRODUCING
SHRUNKEN GRAIN LEATHER**

Stanley A. Lipowski, Livingston, N.J., assignor to Diamond Shamrock Corporation, a corporation of Delaware
No Drawing. Filed Sept. 20, 1966, Ser. No. 580,616
U.S. Cl. 260-512 10 Claims
Int. Cl. C07c 143/42; C14c 3/08

A water soluble shrunken grain synthetic tanning agent in substantially monomeric form is obtained by reaction of a dihydroxy diphenyl sulfone, formaldehyde and naphthalene sulfonic acid in aqueous solution. Molar proportions of reactants are selected to obtain a reaction product having at least 0.5 free methylol groups per mole of sulfone. Reaction is effected at temperatures of from about 20° C. to about 150° C. until a clear solution is obtained.

**3,423,453
PROCESS FOR THE MANUFACTURE OF LIGHT-
COLORED OLEFIN SULFONATION PRODUCTS
OR OF THE CORRESPONDING SULFONATES**
Horst Baumann, Hilden, Rhineland, and Werner Stein, Erkrath-Unterhach, Germany, assignors to Henkel & Cie G.m.b.H., Dusseldorf-Holthausen, Germany, a corporation of Germany
No Drawing. Filed Jan. 7, 1965, Ser. No. 424,143
Claims priority, application Germany, June 25, 1964, H 53,088; Aug. 24, 1964, H 53,620 13 Claims

U.S. Cl. 260-513 13 Claims
Int. Cl. C07c 139/00, 143/02

There is disclosed a process for the sulfonation of C₈-C₂₂ olefins to produce olefin sulfonates characterized by their light color, the process being carried out in two stages. In the first stage, the C₈-C₂₂ olefin is reacted at a temperature of 0-50° C. with an SO₃-inert gas mixture containing 0.5-10 volume-percent SO₂ until that point at which the ratio of the amount of SO₂ being liberated and the amount of SO₂ simultaneously being absorbed by the olefin amounts to from 1.5-2.5 times the ratio of SO₂:SO₃ calculated for that point in the reaction corresponding to an absorption of 0.5 mols of SO₃ per mol of olefin. Thereafter in a second stage the sulfonation reaction mixture from the first stage is contacted at a reduced temperature of from -10 to 40° C. with an SO₃-inert gas mixture containing the SO₃ in an amount equal to at the most 80% of the concentration employed in the first stage. The SO₃ inert gas mixture is further used at a feed rate which is at least 20% higher than that employed in the first stage, the reaction being continued until at least 90% of the olefins originally charged have been sulfonated.

**3,423,454
PRODUCTION OF SULPHONIC ACIDS**
Stanley Frederic Marrian, Fife, Scotland, assignor to British Hydrocarbon Chemicals Limited, London, England
No Drawing. Filed May 14, 1965, Ser. No. 455,961
Claims priority, application Great Britain, May 27, 1964, 22,012/64 3 Claims

U.S. Cl. 260-513 3 Claims
Int. Cl. C07c 143/02

In the sulphoxidation normal paraffins having at least 8 carbon atoms in the molecule by reaction with sulphur dioxide and oxygen to give sulphonic acids, the sulphonic acids are separated from by-product sulphuric acid by carrying out the reaction in the presence of a chlorinated hydrocarbon having up to two carbon atoms and at least two chlorine atoms in the molecule, chlorinated hydrocarbon/hydrocarbon phase containing most of the sulphonic acid being separated from a sulphuric acid phase. Examples of the chlorinated hydrocarbon are chloroform, carbon tetrachloride, tetrachloroethane or 1,2-dichloroethane.

**3,423,455
CATALYTIC OXIDATION OF PROPYLENE TO
ACETIC ACID**
Robert M. Dobres, Silver Spring, R. Parthasarathy, Takoma Park, and John L. Warthen, Baltimore, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
No Drawing. Filed July 21, 1965, Ser. No. 473,837
U.S. Cl. 260-533 8 Claims
Int. Cl. C07c 51/32

Acetic acid is prepared by reacting propylene with oxygen in the presence of a catalyst. The catalyst consists essentially of (a) a porous inert metal oxide and (b) from 10 to 90 percent, based on the total weight of the catalyst, of a compound represented by the formula:



where the ratio of X:Y lies within the range of 1:5 to 1:40. The catalyst has a surface area within the range

of 5 to 80 m.²/g. Preferably the inert metal oxide is silica gel. Also, preferably, the reactants are in the gaseous state. The reaction can be conducted in either a fixed-bed or fluidized-bed reactor.

3,423,456

REACTION OF ALLYLIC HALIDES IN THE VAPOR PHASE WITH CARBON MONOXIDE TO FORM 3-ENOYL HALIDES

Irving L. Mador, Hamilton, Ohio, and John A. Scheben, Kenton, Ky., assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Continuation-in-part of application Ser. No. 316,550, Oct. 16, 1963. This application Jan. 10, 1966, Ser. No. 519,533

The portion of the term of the patent subsequent to Mar. 14, 1984, has been disclaimed

U.S. Cl. 260—544 8 Claims
Int. Cl. C07c 51/14, 57/02

1. A process for preparing 3-enoyl halides, which comprises reacting a β,γ -unsaturated alkylene halide in the vapor phase with carbon monoxide in the presence of a palladium catalyst to form the 3-enoyl halide.

3,423,457

SUBSTITUTION PRODUCTS OF 7-CHLORO-6-DEMETHYLTETRACYCLINE

Robert Winterbottom, New City, and Martin Leon Sasser, Pearl River, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Continuation-in-part of application Ser. No. 322,521, Nov. 8, 1963. This application Nov. 29, 1966, Ser. No. 597,565

U.S. Cl. 260—559 2 Claims
Int. Cl. C07c 103/19

This disclosure describes a process of preparing 9-nitro-7-chloro-6-demethyltetracycline by the direct nitration of 7-chloro-6-demethyltetracycline at a temperature not higher than -30°C .

3,423,458

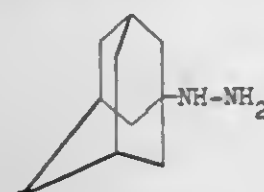
1-HYDRAZINO-ADAMANTAN AND SALTS THEREOF

Hans Ulrich Daeniker, Clifton, N.J., assignor to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 22, 1966, Ser. No. 559,382
Claims priority, application Switzerland, July 30, 1965, 10,791/65

U.S. Cl. 260—563 3 Claims
Int. Cl. C07c 109/00; A61k 25/00

1. 1-hydrazino-adamantan of the formula



3,423,459

ACETANILIDO DERIVATIVES AND METHOD FOR PREPARING SAME

Stanley C. Bell and Carl Gochman, Philadelphia, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 19, 1966, Ser. No. 543,555
U.S. Cl. 260—562 2 Claims

Int. Cl. C07c 103/50; C07d 49/20; A61k 27/00

1. The new compound, 2-acetamido-2'-benzoyl-4'-chloro-2-(4,4-diethoxybutylamino)acetanilide.

3,423,460

PROCESS FOR EXTRACTION OF OXIMES FROM MINERAL ACID SOLUTIONS

Hans Helmut Schwarz, Krefeld-Bockum, Karl Morgenstern, Krefeld, and Joachim Schneider and Hermann Schnell, Krefeld-Urdingen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed Mar. 31, 1965, Ser. No. 444,402
Claims priority, application Germany, Apr. 4, 1964, F 42,519

U.S. Cl. 260—566 6 Claims
Int. Cl. C07c 131/00

Process for extracting aliphatic and cycloaliphatic oximes from aqueous mineral acid solutions. The extraction is effected by contacting the aqueous solution with an acidic organic compound such as, for example, phenol, phenol derivatives, valeric acid, oleic acid, chlorostearic acid or phenyl acetic acid.

3,423,461

2-AMINO- OR AMINOALKYLENE-10',11'-DIHYDRO-SPIRO(CYCLOPROPANE-1,5'-5H-DIBENZO-(a,d)CYCLOHEPTENES) AND THE SALTS THEREOF
Carl Kaiser, Haddon Heights, N.J., and Charles L. Zirkle, Berwyn, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Oct. 19, 1965, Ser. No. 498,151
U.S. Cl. 260—570.5 7 Claims

Int. Cl. A61k 27/00; C07c 91/16; C07d
Amino derivatives of 10',11'-dihydrospiro[cyclopropane-1,5'-5H-dibenzo(a,d)cycloheptenes] wherein the amino moiety may be primary, secondary or tertiary including cyclic amino and the dibenzocycloheptene ring may be halogen, trifluoromethyl, lower alkyl, lower alkoxy or lower alkylthio substituted, have antidepressant activity. The compounds are generally prepared via the 10',11'-dihydrospiro[cyclopropane-1,5'-5H-dibenzo(a,d)cycloheptene]-2-carboxylic acids.

3,423,462

HYDROGENATION OF NITROPHENYL ALKYL KETONES

Paul N. Rylander, Newark, N.J., assignor to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware

No Drawing. Filed Dec. 10, 1965, Ser. No. 513,087
U.S. Cl. 260—580 2 Claims

Int. Cl. C07c 85/10
Nitrophenyl alkyl ketones are selectively hydrogenated to aminophenyl alkyl ketones over palladium on calcium carbonate catalyst.

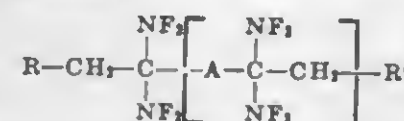
3,423,463

METHOD FOR THE PREPARATION OF DIFLUOROAMINO COMPOUNDS

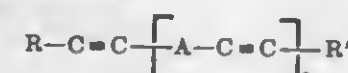
Kurt Baum, South Pasadena, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

No Drawing. Filed Sept. 8, 1964, Ser. No. 395,646
U.S. Cl. 260—583 9 Claims

Int. Cl. C07c 87/22
1. The method of preparing gem-difluoroamino compounds of the formula:



which comprises reacting difluoroamine with an acetylenic compound of the formula:



in the presence of a strong acid catalyst selected from the group consisting of boron trifluoride, boron trifluoride-phosphoric acid complex, sulfur trioxide, sulfuric acid,

and fuming sulfuric acid; wherein in the above formulae R and R' are selected from the group consisting of hydrogen, alkyl and haloalkyl, A is an alkylene radical, and n is an integer of from 0 to 1.

3,423,464

PROCESS FOR THE MANUFACTURE OF MONOMETHYLHYDRAZINE

Randal E. Bailey, Orange, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

Filed Aug. 25, 1966, Ser. No. 575,159
U.S. Cl. 260—583 2 Claims

Int. Cl. C07c 109/02

1. In a process for the manufacture of monomethylhydrazine wherein a synthesis liquor is prepared by reacting chloramine and excess monomethylamine in aqueous solution and said synthesis liquor is fractionally distilled to form a first overhead stream consisting essentially of ammonia, monomethylamine and azomethane, and a first bottoms stream comprising water and monomethylhydrazine, the improvement which comprises removing from said first overhead stream by fractional distillation an azeotropic mixture of azomethane and monomethylamine.

3,423,465

SELECTED BIS(PERFLUOROALKYL)KETENES

Sam Andreades and David C. England, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 283,958, May 29, 1963. This application Mar. 24, 1965, Ser. No. 442,477

U.S. Cl. 260—585.5 3 Claims
Int. Cl. C07c 49/22

Described and claimed are bis(perfluoroalkyl)ketenes with up to 8 carbons in the perfluoroalkyl groups prepared by the dehydration of the corresponding α,α -diperfluoroalkyl-substituted acetic acid with P_2O_5 at 150 – 500°C . The compounds are useful in rendering cellulosic objects water-repellant.

3,423,466

PROCESS FOR THE PRODUCTION OF BENZALDEHYDE

August Guyer, Jr. and Pio Guyer, Zurich, and Günther Gut, Zug, Switzerland, assignors to August Guyer, Zurich, Switzerland

No Drawing. Filed Sept. 10, 1964, Ser. No. 395,604
Claims priority, application Switzerland, Sept. 23, 1963, 11,679/63

U.S. Cl. 260—599 7 Claims
Int. Cl. C07c 47/54

A process for the production of benzaldehyde by the catalytic oxidation of toluene in gaseous phase with an oxygen-containing gas which contains a maximum of 15% by volume of oxygen. The process is run under elevated pressure and at a linear velocity of at least 60 meters per minute over the catalyst. The catalyst is a highly active solid oxidation catalyst, preferably a uranium oxide, a vanadium oxide, or a molybdenum oxide.

3,423,467

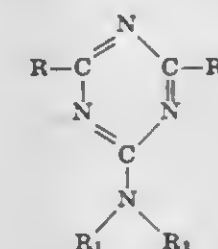
STABLE AQUEOUS FORMALDEHYDE SOLUTIONS AND A PROCESS FOR PREPARING THEM

Ibrahim Dakil, Busto Arsizio, Nazareno Lupi, Castellanza, and Marcello Morini, Legnano, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy

No Drawing. Continuation-in-part of application Ser. No. 231,034, Oct. 16, 1962. This application Oct. 27, 1964, Ser. No. 406,897

U.S. Cl. 260—606 6 Claims
Int. Cl. C07c 47/02

1. An aqueous formaldehyde solution which is free of precipitate at lower temperatures for longer storage



where R is chosen from the group consisting of hydrogen, alkyl, aryl, hydrogenated aryl, cyclo alkyl, aralkyl, alkyl-aryl, or methyl anilino, and benzoguanamine; R₁ and R₂ are chosen from the group consisting of hydrogen, hydroxyalkyl, alkyl, aryl, aralkyl, alkylaryl, and hydrogenated aryl; and R₃ is chosen from the group consisting of hydroxyl and NR₁R₂ groups in which R₁ and R₂ have the aforesaid meaning; and the formate and sulfate acid addition salts thereof.

3,423,468

PROCESS FOR THE PRODUCTION OF TERTIARY PHOSPHINES

Hermann Zorn, 4 Ploessgasse, Vienna IV, Austria, Helmut Schlödlbauer, Vienna, Austria, and Helmut Hagen, Ludwigshafen (Rhine), Germany; said Schlödlbauer and said Hagen, assignors to said Zorn

No Drawing. Filed Feb. 16, 1965, Ser. No. 433,187
Claims priority, application Austria, Feb. 21, 1964, A 1,518/64

U.S. Cl. 260—606.5 6 Claims
Int. Cl. C07f 9/50

This application discloses a process for the preparation of tertiary phosphines by the reaction of a secondary alkali metal phosphide with an alkali metal salt of an aromatic sulfonic acid. The reaction is carried out preferably in the presence of polar organic solvents in the absence of oxygen.

3,423,469

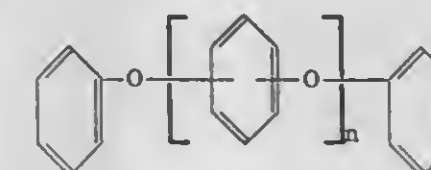
POLYPHENYL ETHER COMPOSITIONS

Roger E. Hatton, Kirkwood, Mo., and Louis R. Stark, East St. Louis, Ill., assignors to Monsanto Company, a corporation of Delaware

No Drawing. Filed Apr. 30, 1962, Ser. No. 191,337
U.S. Cl. 260—611.5 13 Claims

Int. Cl. C07c 41/12, 43/22

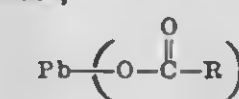
1. A composition comprising (a) a polyphenyl ether represented by the structural formula,



wherein n is a whole number from 2 to 5, and (b) a stabilizing amount of an organolead compound selected from the group consisting of

(1) phenyllead compounds represented by the structural formula, $(\text{Ph})_m\text{—Pb—(X)}_{4-m}$, where Ph is phenyl, X is halogen, and m is a whole number from 1 to 4, and

(2) lead acid derivatives represented by the structural formula,



where R is alkyl or phenyl, and y is selected from 2 and 4.

3,423,470

PESTICIDAL PREPARATIONS AND COMPOUNDS

Otto Rohr, Therwil, and Adolf Hubele, Riehen, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss company

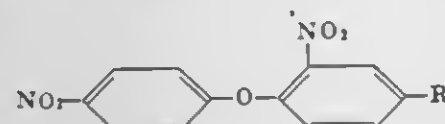
No Drawing. Filed Dec. 5, 1966, Ser. No. 598,887

Claims priority, application Switzerland, Dec. 9, 1965, 16,986/65

U.S. Cl. 260—612

Int. Cl. C07c 43/20; A01n 9/20

Compounds are provided which are represented by the formula



where R represents hydrogen, halogen, lower alkyl, —NO₂, —CN, —SO₂CH₃ or —COCH₃. The compounds of this invention are especially useful as herbicides.

3,423,471

RECOVERY OF BORON COMPOUNDS FROM OXIDATION MIXTURES

Richard L. Golden, Teaneck, N.J., and Gerald Mazzella, Brooklyn, N.Y., assignors to Halcon International, Inc., a corporation of Delaware

No Drawing. Filed Jan. 29, 1965, Ser. No. 429,165

U.S. Cl. 260—617

Int. Cl. C07c 27/16, 29/24

1. In a process for the oxidation of hydrocarbons containing 8 to 30 carbon atoms in the presence of a boron compound wherein the reaction mass contains boron esters of alcohols corresponding to said hydrocarbons, wherein said reaction mass is hydrolyzed to form an organic phase containing alcohols corresponding to said hydrocarbons and an aqueous phase containing boric acid and wherein said boric acid is recovered by crystallization from the aqueous phase, the improvement of: removing sufficient dissolved and entrained organic material from said aqueous phase prior to crystallization of boric acid, to ensure that the mother liquid, from which boric acid crystals form, contains less than about 0.01% by weight entrained organic material, said removal of said organic material being accomplished by steam stripping said aqueous phase at a pressure of 10 mm. Hg to 100 p.s.i.g. and at a temperature of 10 to 160° C. with 0.01 to 10 pounds of steam per pound of said aqueous phase.

3,423,472

PROCESS FOR THE SELECTIVE HYDROGENATION OF PHENYLPHENOLS

Paul N. Rylander and Duane R. Steele, Newark, N.J., assignors to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware

No Drawing. Filed Oct. 28, 1964, Ser. No. 407,253

U.S. Cl. 260—619

Int. Cl. C07c 35/10

1. A process for the selective hydrogenation of a phenylphenol to produce a cyclohexyl phenol which comprises reacting a phenylphenol dissolved in an alkanolic acid having from 2–10 carbon atoms in the molecule in the liquid phase with molecular hydrogen in the presence of a palladium catalyst at a temperature between about 50° C. and 200° C. and a pressure between about 300 and 5,000 p.s.i.g. until sufficient hydrogen is reacted to saturate one aromatic ring of the phenylphenol and separating cyclohexyl phenol as the sole substantial product of the reaction.

3,423,473

METHOD FOR THE PREPARATION OF WAX PHENOLS

John M. Walts, Clark, and Leslie M. Schenck, Mountainside, N.J., assignors to GAF Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 28, 1966, Ser. No. 561,025

U.S. Cl. 260—619

Int. Cl. C07c 37/00

Wax phenols are obtained by heating a mixture which consists essentially of from 0.01 to about 12 parts by weight of a raw clay of the silica-alumina type and from 1 to 2 moles of a phenolic compound such as phenol, m-, o-, and p-cresol to a temperature of from about 125° to about 190° C. To the heated mixture is then added a chlorinated aliphatic hydrocarbon containing from about 12 to about 40 carbon atoms and from about 15 to 54% by weight of chlorine at a rate which precludes a large concentration of unreacted chlorinated aliphatic hydrocarbon while maintaining the said temperature range until the evolution of hydrogen chloride is substantially negligible. Thereafter the reaction mixture is cooled to a temperature of about 60°–125° C., while removing the said raw clay by filtration and recovering the wax phenol.

3,423,474

SELECTIVE ALKYLATION OF PHENOL

Robert Griffin Anderson, Terra Linda, and Samuel H. Sharman, Kensington, Calif., assignors to Chevron Research Company, a corporation of Delaware

No Drawing. Filed May 28, 1965, Ser. No. 459,937

U.S. Cl. 260—624

Int. Cl. C07c 39/06

Selective alkylation of phenol with a 1-alkene under non-catalytic conditions, elevated temperatures and short reaction times thereby producing alkylphenols in which the benzene ring is attached to the 1- or 2-position of the alkyl chain.

3,423,475

METHOD FOR PREPARING 2,6-DICHLORO-4-NITROTOLUENE

Leonard M. Weinstock, Rocky Hill, and Roger J. Tull, Metuchen, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed June 26, 1967, Ser. No. 649,042

U.S. Cl. 260—646

Int. Cl. C07c 79/12

Method for preparing 2,6-dichloro-4-nitrotoluene, an intermediate useful in preparing 2,6-dichloro-4-nitrobenzamide, a compound having anticoccidial activity. p-Nitrotoluene is chlorinated to form a mixture containing 2,6-dichloro-4-nitrotoluene plus various polychlorinated-4-nitrotoluenes. The polychlorinated compounds are subsequently treated with a reducing agent to selectively remove the chlorine attached in the position ortho to the nitro group.

3,423,476

STABILIZED HALOCARBON COMPOSITIONS

Germano Patron, Venice, Italy, assignor to Montecatini Edison S.p.A., Milan, Italy

No Drawing. Filed July 11, 1966, Ser. No. 563,996

Claims priority, application Italy, July 14, 1965, 15,909/65

U.S. Cl. 260—652.5

Int. Cl. C07c 17/40

A stable composition of matter comprising a liquid aliphatic halogenated hydrocarbon and a stabilizing amount of a mixture comprised of: (1) at least one oxime of a lower alkanal; (2) at least one lower alkylene oxide;

and (3) at least one N,N-di-lower alkyl hydrazone of benzaldehyde.

3,423,477

PURIFICATION OF PERCHLOROETHYLENE BY PROLONGED CONTACT WITH AMMONIA

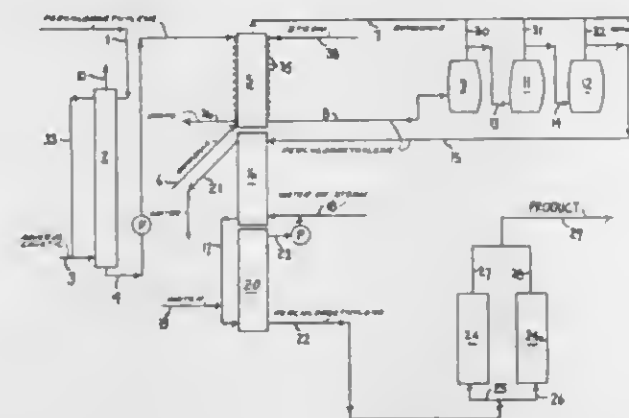
William E. Wimer, New Martinsville, and Bobby O. Bowers, and Gerald R. Neikirk, Paden City, W. Va., assignors to PPG Industries, Inc., Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 22, 1965, Ser. No. 515,579

U.S. Cl. 260—654

Int. Cl. C07c 17/38

11 Claims



Perchloroethylene which is acidic in nature is contacted with anhydrous ammonia and stored under an ammonia atmosphere at least eight hours. The ammonia treated perchloroethylene may then be water washed and dried. Prewashing with an aqueous caustic solution before ammonia treatment is disclosed.

3,423,478

PROCESS FOR THE SEPARATION OF AN AROMATIC C₈-HYDROCARBON FRACTION

Hermann Zorn, 14 Ploessgasse, Vienna 4, Austria, and Kurt Reisinger, Heidelberg-Dossenheim, Germany; said Reisinger assignor to said Zorn

No Drawing. Filed Nov. 22, 1965, Ser. No. 509,205
Claims priority, application Austria, Nov. 23, 1964, A 9,901/64, A 9,902/64

U.S. Cl. 260—674

Int. Cl. B01d 3/34; C07c 7/04, 15/08

10 Claims

A process for the separation of an aromatic C₈-hydrocarbon fraction, which contains m-xylene and p-xylene and ethyl benzene, wherein the fraction is treated in substantially anhydrous formic acid with a chlorinating agent and that portion of said fraction which had not reacted with said chlorinating agent is separated by distillation from the resulting chlorination product of m-xylene. In order to obtain m-xylene in a pure condition, the chlorination product is dehalogenated and, if desired, isomerized and the fraction free of m-xylene, containing p-xylene and ethyl benzene, is then separated by converting ethyl benzene into styrene.

3,423,479

MIXTURES OF ORGANOPOLYSILOXANES AND POLYARYLENE POLYETHERS

Edward G. Hendricks, Belle Mead, N.J., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed June 14, 1965, Ser. No. 463,896

U.S. Cl. 260—824

Int. Cl. C08g 43/02

11 Claims

Mixtures of organopolysiloxanes and thermoplastic linear polyarylene polyethers of the —O—E—O—E'— type wherein E is the residuum of a dihydric phenol and E' is the residuum of a benzenoid compound having an

inert electron withdrawing group having a sigma* value above about +0.7 in at least one of the positions ortho and para to the valence bonds, and where both of said residua are valently bonded to the ether oxygens through aromatic carbon atoms characterized by improved impact strength and resistance to thermal stress embrittlement.

3,423,480

SULFHYDRYL RESINS

Heinz B. Arnold, Minneapolis, and Don E. Floyd, Robbinsdale, Minn., assignors to General Mills, Inc., a corporation of Delaware

No Drawing. Continuation-in-part of applications Ser. No. 397,288 and Ser. No. 397,312, Sept. 17, 1964. This application July 19, 1967, Ser. No. 654,356

U.S. Cl. 260—18

Int. Cl. C08g 30/10, 45/06

11 Claims

There is disclosed sulfhydryl resins prepared from polymeric fat acids, their method of preparation and the use thereof in curing epoxy resins. The resins are prepared by reacting a hydrosulfide with halohydrin ethers of the alcohol or the halohydrin esters of the dimeric acid or by reacting hydrogen sulfide with the epoxyalkyl ether of the alcohol or the epoxyalkyl ester of the acid. The products are useful for curing epoxy resins for use in adhesives, coatings and sealants.

3,423,481

DIFFICULTLY DYEABLE POLYMERS CONTAINING COPOLYMERS OF ETHYLENICALLY UNSATURATED MONOMERS CONTAINING GLYCIDYL GROUPS

Yukio Mizutani, Tokuyama-shi, Japan, assignor to Tokuyama Soda Kabushiki Kaisha, Tokuyama-shi, Yamaguchi-ken, Japan, a corporation of Japan

No Drawing. Filed Feb. 7, 1966, Ser. No. 525,296

Claims priority, application Japan, Feb. 9, 1965, 40/6,791; May 15, 1965, 40/28,204

U.S. Cl. 260—836

Int. Cl. C08g 39/10; C08f 29/56, 29/10

10 Claims

A polymeric composition of improved dyeability comprising a difficultly dyeable polymer containing uniformly dispersed therein spheroidal particles of a diameter below one micron of a cross-linked copolymer of (1) an ethylenically unsaturated monomer containing a glycidyl group and (2) a diethylenically unsaturated vinyl monomer having no other functional group, e.g., divinyl benzene.

3,423,482

SYNTHETIC FIBERS CONTAINING ORGANOTIN ITACONATE POLYMERS

Tatsuo Katsumura and Hirohisa Kataoka, Suita-shi, Osaka-fu, Yutaka Mizuno and Tsutomu Tsutsui, Osaka-shi, and Tadashi Nishihara, Sakai-shi, Japan, assignors to Nitto Kasei Co., Ltd., Osaka, Japan, a corporation of Japan

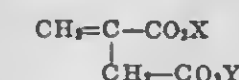
No Drawing. Filed Mar. 29, 1966, Ser. No. 538,231

U.S. Cl. 260—857

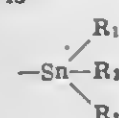
Int. Cl. C08f 45/64; C08g 51/64, 53/00

22 Claims

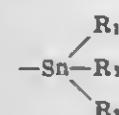
A process for manufacturing synthetic fibers of polyamides, polyesters, polyolefins or acrylic polymers having durable resistance and biological activity against microorganisms which comprises adding to a fiber-forming composition about 0.005% to 5% by weight of an organotin polymer selected from the group consisting of a homopolymer of an unsaturated organotin compound having the general formula as shown below, an interpolymer of said unsaturated organotin compounds, a copolymer of said unsaturated organotin compound with other unsaturated polymerizable compound, and mixtures thereof, wherein said unsaturated organotin compound has the general formula



wherein one of X and Y is



wherein R_1 , R_2 and R_3 are selected from the group consisting of lower alkyl and phenyl, which may be the same or different, and the other of X and Y is selected from the group consisting of



wherein R_1 , R_2 , and R_3 are as defined above; $-HgR_4$ wherein R_4 is selected from the group consisting of lower alkyl and phenyl; hydrogen; alkyl of 1-12 carbon atoms; phenyl and benzyl; and spinning said fiber-forming composition into fiber having said organotin compound homogeneously dispersed therein.

3,423,483

FLUORESCENT POLYMERS

Tom Anyos, Parkersburg, W. Va., and Wendell W. Moyer, Jr., Wheaton, Ill., assignors to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
No Drawing. Filed May 28, 1965, Ser. No. 459,886
U.S. Cl. 260-860 5 Claims
Int. Cl. C08g 51/67, 33/02, 39/10

Polymeric compositions that are permanently fluorescent due to the incorporation of from about .5 percent to about 1 percent of polybenzoxazole units in the polymeric chain.

3,423,484

ULTRAVIOLET STABILIZERS FOR POLYMERS

John P. Allison, Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
No Drawing. Filed May 9, 1966, Ser. No. 548,415
U.S. Cl. 260-901 9 Claims
Int. Cl. C08f 45/58, 29/50

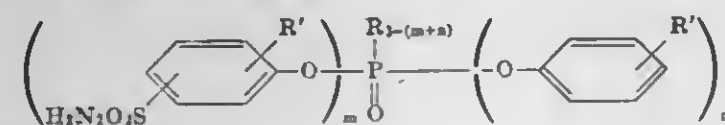
A polymeric ultraviolet stabilizer for vinyl polymers such as polymethylmethacrylate is disclosed. The polymeric stabilizer is the reaction product of a quinone having at least one unsubstituted carbon atom in the position adjacent to or one carbon atom removed from the carbonyl group in the basic quinone ring structure such as p-benzoquinone, and an aldehyde copolymer such as a methacrylaldehyde-methylmethacrylate copolymer.

3,423,485

PHOSPHORUS-CONTAINING SULFONYL-HYDRAZIDES

John E. Herweh and Algirdas C. Poshkus, Lancaster, Pa., assignors to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
No Drawing. Filed Apr. 6, 1966, Ser. No. 540,486
U.S. Cl. 260-923 3 Claims
Int. Cl. C07c 9/40

1. A compound of the formula:



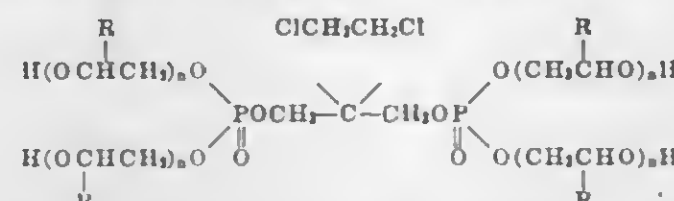
wherein

R is lower alkyl,
 R' is a member selected from the group consisting of chlorine, NO_2 , lower alkyl, and H,
 m is an integer from 1 to 3,
 n is an integer from 0 to 2, and
 $m+n$ is an integer from 1 to 3.

3,423,486
OXYALKYLATED 2,2-BIS(CHLOROMETHYL)-1,3-PROPANEDIOL-BIS-PHOSPHATE

Rudi F. W. Rätz, Hamden, and Arthur D. Bliss, Guilford, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia
No Drawing. Filed May 3, 1966, Ser. No. 547,164
U.S. Cl. 260-928 2 Claims
Int. Cl. C07f 9/08; C08g 22/44

1. Compounds having the following formula:



where R is hydrogen, methyl, ethyl, chloromethyl, phenyl, 1,1,1-trichloroethyl, or hydroxymethyl and n is an integer from 1 to 4 inclusive.

3,423,487

THIOPHOSPHORIC ACID ESTERS

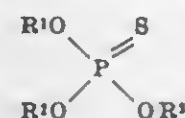
Guenther Scheuerer, Adolf Zeldler, and Heiner Dickhaeuser, Ludwigshafen (Rhine), and Heinrich Adolph, Limburgerhof, Pfalz, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Rheinland, Pfalz, Germany
No Drawing. Filed Mar. 29, 1966, Ser. No. 538,215
Claims priority, application Germany, Apr. 9, 1965, B 81,369

U.S. Cl. 260-946

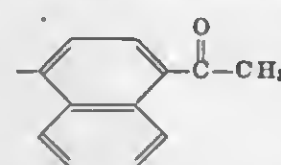
Int. Cl. C07f 9/18; A01n 9/36

10 Claims

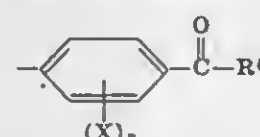
1. A compound having the formula



in which R^1 denotes an alkyl radical having one to three carbon atoms, R^2 denotes an alkyl radical having one to three carbon atoms and R^3 denotes a member selected from the group consisting of the radical



and the radical having the formula



in which R^1 denotes a member selected from the group consisting of methyl and ethyl, X denotes a member selected from the group consisting of methyl chlorine and bromine, and n denotes a member selected from the group consisting of zero, 1 and 2.

3,423,488

PROCESS FOR CASTING RESINOUS LENSES IN THERMOPLASTIC CAST REPLICA MOLDS

George H. Bowser, New Kensington, Pa., assignor to PPG Industries, Inc., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 415,055, Dec. 1, 1964. This application May 11, 1966, Ser. No. 549,278
U.S. Cl. 264-1 5 Claims
Int. Cl. B29d 11/00

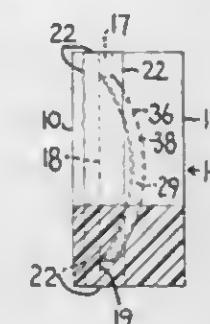
This invention relates to a method of producing thermosetting resinous articles in a thermoplastic resinous replica

mold in the substantial absence of oxygen. The invention particularly relates to a method of producing thermosetting resinous articles which comprises producing a thermoplastic resinous replica mold from a master pattern from the article, introducing a thermosetting resinous material such as an unsaturated alcohol ester of a polybasic acid into the replica mold, heating the filled mold to cure the thermosetting material, and removing the cured

cavity to define separate sections. Foamable rubber latex of different densities is introduced into the sections defined



by the barrier strip, and after the latices begin to foam, the barrier strip is removed.



article from the mold wherein the heating and curing of the thermosetting material is conducted in a substantial absence of oxygen, for example, by the presence of a gaseous atmosphere containing substantially no oxygen or by sealing the periphery of the thermoplastic mold so that it is substantially impermeable to the gases surrounding the mold. The invention is particularly applicable to the production of thermosetting resinous lenses for optical purposes.

3,423,489

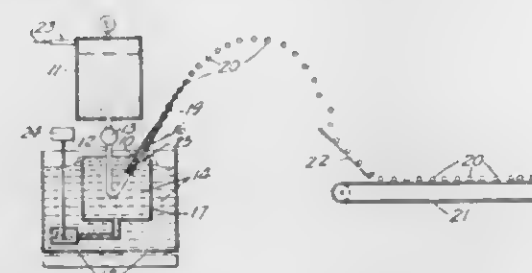
ENCAPSULATION PROCESS

Robert P. Arens, North St. Paul, and Norman P. Sweeney, North Oaks, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Nov. 1, 1966, Ser. No. 591,326

U.S. Cl. 264-4

Int. Cl. B29c 13/00

15 Claims



1. A process for forming capsules which comprises providing a biliquid column comprising an outer tube of capsule shell forming material and a core of fill material to be encapsulated, said column being directed in a trajectory having a horizontal component for a time sufficient for the column to constrict along its length into spheroids of shell forming material each enclosing a core of fill material, and hardening said shell-forming material into solid shells encapsulating said fill material therewithin.

3,423,490

METHOD OF MANUFACTURING UNITARY FOAM RUBBER ARTICLES

Thomas Trogon, Waynesville, and Russell E. Fultz, Lake Junaluska, N.C., assignors to Dayco Corporation, a corporation of Delaware

Original application Mar. 2, 1964, Ser. No. 348,413, now Patent No. 3,287,748, dated Nov. 29, 1966. Divided and this application Apr. 20, 1966, Ser. No. 559,359

U.S. Cl. 264-46

Int. Cl. B29d 27/04; B29h 7/20; B29c 9/00

4 Claims

The method of manufacturing molded unitary foam rubber articles by placing barrier strips within the mold

3,423,491
PERMSELECTIVE HOLLOW FIBERS AND METHOD OF MAKING

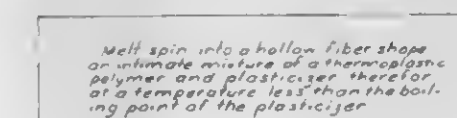
Earl A. McLain and Henry I. Mahon, Walnut Creek, Calif., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Sept. 2, 1964, Ser. No. 393,903

U.S. Cl. 264-49

Int. Cl. B29d 23/06; D01f 7/00

18 Claims



Cool to a shaped hollow fiber element.

Fabricate into hollow fiber separatory cell.

Leach with the solvent that is a solvent for the plasticizer and a non-solvent for the polymer.

This application is concerned with making hollow fiber permeability membranes by the method of extruding into the shape of a hollow fiber, a molten intimate mixture of a thermoplastic polymer and a plasticizer for that polymer wherein the plasticizer has a boiling point above the extrusion temperature and is further characterized in being soluble in a non-solvent for the polymer.

3,423,492

METHOD AND MACHINE FOR THE MANUFACTURE OF LENGTHENED OBJECTS OF CONCRETE

Per Olof Jonell, Engelbrektsgatan 24, Goteborg, Sweden, and Sven Melker Nilsson, Radhusvagen 6, Kallered, Sweden

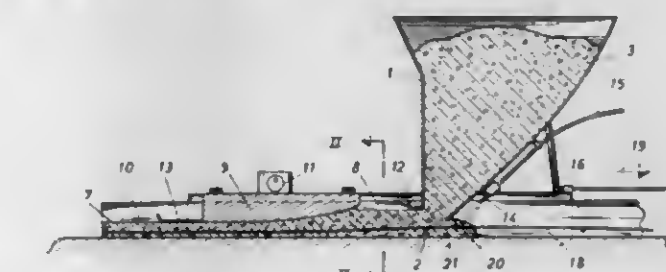
Filed Jan. 28, 1966, Ser. No. 523,602

Claims priority, application Sweden, Feb. 5, 1965, 1,467/65

U.S. Cl. 264-70

Int. Cl. B28b 1/08, 1/14

5 Claims



A method and apparatus for the manufacture of concrete objects by means of a sliding mould, a concrete mixture is fed from a container down on a bed by moving the container over the bed and forming the concrete mixture on the bed into a layer having longitudinal borders

parallel to each other. The concrete mixture in the container has a water-cement number less than about 0.32. Water is added to the concrete layer on the bed at the front end of the layer and the layer is compacted by vibrating the layer after a stripping of its upper surface by means of a slide having a vibrator. The vibration is carried out so that the water-cement number in the concrete during the vibration is partly equalized but after the completed vibrating operation is somewhat lower in the upper portion of the layer than in the lower portion of the same.

3,423,493

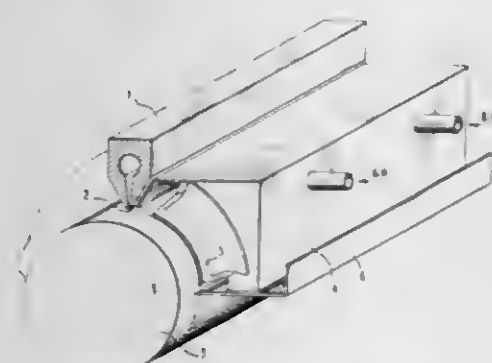
PROCESS AND APPARATUS FOR THE MANUFACTURE OF THERMOPLASTIC FILMS

Ludwig Klenk and Walter Seifried, Wiesbaden-Biebrich, Germany, assignors to Kalle Aktiengesellschaft, Wiesbaden-Biebrich, Germany, a corporation of Germany
Filed May 28, 1965, Ser. No. 459,745

Claims priority, application Germany, June 2, 1964, K 53,106

U.S. Cl. 264—93
Int. Cl. B29d 7/02

7 Claims



This invention relates to a process and apparatus for the production of a thermoplastic film which process comprises extruding a thermoplastic melt through a slot die radially onto the surface of a rotating roll, the distance between the dye and roll surface being not in excess of about 3 mm., and drawing-off the film on the surface of the latter, the radial direction of the melt being maintained by gas pressure exerted against the melt on the side of the film facing away from the surface of the roll.

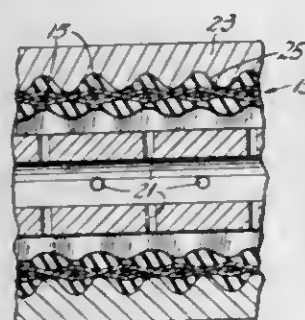
3,423,494

METHOD OF MAKING A REINFORCED HOSE

Robert E. Roberts, Wilton, Conn., assignor to Fred T. Roberts & Company, Wilton, Conn., a partnership
Original application Dec. 7, 1964, Ser. No. 416,556, now Patent No. 3,349,806, dated Oct. 31, 1967. Divided and this application Jan. 31, 1967, Ser. No. 612,917

U.S. Cl. 264—94
Int. Cl. B29d 23/18, 23/03

7 Claims



The method of making a flexible hose of elastomeric material in which resilient reinforcing turns of wire are tied together at spaced points around each turn by longitudinally extending flexible strands of textile material to form a readily handled reinforcing cage capable of resisting radial or longitudinal contraction or extension of a

hose. The cage is assembled with a tube of elastomeric material. The assembly is then molded into a hose by being subjected to heat and pressure to cause the elastomeric material to flow and embed the cage within the hose, the longitudinal strands of the cage holding the spaced turns in position during the molding, particularly where a corrugated hose is being formed.

3,423,495

BLOW MOLDING METHOD AND APPARATUS

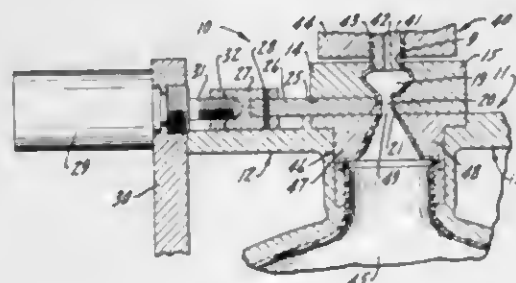
George L. Bachner, Chicago, Ill., assignor to Carroll Street Corporation, Chicago, Ill., a corporation of Delaware

Filed Apr. 30, 1965, Ser. No. 452,257

U.S. Cl. 264—96

Int. Cl. B29d 23/03; B65b 55/04

5 Claims



1. A method of making containers having a sterile inner surface and containing a sterile fluid, said method including the steps of:

forming a parison having a closed hermetically sealed end and an open end, said open end being in continuous exclusive communication with a sterile fluid supply, inserting said parison within a mold cavity, injecting a pressurized, sterile fluid into said parison thereby expanding said parison in said cavity to the shape of the desired container, and hermetically sealing the open end of said container.

3,423,496

PROCESS FOR PREPARING RESILIENT GRAPHITE STRUCTURES

Franciszek Olstowski, Freeport, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Apr. 4, 1966, Ser. No. 539,747

U.S. Cl. 264—118

Int. Cl. D04b 13/00

7 Claims

A process for preparing resilient graphite structures by admixing vermicular graphite with an organic liquid treating agent having a boiling point at atmospheric pressure of greater than about 100° C. and compressing the thus treated vermicular graphite under a pressure of at least about 25 p.s.i.

3,423,497

APPARATUS AND PROCESSES FOR THE PREPARATION OF AN ENDLESS THREAD CABLE FOR PRECISION CUTTING

Walter Arnold, Heinsberg, and Karl Ostertag, Oberbruch, Rhineland, Germany, assignors to Vereinigte Glanzstoff-Fabriken AG., Wuppertal-Elberfeld, Germany

Filed Feb. 26, 1964, Ser. No. 347,519

Claims priority, application Germany, Mar. 1, 1963, V 23,724

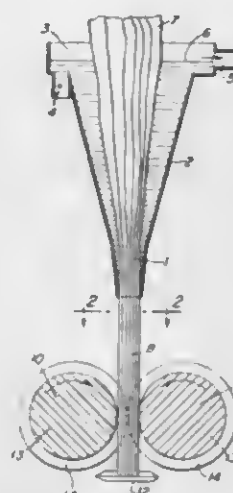
U.S. Cl. 264—140
Int. Cl. D06h 7/00

5 Claims

1. A process for producing staple fibers which comprises thoroughly wetting the filaments of a loose filament bundle of regenerated cellulose filaments with water, squeezing the excess water from said bundle and form-

ing a relatively stiff rod of said wetted filaments, conveying said stiff rod of filaments to a filament cutting device,

a plastic bladder of polyvinyl chloride, heating the article containing the cavity to be inspected to above the memory temperature of the bladder, pressurizing the bladder into firm contact with the walls of the cavity, cooling the body



and cutting the filaments of said stiff rod into staple fibers of substantially uniform lengths.

3,423,498

METHOD OF PRODUCING COLORED PLASTIC FILM OR SHEET

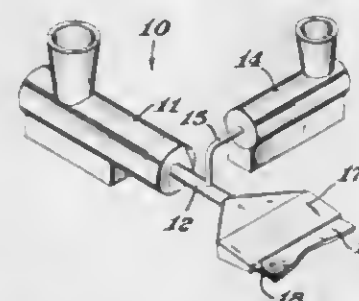
Lloyd Edward Lefevre, Bay City, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Sept. 20, 1965, Ser. No. 488,574

U.S. Cl. 264—171

Int. Cl. B29f 3/12

5 Claims



Colored film and sheeting are prepared by simultaneous extrusion of a transparent outer layer and a colored inner layer. Color changes are more readily accomplished than if the entire plastic material is colored.

3,423,499

PROCESS FOR SPINNING MODIFIED XANTHATED POLYMERS

Leland B. Ticknor, Media, Pa., assignor to FMC Corporation, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Feb. 18, 1965, Ser. No. 433,809

U.S. Cl. 264—188

Int. Cl. D01f 3/12

2 Claims

A method of preparing regenerated cellulose yarns which have a high degree of crimp when immersed in a plasticizing medium, wherein the viscose used for obtaining said yarn is modified by the introduction of an alkali metal stannate, is disclosed herein.

3,423,500

METHOD FOR INSPECTING INACCESSIBLE SURFACES

Thomas G. Gregory, Los Alamos, N. Mex., assignor to the United States of America as represented by the United States Atomic Energy Commission

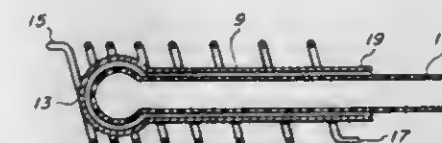
Filed Jan. 28, 1966, Ser. No. 523,803

U.S. Cl. 264—220

Int. Cl. G01b 13/22; B29d 23/03

4 Claims

The method for inspecting the surface characteristics of an otherwise inaccessible cavity comprising inserting



containing the cavity to be inspected to below the memory temperature of the bladder, evacuating the bladder, extracting the bladder and inspecting the surface of the bladder.

3,423,501

PROCESS FOR REMOVING CRIMP FROM POLYESTER FILAMENTARY TOW

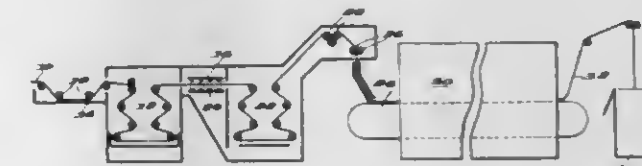
Fred Stanley Dennis, Kinston, and William B. Skelton, Jr., Grifton, N.C., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Dec. 23, 1964, Ser. No. 420,635

U.S. Cl. 264—238

Int. Cl. B29b 3/00; B29c 17/02, 25/00

2 Claims



A process for decrimping crimped polyester tow by:
(1) Heating the tow to from about 65° to 80° C.,
(2) Drawing the tow to at least 150% of its uncrimped length in an inert bath maintained at from 76° to 100° C., and
(3) Drying the tow to less than about 1% moisture.

3,423,502

PRESSES

Gordon Edward Tribe Stimpson, Ickenham, England, assignor to Churchill Instrument Company Limited, Greenford, Middlesex, England, a British company
Filed May 31, 1966, Ser. No. 554,109

Claims priority, application Great Britain, June 4, 1965, 23,893/65

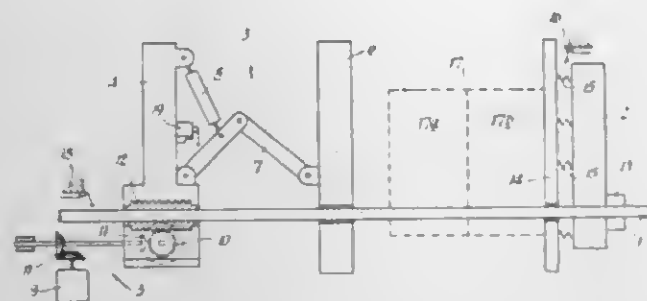
U.S. Cl. 264—328

Int. Cl. B30b 1/16, 1/18

4 Claims

In a clamping press having a pair of end platens which are spaced on a frame with a movable platen interposed between them and a mechanical extensible thrust element which interconnects a first end platen and the movable platen so that extension or retraction of the element causes the movable platen to move towards or away from the second end platen and in which the first end platen and movable platen are capable of unified movement relatively towards and away from the second end platen, a method of automatically setting the press by providing sensing means which is responsive to a tool being lightly held between the movable and second end platen so that operation of the sensing means results in either, when the extensible element is in a retracted state, the first end platen being clamped to the frame and the extensible element being extended to clamp the tool, or when the extensible element is in an extended state, the element re-

tracting, the first end platen and movable platen moving together towards the second end platen through a pre-motion (vaccine) substantially free from contaminants (either viral or bacterial).



determined distance, the first end platen being clamped to the frame and the element extending to clamp the tool.

3,423,503

MOLD RELEASE AGENT CONTAINING A POLYOLEFIN AND THE REACTION PRODUCT OF DICYCLOPENTADIENE AND A PHENOL

Monte H. York, Akron, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Sept. 11, 1964, Ser. No. 395,917
U.S. Cl. 264-338 2 Claims
Int. Cl. B28h 7/38, 7/36

An improved method for molding polyurethane wherein the mold release agent is a polyolefin having from 2 to about 4 carbon atoms in a melting point of about 100 to 250° F. within a suitable carrier and the polyolefin contains about .3 to about 5 parts of an antioxidant formed by reacting a phenol with a dicyclopentadiene.

3,423,504

N-BENZYL HIGHER FATTY ALKYL DILOWER-ALKYL QUATERNARY AMMONIUM HALIDE HAIR RINSE

Einar P. Birkelo, Minneapolis, and Timothy N. Johnson, St. Paul, Minn., assignors to Rayette-Faberge, Inc., a corporation of Minnesota

Original application Nov. 21, 1963, Ser. No. 325,327, now Patent No. 3,311,659, dated Mar. 28, 1967. Divided and this application May 27, 1966, Ser. No. 569,777

U.S. Cl. 424-70 4 Claims
Int. Cl. A61k 7/06, 7/08; C07c 87/30

1. A quaternary ammonium compound mixture comprising an aqueous solution of higher fatty alkyl dilower alkyl benzyl ammonium halide and from 1 to 20% by weight of said quaternary compound of a higher fatty acid amide, each of said higher fatty components having 10 to 22 carbon atoms.

3,423,505

RABIES VACCINE AND PROCESS FOR PREPARATION THEREOF

John F. Crawley, Weston, Ontario, and Melvin Kenneth Abelseth, Willowdale, Ontario, Canada, assignors to The Governors of the University of Toronto, Toronto, Ontario, Canada, a corporation of Canada

No Drawing. Filed Nov. 12, 1964, Ser. No. 410,732
Claims priority, application Canada, Oct. 31, 1964, 915,362

U.S. Cl. 424-89 12 Claims
Int. Cl. A61k 23/00; C12k 5/00

A process for producing rabies vaccine for immunizing animals and the rabies vaccine per se in which the ERA strain of rabies virus ATCC VR 332 is propagated in live kidney cells obtained from pigs or dogs by tissue culture techniques with a resulting rabies virus-containing solu-

3,423,506

MONO-N-PHENETHYL NEOMYCIN B

Gerard Nomine, Nolsy-le-Sec, Lucien Penasse, Paris, and Pierre Barthelemy, Clichy-Sous-Bois, France, assignors to Roussel-UCLAF, Paris, France, a corporation of France

No Drawing. Filed Mar. 19, 1964, Ser. No. 353,284
Claims priority, application France, Mar. 25, 1963, 929,099; June 25, 1963, 939,290

U.S. Cl. 424-181 7 Claims
Int. Cl. A61k 21/00

Novel mono-N-phenethyl-neomycin B and its non-toxic, pharmacologically acceptable acid addition salts, and to a process for its preparation which has anti-microbe activity.

3,423,507

METHOD OF TREATING BENIGN PROSTATIC HYPERTROPHY

Rudolph Neri, Hawthorne, N.J., assignor to Schering Corporation, Bloomfield, N.J., a corporation of New Jersey

No Drawing. Filed Feb. 25, 1966, Ser. No. 529,976
U.S. Cl. 424-243 5 Claims
Int. Cl. A61k 17/06

Pharmaceutical compositions comprising as the essential active ingredient 1 α ,2 α -methylene-6-chloro-17 α -lower alkanoyloxy-6-dehydroprogesterone are useful in the treatment of benign prostatic hypertrophy. Preferred are compositions comprising 1 α ,2 α -methylene-6-chloro-17 α -acetoxy-6-dehydroprogesterone.

3,423,508

METHOD OF COMBATTING HERPES VIRUS WITH 5-NITROURACIL

Yelahanka Krishnamurthy Srinivas Murthy, Milan, Italy, and Emilio Testa, Tessin, Switzerland, assignors to Lepetit S.p.A., Milan, Italy

No Drawing. Filed July 20, 1964, Ser. No. 383,969
Claims priority, application Great Britain, Aug. 15, 1963, 32,326/63

U.S. Cl. 424-251 1 Claim
Int. Cl. A61k 27/00

5-nitrouracil has been found effective in combatting viral diseases, such as herpes zoster, when employed topically, orally and parenterally.

3,423,509

MALARIA THERAPY WITH 2,4,7-TRIAMINOPTERIDINE

Thomas S. Osdone, Richmond, Va., Leo Rane, Miami, Fla., and Peter B. Russell, Villanova, Pa.; said Leo Rane assignor to the United States of America as represented by the Secretary of the Army, and said Thomas S. Osdone and said Peter B. Russell assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 467,134, June 25, 1965. This application Apr. 7, 1967, Ser. No. 629,077

U.S. Cl. 424-251 2 Claims
Int. Cl. A61k 27/00

2,4,7-triaminopteridines having an ortho-substituted phenyl group at the 6-position are used in a process for treating malaria.

3,423,510

3-(p-HALOPHENYL) - 3 - (2'-PYRIDYL)-N-METHYL-PROPYLAMINE FOR THE TREATMENT OF DEPRESSION

Ernest B. Sigg, Briarcliff Manor, N.Y., assignor to Gelgy Chemical Corporation, Ardsley, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 31, 1966, Ser. No. 576,235
U.S. Cl. 424-263 5 Claims
Int. Cl. A61k 27/00

An anti-depressant effect is obtained by administration of compositions containing a 3-(p-halophenyl)-3-(2'-pyridyl)-N-methylpropylamine such as 3-(p-chlorophenyl)-3-(2'-pyridyl)-N-methylpropylamine.

3,423,511

METHOD OF TREATING VASCULAR AND MIGRAINE HEADACHES WITH 1,1 - DIPHENYL-4-(1-PIPERIDYL)-BUTANOL-1

Henry Clifford Carlson, Jr., Berwyn, and Louise H. Greenberg, Wayne, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Apr. 13, 1967, Ser. No. 630,543
U.S. Cl. 424-267 4 Claims
Int. Cl. A61k 27/00

Pharmaceutical dosage forms containing 1,1-diphenyl-4-(1-piperidyl)-butanol-1 or an acid addition salt thereof

ELECTRICAL

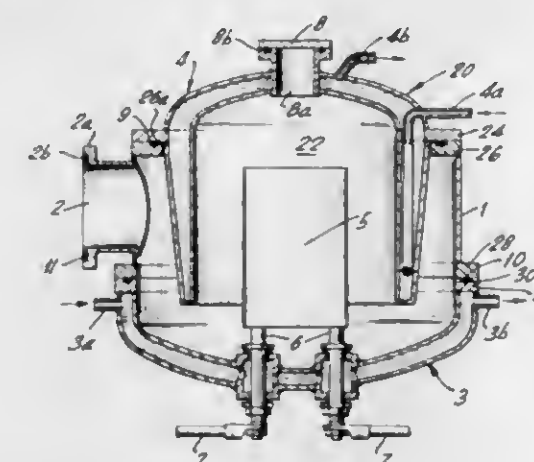
3,423,513

FURNACE HAVING HOUSING WALL SHIELDING FURNACE PACKING

Thaddäus Kraus, Vaduz, and Roman Schertler, Triesen, Liechtenstein, assignors to Balzers Patent- und Lizenz-Anstalt, Balzers, Liechtenstein

Filed Dec. 14, 1966, Ser. No. 601,596
Claims priority, application Switzerland, Dec. 31, 1965, 18,167/65

U.S. Cl. 13-20 6 Claims
Int. Cl. H05h 3/62



A closed evacuable furnace includes a substantially cylindrical furnace housing which is closed at its bottom end and has an opposite end with a flanged opening for receiving a cover member. The cover member is of hood-shaped configuration and includes a flange around the shoulder portion of the hood which engages with the flange of the housing to form a vacuum-tight closure. The cylindrical housing includes a side wall with a fitting for connecting the apparatus to an evacuation pump. The hood construction includes a cylindrical wall portion which extends inwardly into the housing at a spaced location from the interior walls thereof and provides a shield around a furnace heating area defined between the housing bottom and the interior of the substantially cylindrical wall of the cover. A heater is mounted in the housing and extends upwardly into the cover.

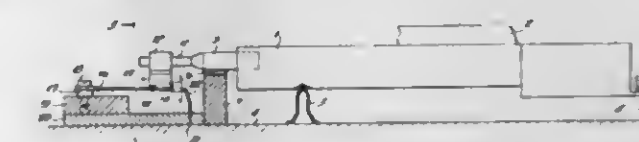
3,423,514

OSCILLATING GENERATOR PARTICULARLY DESIGNED FOR POLYPHONIC MUSICAL INSTRUMENTS

Richard Bierl and Ernst Zacharias, Trossingen, Wurttemberg, Germany, assignors to Matth. Hohner AG., Trossingen, Wurttemberg, Germany, a corporation of Germany

Filed Nov. 27, 1962, Ser. No. 241,107
Claims priority, application Italy, Dec. 1, 1961, 21,734/61, 686,462

U.S. Cl. 84-1.15 30 Claims
Int. Cl. G10h 3/00



25. In combination: a vibratile, musical reed element; an abutment member having a reed element engaging surface; said surface having a coating of adhesive substance; keying means having at least a first condition and a second condition for causing said abutment member to engage said reed element with said surface in said first condition so that said coating releasably secures said reed element to said abutment member and for causing said abutment member to disengage from said reed element in said second condition.

3,423,515

SHIELDED JACKETING FOR CABLE JUNCTIONS

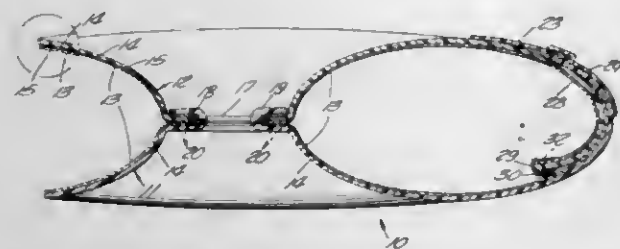
Frank D. Eichberg, Huntington Beach, Calif., assignor to Walter A. Plummer, Sherman Oaks, Calif.

Filed July 19, 1966, Ser. No. 566,314
U.S. Cl. 174-36 8 Claims
Int. Cl. H01b 11/06

A jacket adapted to be assembled about the junction of three or more cables and held closed in assembled condition by independent interlocking seams extending lengthwise of all legs of the jacket. The jacket is formed of laminated flexible sheet material including a main layer of non-conductive material so arranged as to encircle fully all conductors enclosed by the jacket. The jacket com-

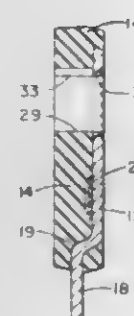
prises two similar plaques of laminated material formed with seam-forming material along their opposite lateral

from the group consisting of silver, gold and copper and a second metal selected from the group consisting of molybdenum and tungsten.



edges and superimposed upon one another and secured together along registering slits opening lengthwise from at least one end of each plaque.

3,423,516
PLASTIC ENCAPSULATED SEMICONDUCTOR ASSEMBLIES
Eugene E. Segerson, Tempe, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Continuation-in-part of application Ser. No. 564,818, July 13, 1966. This application Dec. 26, 1967, Ser. No. 700,312
U.S. Cl. 174-52
Int. Cl. H05k 5/100



A high heat dissipating semiconductor device having a large heat sink metallic portion exposed with plastic encapsulating material thereabout. A semiconductor unit is mounted directly on the heat sink such that high heat dissipation is provided. Electrically insulated apertures formed in the heat sink portion and in the plastic encapsulating material facilitate mounting the device. The heat sink portion is integrally formed with a lead having an offset such that the lead can extend from the assembly midway between the device opposed major surfaces. Other leads extend outwardly of the assembly in parallel relation to the one lead.

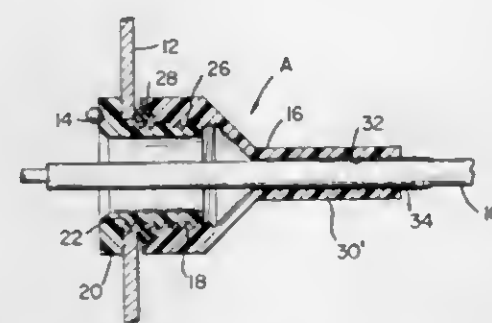
3,423,517
MONOLITHIC CERAMIC ELECTRICAL INTERCONNECTING STRUCTURE
Gustaf Arrhenius, La Jolla, Calif., assignor to Dielectric Systems, Inc., La Jolla, Calif., a corporation of California
Filed July 27, 1966, Ser. No. 568,283
U.S. Cl. 174-68.5
Int. Cl. H05k 1/04



A microelectronic circuit device having circuitry compatibly encapsulated within a sintered monolithic ceramic body, the circuitry including highly conductive electrical interconnection means formed by metallizing the ceramic prior to firing in a reducing atmosphere, the metallizing medium comprising a mixture of a first metal selected

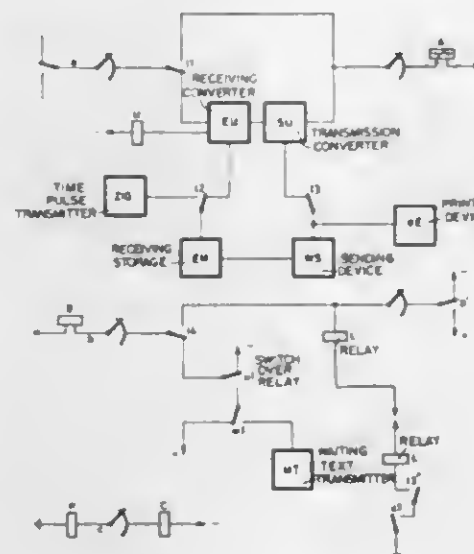
This invention is directed to a switching arrangement for energizing a charge or fee recording device for telegraph connections and includes means for receiving a predetermined coded call number from a calling subscriber to indicate the desire to make a connection with a pre-selected receiving subscriber. The coded call number is placed in a storage device and additionally actuates means for recording the coded call number. The means for recording the coded call number also includes means for

3,423,518
HEAT SHRINKABLE GROMMET
William D. Weagant, Fremont, Calif., assignor to Sigma Industries, Inc., Menlo Park, Calif.
Filed Oct. 11, 1966, Ser. No. 585,785
U.S. Cl. 174-153
Int. Cl. H01b 17/26



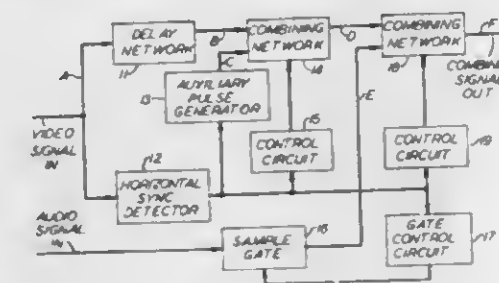
An aperture seal is disclosed of two members connectable together on opposite sides of a closure at an aperture therein with the member on one side provided with a heat shrinkable sleeve with enclosed sealant for shrinking onto and sealing an electrical conductor extending therethrough and through the aperture and with a sealing member positioned between that member and the enclosure for sealing the conductor to the enclosure.

3,423,519
SWITCHING ARRANGEMENT FOR THE ACTUATION OF A TARIFF-CHARGE DEVICE IN TELETYPE CONNECTIONS
Herman Rädler, Munich, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany
Filed Mar. 25, 1964, Ser. No. 354,800
Claims priority, application Germany, Mar. 26, 1963, S 84,358
U.S. Cl. 178-2
Int. Cl. H04l 15/00



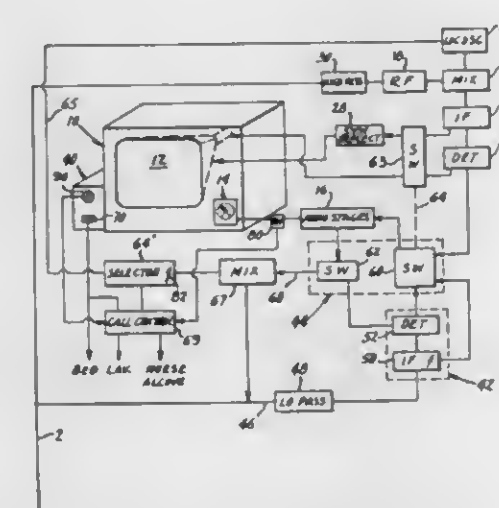
actually making the connection between the calling subscriber and the receiving subscriber after the coded call number has been recorded and in response thereto.

3,423,520
TIME DIVISION MULTIPLEXING OF AUDIO AND VIDEO SIGNALS
Hugh P. Kelly, New Providence, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 2, 1965, Ser. No. 476,313
U.S. Cl. 178-5.6
Int. Cl. H04n 7/04



Improved recovery of sound pulses transmitted on a time-shared basis with a composite video signal is achieved by placing an auxiliary pulse at a specified reference point in the video signal and by inserting the sound pulse in timed relation to the auxiliary pulse. Delay apparatus for placing the auxiliary timing pulse in the composite signal is necessary only at the transmitter. The receiver need only seek out the auxiliary pulse and use it for timing the recovery of the sound pulse.

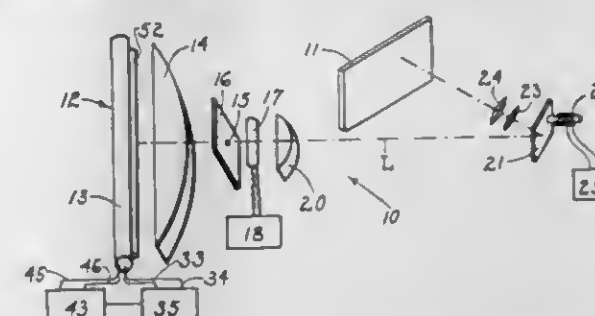
3,423,521
TELEVISION SYSTEM HAVING COMMON TRANSMISSION LINE FOR POWER, VIDEO SIGNALS, AND COMMAND SIGNALS
Gordon A. Friesen, Bethesda, and James F. Culbertson, Kensington, Md., assignors to Gordon A. Friesen Associates, Inc., Washington, D.C., a corporation of the District of Columbia
Filed Jan. 24, 1966, Ser. No. 522,729
U.S. Cl. 178-5.6
Int. Cl. H04n 7/00



1. A communications system comprising in combination:
(A) a supply section including:
(a) connection cable means having a pair of electrically conductive elements;
(b) means for supplying DC power to said connection cable means;
(c) means for supplying television signals to said connection cable means;

(B) a plurality of remote stations each including:
(a) a television set operable with said DC power to present in a first mode of operation both visual and audio information in response to said television signals, said television set having audio transducer means and an audio signal handling network adapted to normally operate in said first mode to deliver an audible signal through said audio transducer means; and
(b) means responsive to a predetermined coded signal on said cable means for converting said audio signal handling network from said first mode of operation to a second mode of operation in which said audio signal handling network receives and audibly produces through said audio transducer means command information; and
(c) means for receiving command information signals from said connection cable means and feeding command signal information to said audio signal handling network;
(C) a master station including:
(a) second audio transducer means;
(b) code signal generating means for producing any one of a plurality of predetermined code signals and delivering the same to said connection cable means; and
(c) means for supplying signals generated in said second audio transducer means to said connection cable means as command signals.

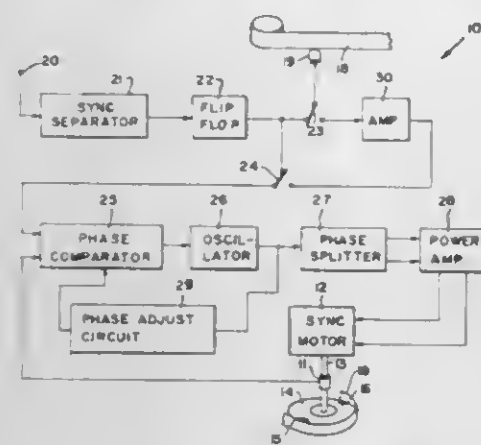
3,423,522
MOVING LIGHT SOURCE GENERATOR EMPLOYING AN ELECTROMAGNETIC FIELD
Rahmiel Zwick, 7255 Central Ave., St. Petersburg, Fla. 33710
Filed Feb. 14, 1966, Ser. No. 527,364
U.S. Cl. 178-6
Int. Cl. H04n 7/00; H05b 31/28; H01j 23/10



1. A light generator comprising a first elongated electrode, a second elongated electrode disposed relative to said first electrode to enable an electric spark to be established along a substantial length of said electrodes, means to impose an electric potential between said electrodes to establish a spark between said electrodes, and electromagnetic means to provide a magnetic field along said electrodes, said magnetic field moving along said electrodes to drive a spark therealong.

3,423,523
SYNCHRONOUS MOTOR PHASE CONTROL SYSTEM
Tsuneo Kosugi and Seichi Takashima, Yokohama, Japan, assignors to Victor Company of Japan, Limited, Yokohama, Japan, a corporation of Japan
Filed Mar. 31, 1965, Ser. No. 444,245
Claims priority, application Japan, Apr. 1, 1964, 39/18,230
U.S. Cl. 178-6.6
Int. Cl. H04n 5/76
The invention provides for the control of a synchronous motor used for driving a pair of magnetic heads which

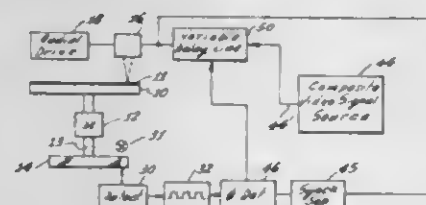
play back signals that are recorded in oblique paths across a magnetic tape. Control signals are also recorded along an edge of the tape. A comparison circuit compares the control signals on the tape with an output



reading taken from a slip ring on a shaft which rotates in unison with the heads. An AC signal powering the synchronous motor is shifted in frequency whenever the comparison circuit detects a loss of synchronism between the control signal and the slip ring reading.

3,423,524 RECORDING SYSTEM

Robert S. Bradford, Tarzana, Calif., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Jan. 5, 1965, Ser. No. 423,539
U.S. Cl. 178-6.7 14 Claims
Int. Cl. H04n 5/88



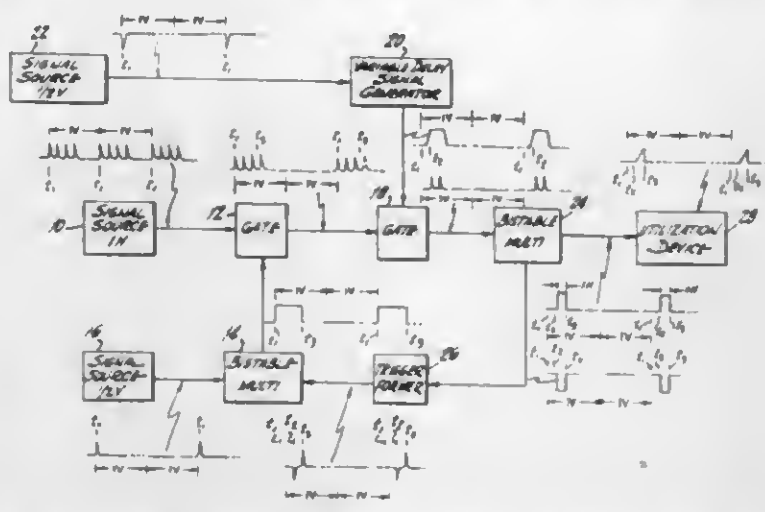
This invention relates to a system for recording in a radial line on a disc a corresponding position of successive frames of video information signals. The disc has indicia recorded at fixed intervals in an arcuate direction. As the disc rotates, these indicia cause a train of pulses to be produced. The pulses in the train are compared in phase with the horizontal sync pulses in video information signals to produce a control signal having characteristics dependent upon such relative phase. The control signal is used to control the recording of the video information signals on the disc or to control the rotation of the turntable on which the disc is disposed so that a corresponding position on successive frames of information is recorded at a position along a radial line on the disc.

3,423,525 LINE-SELECT APPARATUS FOR A TELEVISION WAVEFORM MONITOR

Leonard J. Baun, Clonamansin, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Apr. 2, 1965, Ser. No. 444,993
U.S. Cl. 178-7.3 11 Claims
Int. Cl. H04n 3/16, 5/38

Line select apparatus for a television waveform monitor including a gating arrangement and an output bistable multivibrator. Only two consecutive pulses of a periodic train of pulses supplied to the gating arrangement at the line scanning rate will ever reach the multivibrator before the arrangement is disabled. Which two pulses they will be is determined by a manually controlled delay provided

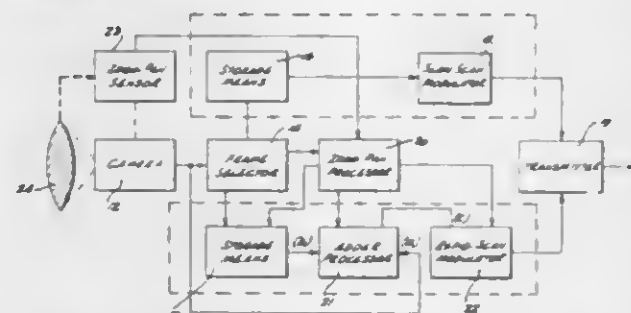
to an enabling signal for the arrangement. The pulse signal developed by the multivibrator is used to adjust



the time-base system of the waveform monitor and can be used to intensify the selected line on a picture monitor.

3,423,526 NARROW-BAND TELEVISION

Russell R. Law, Malibu, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Jan. 21, 1965, Ser. No. 427,069
U.S. Cl. 178-6.8 14 Claims
Int. Cl. H04n 7/00



A narrow-band television system in which substantially redundant frame-to-frame video information is transmitted as one high resolution video frame per predetermined time period at a slow frame rate, by storing one out of every predetermined plurality of image frames on a storage means, and transmitting the stored information at a slow scan rate; and in which animation information is transmitted as a series of difference signals at a real time frame rate by comparing the real time image frame to the stored image signal frame to cancel any redundant image signal information and generate a difference image signal which corresponds to changes between the real time images and the stored image and transmitting it at a real time frame rate.

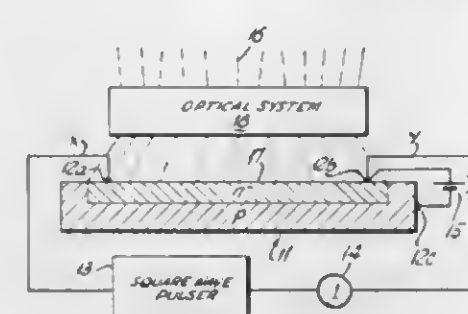
3,423,527 SOLID STATE SCANNING DEVICE

Frank C. Collins, Brooklyn, N.Y., assignor to PRD Electronics, Inc., Brooklyn, N.Y., a corporation of New York

Filed Mar. 4, 1965, Ser. No. 437,096
U.S. Cl. 178-7.1 5 Claims
Int. Cl. H01j 39/12; H04n 3/10

1. Electromagnetic radiation detection means comprising:
a semiconductor device having a two-dimensional active area of diffused material of opposite types of conductivities,
means for focusing an image of the radiation on said active area,
pulsing means for providing a voltage gradient to one type of said diffused material,

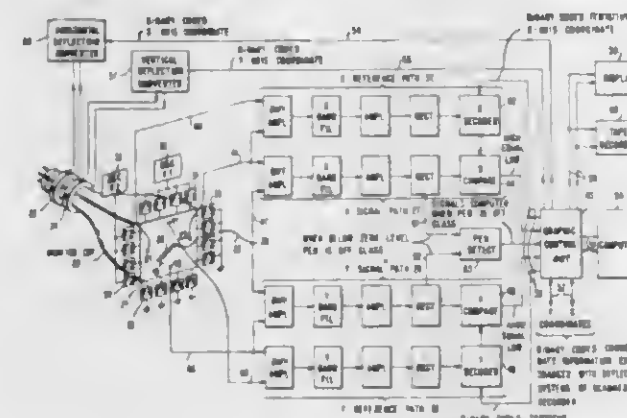
said pulsing means being coupled to opposite terminals both of which are located on said one diffused mate-



rial, and detector means connected to said one type of material for detecting electrical signals received therefrom.

3,423,528 ELECTROGRAPHIC DATA SENSING SYSTEM

Robert D. Bradshaw, Wappingers Falls, and Hans H. Jensen, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Mar. 3, 1965, Ser. No. 436,818
U.S. Cl. 178-19 2 Claims
Int. Cl. G08b 5/22



The invention relates to graphic control sensing devices for simultaneously measuring the X and Y coordinates of the placement of a conductive pencil touched on the conductive coating of the face of a cathode ray tube. Orthogonal voltage gradients are set up across said coating by means of separate oscillators and filters for the crossing X and Y channels. The carrier frequencies used are different and interference is avoided. By means of a pair of differential amplifiers connected to each signal path and to the pencil, the voltage at the pencil position is compared with a reference voltage of a coordinate as two output voltages are generated. The ratio of these output voltages is a direct measurement of the position of the pencil point which is converted and stored in binary form. A comparative sampling technique is used to compare coordinate points sent by a computer in ever closer values to those required by the pencil point position until equality is achieved.

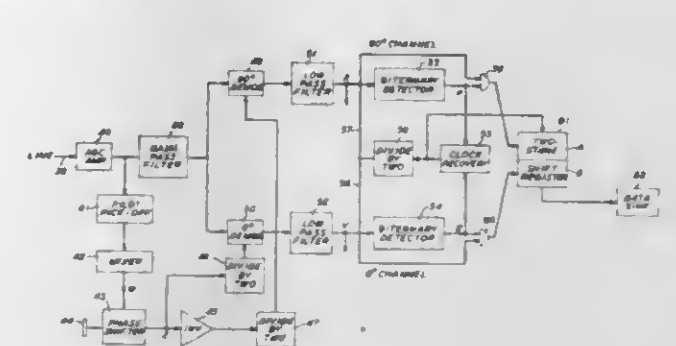
3,423,529 AUTOMATIC PHASE RECOVERY IN SUPPRESSED CARRIER QUADRATURE MODULATED BITERNARY COMMUNICATION SYSTEMS

John F. O'Neill, Jr., Eatontown, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Feb. 1, 1966, Ser. No. 524,136
U.S. Cl. 178-68 12 Claims
Int. Cl. H04b 1/06

Automatic phase control of the demodulating carrier wave in a suppressed carrier quadrature modulated synchronous digital data transmission system is facilitated

where biternary encoding is employed in the respective quadrature channels. Biternary encoding produces zero crossings at sufficient numbers of sampling instants to permit the monitoring of crosstalk between quadrature



change in center frequency of the filter with change in the inductance value of the inductor.

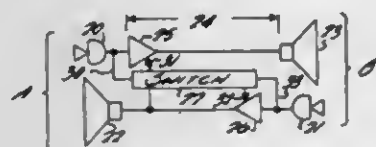
3,423,531

VOICE CONTROLLED AMPLIFIER

Harold W. Doddington, Rio Piedras, Puerto Rico, assignor to International Telephone & Telegraph Corporation, New York, N.Y., a corporation of Maryland
Filed Aug. 16, 1965, Ser. No. 479,936

U.S. Cl. 179-1
Int. Cl. H04m 1/00

6 Claims



A hands-free telephone amplifier has a turn-on time which is different from its turn-off time. This eliminates the possibility that the system will go into oscillation by turning itself on and off. The prior art sometimes triggered such oscillations responsive to noises occurring in the room at the instant of turn-off.

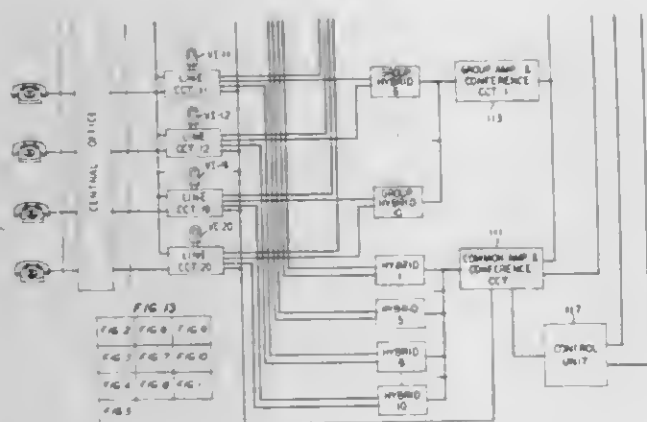
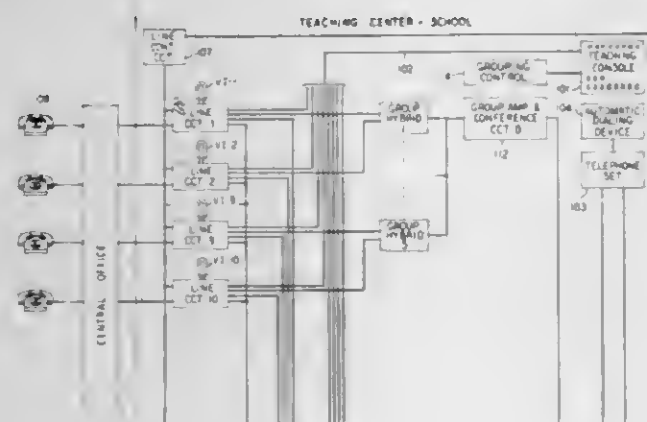
3,423,532

INTERCOMMUNICATION SYSTEM FOR SCHOOL-TO-HOME TEACHING

Trafford H. Coel, Belmont, Eugene B. Hanford, Oakland, and Stanley H. Stewart, Walnut Creek, Calif., assignors to American Telephone and Telegraph Company, New York, N.Y., a corporation of New York
Filed Nov. 1, 1965, Ser. No. 505,822

U.S. Cl. 179-1
Int. Cl. H04m 7/00

8 Claims



A school-to-home conference arrangement. A control console at school permits teacher to conference up to 20 students and provides a lamp indicator for detecting voice

signals on the respective student's line. The console also provides the teacher with "release," "grouping," "group talk" and "split" control. In "grouping," more than one separate conference is set up and the teacher may confer with each group separately by way of her "group talk" control. To eliminate three-way conversation between student, student and teacher the split control is actuated which allows only a student-teacher communication.

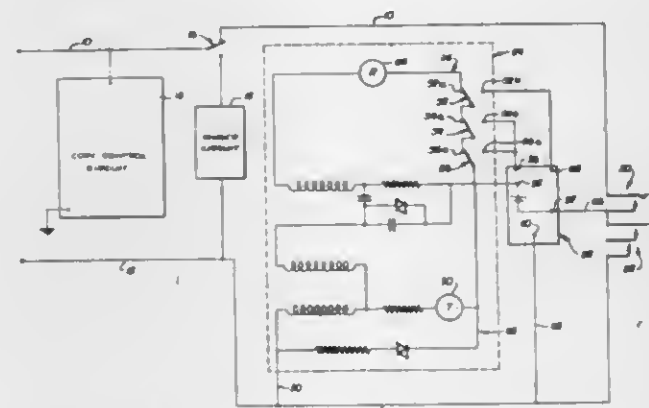
3,423,533

COIN ANNUNCIATOR FOR TELEPHONE PAY STATIONS

Louis P. LaBarge, Newport Beach, Calif., assignor to Teletek, Inc., Burbank, Calif., a corporation of California
Filed Nov. 19, 1964, Ser. No. 412,555

U.S. Cl. 179-6.5
Int. Cl. H04m 17/02

6 Claims



Coin responsive signaling apparatus in a telephone pay station for informing the operator of the number and denomination of coins deposited by the subscriber. The signal provided to the operator is from an electronic oscillator which is keyed on momentarily by a coin that is dropped into the station, the switch being coupled to the receiver circuit so as to open the receiver circuit concurrently with actuation of the oscillator, thereby preventing the subscriber from hearing the oscillator tone in the receiver and artificially reproducing the tone.

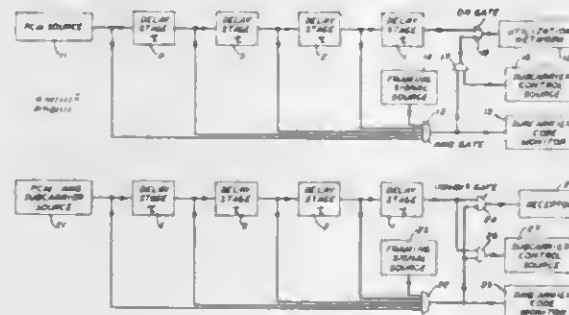
3,423,534

TRANSMISSION OF SUPERVISORY INFORMATION

John W. Pan, Plainfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 21, 1963, Ser. No. 325,273

U.S. Cl. 179-15
Int. Cl. H04j 1/14

25 Claims



3. Apparatus comprising a first source of information having a plurality of information states,

a second source of information having first and second information states,

means for generating groups of code signals according to the information of said first source, each of said plurality of information states of said first source except one being represented by a uniquely corresponding group of code signals,

means for generating a first, preassigned, group of code signals corresponding to said one information state of said first information source whenever said second information source is in said first information state, and

means for generating a second, reserved, group of code signals corresponding to said one information state of said first information source whenever said second information source is in said second information state.

6. Apparatus comprising a transmission path, means for detecting a prescribed randomly-occurring permutation of signals on said transmission path, and means responsive to the detecting means for simultaneously substituting for said prescribed permutation of code signals a permutation of code signals not normally occurring on said transmission path and increasing the number of signals on said transmission path by adding signals to said transmission path.

10. Binary apparatus comprising a transmission path, means for detecting a prescribed randomly-occurring permutation of signals on said transmission path, and means responsive to the detecting means for altering said prescribed permutation and simultaneously deleting at least one signal on said transmission path representing a binary "one."

11. In a system for communicating signals selected from an alphabet of code signals, said alphabet comprising a group of normally-occurring preassigned signals and a group of signals which are normally precluded from appearing at a transmitter output, the method of framing code signals which comprises the steps of:

- (1) Detecting a randomly-occurring preassigned group of code signals,
- (2) Replacing one of the detected groups of said code signals by a precluded group of code signals, and
- (3) Simultaneously supplementing said precluded group of code signals by additional code signals not necessarily selected from said alphabet.

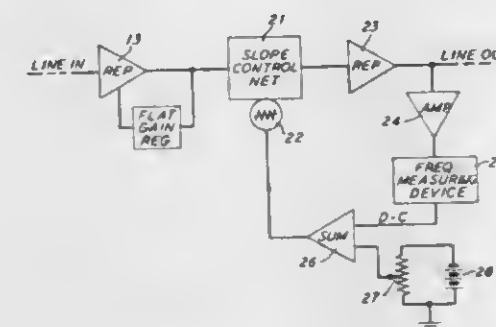
3,423,535

CARRIER SYSTEM SLOPE REGULATOR

Lester Hochgraf, Madison, and Stephen O. Rice, Summit, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Oct. 15, 1965, Ser. No. 496,725

U.S. Cl. 179-15
Int. Cl. H04j 1/06

4 Claims



Multichannel carrier signal transmission systems and more particularly automatic regulation of the level versus frequency response of such systems.

3,423,536

AUTOMATIC STEREO SWITCHING AND INDICATING CIRCUIT

Donald J. Snyder, Indianapolis, Ind., assignor to Radio Corporation of America, a corporation of Delaware
Filed Dec. 28, 1965, Ser. No. 516,889

U.S. Cl. 179-15
Int. Cl. H04j 1/02

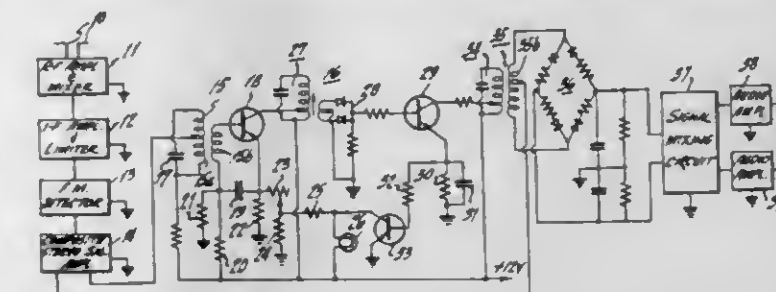
7 Claims

1. A circuit for frequency modulation stereophonic receivers comprising:

an input circuit for coupling to a source of composite stereophonic signals including a pilot signal, pilot signal amplifier means coupled to said input circuit including a biasing circuit for maintaining said amplifier means in substantially non-conductive condition in the absence of said pilot signal,

signal developing means coupled to said amplifier means for developing a signal at a frequency related to that of said pilot signal, said signal developing means including a relatively high impedance self-biasing circuit,

regenerative feedback switching means coupled across said self-biasing circuit including the series combination of a relatively low impedance and a transistor



switch maintained in non-conductive condition in the absence of said pilot signal, said switching means further being coupled to said pilot signal amplifier biasing circuit to modify the effect of said biasing circuit on said transistor amplifier so as to regeneratively drive said pilot signal amplifier into conductive condition upon the application of said pilot signal to said pilot signal amplifier.

3,423,537

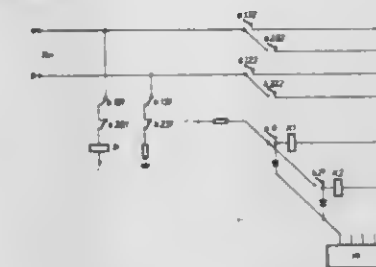
REED SWITCHING NETWORK FOR EXTENDING A TRANSMISSION LINE THROUGH A MATRIX

Heinz Schlüter, Kornwestheim, Württemberg, and Hilmar Schünemeyer, Ditzingen, Württemberg, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 25, 1964, Ser. No. 396,791

Claims priority, application Germany, Aug. 27, 1963, St 21,017

U.S. Cl. 179-18
Int. Cl. H04m 3/00

5 Claims



A switching network includes several cascaded matrix stages of glass reed relays. End markings are applied to the network in order to establish switch paths through the successive stages. The idle crosspoints in the switch paths are selected on a guidewire basis. A combination of make-break contacts simultaneously hold the seized crosspoint and switch through the connection while disconnecting any attachments from the line. This saves the cost of cutoff relays required heretofore.

3,423,538

TELEPHONE CONFERENCE CIRCUIT

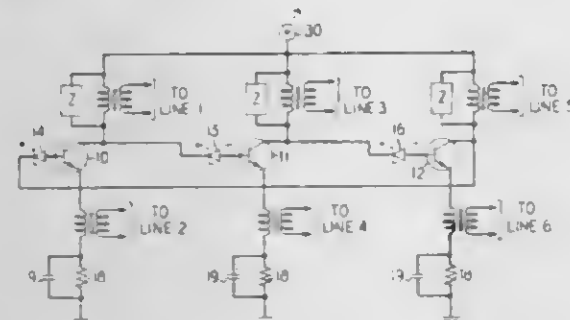
Wilmer B. Gaunt, Jr., New Shrewsbury, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 28, 1964, Ser. No. 421,316

U.S. Cl. 179—18

Int. Cl. H04m 3/56

39 Claims



A conference circuit is described which employs a series of cascaded amplifiers arranged in a closed loop. One or more telephone lines are coupled to each amplifier and signals from each line are transmitted through the amplifier loop to all other lines. Negative impedance networks may be incorporated in each amplifier to improve signal transmission.

3,423,539

AUTOMATIC TELEPHONE EXCHANGE SWITCHING SYSTEMS

Peter Cotin Page, Coventry, Ronald Frank Rous, Kenilworth, Paul Sigrist, Coventry, and Peter William Ward, Hatch End, England, assignors to The General Electric Company Limited, London, England, a British company

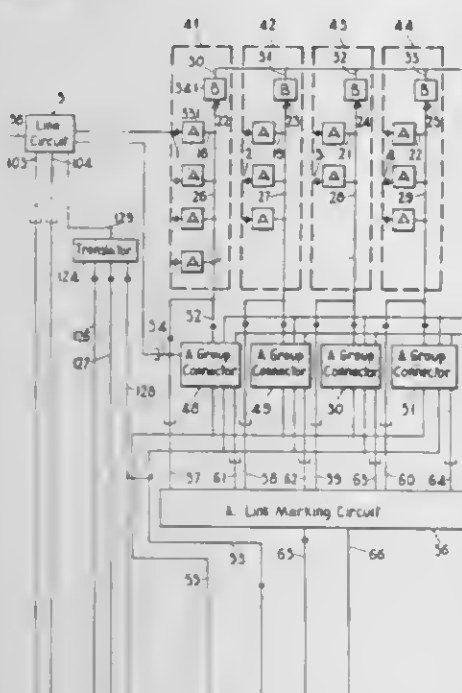
Filed Nov. 5, 1965, Ser. No. 506,473

Claims priority, application Great Britain, Nov. 9, 1964, 45,540/64, 45,541/64

U.S. Cl. 179—18

Int. Cl. H04m 3/00

42 Claims



An automatic switching system for a telephone exchange including a plurality of control equipment each of which is adapted to control and supervise the one-at-a-time setting up of connections through the system. When a fault occurs during the setting up of a connection using any particular one of the control equipment, a further attempt to set up that connection is initiated using a different one of the control equipment. A route simulating arrangement for the selection of free routes for connections through the system is also described.

3,423,540

RECORD-REPRODUCE CIRCUIT

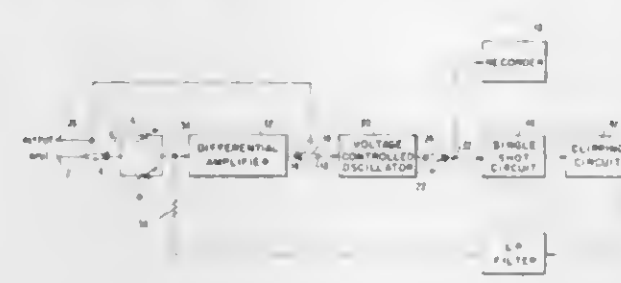
Donald Wortzman, Mahopac, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Aug. 4, 1965, Ser. No. 477,120

U.S. Cl. 179—100.2

Int. Cl. G11b 5/00

6 Claims



1. A system for recording and playing back analog signals comprising,
a first impedance means,
a second impedance means,
an amplifier means,
a recording means,
and a switching means connected to said first impedance means, said second impedance means, said amplifier means, and said recording means, said switching means having a first switch position for connecting said first impedance means, said amplifier means, and said recording means in series circuit and said amplifier means and said second impedance means in parallel circuit and a second switch position for connecting said recording means, said second impedance means and said amplifier means in series circuit and said first impedance means and said amplifier means in parallel circuit, said first and second switch position of said switching means being mutually exclusive.

3,423,541

TAPE TENSION CONTROL SYSTEM

Yoshiyo Wada, Kawasaki, Japan, assignor to Victor Company of Japan, Limited, Kanagawa-ken, Japan

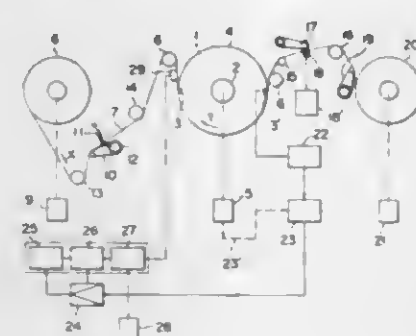
Filed Oct. 28, 1964, Ser. No. 406,989

Claims priority, application Japan, Nov. 1, 1963, 38/58,920

U.S. Cl. 179—100.2

Int. Cl. G11b 15/43

2 Claims



A magnetic tape recording and playback device develops an error signal which varies as a function of the signal read from the tape. That signal, in turn, depends upon the relative positions of the recorded track and the reproduction head which is then reading the track. A vacuum suction is applied against the tape to maintain its proper tension. The error signal causes the suction—and therefore the tape tension—to vary as a function of the

reproduced signal. This variation in suction compensates for stretching or shrinking of the tape to maintain the proper spatial relationship between the head and recorded track.

3,423,542

TAPERED FINGERS FOR RESONANT PEAK DAMPING IN PIEZOELECTRIC TRANSDUCERS

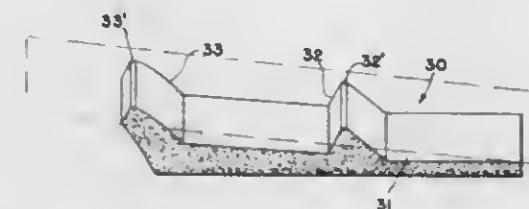
Henry J. Cvetko, Conneaut, Ohio, assignor to The Astatic Corporation, Conneaut, Ohio, a corporation of Ohio

Filed Jan. 28, 1965, Ser. No. 428,726

U.S. Cl. 179—100.41

Int. Cl. H04r 17/04

6 Claims



Damping, to suppress resonances of a piezoelectric transducer, is provided by contacting the face of said transducer with one or more thin fingers of dead elastomeric material lightly touching said transducer only at points of peak resonance amplitude motion. Reliance for damping is placed on the internal resistance of the elastomer rather than on any compressive restraint.

3,423,543

LOUDSPEAKER WITH PIEZOELECTRIC WAFER DRIVING ELEMENTS

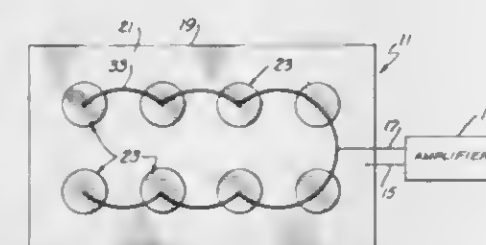
Harry W. Kompanek, 153 Rametto Road, Santa Barbara, Calif. 93103

Filed June 24, 1965, Ser. No. 466,599

U.S. Cl. 179—110

Int. Cl. H04r 15/00

10 Claims



A loudspeaker comprising a driven member and a plurality of piezoelectric wafers distributed on and secured to a surface of the driven member and means for electrically energizing the wafers. Speakers with flat plate and conical driven members. A speaker comprising a room wall with a plurality of piezoelectric wafers adhered thereto.

3,423,544

ELECTROACOUSTIC BONE CONDUCTION RECEIVER

Erwin M. Weiss, Chicago, Ill., assignor to Beltone Electronics Corporation

Filed Sept. 13, 1965, Ser. No. 486,617

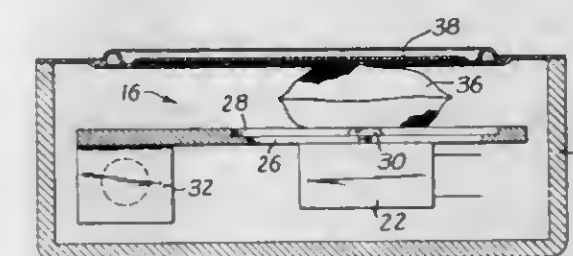
U.S. Cl. 179—107

Int. Cl. H04r 25/00

2 Claims

An electroacoustic bone conduction transducer which comprises a rigid elongated platform member pivotally mounted at one end to a case by pre-stressed torsion isolator elements and electromagnetic vibrator adjustably secured to the platform member at a selectively adjustable

point spaced from the pivoted end. The assembly also comprises a resilient contact button secured to the other face



of the platform member for transmitting the vibrations of the latter to the user.

3,423,545

POWER CARRIAGE WITH RETRACTABLE PULLEY

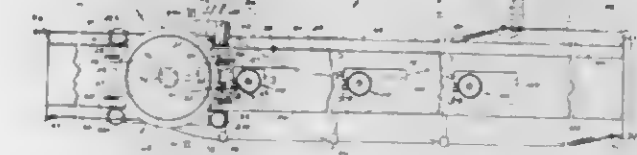
Roger T. Becker, Kalamazoo, Mich., assignor to Aero-Motive Manufacturing Company, Kalamazoo, Mich., a corporation of Michigan

Filed Aug. 23, 1967, Ser. No. 662,612

U.S. Cl. 191—12

Int. Cl. H02g 11/02; B66c 17/00

14 Claims



An apparatus having a cable support movable along a track extending along a path traversed by a movable device to which one end of a flexible cable is connected, the other end of said cable normally being fixed with respect to the track. Tension means is connected to the cable support for urging same along the track means so that a tension is constantly applied to the cable. One or more pulleys are mounted adjacent the track means so that they will support the part of the cable extending between the cable support and the movable device. Each pulley is mounted so that its normal position is in the path of the cable support and so that it is automatically moved out of such path by the cable support as same moves along the track past the pulley.

3,423,546

TORQUE RESPONSIVE OVERLOAD SWITCH

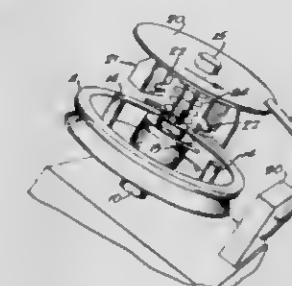
Clyde R. Barnes, Ossian, Ind., assignor to Mix-Mill, Inc., Bluffton, Ind., a corporation of Indiana

Filed Dec. 29, 1966, Ser. No. 605,710

U.S. Cl. 200—52

Int. Cl. H01h 35/06

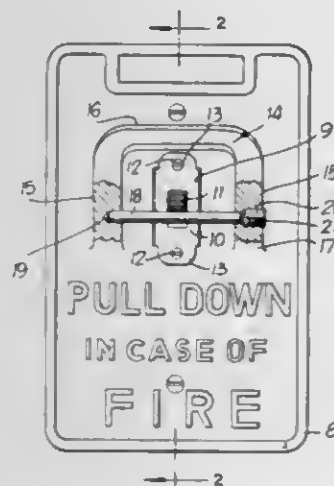
2 Claims



A driving means drives a shaft on which it is rotatably mounted, through a pin of limited strength, sufficient to drive the shaft under normal loads. A switch is located near the shaft and an actuator for the switch is mounted on the shaft biased toward the switch held by the pin. Excessive resistance at the shaft causes the pin to yield,

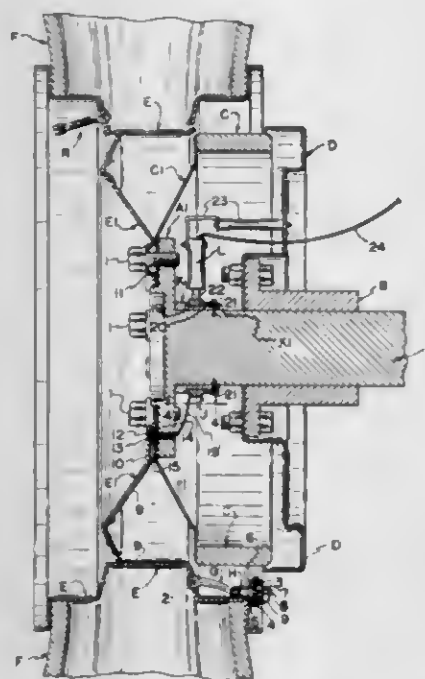
disabling the drive and permitting the biasing means to move the switch actuator axially sufficiently to actuate the motor disabling switch.

3,423,547
BREAK-GLASS STATION WITH SLIDE SWITCH PROTECTED AGAINST FALSE OPERATION
 Howard L. Caretto, Brooklyn, N.Y., assignor to The Reeve Electrical Co. Inc., Union, N.J., a corporation of New York
 Filed Sept. 29, 1967, Ser. No. 671,837
 U.S. Cl. 200—61.08 4 Claims
 Int. Cl. H01h 9/00



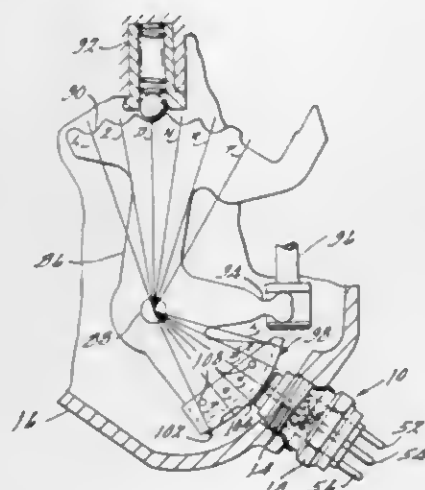
Signal transmitting slide switch with an operating projection restrained by a breakable rod and with exposed parts protected against accidental operation by an outstanding guard wall partially surrounding the same.

3,423,548
TIRE UNDERINFLATION WARNING DEVICE
 Sidney H. Robinson, Hayward, Calif.
 (6472 MacArthur Blvd., Oakland, Calif. 94505)
 Filed Apr. 19, 1967, Ser. No. 632,079
 U.S. Cl. 200—61.22 7 Claims
 Int. Cl. H01h 35/00



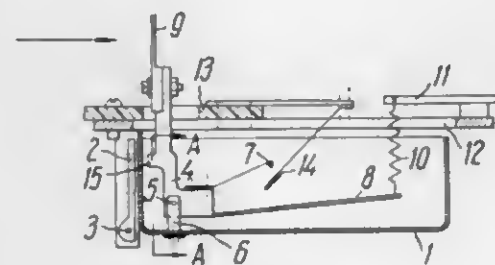
The tire underinflation warning device will indicate automatically when the air pressure in any one of the vehicle tires drops below a predetermined point. The device will not interfere with the changing of the tires and rims on any one of the vehicle wheels.

3,423,549
VEHICLE SAFETY CONTROL APPARATUS HAVING A SELF-ADJUSTING SWITCH
 Robert M. Sondej, Warren, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
 Filed Sept. 8, 1966, Ser. No. 577,909
 U.S. Cl. 200—61.88 10 Claims
 Int. Cl. H01h 9/06



1. In a vehicle provided with a transmission having selector means movable to a plurality of positions to establish different transmission operating ranges including reverse, neutral, drive and park, control apparatus for a plurality of circuits including a vehicle engine cranking circuit and a backup light circuit, said control apparatus comprising a lever plate movable in response to movement of the selector means and provided with a cam surface composed of electrically conductive and non-conductive areas, and a switch having contacts whereby at least one of said plurality of circuits can be opened and closed, said switch having a first cam engageable floating portion, at least one contact carried by said first floating portion, means for biasing said floating portion into slidable engagement with said cam surface, and a second floating cam engageable portion having at least one contact engageable with said contact of said first floating portion so as to provide a pair of cooperating contacts, said cam surface of said lever plate having a configuration adapted to move one of said first and second cam engageable portions of said switch relative to the other when the cam is moved to a predetermined position.

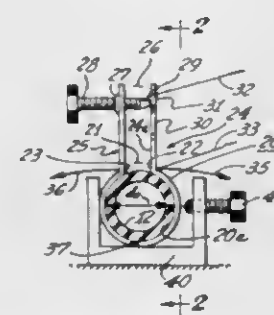
3,423,550
RELAY RESPONSIVE TO LIMITING CHANGES IN THE LEVEL AND VELOCITY OF FLUIDS
 Fedor Fedorovich Derjugin, ulitsa Tsvillinga, 44, kv. 103, Alexandr Denisovich Bulltko, ulitsa Rossuskaya, 19-b, kv. 4, and Grigory Ivanovich Plakhotnikov, ulitsa Tsvillinga, 44, kv. 107, all of Chelyabinsk, U.S.S.R.
 Filed Jan. 3, 1967, Ser. No. 606,857
 U.S. Cl. 200—81.9 1 Claim
 Int. Cl. H01h 35/40



1. A relay responsive to limiting changes in the level and velocity of a fluid and placed in the fluid, comprising: A

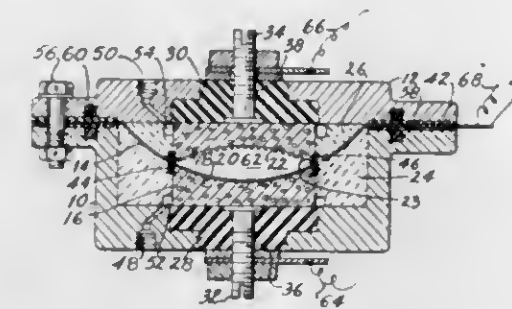
cup mounted by a hinged joint at one side and a spring attachment at the opposite side; a group of signalling contacts mounted within the above-mentioned cup; a vane for closing said contacts in response to dynamic pressure of the fluid, a holder to which said vane is rigidly fixed, said holder being connected to said contact to operate the same, the holder being hinged to said cup so that with any change in the fluid level, the cup actuates the holder and turns the latter in the direction of operation of the contacts.

3,423,551
PRESSURE SENSITIVE SWITCH
 Elbert C. Starbuck, Northridge, Calif., assignor to Beertronic Corporation, Van Nuys, Calif., a corporation of California
 Filed Jan. 12, 1966, Ser. No. 520,272
 U.S. Cl. 200—83 16 Claims
 Int. Cl. H01h 35/40



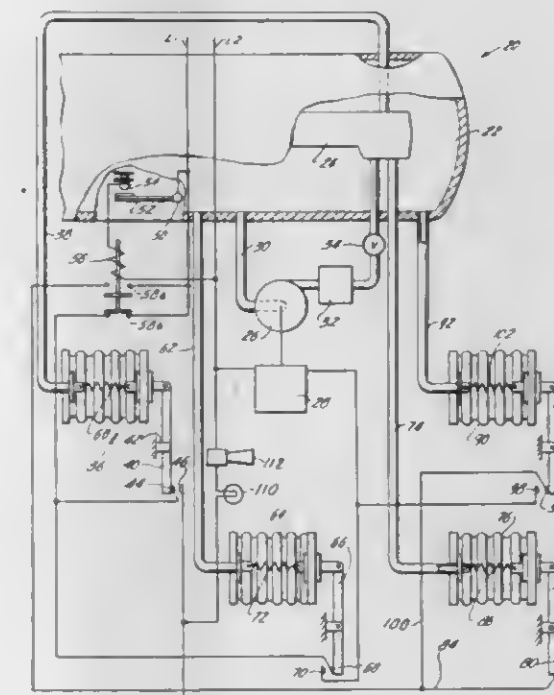
Several pressure responsive switches are disclosed in which a deformable, cylindrical tube can be or is inserted into a pipeline. The elastic deformation of the tube, due to pressure variations, is sensed so that for a low pressure condition little or no resiliency interaction exists with the tube while increasing pressure sets up resilient interaction so that the sensor tends to restore its original position. The sensor has a pivot point, at least one point or area of interaction with the tube and preferably a remotely positioned operating area for amplifying the pivot motion resulting from interaction with the tube.

3,423,552
SNAP ACTION PRESSURE SWITCH
 Anatole J. Sipin, 117 E. 77th St., New York, N.Y. 10021
 Continuation of abandoned application Ser. No. 491,164, Sept. 29, 1965. This application Jan. 9, 1967, Ser. No. 622,377
 U.S. Cl. 200—83 9 Claims
 Int. Cl. H01h 35/40



A pressure responsive snap action type switch utilizing a concave porous element with an electrically conductive surface coating with a contoured diaphragm having an electrically conductive surface, and pressure responsive means for actuating the diaphragm operatively.

3,423,553
ARC-EXTINGUISHING APPARATUS FOR ELECTRIC SWITCHES
 Rudolf Prätisch, Berlin, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany
 Filed July 27, 1966, Ser. No. 568,188
 Claims priority, application Germany, July 28, 1965, S 98,472 3 Claims
 U.S. Cl. 200—148
 Int. Cl. H01h 33/82

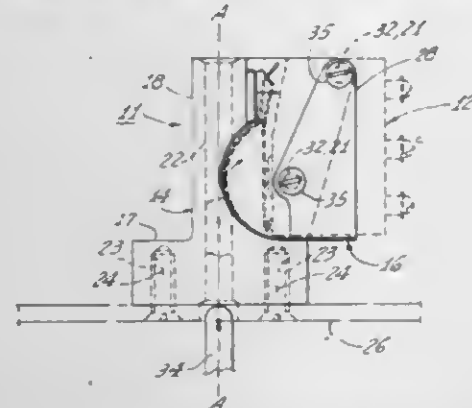


1. In an apparatus for extinguishing, by means of a gas blast, an arc at a switch when the switch opens, high pressure container means for containing a gas at high pressure and from which the gas blast is derived, low pressure container means for containing a gas at a low pressure to be supplied from said low pressure container means to said high pressure container means, motor-driven compressor means communicating with both of said container means for sucking gas from said low-pressure container means and for delivering gas at high pressure to said high pressure container means, a pair of pressure-responsive control switch means operatively connected with one of said container means and with said compressor means for automatically actuating the latter to maintain a given pressure differential between said low pressure container means and said high pressure container means, one of said control switch means maintaining a pressure differential in one range and the other of said control switch means maintaining the pressure differential in a second range, and thermostat means operatively connected with said one of said container means for responding to the temperature of the gas therein and operatively connected said pair of control switch means for rendering said one control switch means operative only when the temperature of the gas in said one container means is in given range.

3,423,554
LIMIT SWITCH ACTUATOR
 Jerry E. Acord, Lakewood, Calif., assignor to Northrop Corporation, Beverly Hills, Calif., a corporation of California
 Filed June 27, 1966, Ser. No. 560,608
 U.S. Cl. 200—153 2 Claims
 Int. Cl. H01h 3/00

Self-contained mounting means adapted to have a push button type switch mounted therein, the mounting means adapted to be mounted on a plane surface of any struc-

ture. The mounting means includes a bore and embodies means insuring that the switch will be energized and de-



energized merely by inserting an article by cylindrical configuration in and removing the article from the bore.

3,423,555 ROTARY ELECTRIC CONTACTORS OF THE POINT-CONTACT TYPE

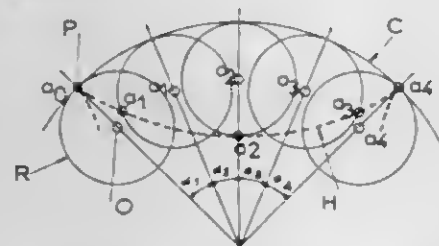
Roger Preux, 27 Rue d'Eaubonne,
Saint-Gratien, Val-d'Oise, France

Filed Apr. 20, 1967, Ser. No. 632,393

Claims priority, application France, Apr. 21, 1966,
58,512

U.S. Cl. 200—153
Int. Cl. H01b 3/00

6 Claims



A rotary contactor comprising a first surface and a second surface capable of movement with respect to each other, said first surface being driven in rotation about a geometric axis which is movable in space while remaining parallel to itself, and at least one element carried by the periphery of said first surface, the shapes and relative movements of said surfaces being chosen so that the trajectory of said element is a cycloid, epicycloid or hypocycloid curve; and at least one electrical contact carried by said second surface and disposed at a position corresponding to one of the points of reflection of the trajectory of said element, whereby said contact is actuated by said element without friction or relative sliding movement of said surfaces.

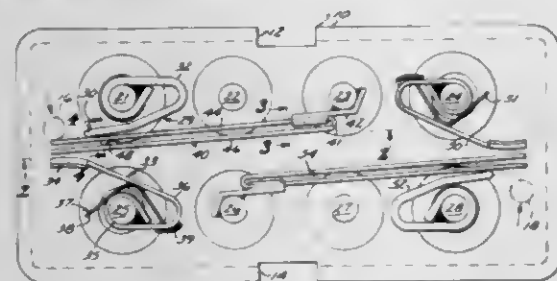
3,423,556 ELECTRICAL SWITCH STRUCTURE INCLUDING DUAL ARM MOVABLE CONTACT

Earnest D. Hartzler, 3141 College, and Jack M. Brown,
2362 Colgate Drive, both of Costa Mesa, Calif. 92626

Filed May 9, 1967, Ser. No. 637,133

U.S. Cl. 200—166
Int. Cl. H01b 3/00; 9/00

10 Claims



The specification describes an electrical contact structure for conventional and latching relays in which the

movable contact comprises a pair of generally parallel arms, joined at one end, actuated by force applied at the opposite end, and separated by a fulcrum positioned between the ends.

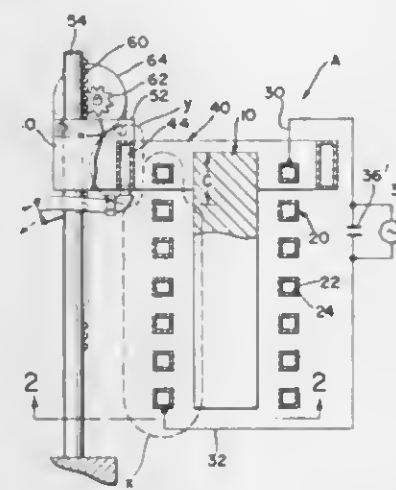
3,423,557 DEVICE FOR MOVING A COOLED ZONE THROUGH AN INDUCTIVELY HEATED WORKPIECE

John Charles Lewis, Hamilton, Wentworth, Ontario, Canada, assignor to The Ohio Crankshaft Company, Cleveland, Ohio, a corporation of Ohio

Filed May 9, 1966, Ser. No. 548,775

U.S. Cl. 219—10.75
Int. Cl. H05b 5/00

5 Claims



An induction heating installation for heating a workpiece, such as a semi-conductive material, and progressively cooling the workpiece. An induction heating coil surrounds the workpiece and a conductive ring concentric with the coil is moved along the coil for progressing a cooled zone along the workpiece.

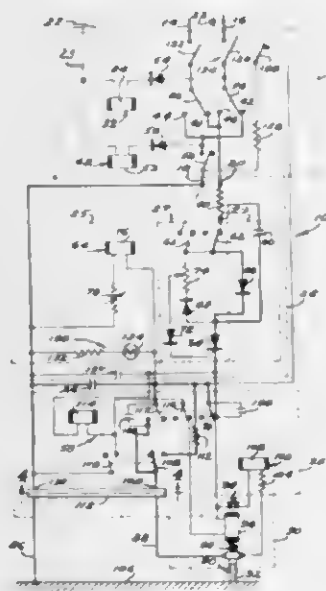
3,423,558 STORED ENERGY ELECTRIC STUD WELDING APPARATUS

Ronald F. Brennen, Pompano Beach, Fla., assignor to Uniweld Products, Inc., Fort Lauderdale, Fla., a corporation of Delaware

Filed Feb. 23, 1966, Ser. No. 529,487

U.S. Cl. 219—98
Int. Cl. B23k 11/26

13 Claims



1. A lightweight and portable electric welder for welding a conductive element held in the welding gun thereof to a second conductive element comprising, in combina-

tion, (1) isolating circuit means for connecting said welder with an electric power source and for isolating said welding gun from the earth ground of said power source, (2) storage capacitor means, (3) capacitor charging circuit means connected with said isolating circuit means and said storage capacitor means, said capacitor charging circuit means comprising, (i) transformerless voltage multiplier circuit means connected with said isolating circuit means for multiplying the output voltage of said isolating circuit means, (ii) voltage sensing circuit means operatively connected with said storage capacitor means for sensing the voltage impressed on said storage capacitor means, and (iii) charging control circuit means responsive to said voltage sensing circuit means for selectively connecting said storage capacitor means with said isolating circuit means, whereby said storage capacitor means is charged in a plurality of steps, thereby limiting the peak input current to said storage capacitor means, (4) discharge control circuit means for enabling said storage capacitor means to be controllably discharged through said conductive elements, said discharge control circuit means comprising (i) contactor means for selectively disconnecting said storage capacitor means from said charging control circuit means and connecting said capacitor with said conductive elements, and (ii) magnetic circuit means for controlling the rate of discharge of said storage capacitor means, said magnetic circuit means being in parallel with said storage capacitor means, and (5) output line means for connecting said discharge control means with said welding gun.

3,423,559 METHOD OF MAKING A TREAD PLATE

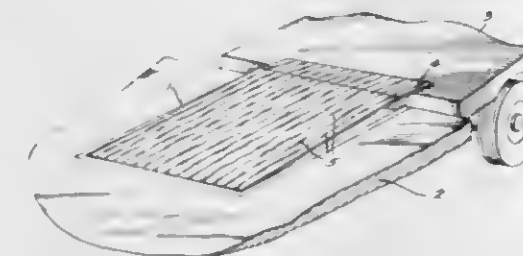
Robert C. Kuhns, Elm Grove, Wis., assignor to Kelley Company, Inc., Milwaukee, Wis., a corporation of Wisconsin

Filed Jan. 31, 1968, Ser. No. 701,981

U.S. Cl. 219—76

Int. Cl. B23k 9/04

7 Claims



The invention relates to a tread plate having improved anti-slip properties achieved by depositing a series of weld beads on a surface of the tread plate using a bare, unshielded, welding wire or electrode and a high current density. The resulting weld bead is rough and irregular and contains numerous pits, craters, oxide inclusions and other defects which increase the frictional qualities of the tread plate.

3,423,560 STORED ENERGY ELECTRIC STUD WELDING APPARATUS

Ronald F. Brennen, Pompano Beach, Fla., assignor to Uniweld Products, Inc., Fort Lauderdale, Fla., a corporation of Delaware

Continuation-in-part of application Ser. No. 529,487, Feb. 23, 1966. This application Apr. 22, 1966, Ser. No. 544,544

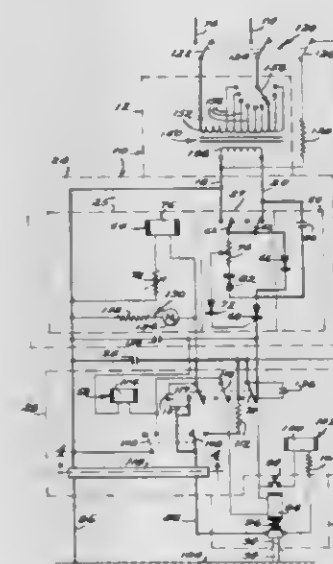
U.S. Cl. 219—98

Int. Cl. B23k 9/10, 11/04

18 Claims

1. A lightweight and portable electric welder adapted for use with various electric power sources to weld a con-

ductive element held in a welding gun to a second conductive element comprising, in combination, (1) isolating circuit means for connecting said welder with an electric power source, said isolating circuit means including transformer means for isolating said welding gun from the earth ground of said source, said transformer means including multiple primary winding means for connecting said welder with various electric power sources, (2) storage capacitor means for storing electric welding energy, (3) capacitor charging circuit means for charging said storage capacitor means, said capacitor charging circuit means being connected with said isolating circuit means and said storage capacitor means, said capacitor charging circuit means comprising (i) voltage multiplier circuit means connected with said isolating circuit means for multiplying the output voltage of said isolating circuit means, (ii) voltage sensing circuit means operatively connected with said storage capacitor means for sensing the voltage stored on said storage capacitor means and (iii) charging control circuit means responsive to said voltage sens-



ing circuit means for selectively connecting said storage capacitor means with said isolating circuit means and said voltage multiplier circuit means, whereby said storage capacitor is charged in a plurality of steps, thereby limiting the peak input current to said storage capacitor means, (4) discharge control circuit means for enabling said storage capacitor means to be controllably discharged through said conductive elements, said discharge control circuit means comprising (i) contactor means for selectively disconnecting said storage capacitor means from said charging control circuit means and connecting said storage capacitor means with said conductive elements and (ii) magnetic circuit means for controlling the rate of discharge of said storage capacitor means, said magnetic circuit means being in parallel with said storage capacitor means, and (5) output line means for connecting said discharge control means with said conductive elements.

3,423,561 METHOD OF MAKING HORSE BITS BY ELECTRICAL WELDING

James B. Robinson, Chattanooga, Tenn., assignor to American Manufacturing Company, Chattanooga, Tenn.

Filed Apr. 5, 1965, Ser. No. 445,552

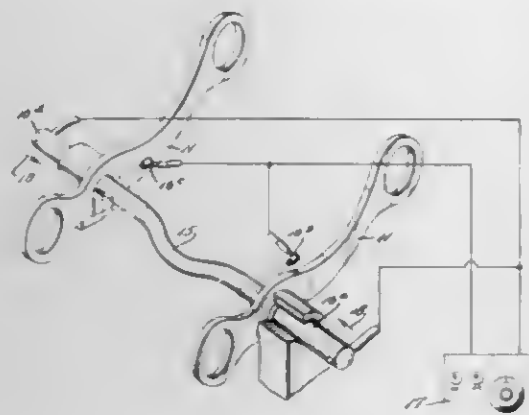
U.S. Cl. 219—107

Int. Cl. B23k 31/00

1 Claim

A method of making horse bits includes the steps of forming in a cheek plate a recess having a central raised portion of a height less than the depth of the recess, in-

serting the end of a crossbar into the recess and passing an electrical current of sufficient intensity through the



said raised portion and the end of the crossbar to melt the metal and form a welded joint.

3,423,562

GLOW DISCHARGE APPARATUS

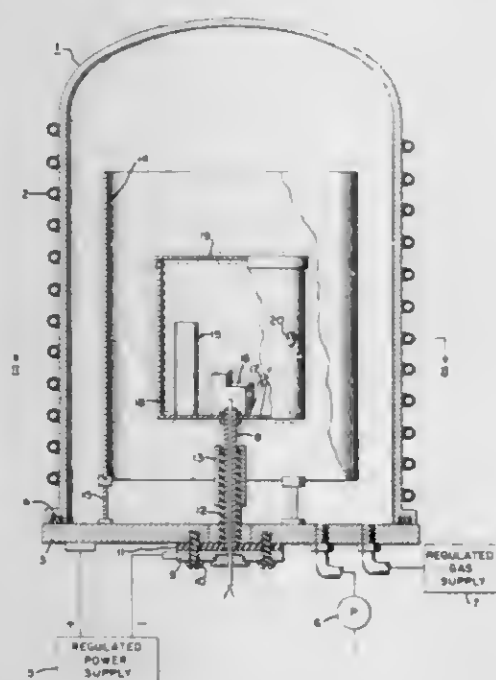
Claude K. Jones, Marblehead, and Stuart W. Martin, Salem, Mass., assignors to General Electric Company, a corporation of New York

Filed June 24, 1965, Ser. No. 466,530

U.S. Cl. 219-121

Int. Cl. B23k 9/00

10 Claims



A glow discharge apparatus is provided for treatment of nonuniform workpieces at uniform temperatures. The apparatus includes an outer metallic gas-tight chamber with an insulated cathode extending therein through a gas-tight insulated connection. A hollow electrically conductive container having a removable cover for insertion of the workpieces is disposed in the chamber and electrically connected to the cathode. A glow is induced on the interior walls of the container and surfaces of the nonuniform workpieces therein by providing an opening in the container wall large enough to preclude glow reinforcement within said opening as well as to admit the glow inducing means so as to act on the interior walls of the container, however yet arranged to prevent substantial radiation loss from the workpieces to the outside of the container through said opening.

3,423,563
BACK-UP SHOE FOR MOVING-TUBE SOLID PANEL WELDER

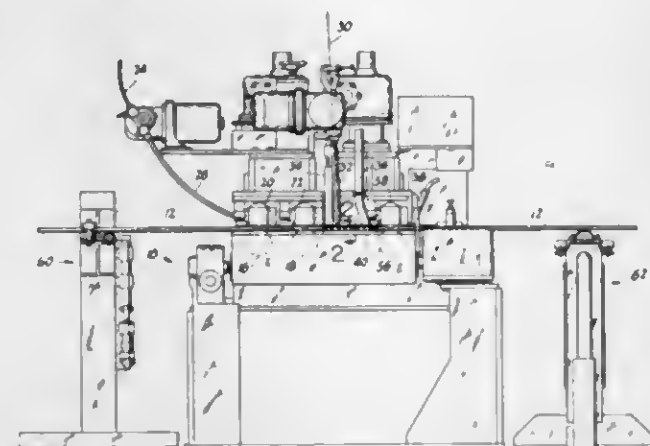
Pembroke O. Leach, William P. Jackson, and Vernon W. Camp, Chattanooga, Tenn., assignors to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware

Filed Aug. 27, 1965, Ser. No. 483,075

U.S. Cl. 219-124

Int. Cl. B23k 9/12

5 Claims



Apparatus for welding tubes together, where the tubes are moved past a stationary welding head. A backing means is positioned between the tubes for supporting the molten metal joining the tubes, the backing means being of such a predetermined length that the molten metal is chilled sufficiently to maintain its shape before it loses contact with the backing means, said predetermined length also being such that there will not be shrinkage of the weld metal, due to cooling thereof, to such an extent that the thus welded together tubes will tend to bind on the sides of the backing means.

3,423,564

ELECTRIC ARC WELDING APPARATUS

Alexander Jura Sevensco, Welwyn Garden City, England, assignor to Lincoln Electric Company Limited, Welwyn Garden City, England, a company of Great Britain

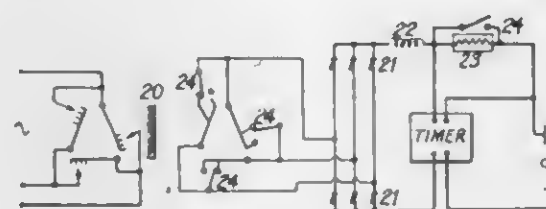
Filed June 28, 1965, Ser. No. 467,448

Claims priority, application Great Britain, July 14, 1964, 28,907/64

U.S. Cl. 219-131

Int. Cl. B23k 9/10

8 Claims



Apparatus for controlling the droplet rate and frequency of dip transfer for a given rate of feed of electrode wire from a welding head. Flux reset transducers alter the impedance of the welding circuit and include feedback windings to reduce the flux density of the transducer core in accordance with the magnitude of current in the welding head. Adjustable control circuitry is provided for varying the bias flux density to provide a maximum current output subsequent to a short circuit condition of the welding head.

3,423,565
COATED ELECTRODE AND PROCESS FOR ELECTRIC ARC WELDING

Marcel Jean Joseph Malchaire, Forest, Belgium, assignor to La Soudure Electrique Autogene, Procides Arcos, Brussels, Belgium, a corporation of Belgium

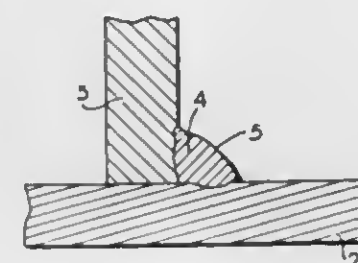
Filed May 18, 1966, Ser. No. 551,149

Claims priority, application Belgium, May 31, 1965, 13,478

U.S. Cl. 219-146

Int. Cl. B23k 35/22

16 Claims



An electrode and process, the electrode having a metallic core and a basic coating for electric arc welding between a vertical plate and horizontal plate in alloy or carbon steel, the coating having a coefficient of basicity higher than two and containing metallic powder, dioxidizer and fluorinated fluidizer, the coating having sufficient metallic powder to have an electrode efficiency higher than 150%, having an outside diameter at least 1.9 times its core diameter, and there being a greater weight of magnesium compounds among the basic chemical compounds than the sum of the weights of other basic alkaline earth and alkali compounds.

3,423,566

FEED APPARATUS FOR EXTRUSION DIE

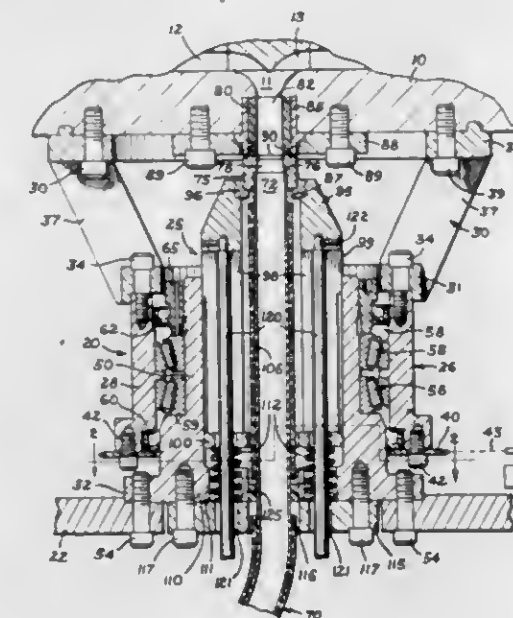
James L. Swickard, Jr., Hamilton, Ohio, assignor to The Black Clawson Company, Hamilton, Ohio, a corporation of Ohio

Filed Jan. 13, 1966, Ser. No. 520,333

U.S. Cl. 219-201

Int. Cl. H05b 3/54

11 Claims



A rotary joint for applying molten plastic material to a rotating or oscillating die incorporates a sintered carbon graphite bushing in axial compression and which forms a rotating seal. The bushing is formed with a central opening through which the plastic material flows and forms a continuation of a feed passageway and smoothly leads into the die interior. The rotating joint includes an electrically isolated feed tube of uniform dimension

throughout its length for direct resistance heating and is insulated by an annular air space for preventing excessive heating on the rotating components of the joint.

3,423,567

ELECTRICALLY HEATED BEDCOVERING

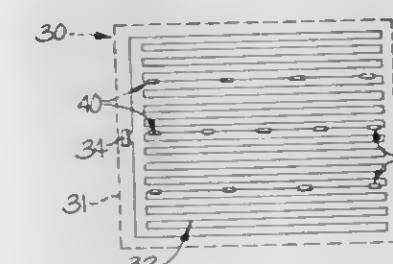
Edwin R. Mills, Raleigh, N.C., assignor to Fieldcrest Mills, Inc., Spray, N.C., a corporation of Delaware

Filed Dec. 8, 1966, Ser. No. 600,181

U.S. Cl. 219-212

Int. Cl. H05b 1/00; 3/36

9 Claims



A plurality of devices which become electrically non-conductive within a predetermined range of temperatures typical of a localized overheated condition are positioned within and disposed throughout a bedcovering base, such as a blanket shell, and thermally coupled to an electrical heating means so as to be responsive to the temperature thereof. Each of the devices normally conducts electrical current and is electrically connected in series with the heating means. Upon the occurrence of a localized overheated condition and in response to an improperly high temperature of at least part of the heating means, an element within an affected one of the devices loses physical integrity and the corresponding device thereupon becomes electrically nonconductive so as to interrupt and preclude further flow of current in the heating means. The element which loses physical integrity preferably is an eutectic metal alloy, and the devices do not return to an electrically conductive condition subsequent to melting of one of the elements.

3,423,568

ELECTRIC AND GAS SELF-CLEANING OVEN

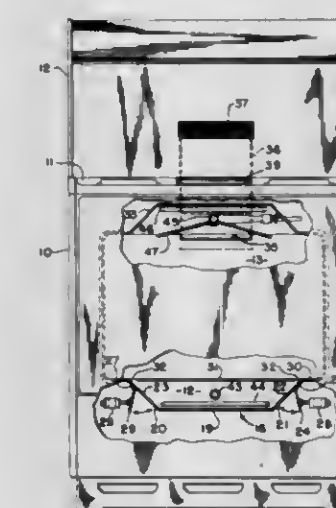
Daniel G. Meckley III, and Arthur W. Vonderhaar, Mansfield, Ohio, assignor to The Tappan Company, Mansfield, Ohio, a corporation of Ohio

Filed Aug. 22, 1966, Ser. No. 573,923

U.S. Cl. 219-279

Int. Cl. F27d 11/00

13 Claims



1. A self-cleaning cooking oven comprising walls forming a cavity having an access opening, a door for closure of said access opening, gas burner means within the cavity

for performing food cooking operations therein at temperatures not appreciably in excess of about 500° F., a wall section of the cavity being provided with a secondary air inlet for flow of ambient air into the cavity with the door closed during such gas cooking operations, electric heating means also within the cavity for heating the walls thereof to a self-cleaning temperature within the range of from about 750° F. to about 950° F., and shutter means for closing said secondary air inlet during energization of said electric heating means.

3,423,569

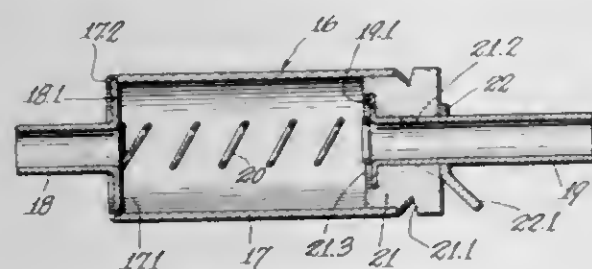
ELECTRIC AIR HEATER FOR AUTOMATIC CHOKE
Charles W. Cappell, Allison Park, Pa., and Gerald H. Kreske, Warren, Ohio, assignors to Edwin L. Wiegand Company, Pittsburgh, Pa.

Filed Apr. 5, 1962, Ser. No. 540,262

U.S. Cl. 219—374

3 Claims

Int. Cl. H05b 1/00, 3/02; F24b 3/00



An electric heater for heating air passing through the automatic choke mechanism of a carburetor associated with an engine includes a resistor coil secured under tension between tubular terminals disposed at opposite ends of a tubular housing. The turns are axially spaced to allow free flow of air therebetween. The housing is sized relative to the bores in the terminal members whereby air entering the housing through one terminal may expand so that its velocity is reduced to allow heat to be absorbed from the resistor. Heated air leaves the housing through the other terminal. A control circuit is provided to ensure that the resistor is energized only when the ignition is turned on, the engine is running and the engine temperature is below normal.

3,423,570

ELECTRICAL RADIANT HEATING SYSTEM FOR FLUID-RECEIVING CONDUIT STRUCTURES

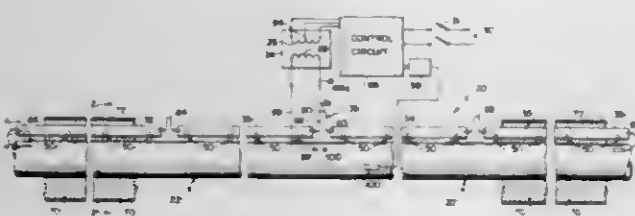
William J. Trabilcy, 280 Prospect Ave., Hackensack, N.J. 07601

Filed Mar. 21, 1966, Ser. No. 535,784

U.S. Cl. 219—301

9 Claims

Int. Cl. H05b 3/28; F24h 1/18, 9/12



An apparatus for heating a fluid-receiving structure and including an elongated radiant heating element closely facing the exterior of the fluid-receiving structure and being spaced therefrom by a series of rigid electrical insulators. The insulators are fixed to the radiant heating element and seat against the periphery of the fluid-receiving structure to electrically insulate the heating element from the fluid-receiving structure. In a preferred embodi-

ment, the radiant heating element is a rigid, structural T bar which is connected to a power supply source to radiate heat.

3,423,571

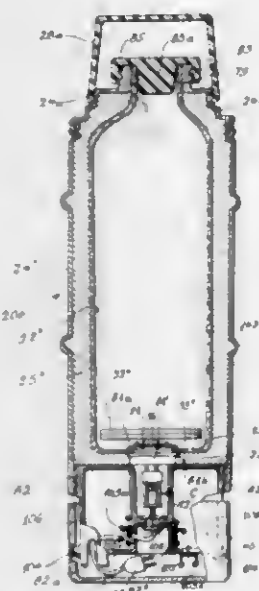
INSULATED ELECTRICALLY HEATED BOTTLE
Leonard Trachtenberg and Peter Warren Trachtenberg, both of 512 Pleasant Valley Way, West Orange, N.J. 07052

Filed Oct. 19, 1965, Ser. No. 497,841

U.S. Cl. 219—441

3 Claims

Int. Cl. F27d 11/02



An electrically heated bottle having a cylindrical hollow body with outer and inner metal walls and insulation therebetween. An electrical resistance heater element and a self-contained power cord are mounted in the body, with the cord connected to the heater element so that the bottle can be heated by connection of the cord to a convenient outlet. The bottle has means for reeling the power cord into the bottle and means for connecting the power cord to the cigarette lighter on the dashboard of a vehicle. Spring clamping means are provided for pivotally and detachably mounting the bottle on the dashboard of the vehicle. The heating of the bottle is controlled by a thermostat.

3,423,572

CONTROL FOR SURFACE HEATERS

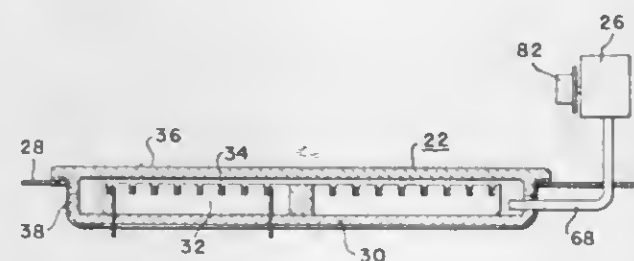
Nelson J. Pansing, Clayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed June 14, 1966, Ser. No. 557,419

U.S. Cl. 219—449

5 Claims

Int. Cl. H05b 3/68



In the preferred form, a cooking range has surface heaters enclosed by a heat permeable cover above and a reflector beneath. Heat sensitive controls for the heaters are provided on the back panel. A glass rod or fiber optic extends beneath the range top from one of the surface heaters to its heat sensitive control on the back panel to provide a control responsive to the heat emitted.

3,423,573 METHOD AND APPARATUS FOR HEATING ROLLERS

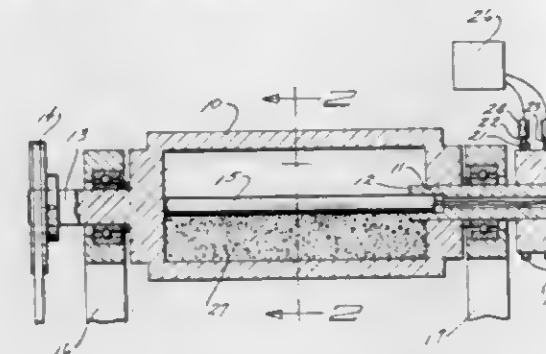
Raymond S. Richards and Douglass F. St. John, Toledo, Ohio, assignors to Owens-Illinois, Inc., a corporation of Ohio

Filed Sept. 7, 1965, Ser. No. 485,424

U.S. Cl. 219—469

9 Claims

Int. Cl. B21b 27/06; H05b 3/02



The heating of a roller by placing an electric heater or tubular heating member within the interior of the roller and partially filling the roller with particulate matter, such as sand, in sufficient quantity such that upon rotation of the roller the sand will flow by gravity over the heating element and serve as a mechanical means for transferring heat from the central heater to the inner surface of the hollow roller.

3,423,574

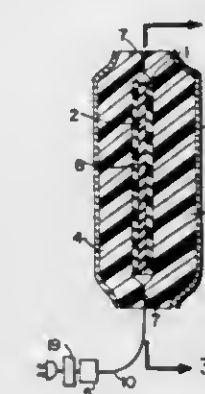
ELECTRICAL RESISTANCE HEATING PAD
George J. Shomphe, Robert W. Tabor, and Harold W. Lalmond, Nashua, N.H., assignors to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware

Filed Oct. 14, 1965, Ser. No. 496,023

U.S. Cl. 219—528

5 Claims

Int. Cl. H05b 3/36



Articles are herein provided to form a flexible printed circuit type electrical resistance heating pad. The heating pad is comprised of an etched, resistance steel element encapsulated between flexible, dielectric sheets on both sides of which exists a covering of heat-expandable plastic. The heating element incorporates a thermostat to provide a maximum temperature level, and a thermal fuse which will permanently open the circuit in the event a critical operating temperature is reached. In addition, the power cable for the heating pad incorporates a voltage reduction transformer and a temperature control switch.

3,423,575

PERFORATED CARD READER
William M. Hoffman, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Filed Jan. 21, 1965, Ser. No. 427,025

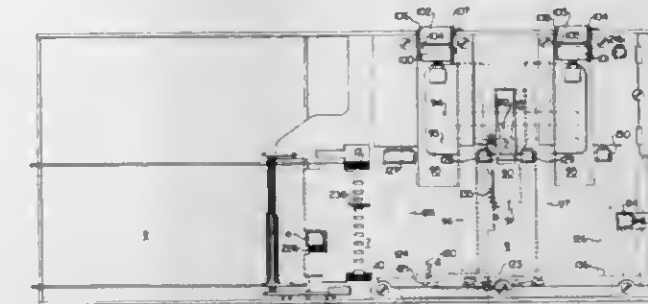
U.S. Cl. 235—61.11

4 Claims

Int. Cl. G06f 1/00

A perforated card reader which automatically feeds perforated cards from the bottom of a stack and directs them

through a read station wherein the sequencing and timing are established by a series of cams and a card clock disc



on a rotatable card control line which revolves one complete revolution per perforated card.

3,423,576

REVERSIBLE COUNTING CIRCUIT APPARATUS
Akira Abe, Takatsuki-shi, and Isao Hatano, Kyoto-fu, Japan, assignors to Tateisi Electronics Co., Kyoto-shi, Japan, a corporation of Japan

Filed Oct. 26, 1965, Ser. No. 505,261

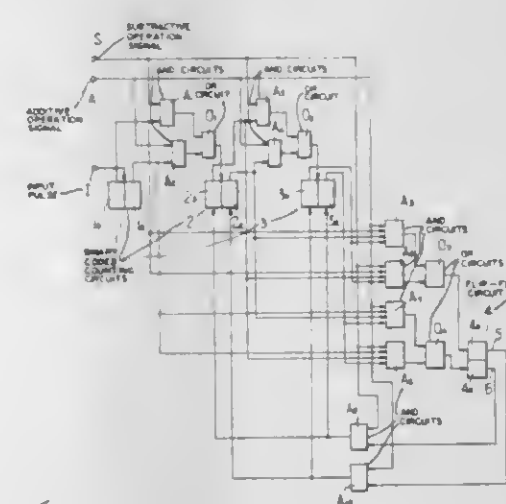
Claims priority, application Japan, Oct. 31, 1964,

39/61,937

U.S. Cl. 235—92

4 Claims

Int. Cl. G06f 7/38; G06g 7/00



1. A reversible counting circuit apparatus comprising: (m-1) binary coded counting circuits; a flip-flop circuit having first and second sections, said binary coded counting circuits and said flip-flop circuit being constituted to have 2^m coded counting capacity and to be able to operate in an arbitrary number other than 2ⁿ (where m>n) coded counting capacity; a plurality of AND circuits having the outputs of said binary coded counting circuits as their inputs, said AND circuits being also connected to the set input terminal and the reset input terminal of said flip-flop circuit, respectively; and a plurality of feed-back circuits having the inputs thereof connected to the first and second sections of said flip-flop circuit and having the outputs thereof connected to said binary coded counting circuits to reverse them in accordance with the outputs of said first and second sections of the flip-flop circuit, the binary coded counting circuits which provide the output signals thereof as the input signals of said AND circuits, and the binary coded counting circuits which are provided with feedback signals by said feedback circuits, being selected to skip the combination having the same output state of the binary coded counting circuits both in additive operation and in subtractive operation.

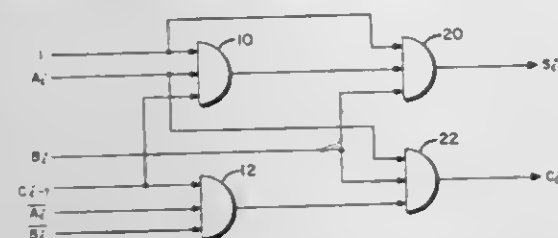
3,423,577

FULL ADDER STAGE UTILIZING DUAL-THRESHOLD LOGIC

Marius Cohn, Minneapolis, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Dec. 28, 1965, Ser. No. 516,975

U.S. Cl. 235-176 4 Claims
Int. Cl. G06f 5/04, 7/385, 7/42, 7/50



An improved full adder stage which utilizes four three-input dual-threshold logic elements in two logic levels to generate the sum and carry signals for such stages without requiring internal negation.

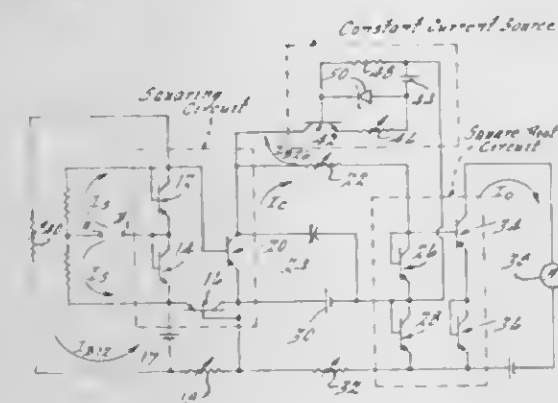
3,423,578

TRUE ROOT-MEAN-SQUARE COMPUTING CIRCUIT

George E. Platzer, Jr., Southfield, and Bruce D. Van Deusen, Birmingham, Mich., assignors to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware

Filed Aug. 29, 1966, Ser. No. 575,634

U.S. Cl. 235-193.5 7 Claims
Int. Cl. G06g 7/20



An analog computing circuit calculating the square root of the average value of the square of an electrical signal and yielding the true RMS values thereof. The circuit comprises a signal receiving squaring circuit including transistor type logarithmic and antilogarithmic translating devices, a square root determining circuit including transistor type antilogarithmic and logarithmic translating devices and an averaging RC circuit connected between the squaring circuit and the square root determining circuit, whereby an RMS output signal is provided from the square root determining circuit.

3,423,579

ELECTRONIC DIVIDER AND MULTIPLIER USING PHOTOCELLS

Anthony del Duca, Garden Grove, Calif., assignor, by mesne assignments, to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

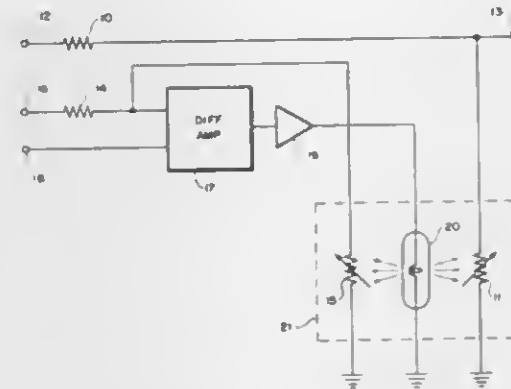
Filed Sept. 3, 1965, Ser. No. 484,855

U.S. Cl. 235-194 6 Claims
Int. Cl. G06g 7/16

1. In combination:

a light emitting device which emits light in proportion to an electrical signal applied thereto,
first and second photoconductive devices optically coupled to said light emitting device, each of said photo-

conductive devices having a conductance between two terminals which is proportional to the intensity of light coupled thereto from said light emitting device, and each having a first one of its two terminals connected to a source of reference potential,
first and second input terminals adapted to be connected to respective first and second signal sources,
a first resistor coupling said first input terminal to a second terminal of said first photoconductive device,
a second resistor coupling said second input terminal to a second terminal of said second photoconductive device,



means for producing the difference between two electrical signals, said means having two input terminals and one output terminal, a first one of said latter input terminals being connected to a junction between said first photoconductive device and said first resistor, a second one of said latter input terminals being adapted to be connected to a third signal source, and said output terminal being coupled to said light emitting device to apply an electrical signal thereto,
and an output terminal connected to a junction between said second photoconductive device and said second resistor.

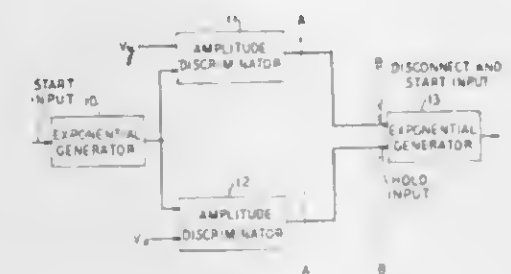
3,423,580

DIVIDING CIRCUIT BASED ON AMPLITUDE TO TIME CONVERSION

Robert L. Nance, Burlington, N.C., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed May 12, 1966, Ser. No. 549,561

U.S. Cl. 235-196 4 Claims
Int. Cl. G06g 7/16



A dividing circuit is disclosed in which the output of a first exponential generator is applied to first and second amplitude discriminators whose outputs in turn are applied to a second exponential generator. The second generator is enabled when the first generator output reaches a first level and clamped when the first generator output reaches a second level. The output level of the clamped second generator is linearly related to the ratio of the first and second levels.

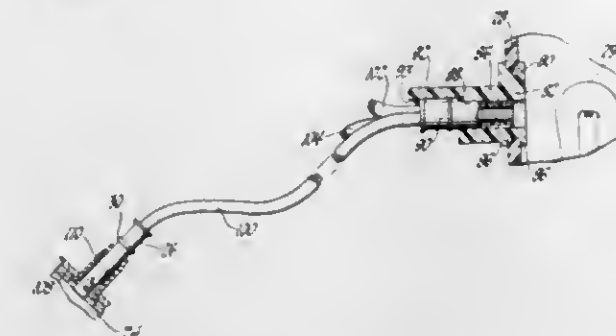
3,423,581

REMOTE ILLUMINATION APPARATUS

Donald G. Baer, Girard, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 26, 1966, Ser. No. 589,692

U.S. Cl. 240-8.16 12 Claims
Int. Cl. B60q 3/04



Fiber optics are used for illuminating objects remote from a light source, particularly for automotive vehicles. The fiber optic members are provided with metal ferrules and sockets are provided to engage the ferrules for holding the ends of the fiber optic members adjacent the light source and the object to be illuminated.

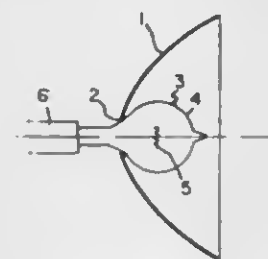
3,423,582

LIGHTING UNIT

William B. Elmer, Campton, N.H., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed Jan. 3, 1967, Ser. No. 606,738

U.S. Cl. 240-41.37 5 Claims
Int. Cl. F21v 7/09



A reflector for producing a generally rectangular beam for illuminating an area for taking photographs. The reflector is composed of four parabolic quadrants, each with a somewhat different axis, so that each produces a beam in a quadrant of a rectangle that it is desired to illuminate, the reflector surface being dimpled and the filament large enough to be only vaguely focussed, in order to smooth out the light into a single rectangle. The quadrants are as if cut from a paraboloid of revolution, the "vertical" cuts being made in a plane passing through the focal point at a 4 1/2° angle, the "horizontal" at a 3 1/4° angle. The commercial reflector is stamped from a single piece of sheet metal.

3,423,583

METHOD OF STABILIZATION OF THERMIONIC SOURCES AND THERMIONIC SOURCE OBTAINED BY APPLICATION OF SAID METHOD OR A LIKE METHOD

Georges Durand, Nancy, and Charles Kosztolanyi, Chavigny, France, assignors to Commissariat a l'Energie Atomique, Paris, France

No Drawing. Filed Mar. 25, 1965, Ser. No. 442,773

Claims priority, application France, Mar. 27, 1964, 968,985

U.S. Cl. 250-41.9 4 Claims
Int. Cl. H01j 00/00, 39/34; B01d 59/44

The present invention is concerned with stabilized thermionic sources and their method of preparation. The thermionic sources according to the present invention are designed for use in mass spectrometry. The sources are prepared by coating a metallic heating filament with a

layer of refractory substance possessing poor thermal conductivity. The coating preferably is carried out by depositing on the surface of the filament a layer of the refractory substance and calcining the structure thus obtained so as to adhere said layer to the filament. The resulting stabilized filament is then coated with a layer of a mixture comprising the product to be analyzed and the refractory substance. The filament is again calcined so as to produce an outer layer composed of the latter mixture. Titanium pyrophosphate, magnesium aluminate and nickel oxide have been found to be the preferable refractory substances.

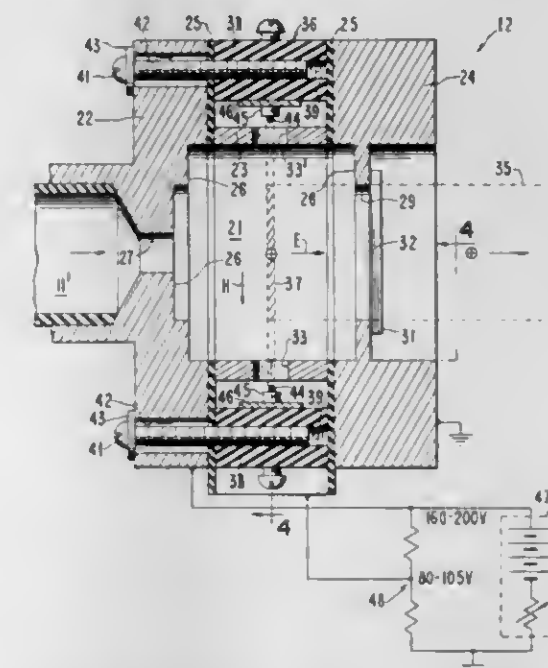
3,423,584

SPECTROMETER ION SOURCE HAVING TWO FILAMENTS EACH ALTERNATELY ACTING AS EMITTER AND COLLECTOR

Raymond A. Erickson, San Jose, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Mar. 23, 1966, Ser. No. 536,921

U.S. Cl. 250-41.9 6 Claims
Int. Cl. B01d 59/44; H01j 39/34



A cycloidal mass spectrometer is disclosed. The spectrometer includes an ion source. The ion source has dual electronic emitters providing alternative sources for producing an electron beam for ionizing gas within the ion source. Each of the electron emitters includes an associated collector electrode structure operated at the same potential as the electron emitter. A switching network is provided for alternatively switching into service either one of the electron emitters. The switching network includes means for operating either one of the emitters as the active source of electrons and the other emitter and its collector electrode as the electron collector electrode for the active emitter, whereby the operating conditions in the ion source are not substantially altered by failure of one of the emitters and a subsequent shift to use of the other emitter.

3,423,585

SYSTEM FOR DETECTING SUSPENDED COLLOIDAL SOLIDS IN A GAS UTILIZING AN IONIZATION CHAMBER AND A STEP-DOWN AMPLIFIER

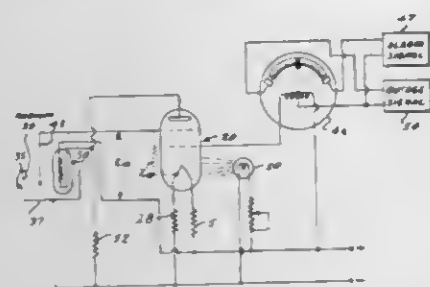
Donald G. Stroh, Denver, Colo., assignor, by mesne assignments, to Central Investment Corporation of Denver, a corporation of Colorado

Filed Aug. 24, 1964, Ser. No. 391,558

U.S. Cl. 250-43.5 7 Claims
Int. Cl. G01n 23/12, 21/26; H01j 37/00

An amplifier circuit utilizing a vacuum tube having the anode biased negative with respect to the cathode, the

input being between the anode or screen grid and cathode and the output between the control grid and cathode rendered sensitive to voltages on the order of one to



ten volts by the use of combined derated filament power while simultaneously increasing control grid bias from that normally required or used.

3,423,586 ACTIVITY COUNTING DEVICE IN MULTI-CHANNEL ARRANGEMENT

Israel Pelah, Yavne, Israel, and Georges Fraysse, Varese, and Walter Hage, Laveno, Italy, assignors to European Atomic Energy Community—Euratom, Brussels, Belgium

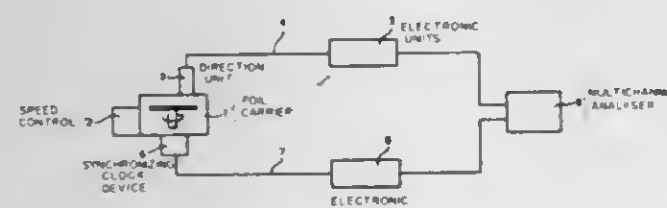
Filed Nov. 27, 1964, Ser. No. 414,249

Claims priority, application Great Britain, Dec. 18, 1963, 50,057/63

U.S. Cl. 250—83.1

Int. Cl. G01t 3/00; H01j 39/32

2 Claims



There is provided a foil activity counting device for measuring a neutron flux emitted from radioactive materials. The device comprises a rotating sample carrier unit having samples of radioactive materials deposited thereon, a radiation detection unit mounted in a stationary fashion on the carrier unit, a single measuring channel connected to the radiation detection unit which analyses and amplifies the output signals of the radiation detection unit, a pulse emitter controlled by the rotating sample carrier unit, a single addressing channel connected to the pulse emitter and providing identification pulses in synchronism with the carrier rotation, a multi-channel pulse height analyser connected to the outputs respectively of the addressing channel and the measuring channel in order to receive distribution of the pulses from the radiation detection unit. The rotation speed of the rotating sample carrier unit is fixed at such a rate that the counting time for one foil is negligible as compared to the drifting time in the measuring channel and the half-time decay time of the foil substance.

3,423,587 DETERMINATION OF RAINFALL RADIOACTIVITY

Jean Goupil, Saint-Germain-en-Laye, France, assignor to Commissariat à l'Energie Atomique, Paris, France

Filed Aug. 25, 1965, Ser. No. 482,448

Claims priority, application France, Sept. 1, 1964, 986,802

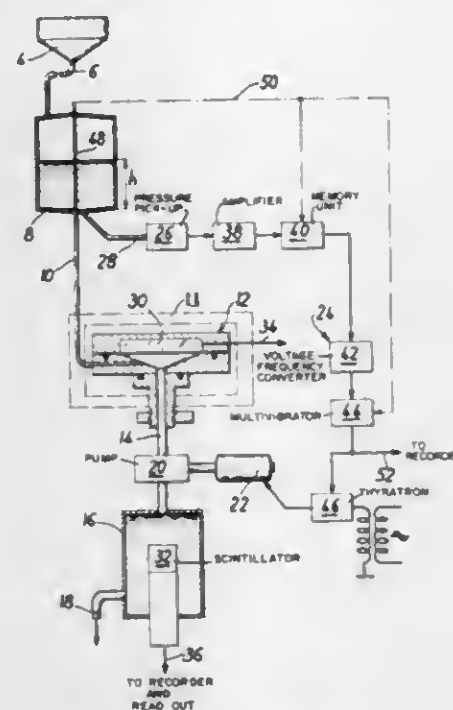
U.S. Cl. 250—83.3

Int. Cl. H01j 39/00; G01t 1/16

5 Claims

Apparatus for determining the radioactivity of rainfall includes a collector for the rainfall having an outlet pipe connected to a beta-ray detecting cup. An outflow regulat-

ing device is disposed on the downstream side of the cup and is controlled by a pressure pick-up which responds to the level of the water in the collector so that the flow regulating element controls the flow at a value propor-



3,423,588 LOW-NOISE OPTICAL MASER OF THE INTERNAL MODULATION TYPE

Teiji Uchida, Tokyo, Japan, assignor to Nippon Electric Company, Limited, Tokyo, Japan, a corporation of Japan

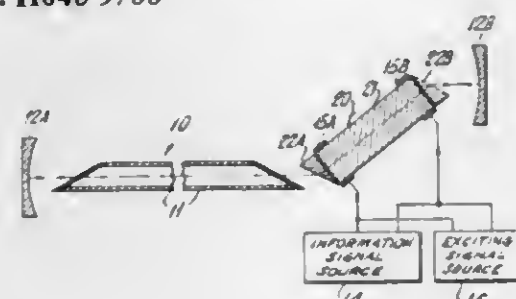
Filed Mar. 22, 1966, Ser. No. 536,347

Claims priority, application Japan, Mar. 25, 1965, 40/17,378

U.S. Cl. 250—199

Int. Cl. H04b 9/00

3 Claims



In an optical maser device, modulation with an exciting signal is superposed on modulation with the information signal. The frequency of the exciting signal is an integral multiple of $c/2L$, where c is the light velocity and L is the optical path between the mirrors forming the optical resonator. This "locks" the frequency spacing between the adjacent optical output components of various longitudinal modes belonging to a single transverse mode.

3,423,589 PATTERN CONTOUR TRACING APPARATUS UTILIZING PULSATING LIGHT SOURCE

Francis G. Bardwell, Chicago, Ill., and Derek H. Redman, Kenley, England, assignors to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia

Filed May 19, 1965, Ser. No. 457,098

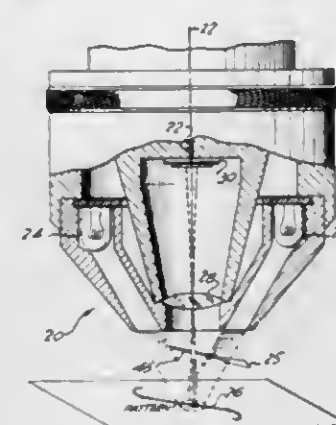
U.S. Cl. 250—202

Int. Cl. H01j 39/00

15 Claims

Pattern contour tracing apparatus of the type in which a pulsating light source illuminates the line or edge to be

traced the image of which falls on photosensitive means comprising a plurality of photocells such as the photo-voltaic type. The photocells are arranged in circuits for algebraically combining their outputs so as to provide resultant signals indicative of the deviation of the sensing



head from the line or edge being traced. The resultant signals are used to control motive means such as phase sensitive servo motors so as to drive the equipment along the line or edge. Offline or edge apparatus is included to determine when the sensing head strays from the pattern.

3,423,590 STEERABLE DRIVE WHICH BECOMES DISENGAGED UPON REMOVAL FROM THE DRIVE SURFACE

George S. Jewell, Ancaster, Ontario, Canada, assignor to Canadian Westinghouse Company Limited, Hamilton, Ontario, Canada, a Canadian company

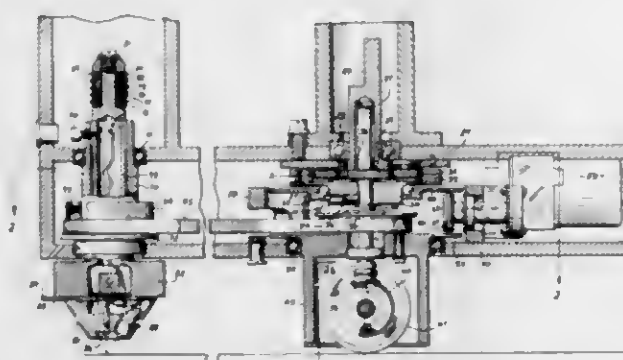
Filed Oct. 19, 1965, Ser. No. 497,996

Claims priority, application Canada, Apr. 17, 1965, 928,434

U.S. Cl. 250—202

Int. Cl. G05b 13/02

7 Claims



A pattern tracing mechanism for a machine such as flame cutters requires a steerable friction drive wheel. The invention disclosed provides a steerable drive wheel which is disengaged from its steering motion when lifted from the drive surface. The drive is also compensated for steering velocity to provide a constant tangential drive velocity.

3,423,591 DEVICE FOR DETERMINING MEAN VALUE OF TWO OPPOSITE PERIPHERAL COORDINATES OF A SOLAR IMAGE

Winfried Schrempf, Neubiberg, Germany, assignor to Bolkow Gesellschaft mit beschränkter Haftung, Ottobrunn near Munich, Germany

Filed May 5, 1966, Ser. No. 547,960

Claims priority, application Germany, May 13, 1965, B 81/906

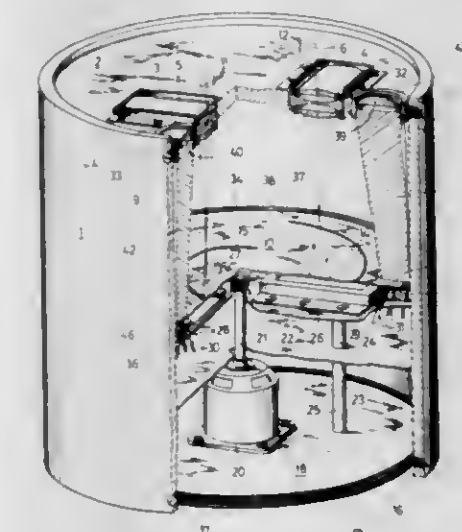
U.S. Cl. 250—203

Int. Cl. G01j 1/20

15 Claims

1. A device for forming a numerical value proportional to the mean value of two opposite peripheral coordinates

of the solar image, said device comprising, in combination, lens means operable to form, in its image plane, an image of the sun substantially elongated along one diameter; a diaphragm disk mounted for rotation in said image plane and having said image appearing on its upper surface, said diaphragm being formed with a slit progressively scanning said image, during rotation of said disk, between a leading peripheral coordinate x_1 extending along one edge of said image and a trailing peripheral coordinate x_2 extending along the opposite edge of said image; driving means rotating said disk; an elongated photoelectric converter positioned beneath said disk and perpendicularly intersecting said one diameter of said image; means operable, responsive to rotation of said disk, to produce a



series of pulses corresponding in number to the angular displacement of said disk from a zero reference position; a plural stage binary counter; and electronic means, including said photoelectric converter, connected to said counter and operable to supply said pulses to one stage of said counter only during rotation of said disk from said reference position to a first position wherein said slit scans the coordinate x_1 , and to supply said pulses to the next succeeding stage of said counter only during rotation of said disk from said first position to a second position wherein said slit scans the coordinate x_2 ; whereby said binary counter provides a numerical value proportional to the mean value x_m of said peripheral coordinates x_1 and x_2 .

3,423,592 DISTANCE MEASURING MEANS USING LIGHT BEAMS

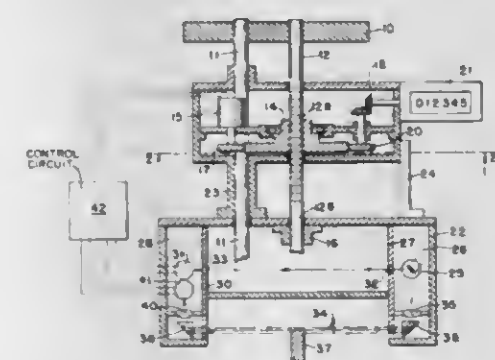
Paul J. Selgin, Bethel, Conn., assignor to Automatic Control Devices, Inc., a corporation of Connecticut

Filed Aug. 26, 1964, Ser. No. 392,214

U.S. Cl. 250—204

Int. Cl. G01j 1/36

5 Claims



A measuring instrument is described which employs two light beams to determine the position of an upper sur-

face of an object. One light beam is directed across the surface of the object and is automatically adjusted for grazing incidence. The other beam is a reference. To adjust the position of the beams, the difference between the intensities of the two beams is measured by two photosensitive transducers and the resulting electrical current is applied to an electric motor which moves an indicating means and the first light beam until there is no difference between the intensities of the two beams.

3,423,593

OPTICAL BEAM POSITION SENSOR

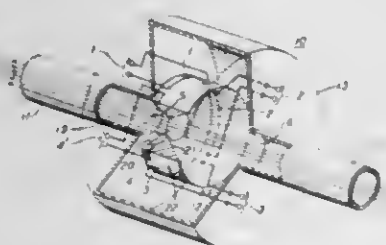
Edwin L. Chinnock, Rumson, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, Berkeley Heights, N.J., a corporation of New York

Filed Oct. 28, 1966, Ser. No. 590,380

U.S. Cl. 250-208

Int. Cl. H01j 39/12

8 Claims



1. In combination:

- an optical waveguide for guiding a beam of optical wave energy therealong;
- a beam position sensor disposed along said waveguide comprising wave deflecting means symmetrically disposed about said waveguide for intercepting a fraction of the energy of said beam and for directing said intercepted energy out of said waveguide;
- four photosensitive elements disposed about said sensor for receiving portions of said intercepted energy;
- and means for coupling between said elements and external beam position control means.

3,423,594

PHOTOELECTRIC SEMICONDUCTOR DEVICE WITH OPTICAL FIBER MEANS COUPLING INPUT SIGNALS TO BASE

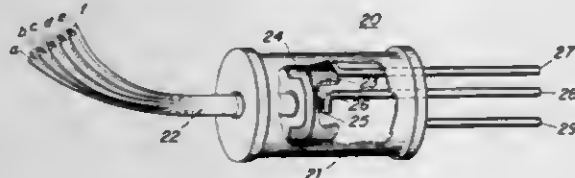
Anthony G. Galopin, 1459 Beacon St., Brookline, Mass. 02146

Filed Mar. 3, 1964, Ser. No. 349,062

U.S. Cl. 250-211

Int. Cl. H01j 39/12

20 Claims



A photosensitive semiconductor device in which a plurality of fiber optic light rods are coupled to a light sensitive base portion of the device. Depending on the specific type of photosensitive device, several logic functions, such as "AND," "OR," integration, mixing, etc., may be accomplished by selectively directing light signals through the optical fibers. In addition, the threshold level of the photosensitive area may also be optically controlled by light to vary the effect of the plurality type input.

3,423,595
HIGH SPEED MODULATOR FOR ELECTRONIC SHUTTER

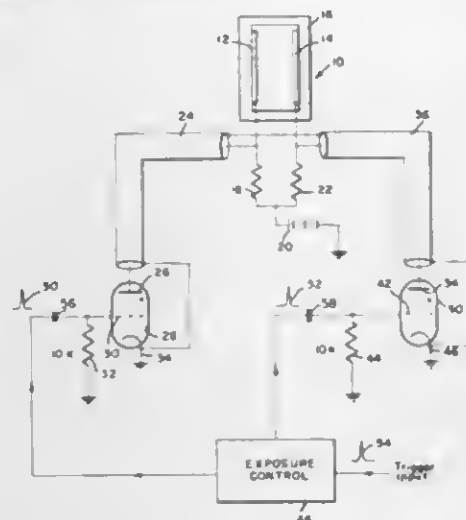
John J. Hickey, Hawthorne, Calif., assignor to TRW Inc., Redondo Beach, Calif., a corporation of Ohio

Filed Aug. 30, 1965, Ser. No. 483,684

U.S. Cl. 250-213

Int. Cl. H01j 39/12; 31/50

6 Claims



A shutter pulse for an electronic shutter that is twice the supply voltage is generated by sequentially discharging delay lines connected to each side of the electronic shutter.

3,423,596

APPARATUS WHEREIN A PULSED LIGHT BEAM IS INTERRUPTED HAVING A HIGH PASS FILTER SO THAT THE PHOTOCELL IS RESPONSIVE ONLY TO THE LEADING EDGE OF THE LIGHT PULSE

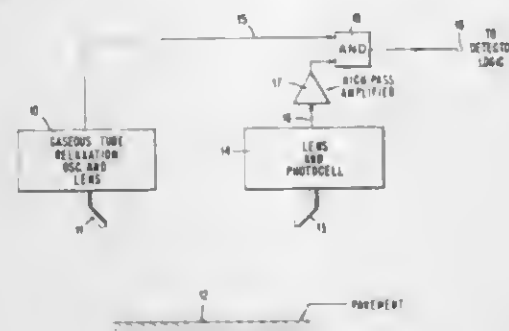
Walter K. French, Montrose, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Dec. 30, 1964, Ser. No. 422,291

U.S. Cl. 250-222

Int. Cl. H01j 39/12

4 Claims



A vehicle detection device utilizing a square wave producing light source in conjunction with a high pass filter. Light flashes are projected upon a surface and subsequently reflected to a photo cell. The output of the photo cell is passed through a high pass filter, thus preventing the detector from recognizing ambient light, not characterized by a fast rise time, as an output. Vehicles are detected when they block the reflected light causing an interruption in the output of the high pass filter.

3,423,597

RADIATION SENSITIVE POSITION SENSING APPARATUS

Werner F. Delp, Fort Washington, Pa., assignor to The Jade Corporation, Beth Ayres, Pa., a corporation of Pennsylvania

Filed June 27, 1966, Ser. No. 560,520

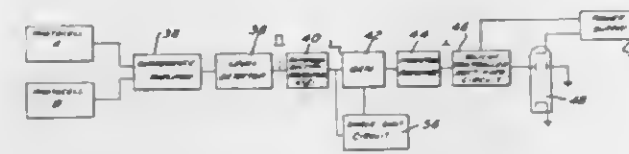
U.S. Cl. 250-231

Int. Cl. G01d 5/34

11 Claims

1. Position sensing apparatus comprising first and second transducer means for optically sensing a moving

object at two distinct positions, means for electrically combining the outputs of said transducer means to produce a combined signal, means responsive to said combined signal for generating an output voltage when said combined signal reaches a predetermined level and sustaining said output voltage until said combined signal



drops below a predetermined level, means for detecting when said voltage changes in response to said drop in said combined signal below said predetermined level and generating a triggering pulse in response to said change, and means including a gate and a control for said gate for applying said triggering pulse to initiate a machine function.

3,423,598

PEAK DEMAND CURRENT LIMITING CONTROL SYSTEM

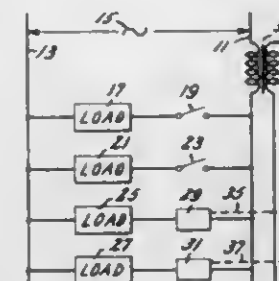
Leon J. Goldberg, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Aug. 29, 1966, Ser. No. 575,651

U.S. Cl. 307-35

Int. Cl. H02j 1/04; 3/14

8 Claims



1. A peak demand current limiting control system for a load circuit comprising a plurality of branches each connected across alternating current power supply lines and each having a load, at least one of said loads being a prime load which receives full current at peak demand periods while another of said loads is a deferred load which receives less than full current at peak demand periods, said control circuit comprising

means for continuously sensing the total current in said load circuit due to all of the loads in all of the circuit branches and for generating a control signal that is a function of the total current, control circuit means connected in series with the deferred load in one of the circuit branches for supplying a variable amount of current to the deferred load, and means for applying said control signal to said control circuit means to vary continuously the amount of current supplied to the deferred load in inverse relation to the magnitude of the control signal when a critical value of the total current is exceeded, whereby the total current in the load circuit at peak demand periods never exceeds a predetermined maximum.

3,423,599
FUEL BATTERY-RECHARGEABLE ACCUMULATOR COMBINATION

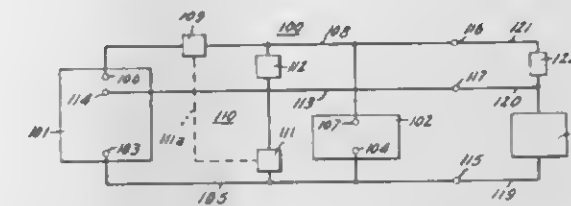
Thomas C. Hovious, Peabody, Mass., assignor to General Electric Company, a corporation of New York

Filed Sept. 20, 1965, Ser. No. 488,320

U.S. Cl. 307-66

Int. Cl. H02j 9/00; 7/00

13 Claims



A circuit arrangement is disclosed in which a fuel battery is used to meet base power requirements of a load while a rechargeable accumulator (cell, battery, or capacitor) is used to meet peak power requirements. When the terminal voltage across the accumulator falls below a predetermined level, the fuel battery recharges the accumulator. In one form a Zener diode becomes nonconductive when the accumulator potential falls below a predetermined level. This allows a solenoid switch to revert to its closed position for charging of the accumulator. Where the accumulator and fuel battery are associated with the same load, the fuel battery is center tapped so that the fuel battery is capable of supplying the necessary overvoltage for charging of the accumulator.

3,423,600

TIME RELAY AND PULSE GENERATOR CIRCUIT

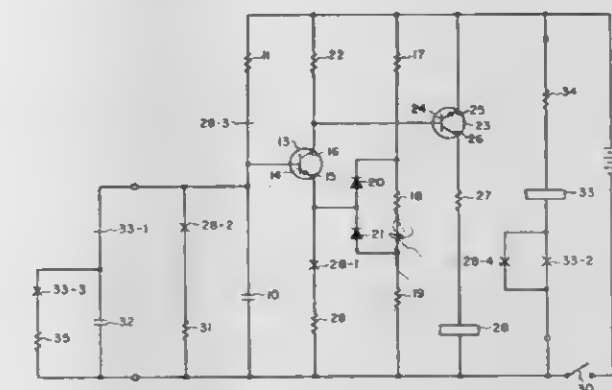
Bruce G. Pringle, Ottawa, Ontario, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada

Filed Aug. 31, 1966, Ser. No. 576,422

U.S. Cl. 307-132

Int. Cl. H01h 47/18; 51/34

4 Claims



1. A time delay and pulse generator circuit comprising: a transistor having a base, an emitter and a collector; a direct current source of voltage; a load connected between the collector and one end of said source of voltage; a capacitor connected between the base and the other end of said source of voltage; a first resistor connected between the base and said one end of the source of voltage; second, third and fourth resistors connected in series across said source of voltage, said third resistor being located intermediate said second and fourth resistors; first and second diodes connected in series aiding across said third resistor so as to be normally back-biased by said source of voltage; the junction of said first and second diodes being connected to the emitter; means responsive to current flow through said load for connecting a fifth resistor between the emitter and said other end of the source of voltage, and also for connecting a sixth resistor in parallel with said capacitor.

3,423,601

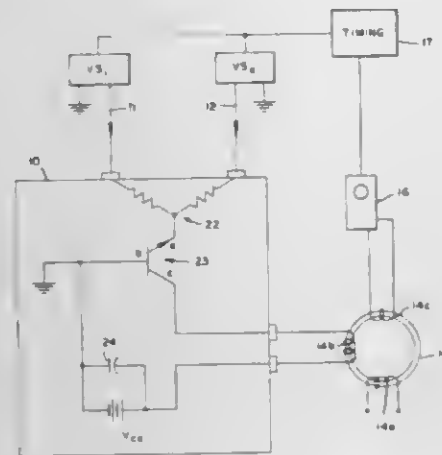
PULSE TESTING APPARATUS FOR TESTING A DEVICE WITH CURRENT PULSES

Paul E. Goodale, Pleasant Hill, Calif., assignor to E-H Research Laboratories, Inc., Oakland, Calif., a corporation of California

Filed Jan. 3, 1966, Ser. No. 518,121

U.S. Cl. 307—270
Int. Cl. H03k 3/26

1 Claim



A pulse testing apparatus for testing a device under test such as a magnetic core with current pulses. Voltage pulses are supplied by a plurality of voltage sources cabled to a voltage to current pulse converter. The converter includes a resistive adding circuit coupled to the emitter of a transistor. The base of the transistor is grounded and also coupled to a common potential source and the collector is coupled to the device to be tested. The resistive adding circuit substantially terminates the cabling from the voltage sources to the ground through the low base to an emitter impedance of the transistor to thus eliminate reflections. The high impedance between the base and collector serves to isolate the transmission line from the base collector circuit. The device to be tested is coupled to the converter in relatively close proximity to eliminate cabling capacitance. A current pulse is supplied to the device under test when the transistor of the converter is actuated by a voltage pulse.

3,423,602

LOGIC CIRCUIT

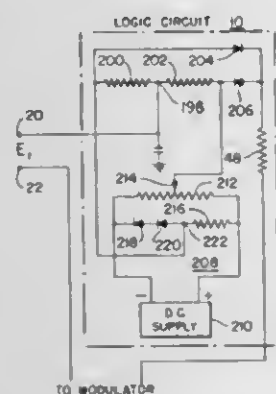
John R. Louis, 5 Chestnut Square,
Foxboro, Mass. 02035

Original application Oct. 10, 1962, Ser. No. 229,544.
Divided and this application Oct. 11, 1965, Ser.

No. 494,636

U.S. Cl. 307—235
Int. Cl. H03k 5/20

6 Claims



A logic circuit employing setpoint and compare circuits to establish a positive, direct voltage output when

one setpoint condition is exceeded by an input signal, a negative direct voltage output when a second setpoint condition is exceeded and a zero output in a dead-band zone between the two setpoint conditions.

3,423,603

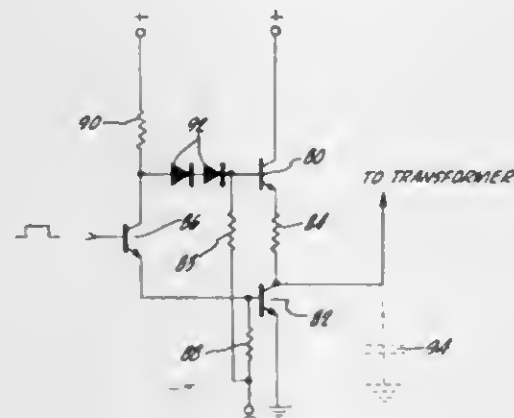
ADDRESS SELECTION SWITCH FOR COINCIDENCE MEMORY

Joseph Reese Brown, Jr., Pasadena, Calif., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Oct. 23, 1965, Ser. No. 503,334

U.S. Cl. 307—253
Int. Cl. H03k 17/60

2 Claims



There is described a gating circuit for selectively connecting a reactive load directly to ground reference potential through substantially zero impedance or connecting the load to a fixed potential through a very low impedance. The solid state switching arrangement is controlled from a single gating pulse input.

3,423,604

MONOSTABLE MULTIVIBRATOR FOR PRODUCING PULSE OF LONG DURATION

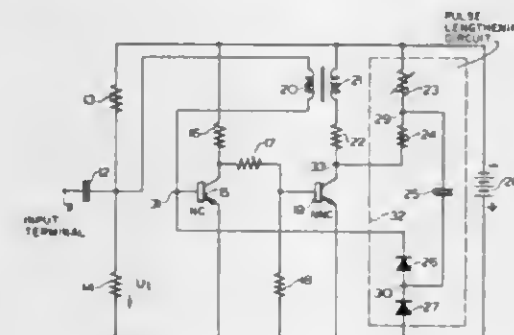
Hermann Scholl, Stuttgart, Germany, assignor to Robert Bosch, G.m.b.H., Stuttgart, Germany

Filed July 6, 1965, Ser. No. 469,751

Claims priority, application Germany, July 10, 1964,
B 77,612

U.S. Cl. 307—273
Int. Cl. H03k 3/26

8 Claims



A monostable multivibrator for producing pulses including input and output transistors connected to each other, inductively regenerative means coupling the output transistor to the input transistor, and a pulse duration lengthening circuit connected in parallel with the inductively regenerative means.

3,423,605

SWITCHING CIRCUITS USING SOLID STATE SWITCHES

Arne Jensen, Als, Denmark, assignor to Danfoss A/S, Nordborg, Denmark, a company of Denmark

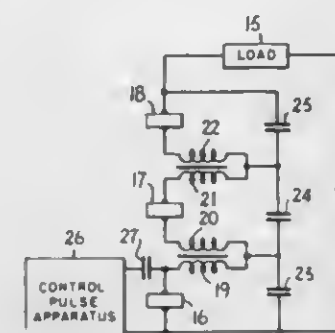
Filed Apr. 7, 1965, Ser. No. 446,799

Claims priority, application Germany, Mar. 19, 1964,
D 43,928

U.S. Cl. 307—300

Int. Cl. H03k 3/26, 19/08, 23/08

9 Claims



1. A switching circuit comprising, a semiconductor switch device comprising a plurality of solid state non-rectifying switch elements each capable of passing both cycles of alternating current and capable of being switched from a normally high impedance to a low impedance state, inductive means connected in circuit with said semiconductor device, means to couple a control signal voltage to said inductive means effective to apply a single signal to switch one of said non-rectifying switch elements to a low impedance state, an alternating voltage source, capacitive means charged from said source and connected to said inductive means and to said one of said non-rectifying switch elements and cooperative therewith to produce a triggering voltage across at least another of said plurality of non-rectifying switch elements sufficient to switch same to the low impedance state in response to the presence of said single control signal voltage and the switching of said one switch to a low impedance state.

3,423,606

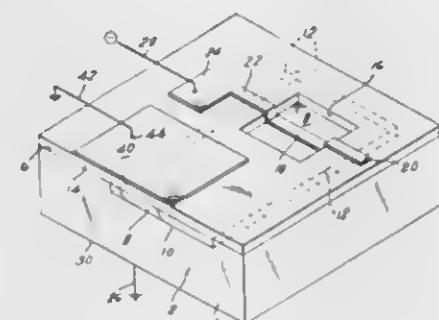
DIODE WITH SHARP REVERSE-BIAS BREAKDOWN CHARACTERISTIC

Frank M. Wanlass, Huntington, N.Y., assignor to General Instrument Corporation, Newark, N.J., a corporation of Delaware

Filed July 21, 1966, Ser. No. 566,802

U.S. Cl. 307—302
Int. Cl. H03k 3/26

4 Claims



In a semiconductor diode of the MOS-type comprising a substrate primarily of a first conductivity type and having a portion of a second conductivity type, the junction between the two conductivity types extending to a surface of the substrate and that surface being covered by a metal oxide dielectric layer, a sharp reverse-bias breakdown

characteristic is imparted by providing a conductive layer on the top of the oxide insulating layer which extends along and to either side of the junction line, and which is biased in a manner comparable to that of the substrate proper.

3,423,607

JOSEPHSON CURRENT STRUCTURES

John E. Kunzler, Pleasant Grove, Hyman J. Levinstein, Berkeley Heights, and John M. Rowell, Readington Township, Hunterdon County, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed June 29, 1966, Ser. No. 561,624

U.S. Cl. 307—306
Int. Cl. H03k 3/38

10 Claims



A Josephson-type two-particle tunneling device comprises two superconducting bodies defining a current path therebetween. One of the bodies is tapered in at least one dimension forming a wedge and contacts the other body that may be of plane, curved, or of similar tapered surface. The one or both bodies may be tapered in two dimensions and contact each other in a point area less than two mils in diameter. Radio frequency currents of at least one gigacycle per second are obtainable.

3,423,608

NONMAGNETIC THERMAL MOTOR FOR A MAGNETOMETER

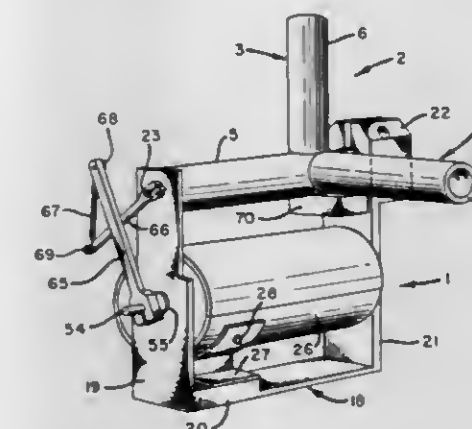
William J. Kerwin, Sunnyvale, and Stanley G. Scott, Menlo Park, Calif., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Aug. 2, 1965, Ser. No. 476,763

U.S. Cl. 310—4

Int. Cl. G01r 33/02; H02n 7/00

1 Claim



A nonmagnetic thermal motor for moving a magnetometer from one predetermined calibration position to another. Two spiral bimetallic elements are series-connected between a casing and a rotatable shaft. An electric heater is situated within each bimetallic element. A frame fastened to the casing rotatably supports an output shaft. A crank arm is attached to each of the shafts and the arms are interconnected by a spring. The arms and spring

cause a magnetometer coupled to the output shaft to assume a first or second position. The positions are alternated by selectively energizing the bimetallic elements.

3,423,609

QUARTZ CRYSTAL TEMPERATURE TRANSDUCER

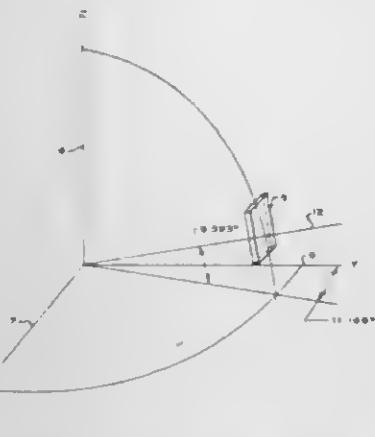
Donald L. Hammond, Palo Alto, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California

Filed Jan. 30, 1964, Ser. No. 341,222

U.S. Cl. 310-9.5

Int. Cl. H02n 11/00

4 Claims



1. A quartz crystal plate having an orientation of approximately $(yxwl) \pm 11.166^\circ \pm m120^\circ/9.393^\circ$ where m is an integer not greater than 3.

3,423,610

CLOSED SYSTEM FOR MAGNETOPLASMA DYNAMIC ELECTRICAL POWER GENERATION

Cheng Shih, Baltimore, Md., Elmer D. Parr, Dublin, and R. Rhoads Stephenson, La Canada, Calif., and Mostafa E. Talaat, Bethesda, Md.; said Shih, Parr and Stephenson assignors to Martin-Marietta Corporation, New York, N.Y., a corporation of Maryland

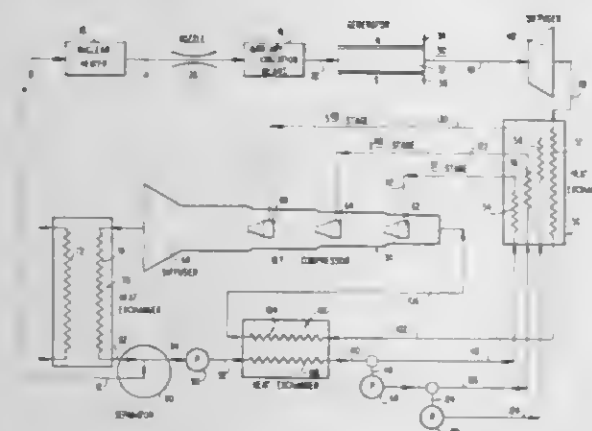
Filed Sept. 1, 1965, Ser. No. 488,833

(Filed under Rule 47(a) and 35 U.S.C. 116)

U.S. Cl. 310-11

Int. Cl. G21d 7/02

8 Claims



1. In a completely closed magnetoplasma dynamic power generation system having a working fluid medium, means for heating said working medium to a high temperature, means to effect ionization thereof, and means for delivering said ionized high temperature, working medium at extreme velocity to a magnetoplasma dynamic electrical generator whereby a portion of the kinetic energy and thermal energy of the ionized working medium is converted to electrical form, the improvement comprising: a jet compressor including a secondary fluid inlet and a primary fluid discharge nozzle,

means for directing the exhaust working medium from the generator to said compressor's secondary fluid inlet, and

means for directing a vaporized, superheated driving fluid to said jet compressor fluid discharge nozzle whereby momentum transfer is achieved between said fluids and said working fluid is repressurized prior to being recirculated through said generator in continuous fashion.

3,423,611

ELECTRODE AND METHOD OF FABRICATION

Antoine d'Albis, Paris, David Yerouchalmi, Issy-les-Moulineaux, and Bernard Bouillon, Bourg-la-Reine, France, assignors to Commissariat a l'Energie Atomique, Paris, France

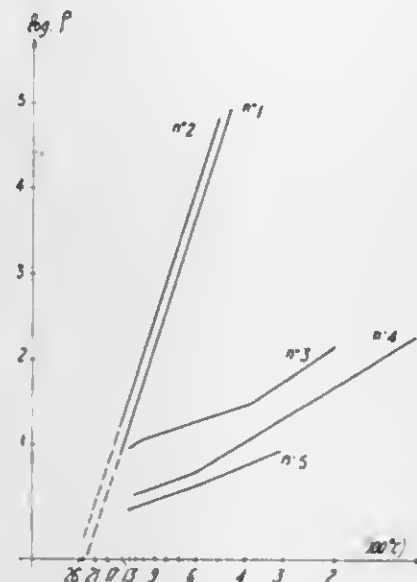
Filed May 23, 1966, Ser. No. 589,476

Claims priority, application France, May 25, 1965, 18,237; May 12, 1966, 61,379

U.S. Cl. 310-11

Int. Cl. H02k

7 Claims



1. An electrode designed for operation in the channel of a magnetohydrodynamic converter, wherein said electrode is made up of a laminated ceramic plate and the top layer of said plate is formed of a first stabilized refractory oxide whilst the following layers of said plate are formed in turn of the same stabilized refractory oxide which is enriched to a progressively increasing extent with a second refractory oxide in proportions such that the conductivity of the bottom layer at its working temperature is equal to the conductivity of the top layer.

3,423,612

MOTOR STARTING DEVICE

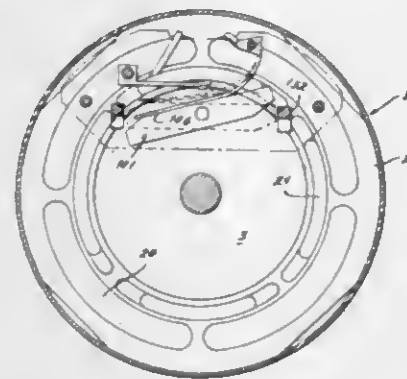
Richard B. Brundage, 2 Whitfield Lane, Ladue, Mo. 64758

Continuation-in-part of application Ser. No. 457,432, May 20, 1965. This application Nov. 29, 1967, Ser. No. 686,598

U.S. Cl. 310-68

Int. Cl. H02k 7/10

11 Claims



In an electric motor with a wound stator, a flux collecting probe projecting axially to a point closely adjacent the stator core face and radially within the compass of the stator.

end turns. A magnetic piece mounted adjacent the flux collecting probe for movement in response to the generation of a magnetic field in the probe. One fixed electrical contact and another electrical contact mounted on a spring, the spring positioned to bias the magnetic piece away from its direction of movement in response to the magnetic field, and the spring-mounted contact arranged to be moved to circuit making engagement with the fixed contact when the magnetic piece is moved in response to the generation in the flux collecting probe of a strong magnetic field. The contacts, magnetic piece and spring are part of a starting switch to energize start windings during initial starting conditions and to de-energize the start winding under running conditions, the bias of the spring being insufficient to prevent movement of the magnetic piece under initial start conditions but sufficient to move the magnetic piece under running conditions.

3,423,613

ANGULAR STABILIZATION DEVICE

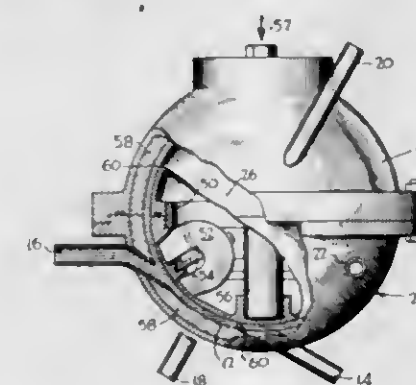
Louis K. Davis, Audubon, Pa., assignor to General Electric Company, a corporation of New York

Filed May 6, 1965, Ser. No. 453,762

U.S. Cl. 310-93

Int. Cl. H02k 49/00; H02p 15/00; G01c 19/02

2 Claims



Plurality of conventionally driven flywheels are connected by hydraulic circuits through hydraulic turbine housing so that spherical rotor, containing bar magnet to interact with external ambient magnetic field, is rotated in same direction as resultant of all flywheel rotations.

3,423,614

INSIDE-OUT MOTION DAMPER

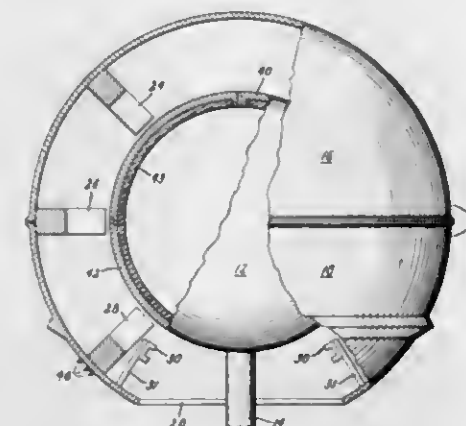
Willmer B. Potate and Peter C. Weygandt, West Chester, Pa., assignors to General Electric Company, a corporation of New York

Filed Dec. 9, 1966, Ser. No. 600,643

U.S. Cl. 310-93

Int. Cl. H02k 49/10; H02p 15/00

7 Claims



This invention, as embodied, comprises a central spherical assembly which is diamagnetic and electrically conductive which is fastened to a body whose oscillations are to be damped, and a fixed array of permanent magnets which surround the spherical assembly, being kept clear

3,423,615

EDDY CURRENT COUPLING DEVICE

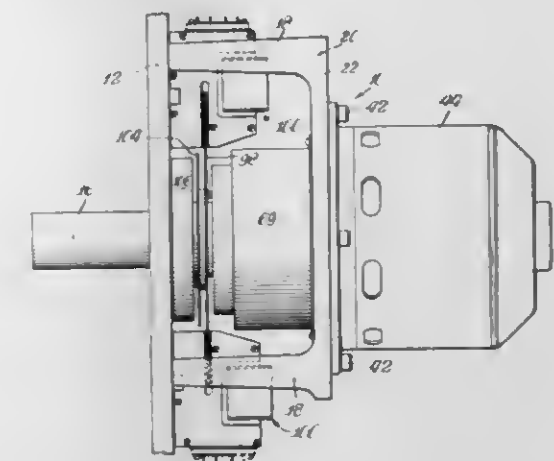
Charles C. Patton, Springfield, Ill., assignor to Sangamo Electric Company, Springfield, Ill., a corporation of Delaware

Filed Sept. 1, 1964, Ser. No. 393,607

U.S. Cl. 310-105

Int. Cl. H02k 49/04; H02k 15/00

15 Claims



An eddy current coupling device including a stationary member comprising a coil with a magnetic core and pole pieces, a driving member comprising a rotatable magnetic field structure with salient poles and an air gap, and a driven member comprising a thin-walled cup-shaped armature mounted for rotation within the air gap of the driving member. The bearings for the driving and driven members are independent of each other, damping means are provided for selectively imposing a braking load on the driven member when it is rotating, and a timing gear is mounted for rotation with the driven member for generating a reference frequency for speed control.

3,423,616

INDUCED CURRENT TORQUE TRANSMITTERS

Henry S. Jacobs, Shorewood, Wis.

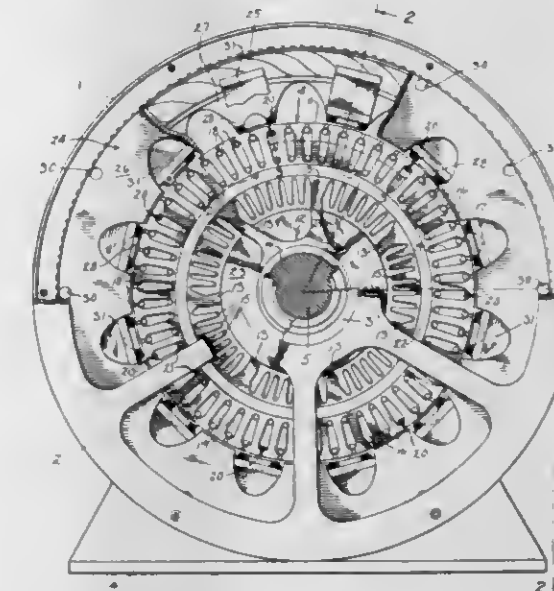
(4113 N. Downer, Milwaukee, Wis. 53211)

Filed Oct. 20, 1965, Ser. No. 498,287

U.S. Cl. 310-105

Int. Cl. H02k 49/02; H02p 15/00

13 Claims



An induced current torque transmitter having relatively rotatable field and induced current members, the induced current member having a first magnetic rim closely spaced

from the field member and a second magnetic rim disposed radially inward from the first magnetic rim that is joined to the first rim through a plurality of radially extending magnetic spokes, so that magnetic flux established by the field member traverses said first magnetic rim and also said spokes and said second magnetic rim to develop induced current throughout the induced current member for the improved production of torque.

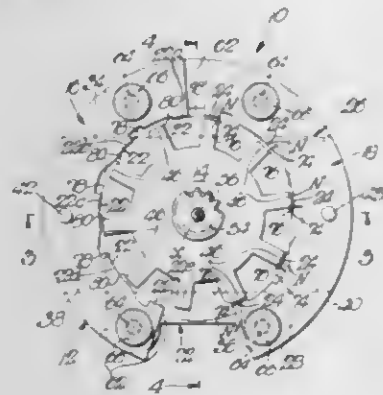
3,423,617

PULSE-RESPONSIVE STEPPING MOTORWalter Kohlhaugen, 818 Oakley Ave.,
Elgin, Ill. 60120Continuation-in-part of application Ser. No. 550,756,
May 17, 1966. This application Feb. 13, 1968, Ser.
No. 715,455

U.S. Cl. 310-49

Int. Cl. H02k 37/00

19 Claims



There is provided in a stepping motor a ferromagnetic rotor with poles, two ferromagnetic field plates with poles in cooperative relation with the rotor poles, and ferromagnetic connections between the rotor and plates for establishing magnetic circuits across the rotor and respective field plates. These connections include a core which provides a flux path for both circuits and on which the rotor turns, with the reluctance between rotor and core being substantially constant in any rotor position. One of the magnetic circuits includes a permanent-magnet remote from the core for supplying the operating flux, and the other magnetic circuit includes a coil for generating the operating flux on coil energization, with this coil surrounding the core.

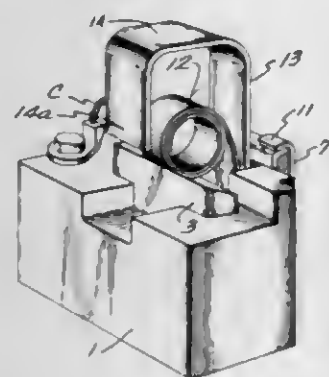
3,423,618

ELECTRICAL MACHINERY BRUSH HOLDERGerald E. Schmid, Brookfield, and James J. Parez, Wauwatosa, Wis., assignors to Harnischfeger Corporation,
Milwaukee, Wis., a corporation of Wisconsin
Filed Apr. 25, 1966, Ser. No. 544,920

U.S. Cl. 310-246

Int. Cl. H02k 13/10; H01r 39/40

2 Claims



A brush holder assembly for electrical rotating machinery and having a constant pressure coil spring fixed to one end of a removable back plate for urging the brush into contact with the commutator. The back plate

also has means at the same end at which the coil plate is secured, which means slidably holds the back plate captive in the brush holder so that the coil spring can hold the brush upwardly in inoperative position when the back plate has been raised and tilted rearwardly against the stop.

3,423,619

ROTORS WITH WINDING INSULATION FOR DYNAMOELECTRIC MACHINESLouis Shaw, Solihull, England, assignor to Joseph Lucas
(Industries) Limited, Birmingham, England, a British
Company

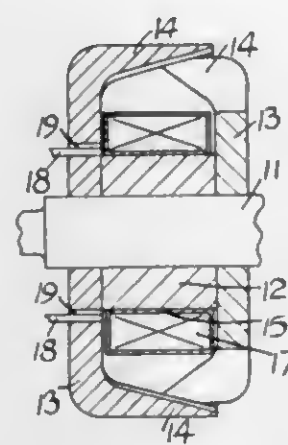
Filed June 20, 1966, Ser. No. 558,822

Claims priority, application Great Britain, June 23, 1965,
26,525/65

U.S. Cl. 310-263

Int. Cl. H02k 1/22

2 Claims



1. A rotor for a dynamoelectric machine of the kind specified in which the former comprises a one piece insulating member of generally rectangular form having an axial length equal at least to the circumference of the core piece, and a width equal to the length of the core piece, the member being bent to cylindrical form to surround the core piece and having integral outwardly extending arms which are bent so as to extend between the winding and the pole pieces.

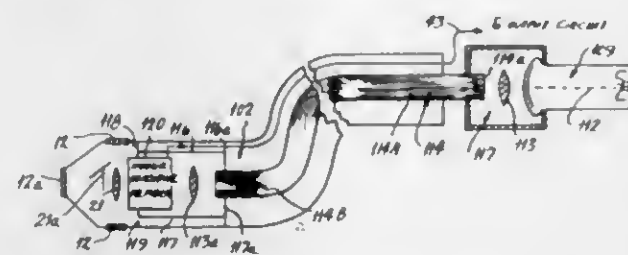
3,423,620

VACUUM TUBE DEVICE HAVING LIGHT CONDUCTING RODS AND LUMINESCENT SCREENEdward Emanuel Sheldon, 30 E. 40th St.,
New York, N.Y. 10016Original application Dec. 4, 1961, Ser. No. 158,638, now
Patent No. 3,279,460, dated Oct. 18, 1966. Divided and
this application Oct. 20, 1965, Ser. No. 498,959

U.S. Cl. 313-65

Int. Cl. H01j 31/26

19 Claims



1. A vacuum tube device comprising in combination an evacuated envelope, a plurality of members conducting radiation image by internal reflection of said radiation in said members and luminescent means mounted within said tube for emitting luminescent radiation, said members having their endface within said tube, said members having a core of material transparent to at least a part of said radiation and of a high index of refraction and each of said members being provided with its own

individual coating means of a thickness not exceeding a few microns and comprising a material of a lower index of refraction than said core, said coating means mounted on each of said members and preventing spreading of said radiation from one of said members to another member, the ends of said conducting members disposed within said tube having said luminescent means mounted on said ends of all said members.

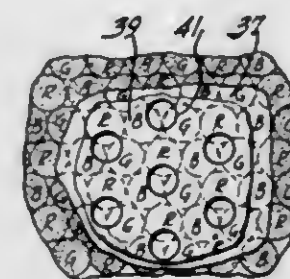
3,423,621

COLOR PICTURE DISPLAY CONTAINING A RED-EMITTING EUROPIUM-ACTIVATED YTTRIUM OXYSULFIDE PHOSPHORMartin R. Royce, Lancaster, Pa., assignor to Radio
Corporation of America, a corporation of Delaware
Continuation of abandoned application Ser. No. 559,356,
Mar. 7, 1966. This application May 3, 1966, Ser. No.
547,294

U.S. Cl. 313-92

Int. Cl. H01j 29/18

6 Claims



A color picture display device, typically a cathode ray tube, including luminescent means comprised of a blue-emitting phosphor, a green-emitting phosphor and a red-emitting phosphor, and means for selectively exciting each of these phosphors with electrons. The red-emitting phosphor is a europium-activated yttrium oxysulfide.

3,423,622

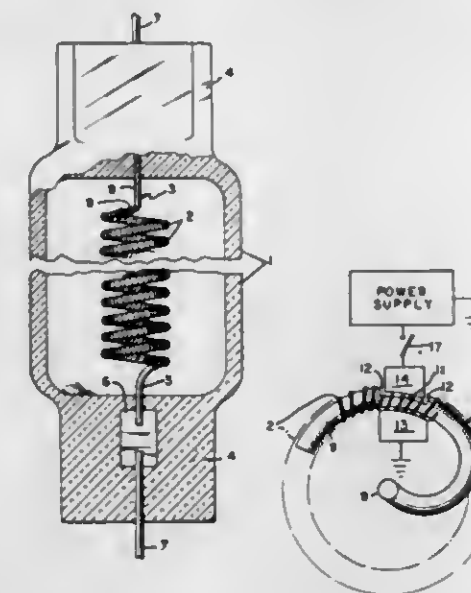
ELECTRICAL FILAMENT SUPPORT DEVICE
Edward Rowe, North Hampton, N.H., assignor to Sylvania
Electric Products Inc., a corporation of Delaware

Filed July 5, 1966, Ser. No. 562,647

U.S. Cl. 313-344

Int. Cl. H01k 1/14

2 Claims



1. An electrical device comprising an insulating base, a coiled filament in said base having turns wound around a tubular space, lead wire means mounted on the base for supporting and making electrical connection with said filament, said lead wire means including a wire having an end fitting in the tubular space inside a plurality of turns of the filament, said wire end having a portion of reduced cross-section forming a radial shoulder, at least one

of said plurality of filament turns being deformed to engage said reduced portion inside said shoulder, and said shoulder facing said turn to oppose withdrawal of the turn from said portion.

3,423,623

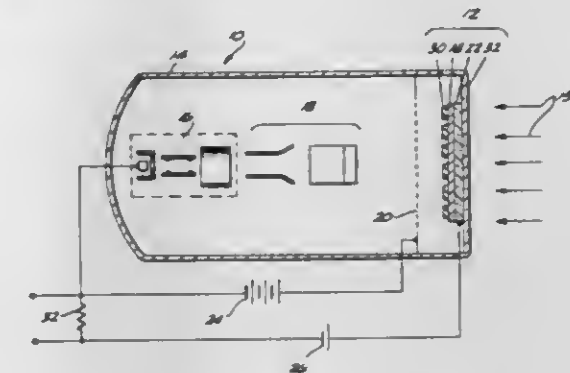
IMAGE TRANSDUCING SYSTEM EMPLOYING REVERSE BIASED JUNCTION DIODESPaul H. Wendland, Malibu, Calif., assignor to Hughes
Aircraft Company, Culver City, Calif., a corporation
of Delaware

Filed Sept. 21, 1966, Ser. No. 580,962

U.S. Cl. 315-10

Int. Cl. H01j 29/39, 31/26

22 Claims



A target for a vidicon camera tube comprising an N-type semiconductor member having a resistivity between 0.01 and 0.1 ohm-cm. and a plurality of discrete junctions on the side of the target member which is to be scanned by an electron beam.

3,423,624

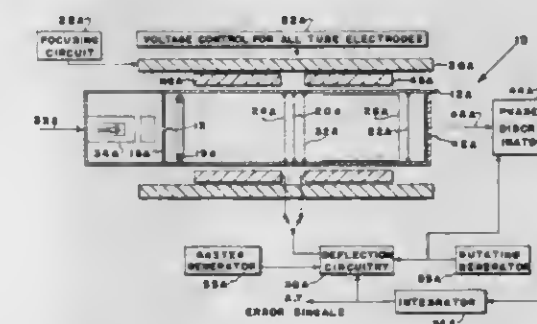
ELECTRON IMAGE CORRELATION TUBE WITH DUAL STORAGE SCREENSWilford L. Steiner, 1697 Cleveland-Massillon Road,
Akron, Ohio 44321

Filed June 8, 1966, Ser. No. 556,095

U.S. Cl. 315-11

Int. Cl. H01j 31/48

8 Claims



An electronic image correlation tube with dual storage screens which utilizes structure to obtain a total flood of electrons down the tube towards the screens to achieve the correlation function when electron images have been stored on the screens in the conventional manner. An ultra-violet radiation source is utilized in conjunction with an area cathode to obtain the total electron flood.

3,423,625

ELECTRON BEAM SYSTEMAlfred G. Roussin, Syracuse, N.Y., assignor to General
Electric Company, a corporation of New York
Filed Sept. 27, 1965, Ser. No. 490,503

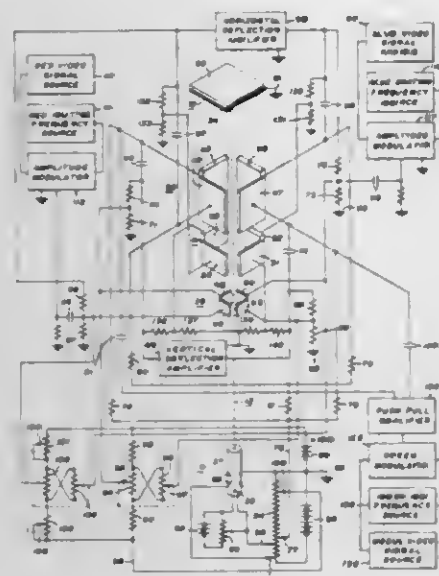
U.S. Cl. 315-16

Int. Cl. H01j 29/46, 29/56

10 Claims

Electrode arrangements and modes of operation thereof in an electron beam system for use in a light valve pro-

jector to provide the functions of electron beam modulation, deflection, and focus. Two sets of generally rectangular electrodes having their centers in a common plane traverse to the undeflected electron beam path are used,



the sets being longitudinally spaced along the beam and one set being closer to the beam path than the other. Each set includes a pair of horizontal and a pair of vertical deflection electrodes, to which modulating, deflecting, and focusing signals are applied.

3,423,626

CHARACTER GENERATOR

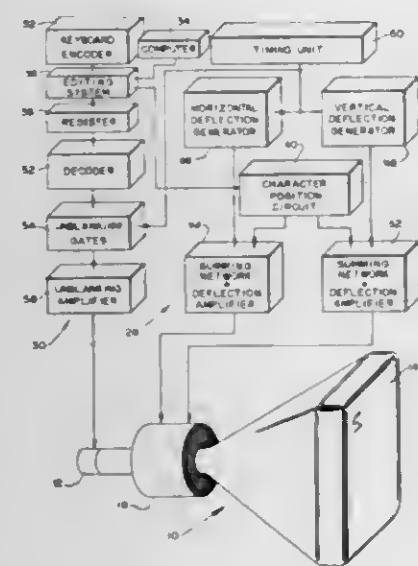
Richard Bouchard, Hudson, Philip Billings, Nashua, and Richard A. Horn, Hudson, N.H., assignors to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware

Filed Oct. 18, 1965, Ser. No. 497,197

U.S. Cl. 315-18

15 Claims

Int. Cl. H01j 29/70



A character generating apparatus produces a signal which deflects the beam of a picture tube type display device having a screen on which the deflectable beam forms a visible trace. The apparatus employs a capacitor and a charging circuit connected to the capacitor which charges the capacitor at a uniform rate dependent upon the amplitude of a control signal applied to the charging circuit. A control circuit applies a succession of control signals having different amplitudes to the charging cir-

cuit according to a preselected sequence and a deflection system deflects the beam in response to the voltage across the capacitor so as to trace a pattern of successively-formed strokes.

3,423,627

PARTICLE PARAMETER ANALYZING SYSTEM

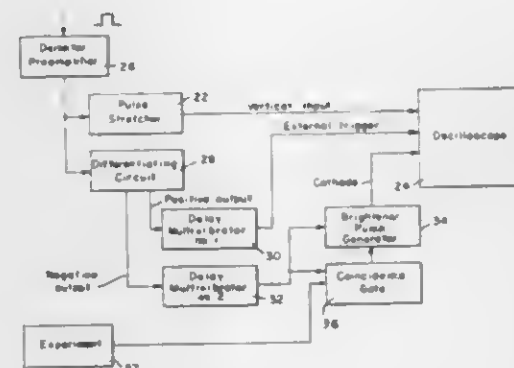
David O. Hansen, Westminster, and Neal L. Roy, Redondo Beach, Calif., assignors to TRW Inc., Redondo Beach, Calif., a corporation of Ohio

Filed Jan. 28, 1966, Ser. No. 523,632

U.S. Cl. 315-22

8 Claims

Int. Cl. H01j 29/70



X-Y plotter circuit apparatus which displays an input pulse representing particle parameter information, that would ordinarily appear on the screen of an oscilloscope as a rectangular pulse, as a single dot positioned on the screen where the upper right-hand corner of the input pulse would have appeared. If another event occurs such as impact of the particle with a target, and it is desired to display this event, apparatus is provided to replace the dot with a short horizontal line segment.

3,423,628

DELAY SWEEP FOR A SAMPLING OSCILLOSCOPE

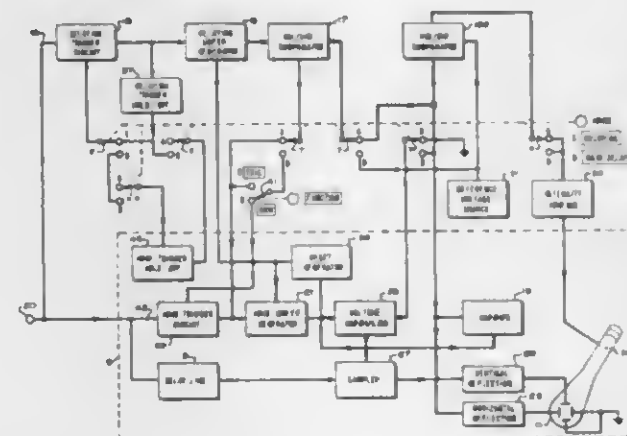
Allan Irving Best, Colorado Springs, Colo., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California

Filed Aug. 15, 1966, Ser. No. 572,598

U.S. Cl. 315-22

7 Claims

Int. Cl. H01j 29/70



A sampling oscilloscope having a slow sweep generator synchronized to the input signal, a reference source, and a voltage comparator, establishes a controlled delay period. A fast sweep time base generator is triggered either immediately following the end of the delay period or upon the occurrence of a selected event of the input signal following the end of the delay period. The fast sweep time

base generator, a second reference source, and a second voltage comparator activate an input signal sampler, the sampled signal being displayed on a cathode ray tube.

3,423,629

SAMPLING OSCILLOSCOPE SWEEP CIRCUIT

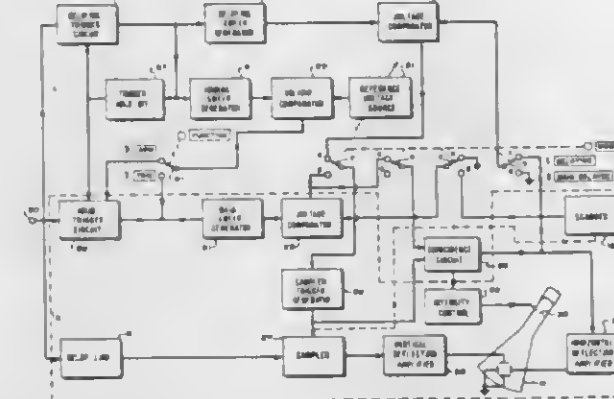
Allan I. Best, William A. Farnbach, and Jeffrey H. Smith, Colorado Springs, Colo., assignors to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California

Filed July 10, 1967, Ser. No. 652,077

U.S. Cl. 315-22

7 Claims

Int. Cl. H01j 29/70



A sweep circuit for a multi-mode sampling oscilloscope having manual selection and identification of an event in the waveform of a recurring input signal during a slow time scale display mode and automatic expansion of the signal waveform about the selected event during a fast time scale display mode. Identification of an event during the slow time scale is by intensification of the display, either a predetermined time after the sweep has begun or upon the occurrence of a selected event following the predetermined time. Expansion of the waveform during the fast time scale occurs either at the end of a predetermined delay period or upon the happening of a selected event following the predetermined delay period.

3,423,630

RETRACE DRIVEN DEFLECTION CIRCUIT WITH SCR SWITCH

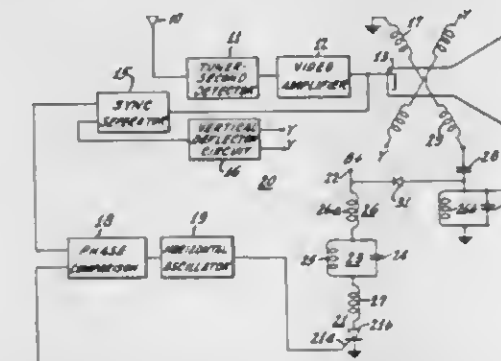
John Brewer Beck, Indianapolis, Ind., assignor to Radio Corporation of America, a corporation of Delaware

Filed Oct. 8, 1965, Ser. No. 494,184

U.S. Cl. 315-27

6 Claims

Int. Cl. H01j 29/70



A retrace driven deflection circuit employing a silicon controlled rectifier (SCR) switch. The SCR is connected in a series circuit with a voltage supply, the primary of a transformer, a parallel resonant circuit and a series resonant circuit. A deflection yoke is coupled across the transformer secondary winding and a retrace capacitor is coupled across the deflection yoke. An energy recovery diode is returned from the yoke to the voltage supply.

3,423,631

HORIZONTAL DEFLECTION CIRCUIT

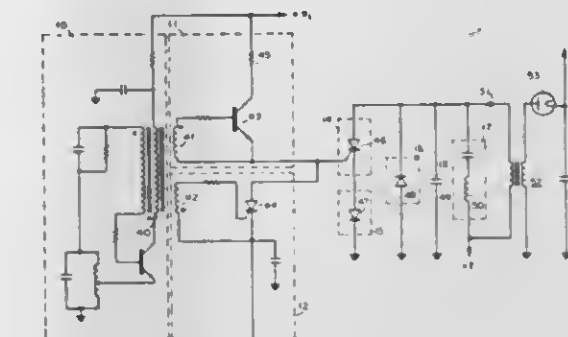
William Geller, Plainview, and Kurt Hillman, Flushing, N.Y., assignors to General Telephone & Electronics Laboratories Incorporated, a corporation of Delaware

Filed Nov. 1, 1966, Ser. No. 591,161

U.S. Cl. 315-27

1 Claim

Int. Cl. H01j 29/70



A solid state horizontal deflection circuit for a television receiver which employs a gate controlled switch and a silicon controlled rectifier is described.

3,423,632

ELECTRON DISCHARGE DEVICE CONSTRUCTION

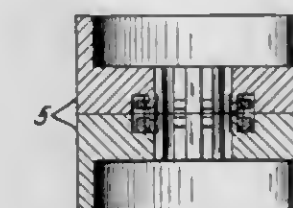
Kiyoshi Uchimaru and Tetsuro Otani, Tokyo, Japan, assignors to Nippon Electric Company, Limited, Tokyo, Japan, a corporation of Japan

Filed Dec. 8, 1965, Ser. No. 513,664

U.S. Cl. 315-39.69

3 Claims

Int. Cl. H01p 23/22, 25/58



A device and method for constructing an anode assembly for a magnetron is described. A pair of substantially similar cylindrically shaped anode blocks are formed with inwardly facing polypetalous apertures. On one axial side of the blocks a groove is formed which is concentric with the cylinder axis and crosses the anode vane between the apertures. A pair of strap rings are formed with each provided with a plurality of projections angularly spaced at intervals corresponding to the angular spacing of alternate grooves in the anode vane. The rings are then mounted within the grooves with radial clearance and projections electrically bonded to the anode blocks. The blocks are mounted with the grooves facing one another to form an anode assembly for a magnetron having centrally located straps.

3,423,633

HEAD LAMP SYSTEM WITH PHOTOELECTRIC SWITCHING AND TIME DELAY EXTINGUISHING

Eiichi Kawai and Masashi Okada, Kariya-shi, Aichi-ken, Japan, assignors to Nippon Denso Kabushiki Kaisha, Kariya-shi, Aichi-ken, Japan

Filed May 27, 1966, Ser. No. 553,359

Claims priority, application Japan, Dec. 23, 1965,

40/79,419

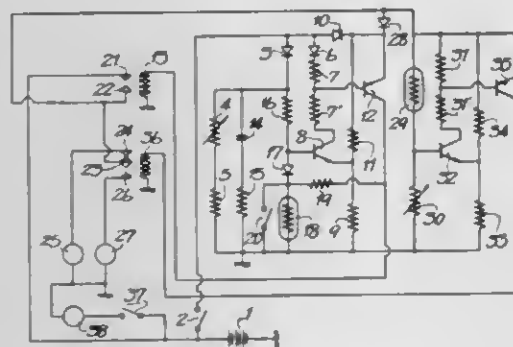
U.S. Cl. 315-83

5 Claims

Int. Cl. B60q 1/02

An automobile headlight control system is provided for cars having a high beam lamp and a low beam lamp,

and particular provision is made for keeping the low beam lamp lighted for a few moments after the main lighting switch has been turned off when the car is being parked in a garage at night. Thus, the driver has a lighted garage to walk through after he has left the car. Two photoconductive elements are provided one of which is responsive to light reflected from garage walls, and the other of which is responsive to light from an approaching car. These elements through transistors and blocking diodes control relays which selectively energize the high beam lamp or the low beam lamp. A condenser maintains a holding current for a short time after the main lighting



switch has been turned off and the length of this time can be varied by adjusting a variable resistor. When another car is approaching in the opposite direction, its light acts on one of the photoconductive elements which initiates a current which extinguishes the high beam lamp and starts up the low beam lamp. In garage parking at night, the ambient light in the garage acts on the other photoconductive element which initiates a current which through the condenser keeps the low beam lamp lighted for a few moments after the main lighting switch has been turned off.

3,423,634

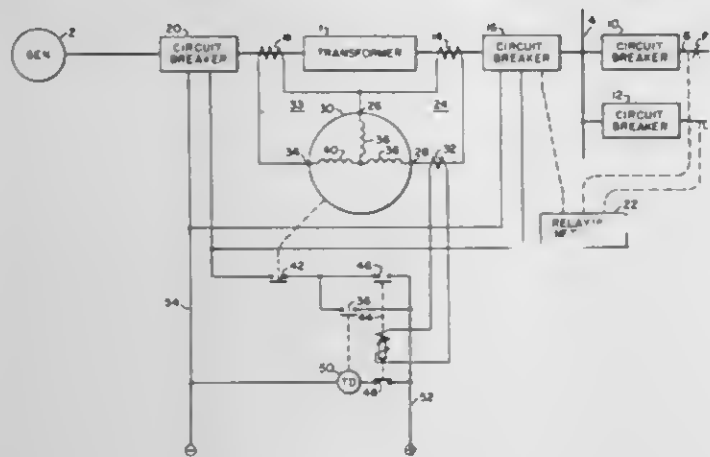
DIFFERENTIAL RELAYING NETWORK

Charles L. Wagner, Franklin Township, Export, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 18, 1967, Ser. No. 610,050

U.S. Cl. 317-14
Int. Cl. H02h 7/14

7 Claims



This disclosure described a differential relaying network in which there is provided a current responsive device and a timing device which cooperate together to prevent the operation of a differential current responsive relay until the protected device has been transferring power for a predetermined time interval following an interval of no power transfer and which will maintain

the differential current responsive relay effective to protect the protected device thereafter free from any time interval introduced by the timing device.

3,423,635

RAILROAD TRACK OR LINE CIRCUIT SURGE PROTECTORS

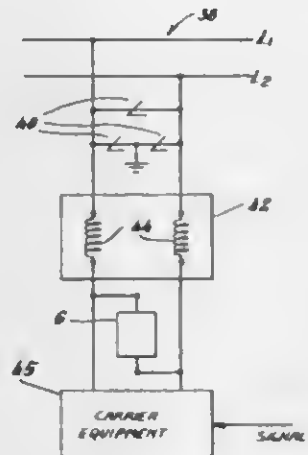
James E. Moe, Ridgewood, N.J., assignor to Railroad Accessories Corporation, Cresskill, N.J.

Filed July 25, 1966, Ser. No. 572,638

U.S. Cl. 317-16

Int. Cl. H02h 9/06

1 Claim



A railroad communication system having a specific configuration in which a circuit extends along a railroad right of way, a pair of communication lines is connected to the circuit, a lightning arrester is connected across the communication lines to drop the major part of a voltage surge, and communications equipment is connected across the communication lines on the far side of the lightning arrester from the railroad right of way circuit. Inductance in the communication lines between the lightning arrester and the communications equipment spreads the current due to voltage surges over a greater time period, thus reducing the peak current. Additionally, a semiconductor surge protector is connected across the communication lines on the far side of the lightning arrester and the inductance from the railroad right of way circuit.

3,423,636

SURGE LIMITING SYSTEM

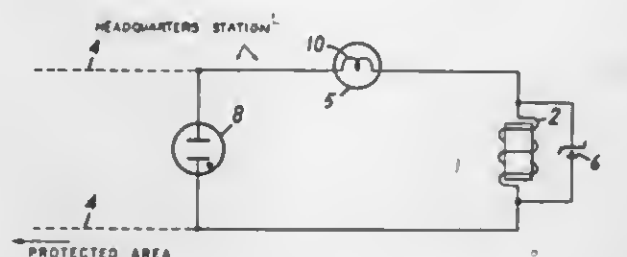
Walter E. Rowley, Jr., New Milford, Conn., assignor to Edwards Company, Inc., a corporation of Connecticut

Filed July 29, 1966, Ser. No. 568,802

U.S. Cl. 317-20

Int. Cl. H02h 9/04

5 Claims



A surge limiting system is provided to protect a sensitive relay connected to transmission wires wherein a diode is connected in multiple with the relay to protect the relay, a barretter is connected in series with the transmission line to protect the diode, and a gas tube is connected across the transmission wires to protect against high voltage surges.

3,423,637

CONTROL OF A RELAY CHAIN CIRCUIT

Otto Hillmann, Munchingen, Germany, assignor to International Standard Electric Corp., New York, N.Y., a corporation of Delaware

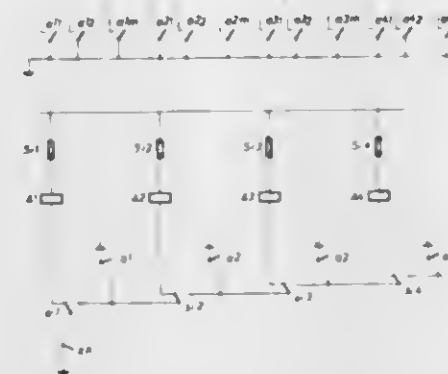
Filed June 8, 1966, Ser. No. 556,073

Claims priority, application Germany, June 24, 1965, St 24,021

U.S. Cl. 317-26

Int. Cl. H02h 3/08, 7/00

4 Claims



The relays of a chain circuit are connected to an energizing circuit, starting with the second relay, via contacts closed by the immediately preceding relay. If one or several relays fail due to operation of an associated fuse or circuit breaker, the succeeding relays are energized via a contact closed by the fuse or circuit breaker.

3,423,638

MICROMODULAR PACKAGE WITH COMPRESSION MEANS HOLDING CONTACTS ENGAGED

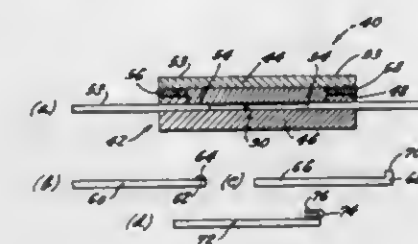
Sydney Dix and David W. Davis, Costa Mesa, Calif., assignors, by mesne assignments, to GTI Corporation, Providence, R.I., a corporation of Rhode Island

Filed Sept. 2, 1964, Ser. No. 394,000

U.S. Cl. 317-101

Int. Cl. H02b 1/04

12 Claims



1. A package for sealing circuits therein, including the combination of:

- a first housing member and a second housing member and with said housing members secured together to form an enclosed sealed space,
- a support member, disposed within said enclosed space, an electrical circuit on said support member,
- a first set of electrical contacts disposed in a predetermined pattern on the support member and with the first set of electrical contacts interconnected with the electrical circuit,
- a second set of electrical contacts arranged in said predetermined pattern and with the electrical contacts in the second set positioned to register with the electrical contacts in the first set and with said second set of electrical contacts forming electrical leads extending from within said enclosed space to positions external of said enclosed space, and
- said first housing member and second housing member connected together to form compression means effective to maintain the electrical contacts in the first set physically compressed against the electrical

contacts in the second set and to provide an electrical engagement between the electrical contacts in the first set and the electrical contacts in the second set, said compression means being the sole means providing engagement of said contacts.

3,423,639

CIRCUIT ARRANGEMENT FOR RELAYS

Horst Bechler, Stuttgart-Zuffenhausen, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

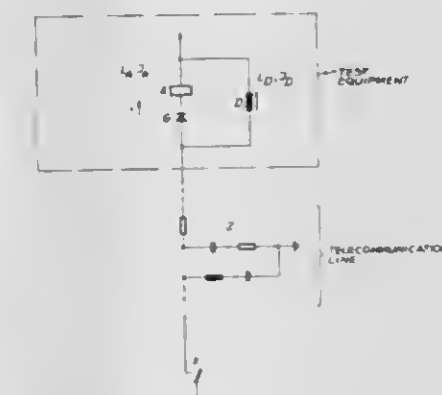
Filed Aug. 17, 1965, Ser. No. 480,451

Claims priority, application Germany, Sept. 9, 1964, St 22,652

U.S. Cl. 317-123

Int. Cl. H01h 47/00

1 Claim



An arrangement has been provided for relays to compensate for the effects of capacitive reactance of variable magnitude in lines connecting a control switch to the relay. A choke coil capable of storing more energy than can the coil of the relay is provided in parallel to the relay to maintain a sharp cut-off characteristic for the relay. A rectifier is series-connected between the relay and the central switch to maintain the flow of current in one direction only and thereby reduce pulse distortions.

3,423,640

CONTROL SYSTEM FOR PREVENTING THE OVERLOAD OF RELAY WINDINGS

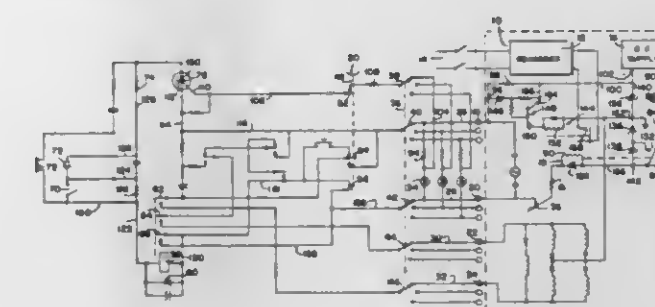
Leonard E. Earling, % The Gray Manufacturing Co., Tecumseh, Mich. 49286

Filed Aug. 24, 1966, Ser. No. 574,674

U.S. Cl. 317-123

Int. Cl. H01h 47/32

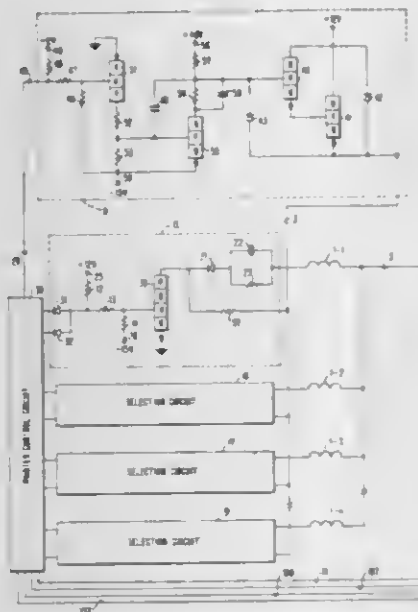
10 Claims



1. A control system comprising a voltage source, a relay winding, a resistor, and a control element, all connected in a series circuit, a Zener diode connected in parallel with said relay winding, and switching means connected across at least a portion of said resistor, whereby closure of said switching means produces an increase in voltage across said control element without increasing the current in said relay winding.

3,423,641 HAMMER FIRING CIRCUIT FOR IMPACT PRINTERS

John L. Von Feldt, Rochester, Minn., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Continuation of application Ser. No. 509,076, Nov. 22, 1965. This application Mar. 7, 1968, Ser. No. 711,455
U.S. Cl. 317-137 5 Claims
Int. Cl. H01b 47/32



1. In an impact printer of the type wherein means including electromagnetically actuated hammers are cyclically operated to cause characters to be selectively imprinted upon a recording medium, the combination comprising:

a respective electromagnetic coil effective when energized for causing the actuation of each hammer;
a silicon controlled rectifier corresponding to each coil;
a source of supply potential including a plurality of terminals;

an electronic switch means including a high power transistor connecting a first one of the terminals of the source to a common junction and further including a first diode connecting a second one of the terminals to the common junction;

a plurality of parallel coil energizing current paths connected between the common junction and said second terminal, each path including a respective coil and rectifier connected in series and an additional diode interposed between the coil and rectifier;

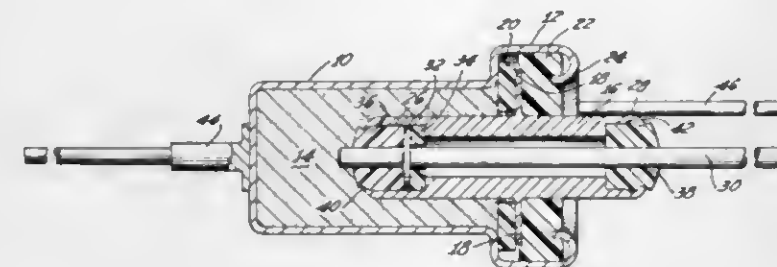
a hold-reset circuit means connected to the junctions between each rectifier and additional diode for coupling all of the rectifiers to one or another of the supply terminals to maintain an energized rectifier in its conducting condition or alternatively to reset an energized rectifier to its nonconducting condition; and cyclically operated control means effective during an initial portion of each print cycle to energize selected ones of the rectifiers and to render the hold-reset circuit means effective to maintain the latter rectifiers energized,

said control means thereafter effective to energize the high power transistor for a predetermined time interval to momentarily complete those coil energizing current paths which include an energized rectifier, said first diode limiting the voltage swing at said common junction produced by the energized coils when the power transistor de-energizes,

said control means thereafter effective to operate the hold-reset circuit means for resetting the energized rectifiers.

3,423,642 ELECTROLYTIC CELLS WITH AT LEAST THREE ELECTRODES

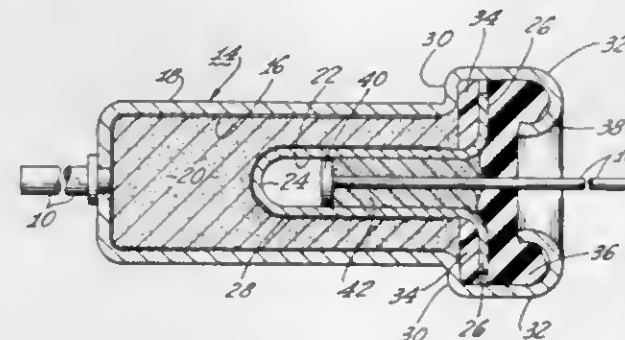
Edward J. Plehal, Woodland Hills, Gene Frick, Pacific Palisades, and Martin Mintz, Woodland Hills, Calif., assignors to The Bissett-Berman Corporation, Santa Monica, Calif., a corporation of California
Filed Oct. 18, 1966, Ser. No. 587,590
U.S. Cl. 317-231 20 Claims
Int. Cl. H01g 9/04



An electrolytic cell comprises a container with an electrolyte and a plurality of electrodes sealed within it. At least one electrode has a metal surface electrochemically active with the electrolyte, and the electrolyte contains a mobile ionic component of the metal that forms the electrode surface. Other electrodes have surfaces comprising masking layers chemically nonreactive with the electrolyte. The mobile component in the electrolyte is platable on and deplatable one or more of the other electrodes as desired.

3,423,643 ELECTROLYTIC CELL WITH ELECTROLYTE CONTAINING SILVER SALT

Edmund A. Miller, Santa Monica, Calif., assignor to The Bissett-Berman Corporation, Santa Monica, Calif., a corporation of California
Filed May 31, 1966, Ser. No. 554,003
U.S. Cl. 317-231 17 Claims
Int. Cl. H01g 9/00



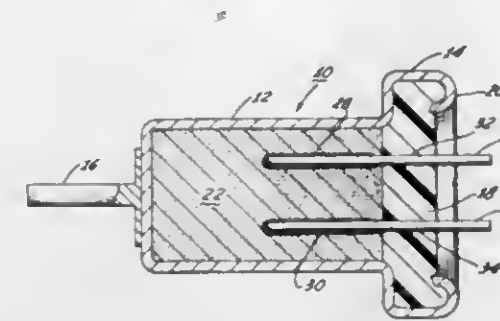
An electrolytic cell comprises a container with electrodes and a liquid electrolyte solution of a silver salt and an acid sealed within it. One electrode has a non-reactive surface contacting the electrolyte and another has a silver surface for supplying silver ions.

3,423,644 ELECTROLYTIC CELL WITH HOUSING COMPRISING ELECTRODE AND SEAL PORTIONS

Martin Mintz, Woodland Hills, Calif., assignor to The Bissett-Berman Corporation, Santa Monica, Calif., a corporation of California
Filed Jan. 12, 1967, Ser. No. 608,856
U.S. Cl. 317-231 15 Claims
Int. Cl. H01g 9/04

This invention relates to electrolytic cells. Generally the invention relates to electrolytic cells including an outer housing serving as a first outer electrode, and with the

outer housing having an open and a closed end and with an insulating member extending across the open end of the outer housing, and with at least one inner electrode ex-

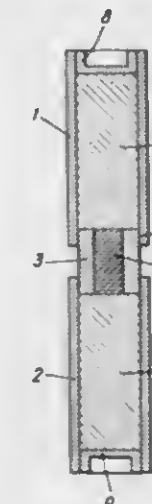


tending through the insulating member and sealed to the insulating member prior to the sealing of the insulating member across the open end of the outer housing.

3,423,645 HERMETICALLY ENCLOSED GALVANIC MICROELEMENT

Paul Ruetschi, Yverdon, Switzerland, assignor to Leclanche S.A., Yverdon, Vaud, Switzerland, a company of Switzerland
Filed June 27, 1966, Ser. No. 560,449
Claims priority, application Switzerland, June 29, 1965, 9,057/65

U.S. Cl. 317-230 6 Claims
Int. Cl. H01g 9/00



An electrochemical cell with alkaline electrolyte comprises hollow metallic members sealed with an intermediate insulative member forming a container. Porous separators soaked with electrolyte are located within the intermediate member and between the metallic members. Electrodes in the hollow metallic members contact the electrolyte and outer ends of the members are sealed thereby providing an hermetically sealed cell.

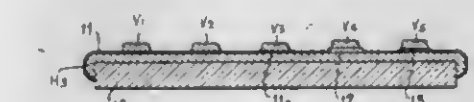
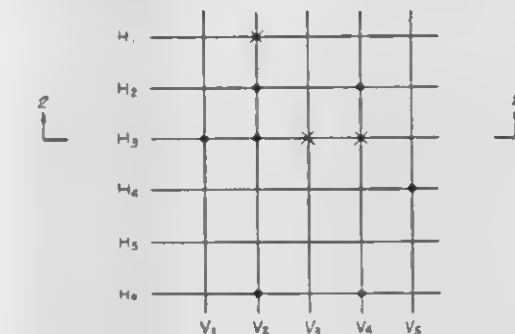
3,423,646 COMPUTER LOGIC DEVICE CONSISTING OF AN ARRAY OF TUNNELING DIODES, ISOLATORS AND SHORT CIRCUITS

Jack S. Cubert, Willow Grove, and James J. Murphy, Philadelphia, Pa., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 1, 1965, Ser. No. 429,482
U.S. Cl. 317-234 4 Claims
Int. Cl. H01l 3/00, 5/00

1. A thin film structure comprising:
(a) an insulating substrate;
(b) a plurality of first discrete thin film metallic conductor elements deposited on said substrate;

(c) a plurality of second discrete thin film metallic conductor elements overlying said first conductor elements so as to define a plurality of crossing locations therebetween;

(d) a non-metallic thin film material exhibiting tunneling or other electron transfer mechanism characteristics interposed between said first and second conductor elements at a first portion of said crossings;



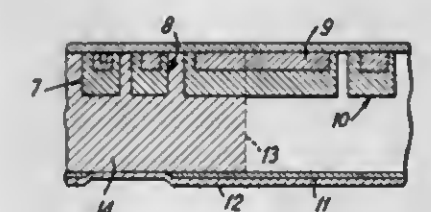
(e) insulating material interposed between said first and second conductor elements at each of a second portion of said crossings; and

(f) wherein some of said first discrete thin film metallic conductor elements are short circuit connected to some of said second discrete thin film metallic conductor elements at a third portion of said crossings.

3,423,647 SEMICONDUCTOR DEVICE HAVING REGIONS WITH PRESELECTED DIFFERENT MINORITY CARRIER LIFETIMES

Toshio Kurosawa and Hiroshi Shiba, Tokyo, Japan, assignors to Nippon Electric Company Limited, Minatoku, Tokyo, Japan, a corporation of Japan
Filed July 28, 1965, Ser. No. 475,433
Claims priority, application Japan, July 30, 1964, 39/43,602

U.S. Cl. 317-234 9 Claims
Int. Cl. H01l 3/00, 5/00



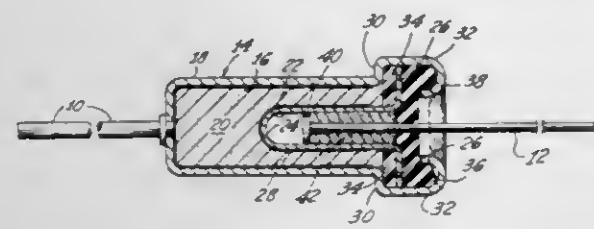
A semiconductor device having regions with different minority carrier lifetimes formed by introducing gold into at least one preselected region of a semiconductor wafer to alter the minority carrier lifetimes of those regions into which the gold is introduced.

3,423,648 ELECTROLYTIC CELL WITH ELECTRICALLY CONDUCTIVE MASKING SURFACE

Martin Mintz, Woodland Hills, Calif., assignor to The Bissett-Berman Corporation, Santa Monica, Calif., a corporation of California
Filed Jan. 10, 1966, Ser. No. 519,634
U.S. Cl. 317-231 25 Claims
Int. Cl. H01g 9/00, 9/04

An electrolytic cell comprises a sealed container filled with an electrolyte containing a platable mobile ionic

component of a metal. The surface of one of the electrodes in contact with the electrolyte is composed of the same metal, as the ionic components, and is electrochemically active with the electrolyte for supplying the com-



ponent. Another electrode surface has a chemically non-reactive masking layer, and the component in the operation of the cell is platable on and of the masking layer as desired.

3,423,649

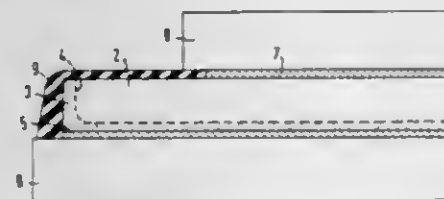
PN-JUNCTION RECTIFIER WITH NON-FLASHOVER HEAT CONDUCTIVE OHMIC CONNECTORS

Adolf Herlet, Pretzfeld, Offenbach, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany
Filed June 27, 1966, Ser. No. 560,408

Claims priority, application Germany, June 25, 1965, S 97,821

U.S. Cl. 317-234
Int. Cl. H01L 5/02

5 Claims



A pn-junction rectifier is disposed between heat conductive contacts. One contact covers a whole side of the wafer and the other, covering a portion only of the opposite side, is spaced from the exposed edge of the pn-junction. A heat conductive plate engages this other electrode, over extending its edge while maintaining a non-flashover distance from the edge of the pn-junction.

3,423,650

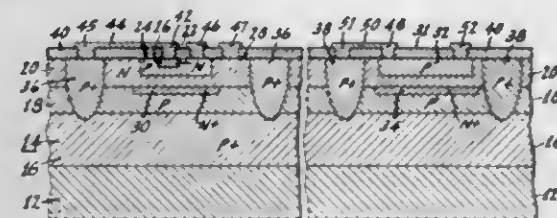
MONOLITHIC SEMICONDUCTOR MICROCIRCUITS WITH IMPROVED MEANS FOR CONNECTING POINTS OF COMMON POTENTIAL

Gene Cohen, Morristown, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed July 1, 1966, Ser. No. 562,169

U.S. Cl. 317-234

Int. Cl. H01L 3/00, 5/00

4 Claims



A monolithic semiconductor integrated circuit comprising a plurality of interconnected circuit components including a plurality of separated circuit points that are intended to be operated at a common potential, in a semiconductor body having a lower stratum of relatively high conductivity which serves as a ground plane, diffused regions of high conductivity extending through the body to the lower stratum, and means connecting the common potential points to the high conductivity diffused regions.

3,423,651 MICROCIRCUIT WITH COMPLEMENTARY DIELECTRICALLY ISOLATED MESA-TYPE ACTIVE ELEMENTS

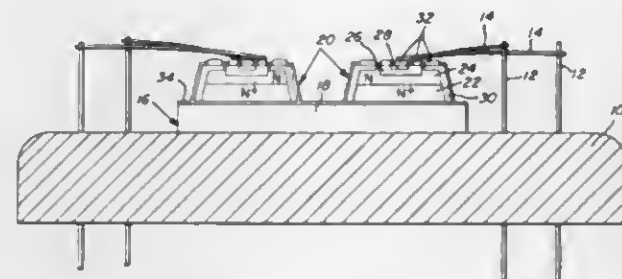
Wilhelm H. Legat, Woodside, Lewis K. Russell, Livermore, and Warren C. Rosvold, Sunnyvale, Calif., assignors to Raytheon Company, Lexington, Mass., a corporation of Delaware

Filed Jan. 13, 1966, Ser. No. 520,505

U.S. Cl. 317-235

Int. Cl. H01L 5/06; H03F 3/68

12 Claims



A microcircuit device comprising a number of complementary mesa-type active elements disposed on a common supporting matrix and dielectrically isolated from each other and from the matrix, and a method of making same which includes the step of forming the complementary active elements by preferentially etching the material along the [100] crystallographic axes.

3,423,652

UNI-JUNCTION TRANSISTOR WITH IMPROVED EFFICIENCY AND HEAT TRANSFER CHARACTERISTICS

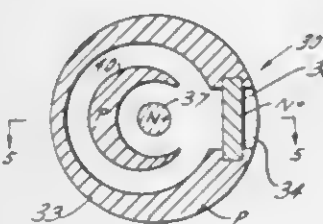
John M. Gault, Manhattan Beach, Calif., assignor to International Rectifier Corporation, El Segundo, Calif., a corporation of California

Filed Feb. 15, 1966, Ser. No. 527,583

U.S. Cl. 317-235

Int. Cl. H01L 11/00

2 Claims



A unijunction transistor in which two N+ base regions are spaced from one another on the upper surface of an N-type silicon wafer. A crescent-shaped P-type emitter region partially surrounds one of the bases which is centrally located, while a second generally arcuate P-type region surrounds the crescent-shaped region and central base region to improve the collection of minority carriers. A lower P-N junction is formed parallel to the bottom surface of the wafer and the bottom of the wafer is provided with an electrode adapted for mounting to a heat sink.

3,423,653

INTEGRATED COMPLEMENTARY TRANSISTOR STRUCTURE WITH EQUIVALENT PERFORMANCE CHARACTERISTICS

Yu Ghyi Chang, Laurel, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 14, 1965, Ser. No. 487,235

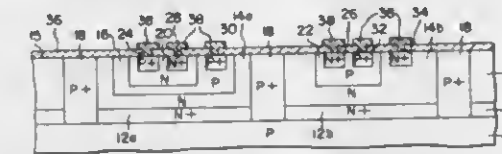
U.S. Cl. 317-235

Int. Cl. H01L 11/00, 19/00

4 Claims

This disclosure sets forth a semiconductor integrated circuit structure for providing complementary transistor functions. The structure comprises a unitary structure having first and second electrically isolated portions of

semiconductor material with a first transistor of the first polarity in the first portion and a second transistor of a second polarity in the second portion. Each transistor has successively positioned emitter, base and collector regions



3,423,654

BISTABLE FERROELECTRIC FIELD EFFECT DEVICE

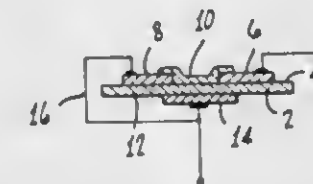
George H. Hellmeier, Philadelphia, Pa., and Philip M. Heyman, Cranbury, N.J., assignors to Radio Corporation of America, a corporation of Delaware

Filed May 2, 1967, Ser. No. 635,466

U.S. Cl. 317-235

Int. Cl. H01L 11/00, 15/00

4 Claims



Field effect transistor of the type having an insulated ferroelectric gate wherein the gate electrode is directly connected to the drain electrode.

3,423,655

DIELECTRIC LIQUID EPOXIDE SCAVENGER

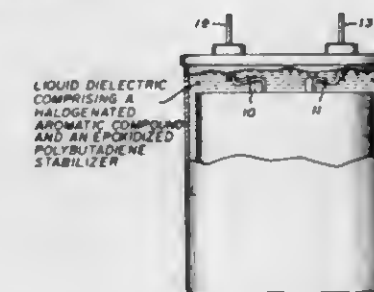
Arthur Katchman, Glens Falls, N.Y., assignor to General Electric Company, a corporation of New York

Filed Sept. 20, 1965, Ser. No. 488,586

U.S. Cl. 317-259

Int. Cl. H01G 1/00

5 Claims



An epoxidized polybutadiene is incorporated as a stabilizer in halogenated aromatic compounds useful as dielectric liquid impregnants, particularly for AC capacitors.

3,423,656

SPLINE INTERPOLATOR WITH INTERPOLATING POTENTIOMETERS

Robert W. Tripp, Eastchester, N.Y., assignor to Inductosyn Corporation, Carson City, Nev., a corporation of Nevada

Filed Dec. 6, 1963, Ser. No. 328,542

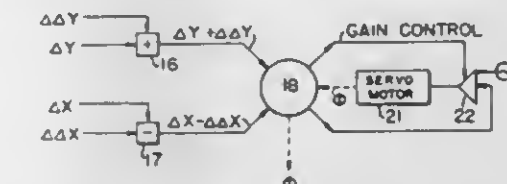
U.S. Cl. 318-18

Int. Cl. H02P 7/68

27 Claims

The invention provides a generator of analog signals representative of a curve comprising digital input of starting coordinates of curve segment, digital-to-analog conversion means for supplying analog signals representative of the starting coordinates, differential means for modifying the analog signals to represent a continuous set of points along the curve segment, each of the differential

means having a shaft input which is servo-controlled by one or more analog signals, one of the last mentioned analog signals for each of the servos being derived from



3,423,657

TAP CHANGER CONTROL

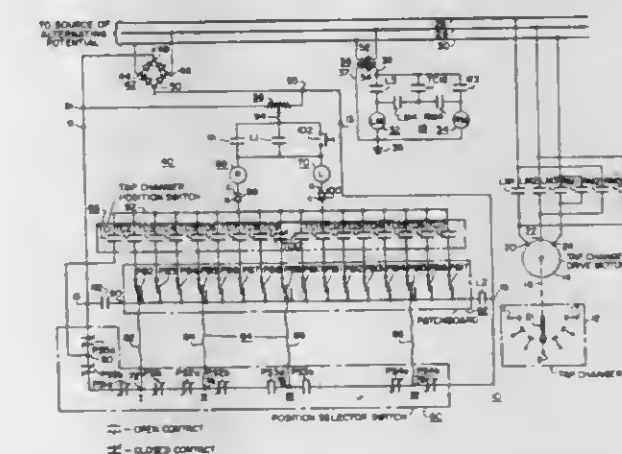
John C. Ponstingl, Rocky River, and Joseph F. Valvo, Fairview Park, Ohio, assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 20, 1966, Ser. No. 551,704

U.S. Cl. 318-33

Int. Cl. G05h 13/00

10 Claims



A tap changer servo system which automatically drives a tap changer in the proper direction to effect a demanded tap change, and stops the tap changer upon reaching the selected tap position. The servo system may be operator or computer controlled.

3,423,658

DRIVE SYSTEM FOR A STEP MOTOR

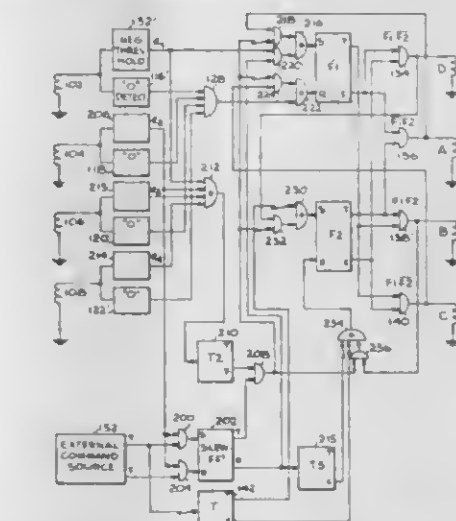
Gordon B. Barrus, El Segundo, Calif., assignor to Data Products Corporation, Culver City, Calif., a corporation of Delaware

Filed Aug. 24, 1965, Ser. No. 482,126

U.S. Cl. 318-138

Int. Cl. H02k 29/00; H02p 1/00, 3/00, 7/00

15 Claims



A system useful in a high speed printing apparatus for moving paper. The system utilizes a stepping motor to

which pulses are applied to incrementally drive the motor armature. The coupling between the motor and paper is chosen such that the paper is stepped one line for a several step motor sequence. The initial steps in the motor sequence are used to impart high torque to the motor armature and subsequent steps are used to dissipate the armature kinetic energy by the time it reaches its rest position to thus enable the armature and the load coupled thereto to be stopped without oscillation.

3,423,659

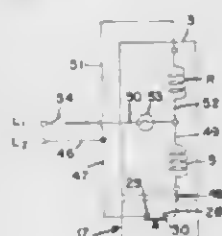
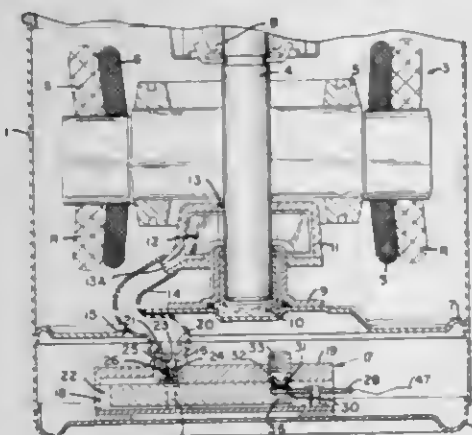
MOTOR WINDING CONTROL EMBODYING A FLUID AMPLIFIER

Jack E. Bebinger, Brookfield, Wis., assignor to General Electric Company, a corporation of New York
Filed July 13, 1966, Ser. No. 564,786

U.S. Cl. 318-221

Int. Cl. H02p 1/44, 3/18

4 Claims



Improved control means for use with a single phase induction motor having a main winding, a start winding and a motor shaft. Basically, the improved control means comprises normally-closed contact means openable at a preselected pressure to de-energize the start winding in response to a stream of pressurized fluid that is developed by compression means and delivered to the contact means through fluid amplifier means. The compression means is adapted to be operatively associated with the motor such that the stream pressure is proportional to the speed of the motor and is fluid connected to the contact means through the fluid amplifier means in such a manner that the stream is not delivered to the contact means unless it is at or above the preselected pressure.

3,423,660

MOTOR WINDING CONTROL MEANS

John L. McClure, Waukesha, Wis., assignor to General Electric Company, a corporation of New York
Filed July 13, 1966, Ser. No. 564,977

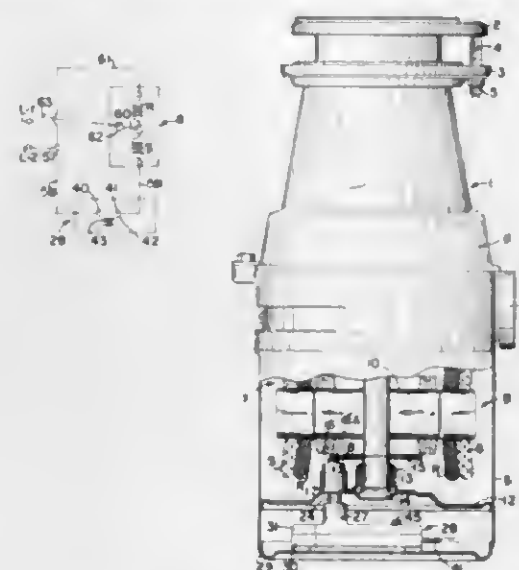
U.S. Cl. 318-221

Int. Cl. H02p 1/04

4 Claims

Improved control means for use with a single phase induction motor having a main winding, a start winding and a motor shaft. Basically, the improved control means comprises normally-closed contact means openable at a preselected pressure to de-energize the start winding in response to a stream of pressurized fluid that is developed by compression means and delivered to the contact means through fluid amplifier means. The compression means is adapted to be operatively associated with the motor shaft

such that the stream pressure is proportional to the operational speed of the motor and is fluid connected to the contact means through the fluid amplifier means in such a manner that the stream is not delivered to the contact means unless it is at or above the preselected pressure. Two embodiments of the fluid compression means are illustrated, both of which include a compression chamber.



In one embodiment, the chamber comprises a housing adapted to be disposed adjacent the motor shaft, and cam means are provided which are adapted to be secured to the shaft for rotation therewith externally of the housing. In the other embodiment, the chamber comprises an annular housing adapted to surround a segment of the motor shaft, and fan blades are provided which are adapted to be secured to the shaft within the housing.

3,423,661

TORQUE RESPONSIVE OVERLOAD ACTUATOR TO STOP DRIVE AND BRAKE

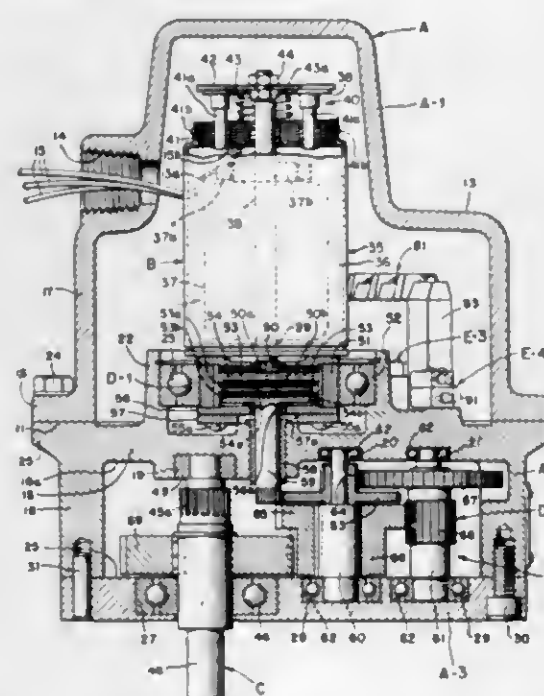
Floyd C. Gustafson, Lake Zurich, Ill., assignor, by mesne assignments, to The Lunkenheimer Company, Cincinnati, Ohio, a corporation of Delaware

Filed Aug. 26, 1965, Ser. No. 482,809

U.S. Cl. 318-475

Int. Cl. H02p 3/04

9 Claims



An electric motor driven actuator for a valve which includes a torque responsive and inertial energy absorbing overload control operative to sense an overload condition on the valve and immediately de-energize the electric drive motor and apply a brake. The torque overload sensing energy absorption of the device is effected by a

transmission which interconnects the electric drive motor and the driven shaft of the device. This transmission includes a torque overload reaction element movable against a spring bias in the event of torque overload to actuate a switch and thereby de-energize the motor and apply the brake.

3,423,662

METHOD FOR OPERATING INVERTERS

Leland A. Schlach, Wilkins Township, Pittsburgh, and Laszlo Gyugyi, Penn Hills, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 13, 1966, Ser. No. 520,498

U.S. Cl. 321-5

Int. Cl. H02m 7/52

12 Claims



A method for operating an inverter to provide an output which eliminates or attenuates at least the lower harmonics and which will reduce the normal variation in the output voltage caused by changes in the power factor of the load supplied thereby. The results are obtained by connecting the voltage supply terminals twice each 180° of the output voltage with the initiation of the second connection following the initiating of the first connection by 60 degrees. The method also provides for concurrently connecting the output terminals together in two current conducting paths arranged to conduct current in opposite directions. One of these paths conducts reactive energy to the source when the reactive current flows in a direction to oppose the voltage next to be applied to thereby maintain the voltage at the output terminal and rapidly reduce the reactive energy. The other concurrently connected path is effectively a short circuit to any reactive current flowing in the same direction as the current caused by the next to be applied voltage to maintain reactive energy in the load during the period when the source terminals are not connected to supply voltage to the load or output terminals.

3,423,663

PHASE DEMODULATED HIGH FREQUENCY BRIDGE INVERTER

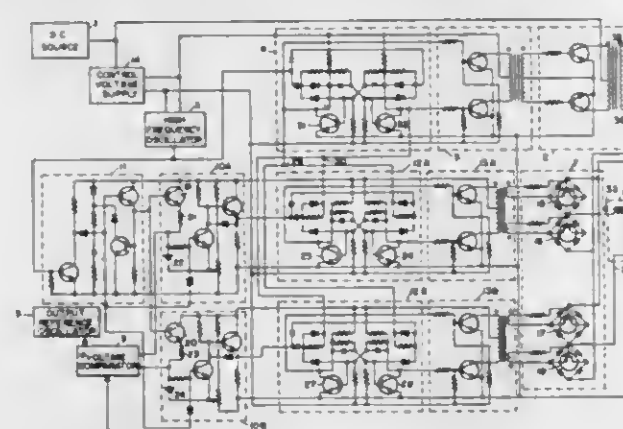
Clifford L. Payne, Richardson, Tex., assignor to Varo, Inc.

Filed Aug. 9, 1966, Ser. No. 571,267

U.S. Cl. 321-5

Int. Cl. H02m 7/52

19 Claims



1. A phase demodulated high frequency bridge inverter including a direct current source, a control voltage supply connected to the direct current source for providing power for the control functions of the inverter, a high

frequency oscillator connected to the control voltage supply, a first flip-flop connected to the high frequency oscillator, a first drive amplifier connected to the first flip-flop, a power amplifier connected to the first drive amplifier, said power amplifier being also connected to the direct current source and being driven by the high frequency oscillator through the first flip-flop and the first drive amplifier, said power amplifier converting direct current power from the direct current source to alternating current square wave power, a phase demodulator connected to the power amplifier, said phase demodulator controlling the output frequency, amplitude, and phase, a filter connected to the phase demodulator into which the output of the power amplifier is fed, an output reference oscillator connected between the control voltage supply and the high frequency oscillator, a voltage comparator connected to the output reference oscillator and to the output from the filter, said voltage comparator comparing the output of the filter to the sine wave of the output reference oscillator, a ramp generator connected between the high frequency oscillator and the first flip-flop, a first modulator connected between the ramp generator and the voltage comparator, a second modulator connected between the ramp generator and the voltage comparator, the first and second modulators being interconnected and being driven by the ramp generator and voltage comparator, a second flip-flop connected between the first flip-flop and the first modulator, a third flip-flop connected between the first flip-flop and the second modulator, the second and third flip-flops being interconnected, a second drive amplifier connected between the second flip-flop and the phase demodulator, and a third drive amplifier connected between the third flip-flop and the phase demodulator, the outputs of the first and second modulators triggering the second and third flip-flops to drive the phase demodulator through the second and third drive amplifiers.

3,423,664

MEANS FOR SUPPRESSING COMMUTATION TRANSIENTS IN A CONTROLLED RECTIFIER CONVERTER FOR HIGH-VOLTAGE ELECTRIC POWER APPLICATIONS

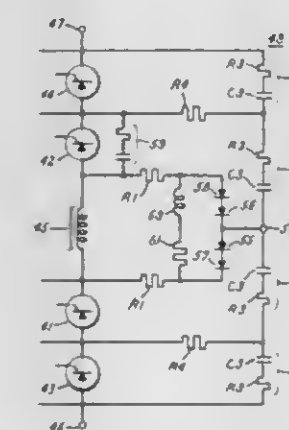
Clyde G. Dewey, Drexel Hill, Pa., assignor to General Electric Company, a corporation of New York

Filed May 24, 1967, Ser. No. 640,987

U.S. Cl. 321-11

Int. Cl. H02m 1/18

13 Claims

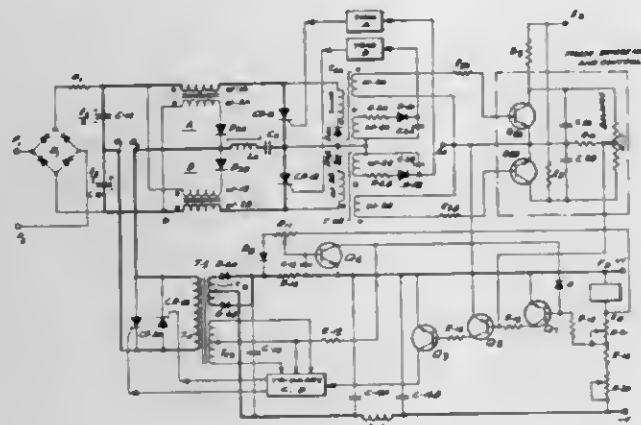


High-voltage electric power inverters and rectifiers can be formed by appropriately interconnecting and sequentially firing a plurality of electric valves each comprising a plurality of individual semiconductor controlled rectifiers that are turned on in unison when that valve is fired. To ensure successful operation of the controlled rectifiers in each valve during periods of commutation, I provide in series therewith additional means for initially absorbing and later dissipating electrostatic energy stored in the power system when commutation begins.

3,423,665 ELECTRONIC POWER SUPPLIES WITH INVERTERS AND REGULATORS

Sol Greenberg, Roslyn, and George A. Gautherin, Woodside, N.Y., assignors to Lambda Electronics Corporation, Huntington, N.Y., a corporation of New York
Filed Oct. 23, 1965, Ser. No. 503,119
U.S. Cl. 321-11
Int. Cl. H02m 1/18

34 Claims

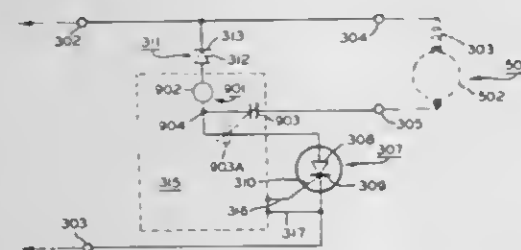


Electronic power supplies are disclosed with improved inverter and regulator circuits. The inverter circuit includes controlled switches such as controlled rectifiers, a saturable inductor to improve switch-over operation and fail-safe interlock circuits to prevent the simultaneous conduction of the controlled switches. The inverter circuit is also provided with a feature which automatically limits the voltages in the inverter circuit irrespective of changes in load. The regulator is provided with circuits which are selectively energized to controllably divert current from the load in response to changes in load requirements.

3,423,666 ELECTRICAL CONTROL SYSTEMS

Walter J. Brown, 71 Gurley Road, Stamford, Conn. 06902
Original application Feb. 19, 1965, Ser. No. 433,863, now Patent No. 3,378,747, dated Apr. 16, 1968. Divided and this application Oct. 30, 1967, Ser. No. 705,241
U.S. Cl. 321-11
Int. Cl. H02m 1/18

9 Claims



An electrical control system comprises a controlled rectifier supplying an inductive load and having an output which varies according to the current flow in a back rectifier which is connected across the load. The system will alternatively or additionally regulate the output, limit the maximum output current, and interrupt the output current when excessive.

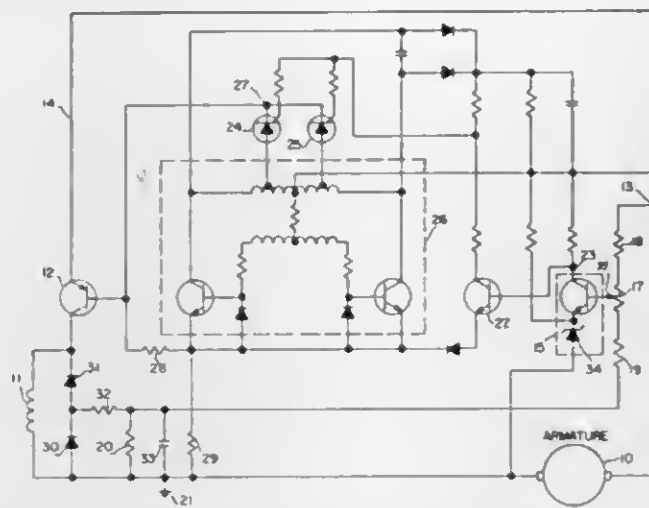
3,423,667 SWITCHING TYPE REGULATOR

David L. Lafuze, Waynesboro, Va., assignor to General Electric Company, a corporation of New York
Filed June 14, 1966, Ser. No. 557,480
U.S. Cl. 322-28
Int. Cl. H02h 7/06; H02p 9/00, 11/00

6 Claims

A voltage regulator for a DC generator includes a switching means in circuit with the generator's field winding for controlling the energization thereof in re-

sponse to a sensed voltage derived from the generator's armature output. To avoid large drops in the generated voltage when the field winding is de-energized, a diode is

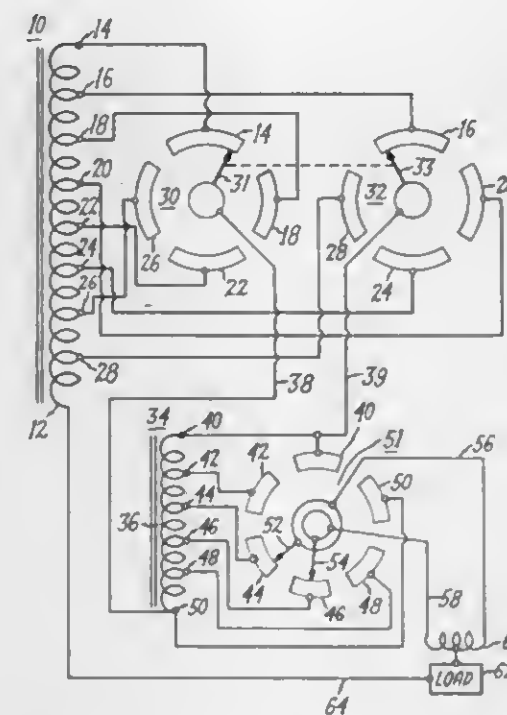


placed in freewheeling connection with the field winding and the voltage developed thereacross subtracted from the sensed voltage to reclose the switching means faster.

3,423,668 VOLTAGE REGULATOR VERNIER CONTROL DEVICE WHEREIN AN AUTOTRANSFORMER IS DIRECTLY CONNECTED TO THE CONTROL FINGERS OF A COARSE CONTROL

Robert H. Brennan, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York
Filed May 19, 1966, Ser. No. 551,293
U.S. Cl. 323-43.5
Int. Cl. H02m 5/12

4 Claims

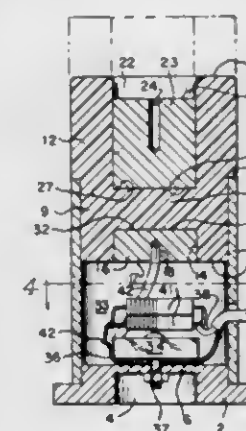


A vernier control device for use with the coarse control of a voltage regulator. The coarse control comprises a tap changer with a pair of rotatable contact fingers connected to a pair of circularly tapped contacts of the voltage regulator such that each contact finger will only make contact with alternate ones of the tap contacts. The vernier control is in the form of a tapped autotransformer directly connected between the rotatable contact fingers of the coarse control. The vernier control has a pair of rotatable contact fingers which may contact the same contact member of the tapped autotransformer or bridge a pair of adjacent contacts. The load to be regulated is connected to the rotatable fingers of the vernier control and to one end of the coarse control winding.

3,423,669 CAPACITIVE VOLTAGE DIVIDER

George E. Holliday, San Jose, Calif., assignor, by mesne assignments, to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 5, 1966, Ser. No. 599,269
U.S. Cl. 323-79
Int. Cl. H02p 13/00

5 Claims



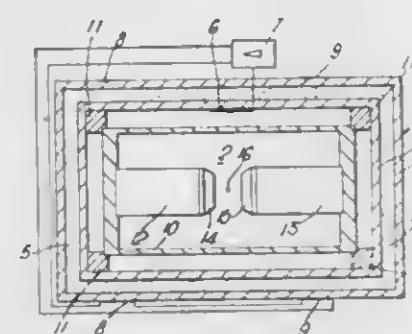
1. A voltage divider comprising a metallic base, a tubular metallic shield member supported on the base and extending away therefrom, a solid dielectric plug extending into the open end of the tubular shield member for a predetermined distance, said solid dielectric plug having oppositely disposed bores therein having predetermined depths, a solid dielectric web disposed between the inner ends of said bores and forming an integral part of said dielectric plug, capacitor electrodes fitted within said bores so as to provide opposed conductive surfaces spaced apart a predetermined distance, and a trimmer capacitor having one terminal thereof connected to one of said first mentioned conductive surfaces and its other terminal connected to ground.

3,423,670 MAGNETIC SHIELD ARRANGEMENT FOR A HIGH FLUX HOMOGENEOUS FIELD-PRODUCING MAGNET

Leslie Kearton Parker, Great Kingshill, and John Bryant Leane, Beaconsfield, England, assignors to Perkin-Elmer Limited, Beaconsfield, England, a British company
Filed Aug. 2, 1965, Ser. No. 476,362
Claims priority, application Great Britain, Aug. 7, 1964, 32,245/64

U.S. Cl. 324-5
Int. Cl. G01n 27/00; G01r 33/08

3 Claims



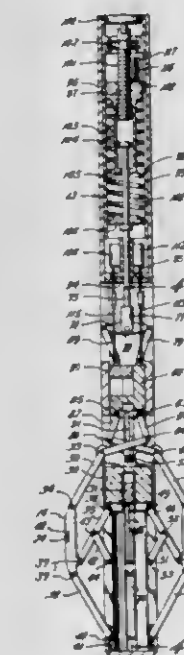
An enclosure for an instrument requiring constant magnetic field conditions comprising a coil mounted about the enclosure for maintaining a constant magnetic field within the enclosure when a field-correcting current flows in the coil, a transducer positioned within the enclosure for providing a signal responsive to a departure from the constant magnetic field conditions, and amplifying means coupled to said transducer and coil adapted for causing a field-correcting current to flow in said coil in response to a signal from said transducer.

3,423,671 BOREHOLE APPARATUS FOR INVESTIGATING SUBSURFACE EARTH FORMATIONS INCLUDING A PLURALITY OF PAD MEMBERS AND MEANS FOR REGULATING THE BEARING PRESSURE THEREOF

André Marcel Vezin, Viroflay, Yvelines, France, assignor to Societe de Prospection Electrique Schlumberger, S.A., Paris, France, a corporation of France
Filed Aug. 27, 1962, Ser. No. 219,619
Claims priority, application France, Aug. 31, 1961, 872,193

U.S. Cl. 324-1
Int. Cl. G01v 3/00

21 Claims

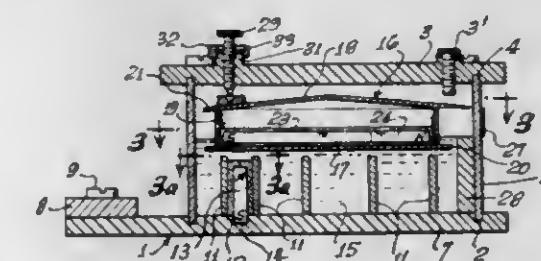


5. In apparatus for investigating earth formations traversed by a borehole, the combination comprising: an elongated support member adapted for longitudinal movement through a borehole; a plurality of wall-engaging members; at least one arm member individually coupling each of the different wall-engaging members to the support member, slide members coupled to said support member and upon which said wall-engaging members are slidably mounted, said slide members being arranged to move longitudinally with respect to said support member, and means for preventing longitudinal movement of the wall-engaging members with respect to the support member.

3,423,672 TERRESTRIAL MAGNETISM RESPONSIVE DEVICE INCLUDING FLUID SUPPORTED INDICATING MEANS FOR INVESTIGATING SUBSURFACE CHARACTERISTICS OF THE EARTH

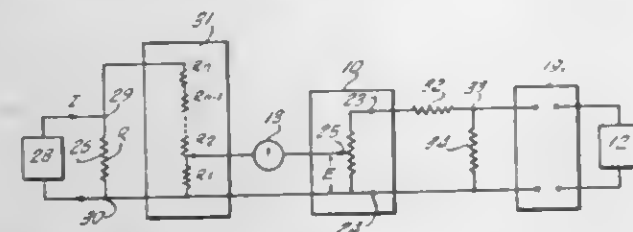
Raymond F. Stockton, 41264 Whittier Ave., Hemet, Calif. 92343
Filed May 8, 1967, Ser. No. 636,898
U.S. Cl. 324-8
Int. Cl. G01v 3/08

15 Claims



A device highly sensitively responsive to terrestrial magnetism characterized by a buoyantly supported component carrying a magnetic north seeking element creating a laterally wide north seeking magnetic field and ac-

preselected value and a constant transfer ratio for supplying a known voltage and a resistance ratio means em-



playing a resistance standard in parallel with the resistance ratio means for attenuating an unknown voltage.

3,423,681

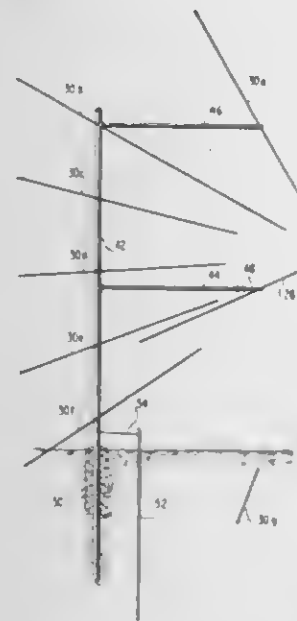
HIGHWAY RADIO COMMUNICATIONS SYSTEM
John R. McKenna, Chevy Chase, Md., assignor to David A. Rawley, Jr., and Donald E. Bilger, High Point, N.C., and Fairfax, Va., respectively

Filed Mar. 25, 1966, Ser. No. 537,350

U.S. Cl. 325-129

Int. Cl. H01q 17/00

9 Claims



A highway radio communications system for transmitting a radio signal to vehicles traveling along a roadway having a radiation antenna means or a pair of radiating antennas each in the form of a transmission line running parallel to and on opposite sides of the roadway, and being driven in appropriate phase relation by a radio signal from a common transmitter, with each antenna having a radio signal shield on the side away from the highway wherein each shield includes an electrically grounded portion defining a vertical plane extending from at least the plane of the roadway to a predetermined distance above the respective radiating antenna and acts to attenuate the rearward field of the adjacent respective radiating antenna as well as the forward field of the radiating antenna on the opposite side of the roadway.

3,423,682

RECEIVER SYSTEMS WITH CONSTANT FALSE ALARM RATE

Jean Cauchois, Paris, France, assignor to CSF-Compagnie Generale de Telegraphie sans fil, a corporation of France

Continuation of application Ser. No. 276,566, Apr. 29, 1963. Divided and this application Jan. 30, 1968, Ser. No. 701,791

Claims priority, application France, May 2, 1962, 896,175

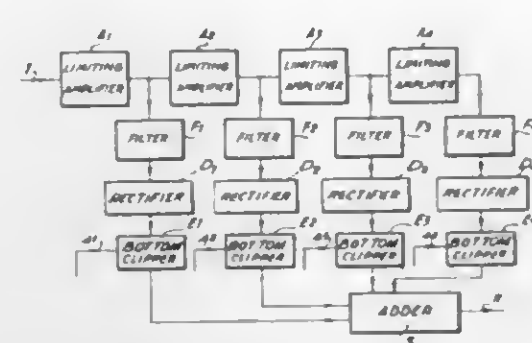
U.S. Cl. 325-324

Int. Cl. H04b 1/10

3 Claims

In order that the level of the output signal of a receiver, adapted for receiving signals in a predetermined narrow-

band, may vary with that of the input signal while the false-alarm rate is maintained at a desired level, the receiver comprises a chain of n wide-band limiting amplifiers in series and n narrow-band filtering bands, respectively



coupled at the outputs of said amplifiers, and respectively followed by detectors and bottom clippers. The output signal is built up by the sum of the output signals of the bottom clippers.

3,423,683

BINARY RANDOM NUMBER GENERATOR USING SWITCHING TREE AND WIDE-BAND NOISE SOURCE

Ernest S. Kelsey and Stuart H. Whitaker, Ottawa, Ontario, Canada, assignors to Northern Electric Company Limited, Montreal, Quebec, Canada

Filed Mar. 31, 1966, Ser. No. 539,180

U.S. Cl. 328-61

Int. Cl. H03k 3/64

3 Claims



A wide-band noise source which is sampled at intervals and the instantaneous amplitude stored in capacitor storage. The stored voltages are compared two at a time and a binary one generated when a preassigned one of the stored voltages is positive with respect to the other and a binary zero in the opposite case.

3,423,684

PARTICLE ACCELERATION TUBE HAVING ELECTRIC FIELD CONTROL MEANS

Kenneth H. Purser, Lexington, Mass., assignor to High Voltage Engineering Corp., Burlington, Mass., a corporation of Massachusetts

Filed Feb. 15, 1965, Ser. No. 432,788

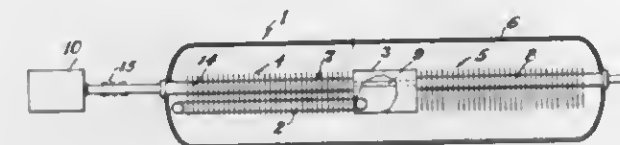
U.S. Cl. 328-233

Int. Cl. H01j 23/00, 23/34; H05h 7/00

4 Claims

The invention relates to the acceleration of charged particles to high velocity, and in particular to acceleration tubes comprising a multiplicity of alternating insulating rings and apertured electrodes whose electric potential increases progressively so as to provide an electric field for the acceleration of charged particles within and along the length of the acceleration tube. When charged particles are injected into such an acceleration tube, rather than released from a source within it, it is neces-

sary that the aperture of the apertured electrode through which the charged particles enter the acceleration tube be sufficiently large to accommodate the incoming charged particles. This large aperture, in turn, is accompanied by a relatively strong focussing action whose focal and magnification properties vary with the potential difference across the acceleration tube. The invention comprehends, in combination with such an acceleration tube, a grid-like structure covering the aperture of one of the aper-



tured electrodes at the low-energy end of the acceleration tube, whereby the above-mentioned variable and relatively strong lens action is eliminated. In the following detailed description, the invention is described with particular reference to its application to tandem-type electrostatic accelerators of the type described in Nuclear Instruments and Methods, volume 8 (1960) at pages 195-202. However, the invention is not limited to this particular application.

3,423,685

BOOTSTRAPPED CASCADE DIFFERENTIAL AMPLIFIER

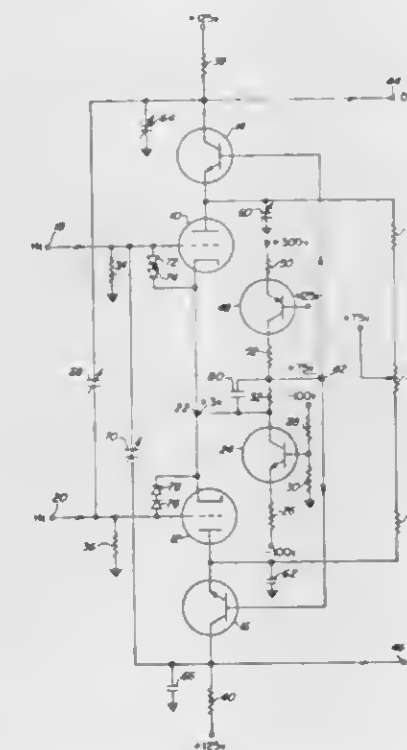
Roy M. Hayes, Portland, Oreg., assignor to Tektronix, Inc., Beaverton, Oreg., a corporation of Oregon

Filed Aug. 27, 1964, Ser. No. 392,420

U.S. Cl. 330-3

Int. Cl. H03f 5/00, 21/00

7 Claims



A differential amplifier includes a pair of signal translating devices having their input electrodes coupled to amplifier input terminals, their output electrodes coupled to amplifier output terminals, and having their common electrodes coupled together. Voltage clamp means couple the said common electrodes to the respective device output electrodes for maintaining a substantially constant voltage difference across each translating device. As a result, a common mode signal applied to the input terminals will not change the voltage difference across the translating devices, and therefore a common mode output signal attributable to voltage differences across the translating devices will not be transmitted.

3,423,686

OPTICAL DEVICES UTILIZING SUBSTANTIALLY TETRAGONAL FERROELECTRIC TUNGSTEN-BRONZES

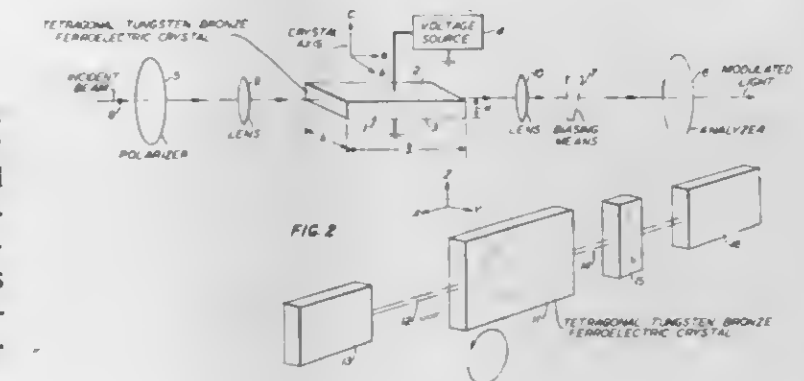
Albert A. Ballman, Woodbridge, and Le Grand G. Van Uitert, Morris Township, Morris County, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, Berkeley Heights, N.J., a corporation of New York

Filed July 11, 1967, Ser. No. 652,551

U.S. Cl. 330-4.5

Int. Cl. H03f 7/00

23 Claims



A newly investigated class of crystal materials, the ferro electric, substantially tetragonal, tungsten-bronzes is found to have properties suggesting its use in a variety of optical devices; such devices include electric-optic modulators, second harmonic generators and parametric amplifiers, mixers, etc.

3,423,687

NON-LINEAR, POSITIVE-FEEDBACK AMPLIFIER

Ryoichi Abe, Kodaira-shi, Tokyo-to, and Takeo Mjura, Kokubunji-shi, Tokyo-to, Japan, assignors to Kabushiki Kaisha Hitachi Selsakusho, Chiyoda-ku, Tokyo-to, Japan, a joint-stock company of Japan

Continuation-in-part of application Ser. No. 244,640,

Dec. 14, 1962. This application Apr. 21, 1965, Ser.

No. 449,742

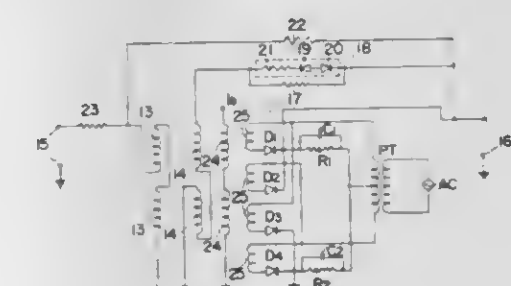
Claims priority, application Japan, Dec. 16, 1961,

36/45,692

U.S. Cl. 330-8

Int. Cl. H03f 9/00

4 Claims



Two regenerative feedback paths, one linear and one non-linear, extend from a common output terminal of a magnetic amplifier to the input thereof, the non-linear path including two Zener diodes connected back-to-back whereby, upon the breakdown of the reverse-connected Zener diode in the presence of a high output voltage, the forwardly connected Zener diode acts as a non-linear resistance to introduce a corrective positive feedback designed to compensate for deviations from linearity.

3,423,688

HYBRID-COUPLED AMPLIFIER

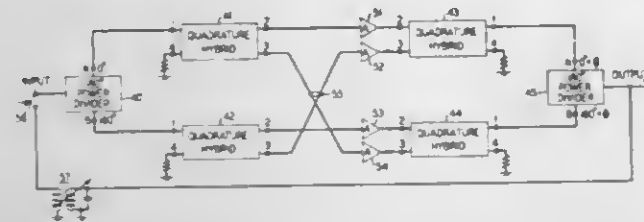
Harold Seldel, Fanwood, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Nov. 9, 1965, Ser. No. 507,011

U.S. Cl. 330-53

Int. Cl. H03f 3/60

5 Claims



Out-of-band stability for a hybrid-coupled amplifier structure is realized by using quadrature hybrids in the fan-out. To extend the bandwidth, a broadband 180 degree phase shift is introduced in one of the wavepaths connecting symmetrically situated hybrids. The difficulties incidental to producing a large multiplicity of broadband 180 degree phase shifters are countered by using a balanced fan-out, and interconnecting corresponding out-of-phase portions of the fan-out.

3,423,689

DIRECT CURRENT AMPLIFIER

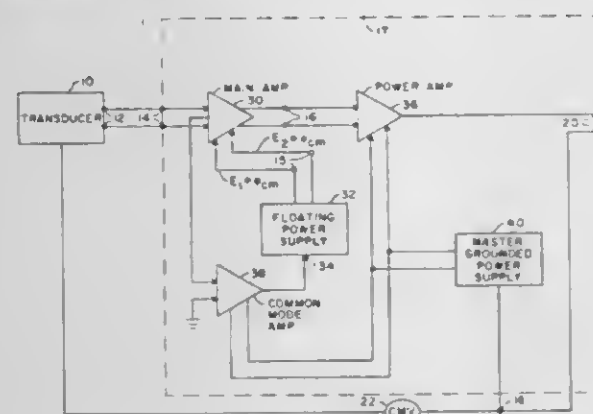
Arthur Miller, Brookline, and Morton H. Levin, Natick, Mass., assignors to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California

Filed Aug. 19, 1965, Ser. No. 480,904

U.S. Cl. 330-69

Int. Cl. H03f 1/00

5 Claims



The power supply voltage for a direct current differential amplifier is varied in accordance with the common mode signal applied to the amplifier to reduce common mode currents circulating within the amplifier.

3,423,690

TERMINATING NETWORK FOR A NEGATIVE FEEDBACK AMPLIFIER

Ian Johnson Hirst, London, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Mar. 25, 1966, Ser. No. 537,382

Claims priority, application Great Britain, Apr. 9, 1965, 15,237/65

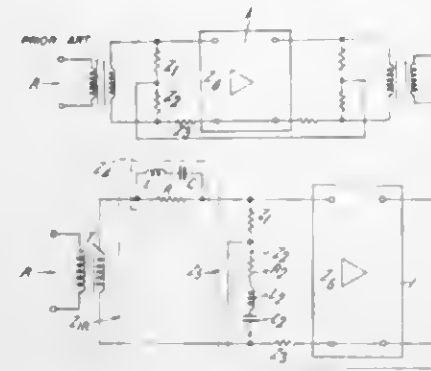
U.S. Cl. 330-109

Int. Cl. H03g 3/30

6 Claims

A terminating network is provided for a negative feedback amplifier. The network includes a reactance circuit connected between a source of signals and an input terminal of the amplifier. A bridge circuit is connected across the input terminals of the amplifier so that the amplifier forms one arm of the bridge. Another arm of the bridge contains a network which is resonant at the same frequency as the reactance circuit. The result is a terminating network which presents a substantially constant input impedance over a wide frequency range while enabling the

supply of a large feedback to the amplifier and maintaining noise and overload performance of the amplifier at a high level.



3,423,691

DISK LASER HAVING PUMPING MEANS IN INDIRECT OPTICAL COMMUNICATION WITH THE DISK END FACES

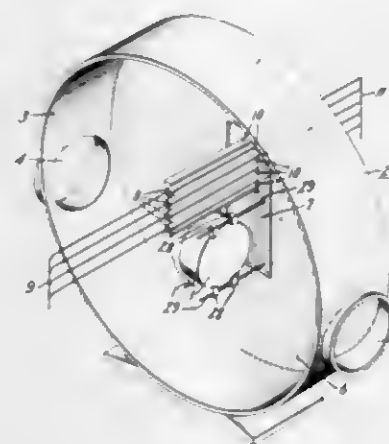
Joseph P. Chernoch and Harold R. Koenig, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York

Continuation-in-part of application Ser. No. 306,424, Sept. 4, 1963. This application Sept. 25, 1963, Ser. No. 311,517

U.S. Cl. 331-94.5

Int. Cl. H01s 3/02

5 Claims



A disk-shaped body of laser material is optically pumped solely through its large end faces and the resultant laser radiation is also emitted from such end faces. The body of laser material is enclosed in a housing having a reflective inner surface. Pumping lamps supported within the housing are in indirect optical communication with the laser disk end faces for optically pumping the laser material through such end faces upon one or more reflections from the housing inner surface.

3,423,692

METHOD OF AND APPARATUS FOR COOLING A LASER CRYSTAL AND/OR PRECLUDING PREFERENTIAL LASING

Donald Sanford Young, Flemington, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 7, 1963, Ser. No. 314,237

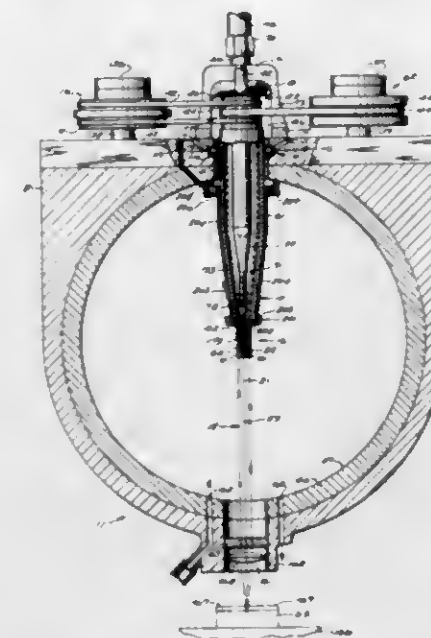
U.S. Cl. 331-94.5

Int. Cl. H01s 3/04

14 Claims

A selected portion of a laser element is exposed to pumping radiation and the laser element is rotated to uniformly expose the outer area of the laser element to the pumping radiation to preclude preferential lasing. In addition, the laser element may be provided with an inter-

nal bore into which bore a coolant is introduced so that rotation of the laser element urges the coolant against the surface of the bore and flows the coolant along the



surface to extract heat from the laser element. Also, the bore in the laser element may be a blind bore to facilitate the flow of the coolant against the surface of the bore upon rotation of the laser element.

3,423,693

DISK LASER HAVING PUMPING MEANS IN DIRECT OPTICAL COMBINATION WITH THE DISK END FACES

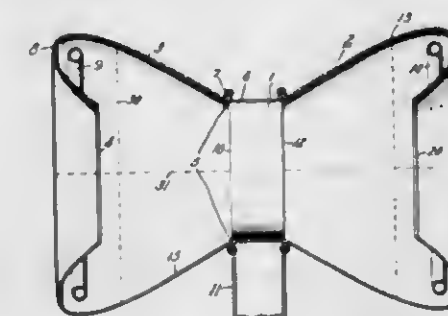
Joseph P. Chernoch and Harold R. Koenig, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York

Filed Oct. 9, 1963, Ser. No. 315,054

U.S. Cl. 331-94.5

Int. Cl. H01s 3/02

6 Claims



A disk-shaped body of laser material is optically pumped solely through its large end faces and the resultant laser radiation is also emitted from such end faces. The body of laser material is partially enclosed in a housing having a reflective inner surface and the longitudinal axes of the housing and body of laser material are coincident. Pumping lamps supported within the housing are in line-of-sight communication with the laser disk end faces for optically pumping the laser material through such end faces.

3,423,694

RADIANT ENERGY SOURCE

Roger C. Jones, Springfield, Va., assignor to Melpar, Inc., Falls Church, Va., a corporation of Delaware

Filed Aug. 26, 1964, Ser. No. 392,162

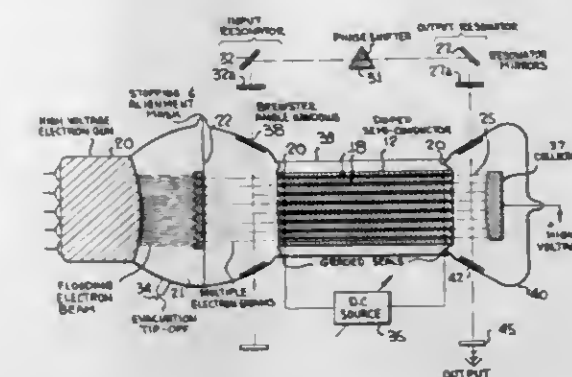
U.S. Cl. 331-94.5

Int. Cl. H01s 3/00

11 Claims

A coherent radiant energy source includes a semiconductor body having a plurality of parallel passageways extending therethrough to simulate vacant regions in a plasma confined within the semiconductor body. Beams of velocity-modulated electrons are directed through the

passageways to set up interactions within the passageways between the near fields of the beams and the plasma, the latter being subjected to an electric field to produce a drift of charge carriers therein along paths parallel to the passageways. Velocity modulation of the electron



3,423,695

GIANT PULSE LASER SYSTEM INCORPORATING DUAL Q-SWITCHING MEANS

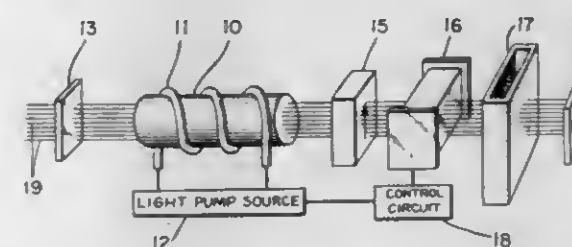
James H. Boyden, Granada Hills, Calif., assignor to Union Carbide Corporation, a corporation of New York

Filed June 24, 1964, Ser. No. 377,675

U.S. Cl. 331-94.5

Int. Cl. H01s 3/11

3 Claims



A giant pulse laser system incorporates in its optical cavity an active Q-switching means adapted to be triggered by an external signal in combination with a passive Q-switching means responsive to initial incidence of radiation. The active Q-switching means comprises an electro-optical shutter and enables initial restoration of the Q of the cavity to be effected at a precise point in time. The radiation resulting upon this initial restoration of the Q will trigger the passive Q-switching means in the form of the dye to render it substantially transparent and thus completely restore the Q of the cavity. Cessation of the giant pulse results in the passive Q-switch returning to a substantially opaque condition almost immediately. As a result, a giant pulse may be precisely generated at a desired point in time and any "after lasing" is avoided by the passive Q-switch so that there results a "clean" pulse.

3,423,696

DISK LASER HAVING PUMPING MEANS IN DIRECT OPTICAL COMMUNICATION WITH THE DISK END FACES

Joseph P. Chernoch, Scotia, N.Y., assignor to General Electric Company, a corporation of New York

Original application Oct. 9, 1963, Ser. No. 315,054.

Divided and this application Nov. 10, 1966, Ser. No. 593,414

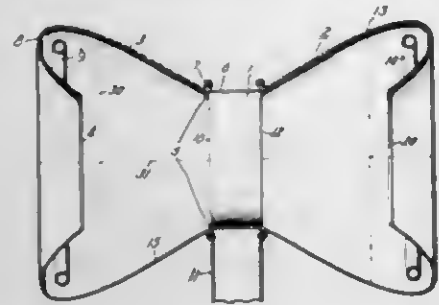
U.S. Cl. 331-94.5

Int. Cl. H01s 3/02

5 Claims

A laser device is disclosed wherein the laser material is disk shaped, a short cylindrical solid body having large

end surfaces as distinguished from the conventional long rod body. A laser beam is emitted through the end surfaces when the laser material is pumped through its end surfaces into a high energy state. The output of a pump-



ing device is radiated directly to the laser body end surfaces since the pumping device and laser body end surfaces are in optical alignment. The large end surfaces permit generation of a high power laser beam useful especially in high power laser applications.

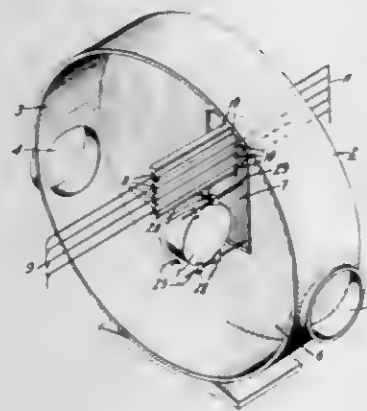
3,423,697

DISK LASER HAVING PUMPING MEANS IN INDIRECT OPTICAL COMMUNICATION WITH THE DISK END FACES

Joseph P. Chernoch, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Application Sept. 25, 1963, Ser. No. 311,517, which is a continuation-in-part of application Ser. No. 306,424, Sept. 4, 1963. Divided and this application Nov. 10, 1966, Ser. No. 593,415

U.S. Cl. 331-94.5
Int. Cl. H01s 3/00

15 Claims



A laser device is disclosed wherein the laser material is disk shaped, a short cylindrical solid body having large end surfaces as distinguished from the conventional long rod body. A laser beam is emitted through the end surfaces when the laser material is pumped through its end surfaces into a high energy state. The output of the pumping device is radiated indirectly to the laser body end surfaces through one or more reflections since the pumping device and laser body end surfaces are not in optical alignment. The large end surfaces permit generation of a high power laser beam useful especially in high power laser applications.

3,423,698

MICROWAVE MODULATOR USING VARIABLE CAPACITANCE DIODE

Bernard Wilson, Coventry, England, assignor to The General Electric Company Limited, London, England, a British company

Filed Nov. 5, 1965, Ser. No. 506,474
Claims priority, application Great Britain, Nov. 9, 1964, 45,539/64

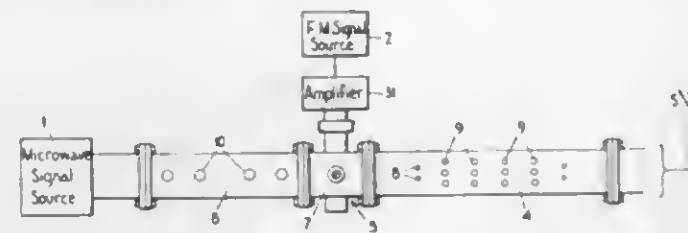
U.S. Cl. 332-51

Int. Cl. H03c 1/14, 1/48

3 Claims

A microwave frequency changer utilizing as a nonlinear element a varactor diode. This diode is coupled to a

length of waveguide connected between a microwave source on one hand and a filter that passes the microwave output signal on the other. A relatively low frequency modulating signal is supplied to the diode over a co-axial



line. The filter reflects back to the diode the unwanted modulation side-band so as to reduce the overall power loss between the microwave input and output signals.

3,423,699

DIGITAL ELECTRIC WAVE PHASE SHIFTERS

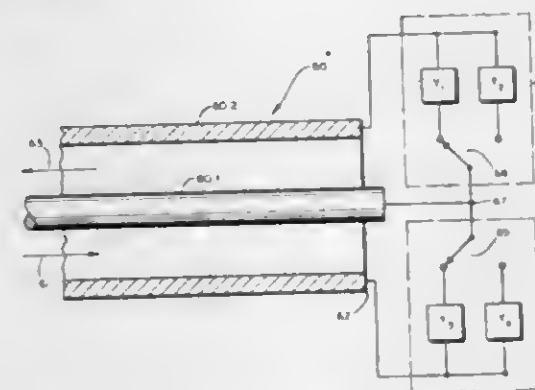
Marion E. Hines, Weston, Mass., assignor to Microwave Associates, Inc., Burlington, Mass., a corporation of Massachusetts

Filed Apr. 10, 1967, Ser. No. 629,796

U.S. Cl. 333-31

Int. Cl. H03h 7/18

11 Claims



Digital phase shifters of the reflection type are described in which the reflection coefficient can be given any one of four discrete phase values separated electrically by 90 degrees, or $\pi/2$ radians, using only two switchable admittances or impedances; semiconductor diodes (e.g.: PIN type) which are switchable from one state to another by an applied voltage, are used as switch devices, or as the switchable admittance or reactance when inherent reactance components are made part of the circuit. Combinations of these four-state phase shifters with other phase shifters providing additional phase-shift in increments of 22.5 degrees and 45 degrees, using two or four additional switch devices, are shown to provide a phase shifter system which affords any one of sixteen different reflection coefficient phase angles spaced uniformly around the Smith Chart circle, using in one case a total of four switch devices with a circulator, and in another case a total of six switch devices with no circulator.

3,423,700

PIEZOELECTRIC RESONATOR

Daniel R. Curran, Cleveland, William J. Gerber, Willock, and Alfred L. W. Williams, Cleveland, Ohio, assignors to Clevite Corporation, a corporation of Ohio

Filed Apr. 30, 1963, Ser. No. 276,896

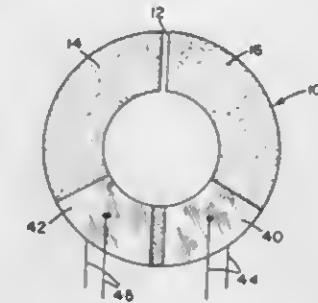
U.S. Cl. 332-72

Int. Cl. H03h 5/32

13 Claims

2. A piezoelectric resonator element comprising: a flat circular ring of piezoelectric ceramic material having a transverse slot in one portion thereof to be non-continuous in circumference; a first pair of electrodes positioned on opposite face surfaces of a second portion of said ring diametrically opposite from said slot, said first pair of electrodes comprising aligned arcuate segments of elec-

trically conductive material positioned adjacent the inner periphery of said ring; a second pair of electrodes positioned on opposite face surfaces of said second ring portion; said second pair of electrodes comprising aligned arcuate segments of electrically conductive material positioned adjacent the outer periphery of said second portion in spaced relationship with said first pair; said ring hav-



ing the ceramic material interposed between each of said electrode pairs polarized in the thickness direction whereby said ring is vibratory in a flexural mode in the plane of said ring defining a pair of nodes located on opposite sides of the ring diameter coinciding with said slot in response to application of signals of predetermined frequency to said electrode means.

3,423,701

CAVITY RESONATORS FOR MICROWAVES COUPLED TOGETHER BY VARIABLE CAPACITANCE DIODE

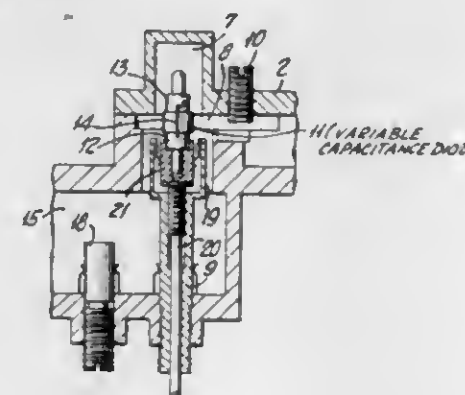
Alfred Kach, Nussbaumen, Switzerland, assignor to Patenhold Patentverwertungs- und Elektro-Holding AG, Glarus, Switzerland

Filed Aug. 11, 1966, Ser. No. 571,828

U.S. Cl. 333-83

Int. Cl. H01p 7/06

10 Claims



A cavity resonator microwave transmission device comprises a main resonant cavity having a lateral recess forming a coupling means for feeding microwave energy to said main cavity through a coaxial feeder. The coaxial feeder has an inner conductor projecting through the recess and into an auxiliary cavity forming a part of the recess. Control of the coupling is effected by varying the electric capacity between the inner conductor and the auxiliary cavity.

3,423,702

COMPRESSIONALLY-LOADED SPRING FORMING DC CONNECTION BETWEEN THE OUTER AND INNER CONDUCTOR OF A TEM-MODE TRANSMISSION LINE

Thomas J. Russell, San Jose, Calif., assignor to Alfred Electronics, Palo Alto, Calif., a corporation of California

Filed Dec. 1, 1966, Ser. No. 598,510

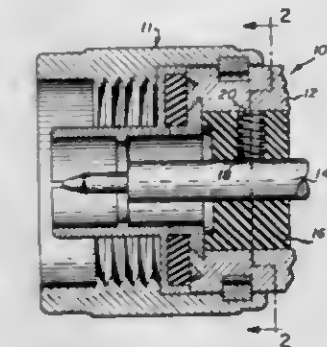
U.S. Cl. 333-97

Int. Cl. H01p 3/00

8 Claims

Often times it is necessary to provide means for making a DC connection between the inner and outer con-

ductors of a high-frequency transmission line for transmitting a TEM-mode wave to bias or otherwise control active elements, such as PIN diodes, shunted across or serially connected into the line. Such DC connectors ideally should not disturb the RF characteristic of the



transmission line, and should provide a good direct current path. The DC connector described herein is in the form of a conductive, helical coil compression spring which is axially compressed between the two conductors between which the TEM-mode is propagated.

3,423,703

DEVICE WITH MANY STABLE STATES OF EQUILIBRIUM

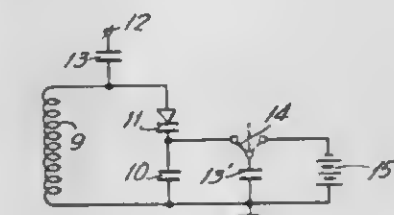
Vitaly Petrovich Sigorsky, Alexandr Artemjevich Molchanov, Leonid Semenovitch Sitnikov, and Lev Lazarevich Utjakov, Novosibirsk, U.S.S.R., assignors to Institute Matematiki SOAN U.S.S.R.

Filed May 13, 1964, Ser. No. 367,094

U.S. Cl. 334-15

Int. Cl. H03j 3/06

2 Claims



A multistable device is employed which includes a parallel resonant circuit in which a capacitor and voltage controlled diode are connected in parallel with an inductor. A D.C. source is coupled by a switch to another capacitor which is alternately coupled to said source and to the capacitor in the resonant circuit.

3,423,704

ELECTRICAL SWITCHING DEVICE USING CONSTRICTED FLUID CONDUCTING PATH

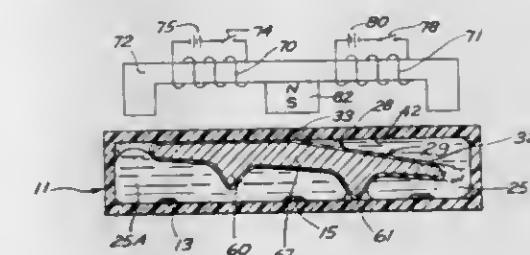
Richard Brander, Chicago, Ill., assignor to Beltone Electronics Corporation, a corporation of Illinois

Filed Oct. 31, 1966, Ser. No. 590,988

U.S. Cl. 335-47

Int. Cl. H01h 29/00

8 Claims



A switch comprising a rigid non-conducting envelope having a plurality of spaced-apart electrical terminals extending through its walls and an electrically conductive,

non-wetting fluid partially filling its interior and in contact with said terminals. A rigid, electrically insulated actuating member is pivotally mounted within the envelope such that in one position a passage is provided for the fluid to form an electrically conductive path between the terminals and in another position the passage is constricted between the actuating member and the envelope to separate the fluid in non-contacting segments to break the electrically conductive path between the terminals.

3,423,705

SNAP-ACTION MAGNETIC SWITCH

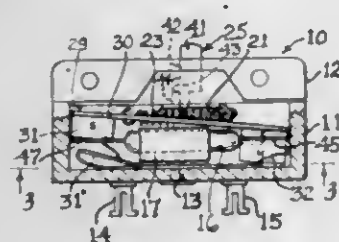
Walter L. Cherry, Eric L. Loog, and Harry W. Olson, Sr., Highland Park, Ill., assignors to Cherry Electrical Products Corporation, Highland Park, Ill., a corporation of Illinois

Filed Jan. 12, 1967, Ser. No. 608,824

U.S. Cl. 335-207

14 Claims

Int. Cl. H01b 9/00



A reed switch actuated by a snap movement of a plurality of magnets orientated relative to an external armature lead and an external circuit lead of a reed switch, with the magnets inducing a first flux path of the same polarity in such leads of the reed switch and when moved relative thereto inducing a flux of a different polarity in one of the leads while increasing the magnetism of the first flux polarity in the other lead of the switch effecting a positive snap-action switch movement therebetween.

3,423,706

MULTIPOLE MAGNET HAVING A SEQUENTIALLY SHIM STEPPED COIL CONFIGURATION

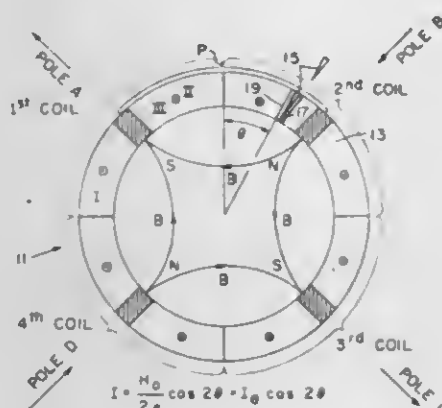
William B. Sampson, Bellport, and Richard B. Britton, Setauket, N.Y., and P. Gerald Kruger, Champaign, Ill., and Richard A. Beth, Bellport, N.Y., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Oct. 28, 1966, Ser. No. 591,056

U.S. Cl. 335-216

6 Claims

Int. Cl. H01f 7/22



Apparatus forming a magnetic field with $2n$ poles within a longitudinally extending aperture having longitudinally extending side-by-side, annular, conductive coils external to and forming said aperture.

3,423,707
ARRANGEMENTS FOR PRODUCING MAGNETIC FIELDS USING SUPERCONDUCTING MAGNETS

Michael Williams, Watford, England, assignor to The General Electric Company Limited, London, England, a British company

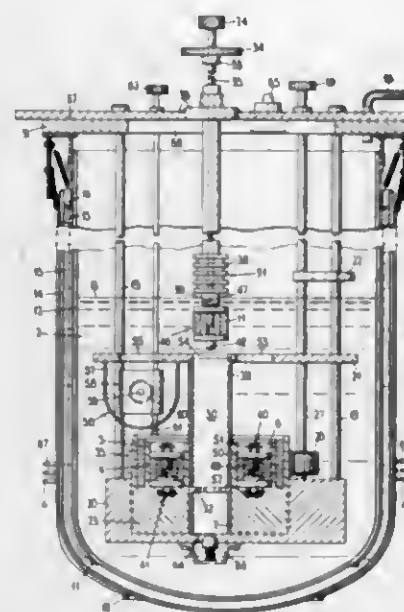
Filed June 21, 1966, Ser. No. 559,314

Claims priority, application Great Britain, June 23, 1965, 26,584/65

U.S. Cl. 335-216

3 Claims

Int. Cl. H01b 7/22, 1/00



For producing a region of magnetic field of high intensity there are arranged within a large diameter magnetized tube of hard superconducting material a number of smaller diameter oppositely magnetized superconducting tubes, the smaller tubes being arranged in a ring round the inner wall of the large tube with all the tube axes parallel to one another, the assembly being maintained below the critical temperature in a cryostat so that the magnetic fields of the solenoids formed by the tubes are additive along a working space within the large diameter tube.

For building up the magnetic field of high intensity a method of progressively increasing the magnetization of each of the smaller tubes in turn is proposed in which a further small tube of hard superconducting material is magnetized to a high intensity by insertion in the said working space and is then substituted for one of the ring of small tubes which in turn has its magnetization increased by insertion into the working space and is then used to replace a further small tube, and so on.

3,423,708

MAGNETIC HOLDER FOR POTS AND PANS

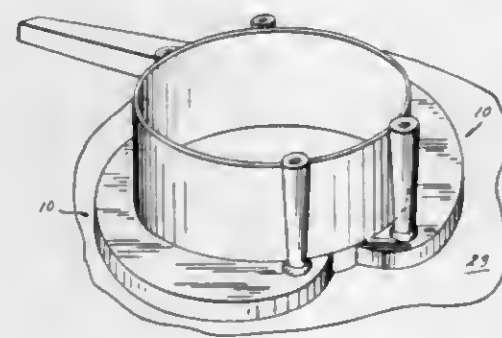
Clarence N. Christlan, 303 N. Bethel St., Olympia, Wash. 98501

Filed Feb. 20, 1967, Ser. No. 617,130

U.S. Cl. 335-285

1 Claim

Int. Cl. H01f 7/20



A crescent-shaped magnetic sheet for holding pots and pans on a stove wherein one of the sheets is placed on

each side of the pot or pan with the concave edge of the device facing inwardly so as to engage the periphery of the pot or pan.

3,423,709

ELECTRICAL TRANSFORMER CONSTRUCTION INCORPORATING IMPEDANCE AND FREQUENCY-RESPONSE COMPENSATION

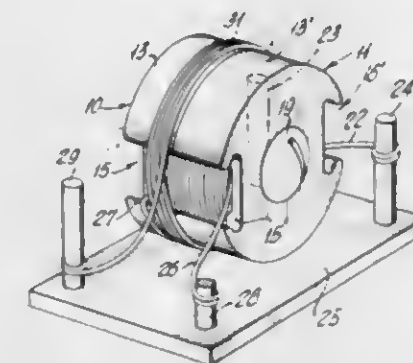
Leo K. Lugten, St. Petersburg, Fla., assignor to Electronic Communications, Inc., a corporation of New Jersey

Filed June 27, 1966, Ser. No. 560,486

U.S. Cl. 336-83

6 Claims

Int. Cl. H01f 15/00



The invention contemplates application to a transformer having a continuous core of magnetic flux-conducting material defining a closed path or flux loop, to which the primary and secondary winding turns are coupled. The core is characterized by spaced portions or legs in which for an imposed input voltage, flux travels in opposite directions. High-frequency limitations attributable to winding capacitance are balanced by incorporating added leakage inductance in the transformer itself. This is done by series-connecting one of the transformer windings with a further winding which peripherally embraces and is thus linked to both legs.

3,423,710

WIDE BAND INDUCTIVE COIL DEVICE

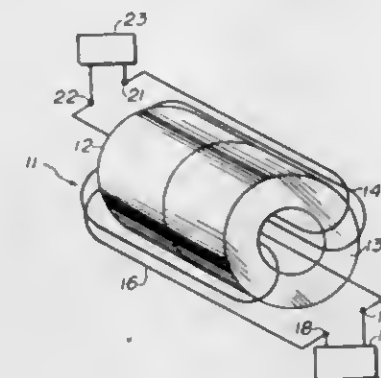
Phillip E. Allen, Reno, Nev., assignor to the United States of America as represented by the United States Atomic Energy Commission

Continuation-in-part of application Ser. No. 429,934, Feb. 2, 1965. This application Sept. 29, 1966, Ser. No. 593,254

U.S. Cl. 336-155

6 Claims

Int. Cl. H01f 21/08



A plurality of coaxial juxtaposed magnetic cores with primary and secondary transformer windings axially wound about the cores having a flat input impedance over a 100 mc. bandwidth when the core materials are selected by predetermined criteria of permeability and losses or equivalents thereof.

3,423,711

ELECTRICAL COIL BOBBIN

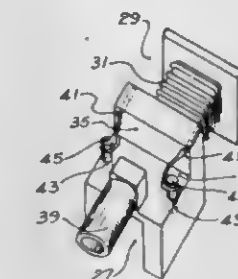
John P. Woods, Anchorage, Alaska, and Clifford D. Dransfield and Henry R. Barta, Dallas, Tex., assignors to Atlantic Richfield Company, Philadelphia, Pa., a corporation of Pennsylvania

Original application Aug. 29, 1962, Ser. No. 220,242, now Patent No. 3,375,574, dated Apr. 2, 1968. Divided and this application Mar. 5, 1968, Ser. No. 710,572

U.S. Cl. 336-192

15 Claims

Int. Cl. H01f 15/10



A bobbin for manufacturing magnetic transducers is made up of a generally rectangular body composed of electrically nonconductive material. The body has a mating side and a plurality of secondary sides. In one end of the body is a longitudinal aperture suitable for receiving a magnetic pole piece. In the other end is a first indentation suitable for receiving pole connecting members. Circumscribing a portion of the aperture is a second indentation in which a coil may be wound. The bobbin may include terminal pins, coil lead passageways and a sleeve for connecting the ends of the coil to external wiring.

3,423,712

THERMAL PROTECTIVE DEVICE HAVING RAPID RESPONSE TO SUDDEN HIGH OVERLOADS AND DELAYED RESPONSE TO MODERATE OVERLOADS

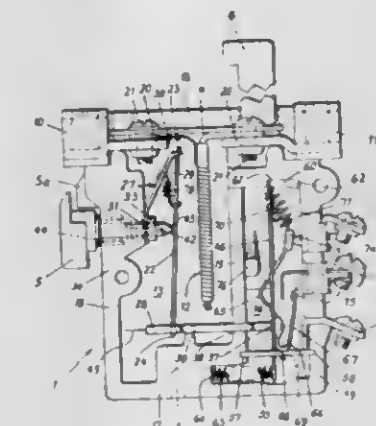
John F. Howard, Peterborough, Ontario, Canada, assignor to Canadian General Electric Company Limited, Ontario, Canada, a corporation of Canada

Filed Mar. 17, 1966, Ser. No. 535,217

U.S. Cl. 337-77

7 Claims

Int. Cl. H01h 61/02, 71/16



An overload relay for actuating an electrical switch mechanism which has a rapid response to sudden high overloads and a delayed response to moderate overloads. An electric heater energized by the current to which the relay is to be responsive is positioned on one side of a bimetallic strip which is supported at one end by a bimetallic support which extends on the other side of the bimetallic strip. Deflection of the bimetallic strip caused by heat received from the heater causes displacement of its second end and of a movable support connected thereto. Displacement of the movable support actuates the relay con-

tacts. The bimetallic support which is more remote from the heater receives heat therefrom at a lower rate than the bimetallic strip, thus delaying its deflection. Deflection of the bimetallic support is effective to increase the deflection of the bimetallic strip necessary to actuate the relay contacts, such that on moderate overloads actuation of the relay contacts is delayed.

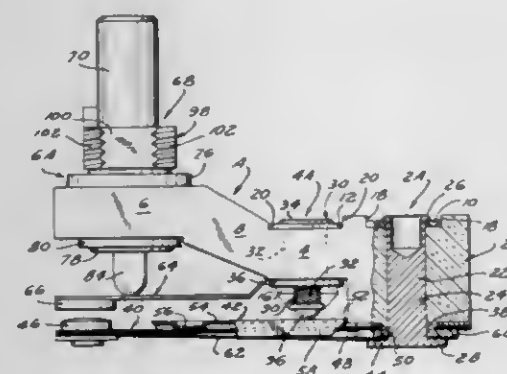
3,423,713

THERMOSTAT CONSTRUCTION

Robert N. Levinn, Catskill, N.Y., assignor to American Thermostat Corporation, South Cairo, N.Y., a corporation of New York

Filed July 21, 1965, Ser. No. 473,711

U.S. Cl. 337—365 10 Claims
Int. Cl. H01h 37/52, 37/18, 37/28



A thermostat comprising a support with a bimetallic member extending therefrom and a contact on the bimetallic member which engages the contact on the support. A spring strip is mounted on the support and extends therefrom and closely overlays the bimetallic member with rigidifying flanges extending alongside the edges of the bimetallic strip to protect and align the bimetallic strip with the spring member. The support includes a means to adjust the contact on the support and a means to adjust the spring member.

3,423,714

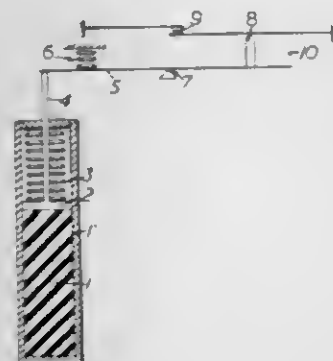
WEAR COMPENSATED RUBBER THERMOSTAT

Ian Ross Adam, Netherlee, Scotland, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Oct. 19, 1966, Ser. No. 587,928

Claims priority, application Great Britain, Oct. 29, 1965, 45,871/65

U.S. Cl. 337—382 6 Claims
Int. Cl. H01b 37/46



A thermostat in which a body of heat expandable rubber transfers its temperature induced dimensional changes through a piston and linkage to open and close contact

points of a switch. Wearable elements in the linkage compensate for wear of the rubber body caused by working against the piston during use.

3,423,715

COLLECTOR BRUSHES FOR SLIP CONTACTS

Heinz Drescher, Hamburg, Germany, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Sept. 15, 1966, Ser. No. 579,540

U.S. Cl. 339—1 5 Claims
Int. Cl. H01r 39/38



The invention is directed to an assembly for a collector brush suitable as a sliding contact for motors and the like. The brush assembly comprises a U-shaped yoke, the arms of which extend into two flexible conductive straps. The ends of the straps are folded inwardly in confronting relationship and a contact brush is secured between the confronting ends. The flexible straps are made conductive preferably by means of superposed metal foils. An insulating casing houses the assembly.

3,423,716

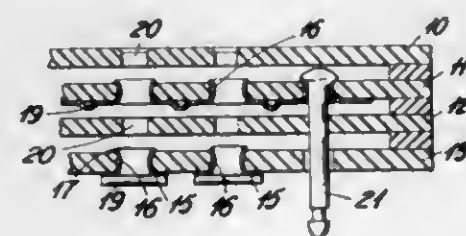
SELECTOR BOARD

Stanley Thomas Deakin, Farlington, England, assignor to Sealectro Limited, Portsmouth, Hampshire, England, a British company

Filed July 5, 1966, Ser. No. 562,729

Claims priority, application Great Britain, July 6, 1965, 28,528/65

U.S. Cl. 339—18 10 Claims
Int. Cl. H01r 29/00



An electrical selector board comprising at least two superposed crossing sets of rows of socket contacts supported on insulating material. At each crossing point one socket contact of each set is aligned with a socket of the other set, with the sockets of each row being spaced apart along a length of strip material. The strips are transversely

bent to form humps between adjacent sockets and to provide the strips with lengthwise resilience. The supporting insulating material has holes therein associated with the sockets, and slots may be provided in the insulating material between the holes for receiving the humps.

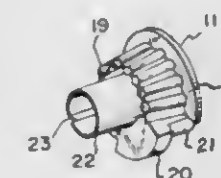
3,423,717

PIN PROTECTOR

Lewis Klier, Arlington Heights, and Stephen S. Simovits, Jr., Forest Park, Ill., assignors to American Plastcraft Company, Chicago, Ill., a corporation of Illinois

Filed Oct. 5, 1967, Ser. No. 673,197

U.S. Cl. 339—36 6 Claims
Int. Cl. H01r 13/44, 13/62



An electrically insulating pin protector comprising a body of insulating material formed to fit over, cover and protect, the pins of a television picture tube, said pin protector including a portion arranged to grip the sides of the keyway of the television picture tube.

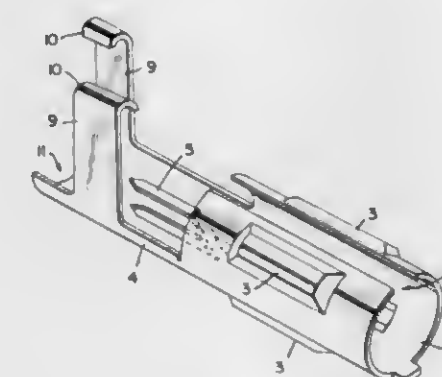
3,423,718

TERMINAL WITH NAIL LANCE AND SUPPORT MEMBER THEREFOR

Carmen Achille Cea, Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.

Filed Jan. 13, 1967, Ser. No. 609,046

U.S. Cl. 339—100 2 Claims
Int. Cl. H01r 11/20, 15/12



The disclosure relates to a terminal having a generally cylindrical hollow contact end portion with an open seam which constitutes a spring means. A series of equidistantly spaced lugs are formed about the contact end for making intimate contact with an associated contact element. A contact or nail lance projects upwardly at a slight angle from the floor of the terminal to pierce the center conductor of a cable secured to the connector. The other end of the terminal has upstanding side walls with the ends thereof curled inwardly to form tabs for gripping cable insulation. These side walls are utilized with a crimping device for crimping to the cable insulation. An insulation gripping means is formed in the wire barrel directly adjacent one of the upstanding side walls, the nail lance constituting a gripping member which pierces and subsequently grips cable insulation during the crimping operation. A support member for the terminal provides a predetermined amount of bend in a wire connected to the terminal.

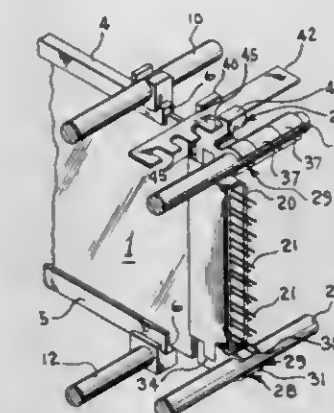
3,423,719

MOUNTING HARDWARE FOR PRINTED CIRCUIT CARDS

Albert A. Zaffrann, Milwaukee, Joseph A. Balint, Wauwatosa, and Siegfried Weidmann, Milwaukee, Wis., assignors to Allen Bradley Company, Milwaukee, Wis., a corporation of Wisconsin

Filed Dec. 26, 1967, Ser. No. 693,363

U.S. Cl. 339—121 5 Claims
Int. Cl. H01r 13/60; H05k 1/00



Adjustable mounting means for printed circuit boards and board-receiving electrical connectors, comprising sets of spaced mounting rods having board-receiving guide channels which are adjustably slidingly attached to the rods and arranged to slidingly receive opposite edges of the boards; and the electrical connectors being slidingly adjustably attached at the ends thereof to a further pair of rods, for adjustable alignment of the boards and connectors. A grounding bus for the connectors extends along one of the connector-supporting rods.

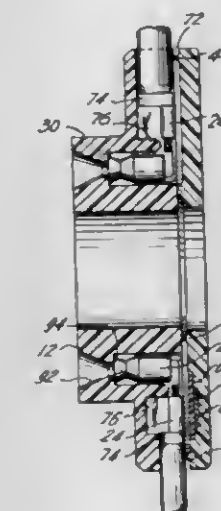
3,423,720

COLOR KINESCOPE SOCKET

Robert B. Pittman, River Edge, N.J., assignor to Industrial Electronic Hardware Corp., New York, N.Y., a corporation of New York

Filed Mar. 28, 1967, Ser. No. 626,550

U.S. Cl. 339—143 14 Claims
Int. Cl. H01r 5/02, 3/00



This socket for a color kinescope has a ring of metal contacts, including a high voltage contact, all housed in a molded body, and held in the body by a molded cover which is secured to the body by ultrasonic welding instead of by rivets. The cover as molded has welding ridges including one or more ridges acting as a voltage barrier around the high voltage contact. The cover has locking

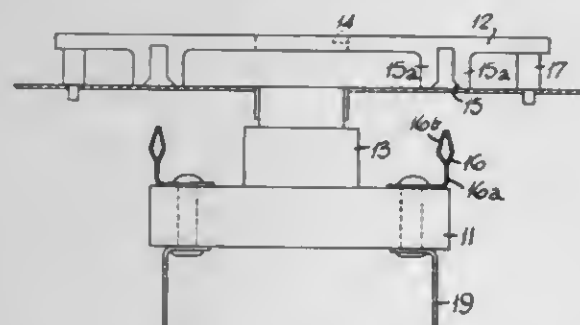
posts which hold the assembly together during the welding operation. There is spark gap protection at any desired contact.

3,423,721 CONNECTORS FOR USE WITH FLEXIBLE PRINTED CIRCUITS

Derek Rushton, Accrington, England, assignor to Joseph Lucas (Industries) Limited, London, England
Filed Nov. 8, 1966, Ser. No. 592,897
Claims priority, application Great Britain, Jan. 4, 1966, 238/66

U.S. Cl. 339—174 3 Claims
Int. Cl. H01r 13/50; H05k 1/04

1. A connector for use with a flexible printed circuit comprising a pair of parts between which the flexible printed circuit having a conductor is sandwiched in use, a projection on one of said parts, a complementary recess in the other of said parts, location means on one of said parts for said flexible printed circuit, at least one socket in one of the parts, and at least one resilient electrical contact carried by the other part and entering said socket when said projection is engaged in said complementary

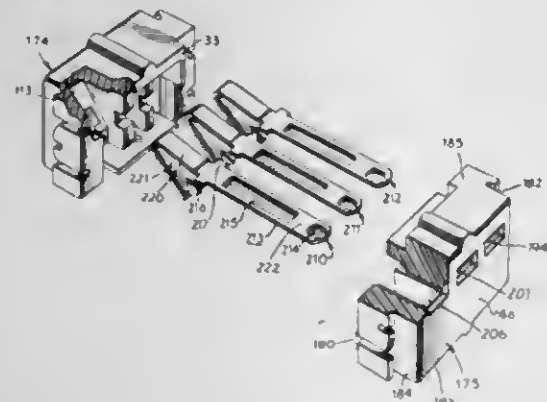


recess, the arrangement being such that a connection to the conductor in the flexible printed circuit can be made by locating the flexible printed circuit on said location means with part of the conductor exposed at a position corresponding with said socket and then interengaging said projection with said complementary recess and said electrical contact with said socket.

3,423,722 ELECTRIC CONNECTOR HAVING INTERFITTING HOUSING MEMBERS

John M. Pistey, Fairfield, Conn., assignor to General Electric Company, a corporation of New York
Original application May 28, 1965, Ser. No. 459,679.
Divided and this application Dec. 29, 1966, Ser. No. 605,902

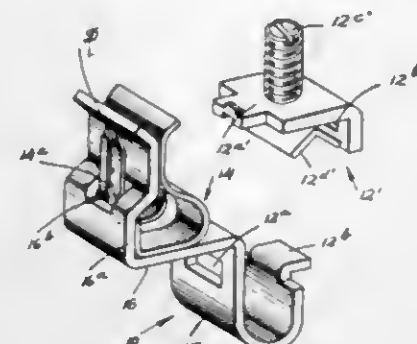
U.S. Cl. 339—191 6 Claims
Int. Cl. H01r 19/28



A male connector portion and female connector portion can be coupled to electrically connect two or more conductors. Each connector portion has two interconnecting housing members forming terminal receiving cavities. A male terminal has wire engaging and protruding blade portions and a female terminal has wire engaging and contact portions.

3,423,723 JAW CONSTRUCTION FOR BLADE- JAW CONTACTS

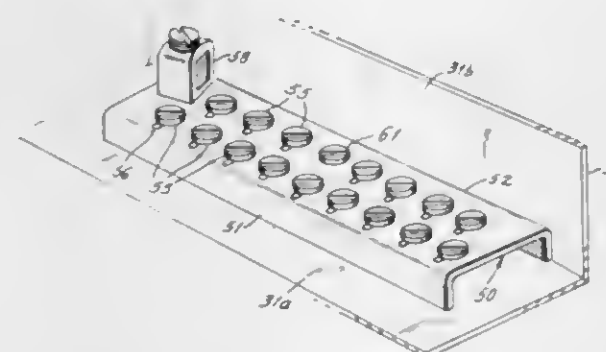
Henry Kobryner, Forest Hills, N.Y., assignor to Murray Manufacturing Corporation
Filed Feb. 13, 1967, Ser. No. 615,592
U.S. Cl. 339—259 4 Claims
Int. Cl. H01r 13/24, 7/12



A jaw assembly for mating with a blade contact. The assembly is constituted by a pair of jaws, one being rigid and of L-shaped cross-section and the other being resilient, of U-shaped cross-section and being interleaved with the former.

3,423,724 TERMINAL MEANS

Ralph C. Clement, St. Clair Shores, Mich., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed July 25, 1966, Ser. No. 567,539
U.S. Cl. 339—269 3 Claims
Int. Cl. H01r 7/16, 3/06, 9/10



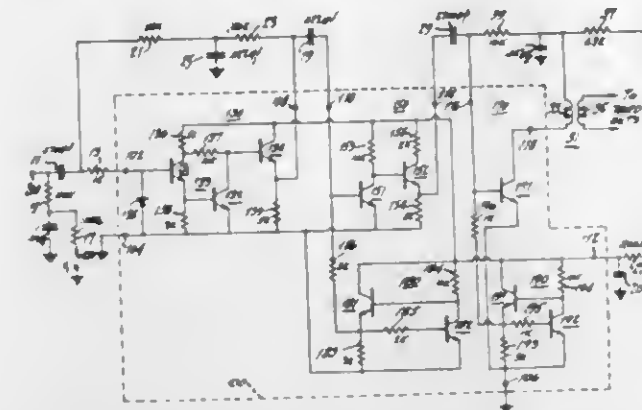
A shallow elongated channel constitutes a terminal bar that is provided with a plurality of threaded apertures which receive individual terminal screws. The channel is also provided with a plurality of clearance apertures, each associated with an individual one of the threaded apertures, to receive and hold the stripped ends of a wire passing around the threaded shank of a terminal screw and below the head thereof.

3,423,725 REMOTE CONTROL SYSTEM

Leopold A. Harwood, Somerville, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed May 18, 1967, Ser. No. 639,321
U.S. Cl. 340—15 7 Claims
Int. Cl. H04b 11/00

An amplifier for a remote control receiver which provides high sensitivity to desired signals and substantial immunity to spurious signals, and which is especially suited for fabrication using integrated circuit techniques, includes

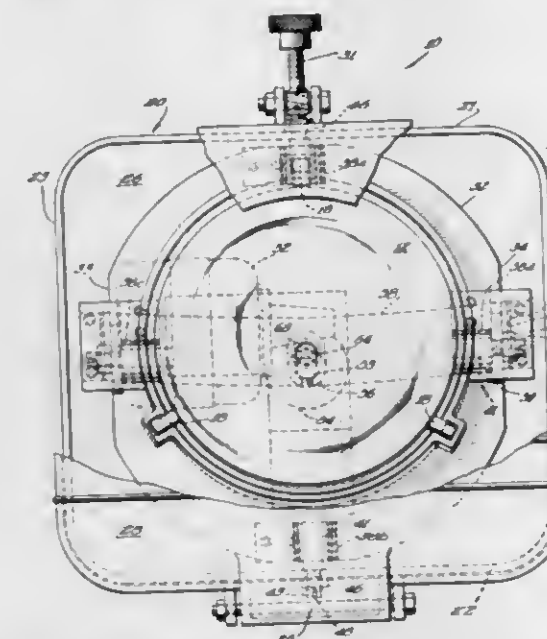
asymmetrical limiters driving a control stage for a ringing circuit tuned to a frequency substantially higher than that of received input signals which key the control stage



to excite the ringing circuit and produce output pulses at a repetition rate equal to an integral multiple, including one, of the input signal frequency.

3,423,726 MOVEABLE LIGHT FIXTURE MOUNTED ON FLAT COIL SPRINGS

Arthur C. Heebler, Park Ridge, and George Taylor, Franklin Park, Ill., assignors to Mercor Corporation, Franklin Park, Ill., a corporation of Illinois
Filed Aug. 10, 1965, Ser. No. 478,709
U.S. Cl. 340—50 12 Claims
Int. Cl. B61l 29/24

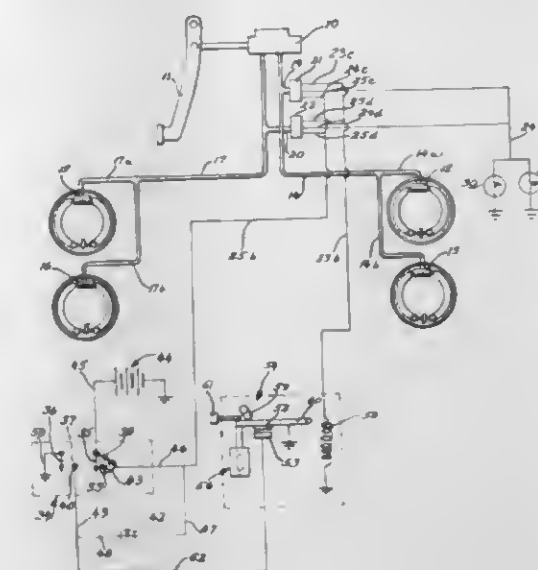


A warning and signalling lamp mounted for oscillatory movement in the nature of that provided by a conventional gimbal support structure while eliminating the bearing assemblies normally included in gimbals. The lamp includes a light unit for projecting light along a projection axis and a support structure for the light unit which comprises four springs each consisting of a flat coil spring strip wound around an axis disposed radially with respect to the light projection axis.

3,423,727 DEVICE FOR SIGNALLING FAULTY PERFORM- ANCE OF A VEHICLE BRAKING SYSTEM

James C. Adamson, Kenosha, Wis., assignor to American Motors Corporation, Kenosha, Wis., a corporation of Maryland
Filed Apr. 4, 1966, Ser. No. 540,050
U.S. Cl. 340—52 5 Claims
Int. Cl. B60q 1/00

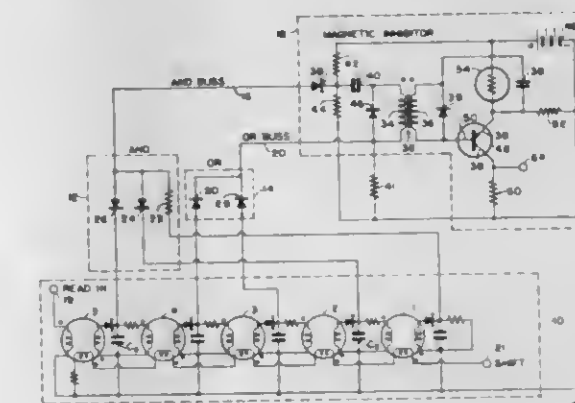
The invention relates to an electrically operated signalling device installed in a vehicle braking system of



to the rear set of brakes. If the performance of one of the sets of brakes is faulty as a result of pressure drop in one chamber, then the signalling device is activated.

3,423,728 DECODING ARRANGEMENT WITH MAGNETIC INHIBITOR MEANS FOR PROVIDING A FAIL- SAFE COMMAND SIGNAL

Francis A. Wissel, Cincinnati, Ohio, assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Nov. 29, 1963, Ser. No. 326,659
U.S. Cl. 340—146.1 13 Claims
Int. Cl. G08b 29/00; G08c 19/16

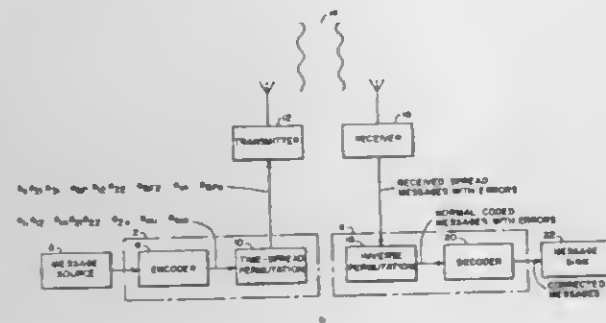


A fail-safe command signal generated by the voltage developed in the last stage of a binary shift register (the least significant bit of a binary number) is connected through an AND gate and a back-biased diode to the primary winding of a transformer. Those stages properly filled with binary "1's" are also connected to the AND gate which comprises a diode for each stage. Each diode serves to short-circuit the command signal when a particular stage is not properly filled. The stages representing binary "0's" are connected to the primary winding through an OR gate comprising a diode for each stage. Each diode permits the passage of current representing improper information. This serves to neutralize current through the primary winding and inhibit the command signal at the transformer.

3,423,729

ANTI-FADING ERROR CORRECTION SYSTEM
Ralph M. Heller, Baltimore, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 25, 1964, Ser. No. 377,979
U.S. Cl. 340—146.1 8 Claims
Int. Cl. G08c 25/00

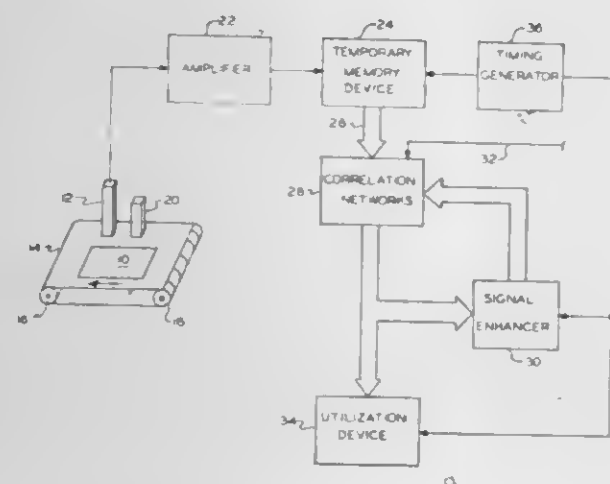


An anti-fading error correction apparatus for a data transmission system wherein an encoder inserts additional bits into each word for error correcting coding and a time spread permutation device separates adjacent bits of any particular word for a time equal to the contemplated duration of a fade or error burst in the system.

3,423,730

CHARACTER RECOGNITION APPARATUS HAVING SIGNAL ENHANCING MEANS
Frederick J. Smyth, Binghamton, N.Y., assignor to Singer General Precision Inc., a corporation of Delaware

Filed Mar. 1, 1965, Ser. No. 436,241
U.S. Cl. 340—146.3 13 Claims
Int. Cl. G06k 9/00

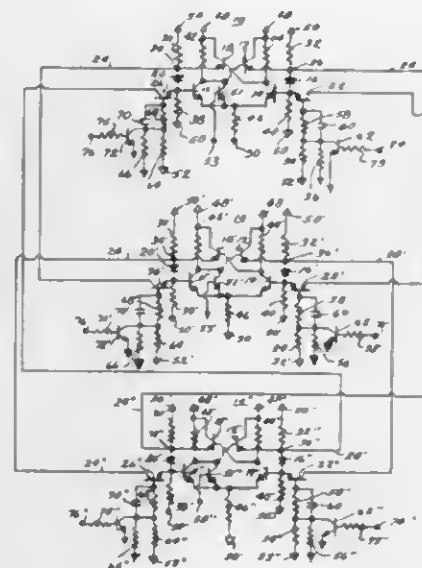


A character recognition apparatus is disclosed which includes a transducer having an output indicative of the shape of the character being sensed and a plurality of correlation networks each corresponding to a particular character. The correlation networks are responsive to the transducer output to provide an output therefrom, with the output of the correlation network corresponding to the character being sensed being of a lesser value than the outputs of the other correlation networks. The outputs of the correlation networks are connected to a comparison circuit which selects the output of lesser value. A plurality of null detector gates are responsive to the selected output and to the output of an associated correlation network to provide upon the occurrence of a difference between such outputs a large amplitude signal which is added to the outputs of each of the associated correlation networks. A utilization device is responsive only to the one modified output of the correlation devices.

3,423,731

SCANNER AND RESOLVER COMBINATION
Warren R. Pratt, White Bear Lake, Minn., assignor to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota

Filed May 13, 1965, Ser. No. 455,577
U.S. Cl. 340—147 7 Claims
Int. Cl. H04q 3/00; H03k 17/02

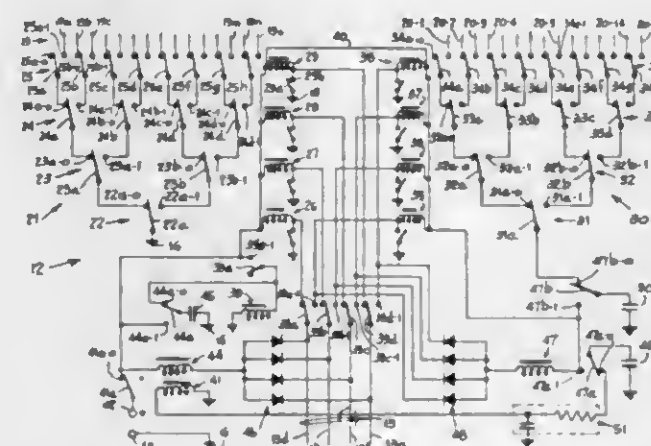


A scanner and resolver combination for connecting one of a plurality of remote stations to a storage module in response to a storage access request signal wherein said combination includes a plurality of flip-flop circuits having cross-coupled feedback connections for free running operation and wherein a plurality of storage access request signals are adapted to be applied to the flip-flops to stop the free running operation thereof and to result in the connection of a remote station to a storage module.

3,423,732

CHOSEN SELECTION TRANSMISSION SYSTEM
Angelo Vaccaro, Port Washington, N.Y., assignor to Columbia Controls Research Corporation, Glen Cove, N.Y., a corporation of New York

Filed Jan. 16, 1967, Ser. No. 609,398
U.S. Cl. 340—166 9 Claims
Int. Cl. H04q 1/30



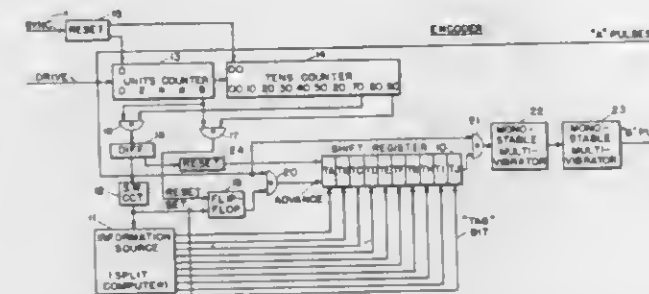
The herein disclosed invention relates to a remote station having a plurality of selections with each being individually represented as by alphabetical or numerical or both codes and being independently choosable with the identity of the chosen selection being converted into a binary code and transmitted to a central station where it is decoded into its originally representative code for utilization.

3,423,733

CODE COMMUNICATION SYSTEM

John H. Auer, Jr., Fairport, and Jerry P. Huffman and Roger P. Van Wormer, Rochester, N.Y., assignors to General Signal Corporation, Rochester, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 336,787, Jan. 9, 1964. This application Dec. 19, 1967, Ser. No. 701,025
U.S. Cl. 340—168 34 Claims
Int. Cl. H04q 1/32



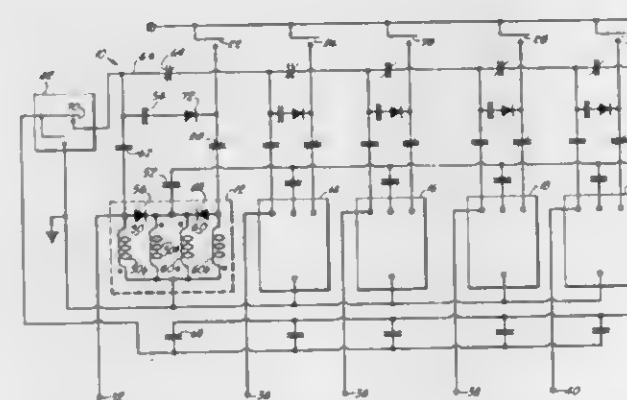
Apparatus for transmitting information to traffic signal control equipment during successive operational timing cycles in which pulses generated at a repetition rate relative to the cycle duration are sensed by a digital counter. The digital counter at a predetermined pulse count produces a read-in signal transferring the traffic signal information from an information source to a transmitting shift register. Shift pulses cause the information to be serially transferred to a receiving register in the traffic signal control equipment. The receipt of a binary one bit transmitted as the first pulse of each information message in the last stage of the receiving register effects a transfer of the information to various storage and utilization equipment intended for the control of the traffic signals in the desired manner.

3,423,734

DATA HANDLING SYSTEM

Wyman L. Deeg, Glenview, Ill., assignor to C. P. Clare & Company, Chicago, Ill., a corporation of Delaware

Filed Mar. 10, 1965, Ser. No. 438,570
U.S. Cl. 340—168 13 Claims
Int. Cl. G06f 15/00



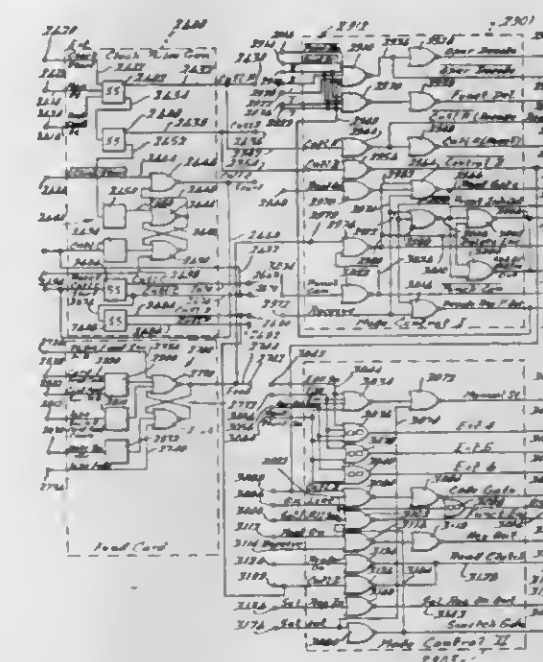
The application discloses a self-scanning register circuit including a plurality of register stages, each operable on a random basis from a normal reset condition to a set condition. Each stage includes a resetting circuit, and a signal source placed in operation when any stages are set is coupled to the resetting circuits of set stages in sequence so as to reset the set stages in sequence. An output signal is delivered as each stage is reset. The circuit also includes means for preventing the lost of inputs occurring during the sequential resetting.

3,423,735

INPUT/OUTPUT SYSTEM

Donald R. Bernier, Detroit, and Quentin E. Correll, Royal Oak, Mich., assignors, by mesne assignments, to Intercontinental Systems, Inc., Los Angeles, Calif., a corporation of California

Filed Oct. 23, 1965, Ser. No. 503,861
U.S. Cl. 340—172.5 18 Claims
Int. Cl. G11b 13/00



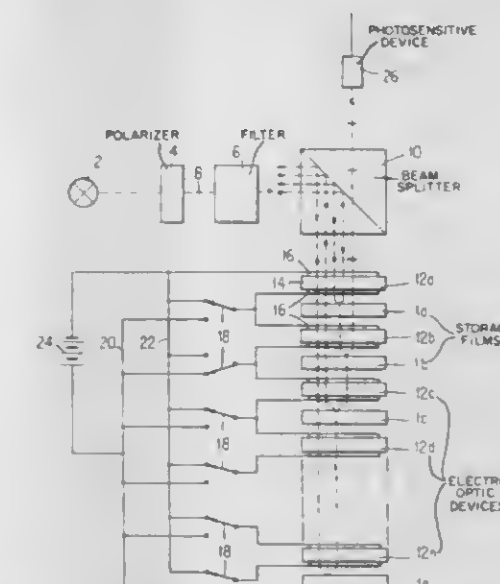
There is herein disclosed a clock pulse generating system for use in automatic data processing comprising a first clock pulse producing means energized by a multiple input starting circuit to produce a first pulse and a second clock pulse producing means coupled to the first clock pulse producing means for generating a second pulse in response to the completion of the first pulse with means for controlling the lapsed time between the first and the second pulses.

3,423,736

APPARATUS FOR READING INFORMATION SELECTIVELY FROM STORAGE DEVICES

William W. Ash, Ithaca, Kurt M. Kosanke, Wappingers Falls, and Glenn T. Sincerbox, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed June 10, 1964, Ser. No. 374,011
U.S. Cl. 340—173 5 Claims
Int. Cl. G11b 7/00



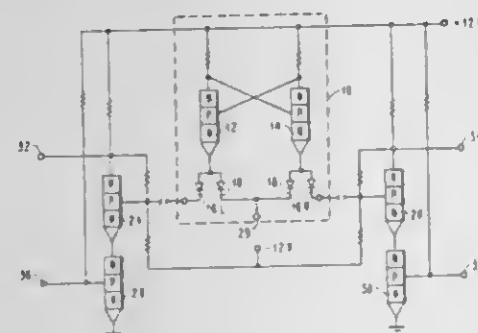
Apparatus is provided for reading information stored in a plurality of storage elements using a single light beam.

The storage elements are coaxially arranged with electro-optical control devices disposed between them for acting on the interrogating-light beam. When a particular storage element is to be interrogated the associated electro-optic element is activated to alter the polarization of the light reflected from the storage element causing it to traverse a desired path for detection.

3,423,737 NONDESTRUCTIVE READ TRANSISTOR MEMORY CELL

Leonard Roy Harper, San Jose, Calif., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed June 21, 1965, Ser. No. 465,593
U.S. Cl. 340-173 10 Claims
Int. Cl. G11b 9/00; G06f 15/00



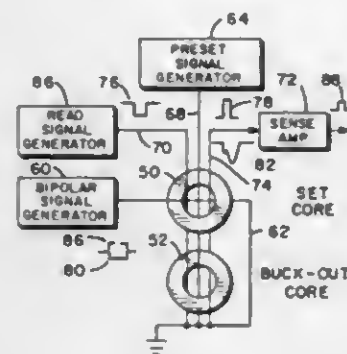
10. A memory cell having two stable states represented by selective conduction of a trigger pair of transistors comprising

- a first and a second trigger transistor each having an emitter, base and collector;
- means for directly cross-coupling the collectors and the bases of said transistors;
- a first and a second diode coupled to the emitter of each of said transistors;
- a control terminal means for coupling said second diodes to said control terminal;
- read control means comprising a first and a second transistor coupled to each of said first diodes;
- means for applying a control pulse to said control terminal;
- means for applying a read-in signal to one of said first read control transistors coincident with the presence of said control signal whereby the corresponding trigger transistor is actuated to a conducting state through the corresponding first diode to set the memory cell to the corresponding state; and
- means for then applying a control pulse to said control terminal whereby the state of the memory cell is non-destructively read out to the corresponding second read control transistor.

3,423,738
MAGNETIC MEMORY COMPARATOR
Raymond H. James, Bloomington, and Charles W. Lundberg, St. Paul, Minn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed June 26, 1964, Ser. No. 378,151
U.S. Cl. 340-174 9 Claims
Int. Cl. G11b 5/00

An apparatus and a method of operation of a magnetizable memory element whereby there is achieved an asymmetrical switching threshold for bipolar drive fields. In the preferred embodiment such element is, from an initial complete-switch (saturated) stable-state, placed into a time-limited partial-switched preset stable-state having asymmetrical switching thresholds for op-

posite polarity drive fields wherein the lesser of said asymmetrical switching thresholds is substantially less

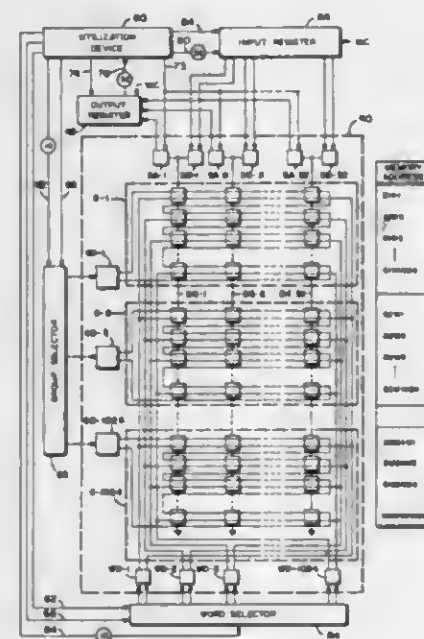


in absolute magnitude than the switching threshold of said initial stable-state.

3,423,739 NONDESTRUCTIVE READ MEMORY SELECTION SYSTEM

James H. Scheuneman, St. Paul, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Aug. 16, 1965, Ser. No. 479,999
U.S. Cl. 340-174 7 Claims
Int. Cl. G11b 5/00

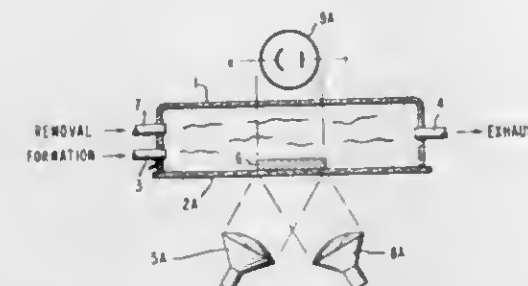


An array of thin ferromagnetic film memory elements arranged in a word-organized nondestructive readout memory selection system utilizing coincident longitudinal and transverse drive field selection for the write operation and coincident transverse drive field selection for the read operation.

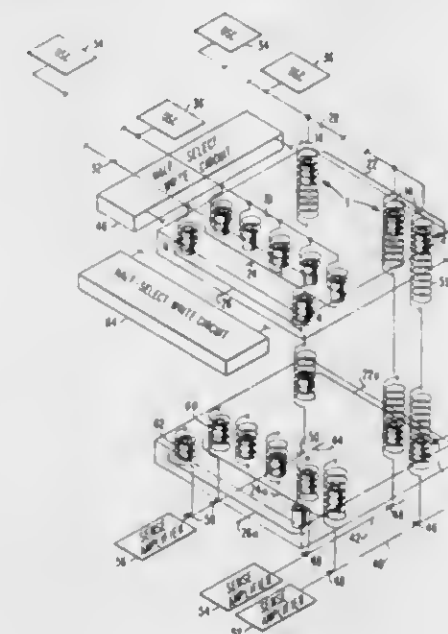
3,423,740
INFORMATION HANDLING DEVICE
Euval S. Barrekette and Eric Donath, New York, N.Y., and Harold H. Herd, Pacific Grove, Calif., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Continuation of application Ser. No. 195,859, May 18, 1962. This application June 30, 1965, Ser. No. 480,237
U.S. Cl. 340-174 17 Claims
Int. Cl. G11b 5/00

An information handling device is provided by the formation of an information element of material in discrete areas on a substrate by the selective application of heat

to discrete portions of a gaseous component of a temperature sensitive reversible reaction, wherein the reaction proceeds in one direction at one temperature and in the opposite direction at another temperature. The presence of the material and the physical properties thereof convey logical information in information channels. For ex-

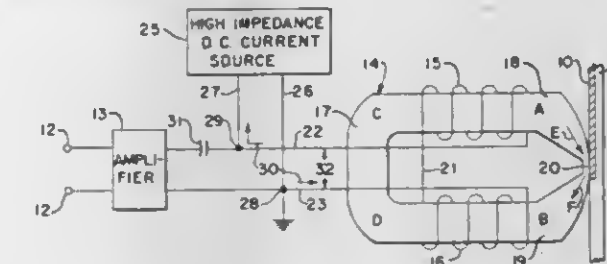


3,423,741
MEMORY ADDRESSER IN A MICROWAVE READOUT SYSTEM
Rodger L. Gamblin and Philip A. Lord, Vestal, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Oct. 22, 1965, Ser. No. 500,575
U.S. Cl. 340-174 5 Claims
Int. Cl. G11b 5/00



1. A memory addressing system comprising, a plurality of microwave absorption elements having an integral gyromagnetic absorption frequency and arranged in a plurality of groups and a plurality of branches, each of said groups comprising elements having different integral gyromagnetic absorption frequencies, a plurality of microwave oscillators connected to each of said branches, each of said oscillators being employed to generate a microwave signal analogous to one of said gyromagnetic absorption frequencies, means for activating one of said oscillators, and a sensing means responsive to corresponding elements in each group.

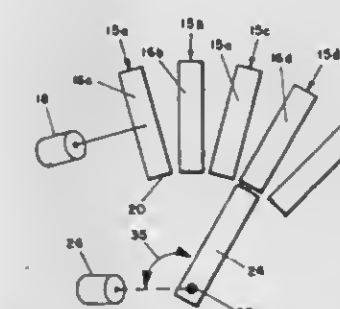
3,423,742
RELUCTANCE-TYPE TRANSDUCER DEVICE
Douglas H. Harris, Kettering, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Aug. 12, 1963, Ser. No. 301,420
U.S. Cl. 340-174.1 2 Claims
Int. Cl. G11b 5/00



1. A transducer circuit device for developing electrical wave shapes characteristic of different magnetic characters carried by a document, comprising:

- an electromagnetic transducer head including a core having a pair of spaced pole portions defining a non-magnetic gap, and
 - a reading coil including a pair of windings having opposite magnetic orientation, each winding being mounted on one of said pole portions, said core, said pole portions, and said gap forming a series magnetic circuit through said pair of windings; and a high impedance unidirectional current source connected in parallel with said reading coil for producing a stable magnetic flux condition in said magnetic circuit,
- said current source having a high output impedance which varies in substantially inverse proportion to its output current and which is greater than any other impedance in said transducer circuit device so as not to change the frequency response characteristics of said transducer circuit device by loading of said reading coil,
- whereby when said document is moved relative to said head, said magnetic characters cause the reluctance of said magnetic circuit to vary, thereby developing in said reading coil electrical wave shapes characteristic of said characters.

3,423,743
RANDOM ACCESS MAGNETIC TAPE MEMORY SYSTEM
Daniel Silverman, 5969 S. Birmingham, Tulsa, Okla. 74104
Continuation-in-part of application Ser. No. 158,000, Dec. 8, 1961. This application Nov. 27, 1964, Ser. No. 414,358
The portion of the term of the patent subsequent to Apr. 20, 1982, has been disclaimed
U.S. Cl. 340-174.1 15 Claims
Int. Cl. G11b 5/00



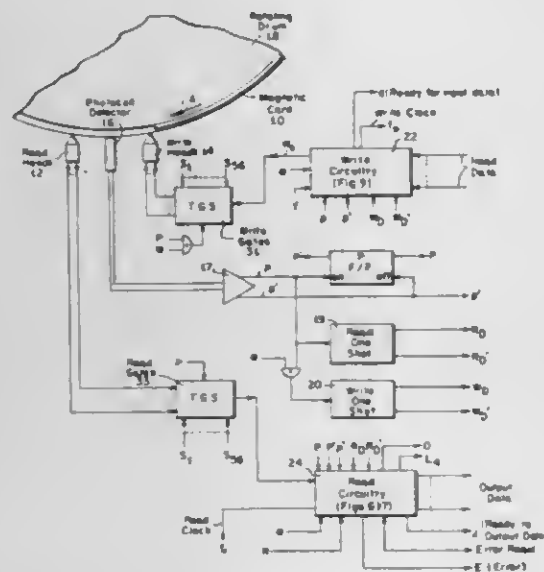
This invention is concerned with the storage and retrieval of information in the form of magnetized spots or areas in specific patterns on a magnetizable record medium. The record can be in the form of long strips, webs or

other forms of medium in which a multiplicity of arrays of information spots can be recorded. A multiplicity of record handling devices are used to store, position and control one or more records in each device. A single central processing or scanning means is provided which can be placed in operating relation successively with each of the records in the record handling devices. The central processing means may take either of two forms. It may comprise a single reading means which can be placed in reading relation successively with each record in combination with a central control means that takes the electrical signals from the reading means and converts them to useful information signals for transmission or display. Or the central processing means may comprise a plurality of reading means, one placed in each of the record handling means, each of which can, in turn, be connected to the central control means.

Since there are multiple records in multiple record handling means, with only one reading means, each of the records are provided with index means to mark a plurality of sections. The record handling means each have index detection means and control means to position the records in each of the handling means to predetermined sections. This is done while the central processing means is reading a first record, so that as soon as the reading of the first record has been completed, the reading means can be placed in operating relation to a second record in a second handling means that has been prepositioned to the desired section. Thus, the central processing means do not have to read or scan all of the information on each record to find a unit of information, but only the small fraction comprising a specific section of a specific record.

3,423,744

BINARY MAGNETIC RECORDING SYSTEM
Richard K. Gerlach, Gardena, Robert A. Melnick, Los Angeles, and Noboru Kimura, Gardena, Calif., assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed May 24, 1965, Ser. No. 458,344
U.S. Cl. 340-174.1
Int. Cl. G11b 5/00

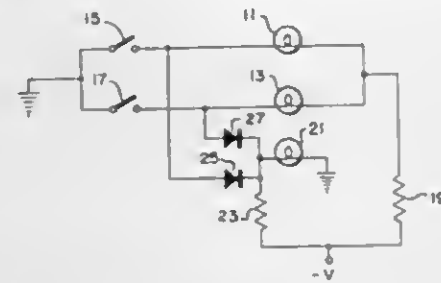


A magnetic recording system is provided for recording and reproducing self-clocked digital data in which the recorded data is preceded by an uninterrupted series of at least seven "1"- "0" alternations of binary digits ending with at least two like binary digits, and the data is followed by a unique all "0" bit character, a sum check character and a postamble of "1"- "0" alternations of binary digits. The "1"- "0" alternations of the preamble are used to provide detection and synchronization of clock signals during read-out, low frequency automatic gain control of

the reading level and distinguishing of a recorded data track from noise in an unrecorded data track. The like (sync) binary digits indicate recorded data follows and provides for binary digit phase reversals to compensate for head winding polarity differences. The postamble "1"- "0" alternations prevents the system from detecting data as a sum check character since the alternations must be detected immediately after any sum check character.

3,423,745

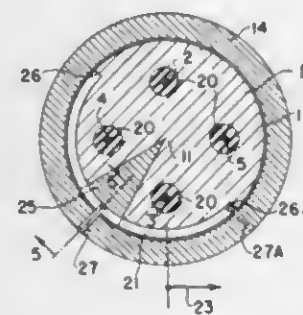
INDICATOR LAMP CONTROL CIRCUIT
Richard Williams, Livonia, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed May 13, 1965, Ser. No. 455,497
U.S. Cl. 340-176
Int. Cl. H04q 1/18



A control circuit for indicating devices which controls the operation of a plurality of parallel connected indicator lamps, each connected in series with selectively operable switches, and a separate normally lighted lamp. All of the lamps are coupled for energization to a single voltage supply. Diode means separately couple the switches to the normally lighted lamp for extinguishing it when any one or more of the parallel connected lamps is lighted.

3,423,746

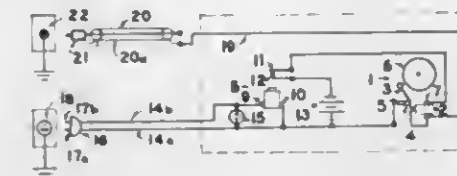
INERTIAL ACTIVATOR DEVICE
Joel B. Guin, 148 E. 48th St., New York, N.Y. 10017
Filed Sept. 20, 1965, Ser. No. 488,591
U.S. Cl. 340-262
Int. Cl. G08b 21/00



The inertial activator device uses a routine acceleration in direction or speed of an object to reverse an electrical circuit or to form a new circuit to signal the change, the preferred embodiment having a cylindrical drum mounted to turn on its axis when a weighted section on one side of the axis is acted on by inertial forces set up by the acceleration, the drum having one or more pairs of electric wires running through it lengthwise and terminating in contacts that complete an electric circuit with corresponding contacts adjacent to the drum, separate positions of the drum completing separate electric circuits. An obvious application is an automobile safety device: different pairs of wires in the drum would form (with wires adjacent thereto and connected to different signalling means such as colored lights on the car or in an object in the car) a selected electric circuit to indicate by the signalling means the acceleration in speed or direction.

3,423,747

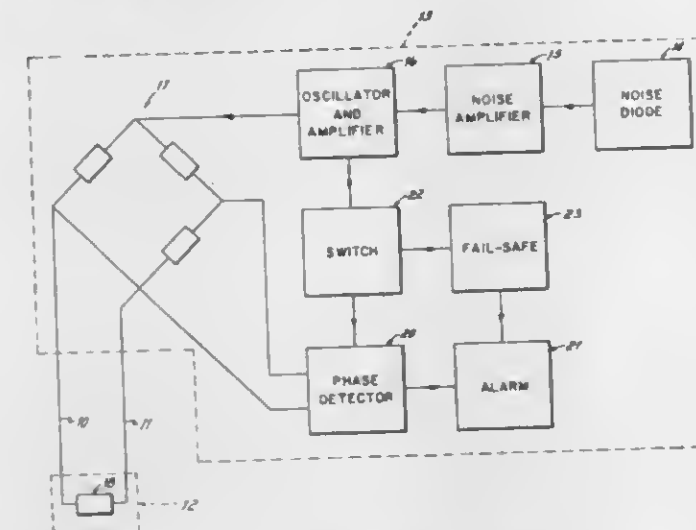
THEFT PREVENTION DEVICE
Harold C. Hogencamp, Smiths, Ala.
(Rtc. 2, Box 486, Phenix City, Ala. 36867)
Filed Aug. 3, 1965, Ser. No. 476,931
U.S. Cl. 340-280
Int. Cl. G08b 13/00



The invention comprises a self-powered alarm device contained within an electrical appliance such as a television receiver, for producing an audible signal upon an attempted theft of the appliance, the alarm device utilizing the electrical continuity of a ground loop to inhibit the sounding of the alarm, the ground loop being established through the house wiring to which the appliance is connected by way of the appliance power cord and a separate grounding connection such as an antenna transmission line.

3,423,748

LINE SUPERVISORY CIRCUIT
Donald E. Hansen, Brookfield Center, and Eric G. Quist, Roxbury, Conn., assignors to Mosler Research Products, Inc., Danbury, Conn., a corporation of Delaware
Filed Oct. 20, 1965, Ser. No. 498,449
U.S. Cl. 340-285
Int. Cl. G08b 21/00



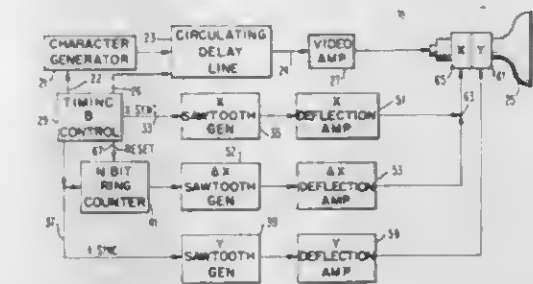
An alarm circuit for supervising a pair of transmission lines interconnecting a remote protected area and a central station. The transmission lines are interconnected at the remote station by a complex impedance termination network. The two lines and complex impedance network together constitute one leg of a normally balanced bridge. A randomly modulated AC signal is applied to the bridge from a free-running oscillator modulated by a noise diode. The balance of the bridge is detected by a phase sensitive detector which senses only a portion of the signal near the zero crossover points.

3,423,749

CHARACTER POSITIONING CONTROL
Charles E. Newcomb, Woodstock, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Mar. 30, 1966, Ser. No. 538,653
U.S. Cl. 340-324
Int. Cl. G08b 23/00

In a display system, symbols are generated by unblanking the CRT beam during five vertical sweeps under control of video signals stored in a buffer, while a single

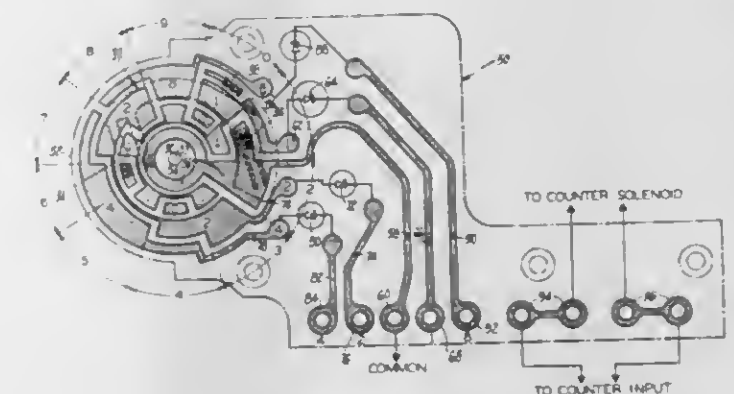
vertical sweep is used for the space between characters. To prevent merging of adjacent symbols and improve the aesthetic appearance of the display, the vertical character components are effectively compressed and the space between characters expanded, both in the horizontal dimension. A character counter responsive to the vertical sweep



controls a sawtooth generator which generates a sawtooth having high and low slope portions. The low slope portion of the sawtooth signal modifies the horizontal sweep during the character composing period, thus compressing the character in a horizontal direction, while the high slope portion of the staircase slope expands the space between characters.

3,423,750

SHAFT ENCODER
Raymond H. Devanney, Winsted, and Sylvester W. Bles, Bloomfield, Conn., assignors to Vceder Industries Inc., a corporation of Connecticut
Filed Jan. 17, 1966, Ser. No. 535,260
U.S. Cl. 340-347
Int. Cl. H04l 3/00



A binary coded readout device using three rotary contacts to apply potential to four conductors arranged in the circular paths of said contacts. Each conductor is arranged to be in the path of at least one contact in arc segments where that conductor should be energized and to be out of the path of all contacts where it should not be energized.

3,423,751

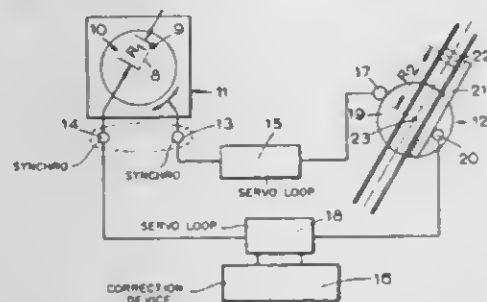
POSITION PLOTTING APPARATUS FOR USE WITH RADAR OR OTHER POSITIONAL INFORMATION SYSTEMS
Joseph R. Parrish, Richmond, England, assignor to Parrish Instruments Limited, Richmond, England, a British company
Filed July 8, 1963, Ser. No. 293,515
U.S. Cl. 343-5
Int. Cl. G01s 9/00

1. Apparatus for producing position markers upon a remote plotting device which accurately follow a positioning means manually movable with respect to a radar display, comprising:

(a) an optical system for projecting a light beam to super-impose a focused image directly upon said

radar display, which display intercepts an optical axis of the system;

(b) means under the control of said manual positioning means for selectively displacing the image upon the display by rotating the position of the image about said axis to determine an azimuth coordinate; and for further displacing the image by moving it radially with respect to the axis to determine a range coordinate;



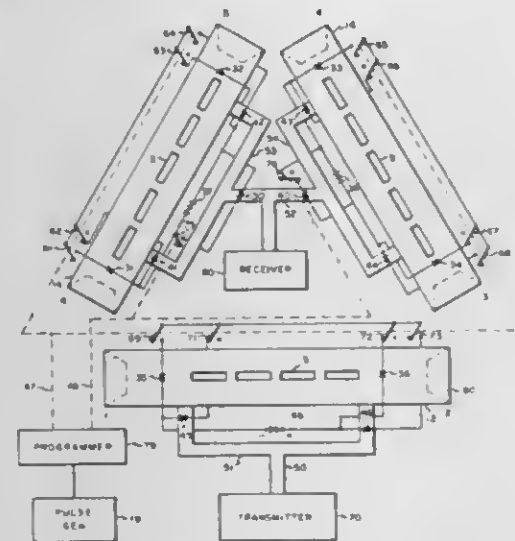
(c) means at the remote plotting device including means for moving position-marker means through azimuth and range coordinates;

(d) transmitter servo means coupled to be driven by said means for displacing the image upon the display; and

(e) follower servo means connected to follow said transmitter-servo means, and coupled to drive said means for moving said position-marker means.

3,423,752

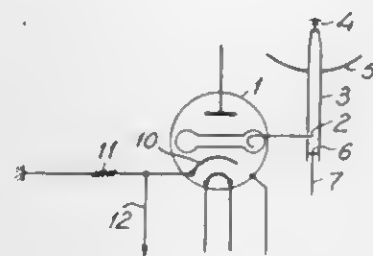
TRIANGULAR LINEAR ARRAY CONFIGURATION
Leonard Schwartz, Scarsdale, N.Y., assignor to General Precision Systems Inc., a corporation of Delaware
Filed Dec. 8, 1966, Ser. No. 600,172
U.S. Cl. 343—8
Int. Cl. G01s 9/44



A microwave antenna assembly is provided consisting of three conventional linear waveguide radiators arrayed in a triangular configuration. One linear waveguide is aligned along ground track and is adapted to be alternately fed from each end by a conventional CW Doppler transmitter. Two other identical linear waveguides are respectively disposed in coplanar relationship at 45° angles with reference to the transmitter waveguide and each is adapted to be alternately coupled at each end to a conventional CW Doppler receiver. Since at any given time the γ function of the receiving aperture of the configuration is rotated 45° relative to the transmitted beam's γ function, only a narrow portion corresponding to the latter's ground illumination pattern is effectively seen by the receiver. This narrow portion actually defines a new beam shape having minimal ψ variance across its width and therefore its susceptibility to overwater "calibration shift" errors is markedly reduced.

3,423,753
DOPPLER RADARS
Jean Claude Preti, Clamart, France, assignor to Societe de Fabrication d'Instruments de Mesure (S.F.I.M.), Massy (Essonne), France
Filed Mar. 21, 1967, Ser. No. 624,770
Claims priority application France, Sept. 16, 1966, 76,595

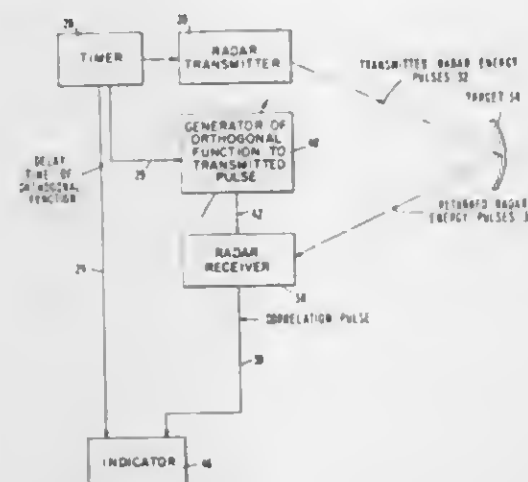
U.S. Cl. 343—8
Int. Cl. G01s 9/44



Improvement in doppler radar devices and more especially to hyper-frequency circuits thereof, notably in view of utilizing a single emitting tube of the Reflex Klystron type with corresponding antenna, by picking up information corresponding to doppler effect in the form of a beat produced in the cavity of said Klystron between emitting frequency and received frequency after reflection from a moving target, said Klystron being furthermore associated with an adjustable wave guide.

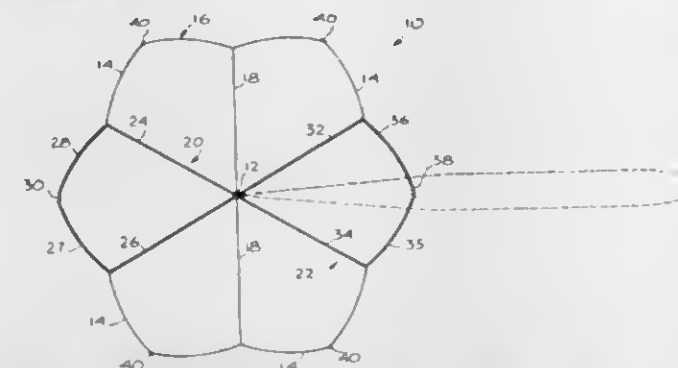
3,423,754

SAMPLED RADAR SYSTEM
John B. Gunn, Mount Kisco, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Jan. 13, 1967, Ser. No. 609,032
U.S. Cl. 343—17.1
Int. Cl. G01s 7/28



In a radar system using conventional pulse or chirp transmitted signals, time (range) resolution exceeding the reciprocal of the intermediate frequency or video bandwidth is achieved. This is achieved by using a modulated local oscillator whose cross-correlation with the transmitted signal approximates a delta-function as closely as possible. If the timing of this local oscillator signal is varied with respect to the transmitted signal, the receiver output due to a point target passes through a sharp maximum when the local oscillator pulse coincides with the received pulse. The width of this maximum is determined by the transmitter and local oscillator bandwidths, and is independent of intermediate frequency and video bandwidths. The local oscillator pulse timing may be scanned continuously to give a quasi-continuous representation of the radar return.

3,423,755
ANTENNA FORMED OF FILAMENTARY MATERIAL DEPLOYED IN SPACE BY CENTRIFUGAL FORCE
Herbert A. Lassen, Los Angeles, and Edward A. Ward, Miraleste, Calif., assignors to TRW Inc., Redondo Beach, Calif., a corporation of Ohio
Filed Jan. 24, 1966, Ser. No. 522,492
U.S. Cl. 343—705
Int. Cl. H01q 1/28



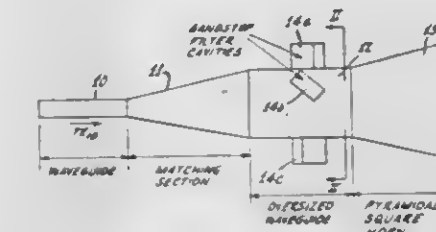
A lightweight structure having a central spacecraft or hub supporting a net formed of a plurality of filamentary elements. The net has a plurality of elements which form a closed periphery that is coupled to the hub by a plurality of spoke elements. Before the structure is placed in orbit about the earth, the net is tightly wound about the hub. In space the structure is given an angular motion about its axis. In orbit the net is deployed by permitting it to unwind from the hub. Weights appropriately disposed along the net facilitate deployment. The angular motion of the hub provides a radial velocity to the elements of the net tending to peel the elements from the hub. Ultimately, the net will fully deploy with each of its elements being in tension as a consequence of the centrifugal force resulting from the angular motion of the hub. The centrifugal forces act to stabilize the net tending to maintain all of its elements in a single plane including the hub. The filamentary elements are lengths of flat tape which are wound about the hub. The faces of the tape are coated with an adhesive material providing a sticking force between the elements which assures that the net does not spontaneously unwind. The adhesive material also acts as a sink for the radially direct energy imparted to the elements by the spin velocity. Thus, the net is capable of unwinding in a slow controlled fashion thereby assuring that the radial velocity will be sufficiently small just prior to completion of unwinding to assure that the tensile strength of the elements is not exceeded. Coupling is provided for coupling the net spoke elements to the hub which permit limited rotational movement of the net about the hub. The coupling includes a damping mechanism for preventing the net from oscillating with respect to the hub.

3,423,756

SCANNING ANTENNA FEED
Peter Foldes, Montreal, Quebec, Canada, assignor to Radio Corporation of America, a corporation of Delaware
Filed Sept. 10, 1964, Ser. No. 395,401
U.S. Cl. 343—775
Int. Cl. H01q 19/14

An electronically controlled conical scanning antenna feed is provided by an oversized waveguide having four

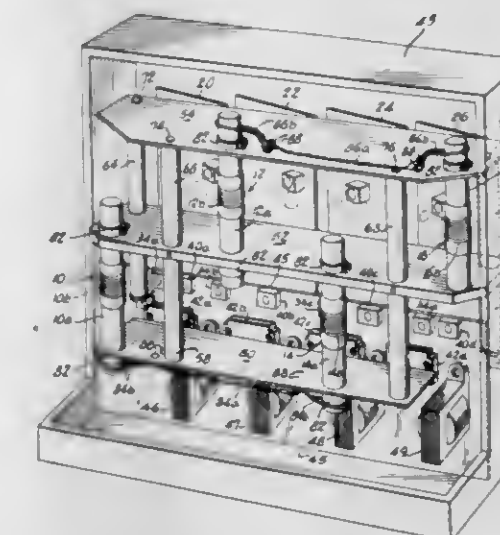
tuned cavities mounted about the waveguide and coupled to it. The signal of the frequency to which these cavities are tuned is split into higher order modes thus resulting in the movement of the radiation phase center from the center of the antenna aperture. By tuning the four cavities in sequence to the frequency of this signal, it is conically



scanned. Signals at other frequencies if sufficiently separated from the frequency to which the cavities are tuned continue to propagate through the waveguide without any disturbance within the waveguide.

3,423,757

ELECTRICAL SIGNAL RADIATING APPARATUS
Roswell W. Gilbert, New York, N.Y., assignor to Dictaphone Corporation, Bridgeport, Conn.
Filed May 5, 1966, Ser. No. 547,856
U.S. Cl. 343—788
Int. Cl. H01q 7/08



1. A loopstick antenna array comprising:
a plurality of loopstick antennas adapted to be coupled individually to a plurality of transmitters and disposed in a staggered pattern with adjacent loopstick antennas diagonally offset and alternate antennas aligned;
and a plurality of wire coupling loops, one for each pair of alternate loopstick antennas, for coupling together said pairs of alternate loopstick antennas, each of said wire coupling loops being in a figure 8 pattern to couple together a pair of alternate loopstick antennas in opposition to any mutual inductance between said coupled antennas.

DESIGNS

JANUARY 21, 1969

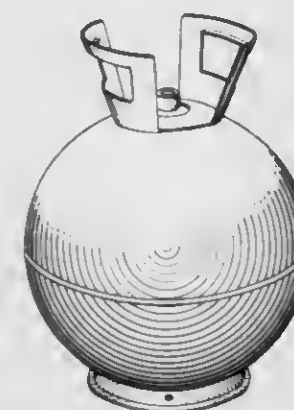
213,247
SILVERWARE DISPLAY PANEL FOR A PACKAGE
OR SIMILAR ARTICLE
 Samuel Braun, Rye, N.Y., assignor to Metal Design
 Products, Inc., Taunton, Mass., a corporation of
 Massachusetts
 Filed Feb. 15, 1968, Ser. No. 10,585
 Term of patent 14 years
 U.S. Cl. D9—253
 Int. Cl. D9—99



213,248
BUILDING ROOF FASCIA
 Robert P. Orr, Overland Park, Kans., assignor to Butler
 Manufacturing Company, Kansas City, Mo., a corpo-
 ration of Missouri
 Filed July 3, 1967, Ser. No. 7,689
 Term of patent 14 years
 U.S. Cl. D13—1
 Int. Cl. D25—01



213,249
PRESSURE CYLINDER
 John B. Winegardner, Columbus, Ohio, assignor to
 Lennox Industries Inc., a corporation of Iowa
 Filed Jan. 22, 1968, Ser. No. 10,260
 Term of patent 14 years
 U.S. Cl. D23—2
 Int. Cl. D23—01



858 O.G.—36

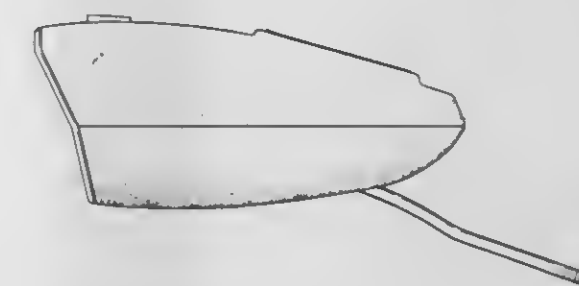
213,250
GOBLET
 Marvin G. Yutzey, Moundsville, W. Va., assignor to
 Fostoria Glass Company, Moundsville, W. Va.
 Filed Feb. 20, 1968, Ser. No. 10,650
 Term of patent 14 years
 U.S. Cl. D36—8
 Int. Cl. D7—01



213,251
SHERBET
 Marvin G. Yutzey, Moundsville, W. Va., assignor to
 Fostoria Glass Company, Moundsville, W. Va.
 Filed Feb. 20, 1968, Ser. No. 10,651
 Term of patent 14 years
 U.S. Cl. D36—8
 Int. Cl. D7—01



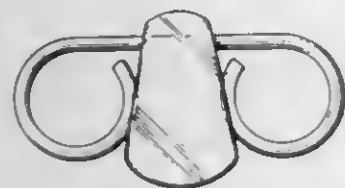
213,252
COMBINED HEADLAMP AND ODOMETER
 Pierre Soubitez, Le Perreux, France, assignor to
 Etablissements J. & P. Soubitez, Societe à Re-
 sponsabilite Limitee, Le Perreux, France
 Filed Mar. 6, 1968, Ser. No. 10,874
 Claims priority, application France Feb. 2, 1968
 Term of patent 7 years
 U.S. Cl. D48—24
 Int. Cl. D26—99; D10—08



1027

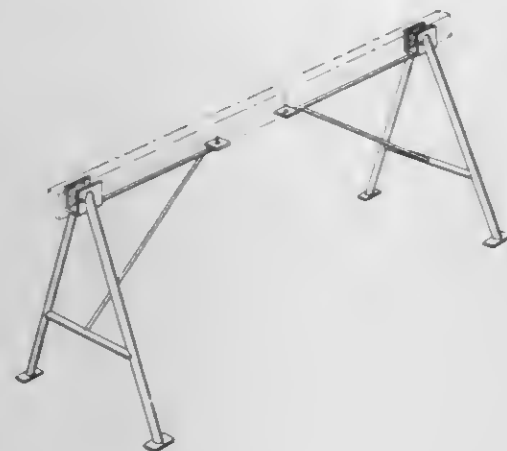
213,253
KEY RING

Harrington Moore, 100 Beaver St., Acton, Mass. 02154
Filed May 2, 1968, Ser. No. 11,759
Term of patent 14 years
U.S. Cl. D50—4
Int. Cl. D3—99



213,254
CONSTRUCTION HORSE

James L. Hollingsworth, 207 Cole Road,
Greenville, S.C. 29203
Filed Aug. 24, 1967, Ser. No. 8,378
Term of patent 14 years
U.S. Cl. D54—1
Int. Cl. D8—03



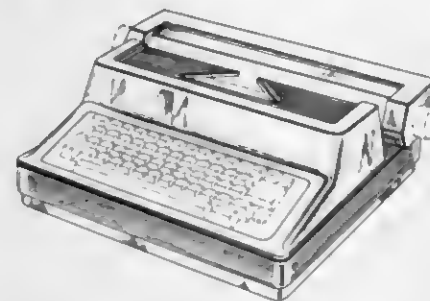
213,255
PIANO CASE

Winsor D. White, Jr., Bowling Rock, N.C., assignor to
D. H. Baldwin Company, Cincinnati, Ohio, a corpora-
tion of Ohio
Filed Mar. 12, 1968, Ser. No. 10,934
Term of patent 14 years
U.S. Cl. D56—9
Int. Cl. D17—01



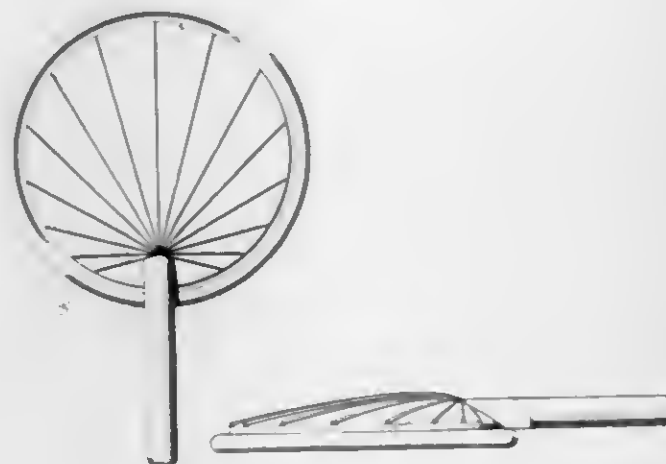
213,256
TYPEWRITER HOUSING

Carl Auboeck, Vienna, Austria, assignor to Olympia
Werke AG, Wilhelmshaven, Germany
Filed Jan. 19, 1968, Ser. No. 10,235
Claims priority, application Germany Sept. 4, 1967
Term of patent 14 years
U.S. Cl. D64—11
Int. Cl. D18—01



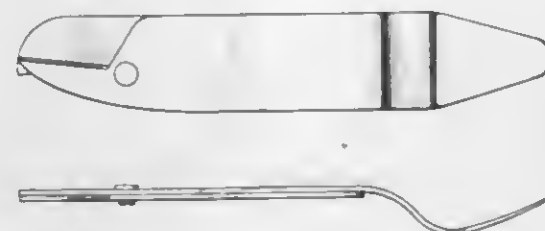
213,257
STETHOSCOPE CHESTPIECE

David Littmann, Belmont, Mass., assignor to Minnesota
Mining and Manufacturing Company, Maplewood,
Minn., a corporation of Delaware
Filed Apr. 9, 1968, Ser. No. 11,372
Term of patent 14 years
U.S. Cl. D83—12
Int. Cl. D24—03



213,258
COMBINED SHEARING AND PRYING TOOL FOR
METAL STRAPS OR THE LIKE

Leonard J. Black, Arcadia, Calif., assignor to Pacific
Handy Cutter, Incorporated, El Monte, Calif., a cor-
poration of California
Filed Apr. 26, 1968, Ser. No. 11,635
Term of patent 14 years
U.S. Cl. D95—5
Int. Cl. D8—02



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 21ST DAY OF JANUARY, 1969

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Hamilton Cosco, Inc.: See—
Sellars, James F., Jr., and King. Re. 26,520.
King, Reynold C.: See—
Sellars, James F., Jr., and King. Re. 26,520.

Sellars, James F., Jr., and R. C. King, to Hamilton Cosco,
Inc. Training chair. Re. 26,520, 1-21-69, Cl. 4—134.

LIST OF PLANT PATENTEES

Garabedian, John M., to Peach & Willow Farms. Plum tree.
2,858, 1-21-69, Cl. 38.
Le Grice, Edward B. Rosa floribunda plant. 2,856, 1-21-69,
Cl. 28.
Meiland, Marie L. Rose plant. 2,857, 1-21-69, Cl. 28.
Peach & Willow Farms: See—
Garabedian, John M. 2,858.

LIST OF DESIGN PATENTEES

Auboeck, Carl, to Olympia Werke AG. Typewriter housing.
213,256, 1-21-69, Cl. D64—11.
Baldwin, D. H. Co.: See—
White, Winsor D., Jr. 213,255.
Black, Leonard J., to Pacific Handy Cutter, Inc. Combined
shearing and prying tool for metal straps or the like. 213-
258, 1-21-69, Cl. D95—5.
Braun, Samuel, to Metal Design Products, Inc. Silverware
display panel for a package or similar article. 213,247,
1-21-69, Cl. D9—253.
Butler Mfg. Co.: See—
Orr, Robert P. 213,248.
Etablissements J & P Soubitez Societe a Responsabilite
Limitee: See—
Soubitez, Pierre. 213,252.
Fostoria Glass Co.: See—
Yutzey, Marvin G. 213,250.
Yutzey, Marvin G. 213,251.
Hollingsworth, James L. Construction horse. 213,254, 1-21-
69, Cl. D54—1.
Lennox Industries Inc.: See—
Winegardner, John B. 213,249.
Littmann, David, to Minnesota Mining and Mfg. Co. Stetho-
scope chestpiece. 213,257, 1-21-69, Cl. D83—12.

Metal Design Products, Inc.: See—
Braun, Samuel. 213,247.
Minnesota Mining and Mfg. Co.: See—
Littmann, David. 213,257.
Moore, Harrington. Key ring. 213,253, 1-21-69, Cl. D50—4.
Olympia Werke AG: See—
Auboeck, Carl. 213,256.
Orr, Robert P., to Butler Mfg. Co. Building roof fascia. 213-
248, 1-21-69, Cl. D13—1.
Pacific Handy Cutter, Inc.: See—
Black, Leonard J. 213,258.
Soubitez, Pierre, to Etablissements J & P Soubitez Societe a
Responsabilite Limitee. Combined headlamp and odometer.
213,252, 1-21-69, Cl. D48—24.
White, Winsor D., Jr., to D. H. Baldwin Co. Piano case.
213,255, 1-21-69, Cl. D56—9.
Winegardner, John B., to Lennox Industries Inc. Pressure
cylinder. 213,249, 1-21-69, Cl. D23—2.
Yutzey, Marvin G., to Fostoria Glass Co. Goblet. 213,250,
1-21-69, Cl. D36—8.
Yutzey, Marvin G., to Fostoria Glass Co. Sherbet. 213,251,
1-21-69, Cl. D36—8.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 21ST DAY OF JANUARY, 1969

NOTE—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

AMP Inc.: See—
Beinhaur, Ernest L. 3,422,521.
Cea, Carmo A. 3,423,718.
APAW S.A.: See—
Carpigiani, Pierio. 3,422,995.
A/S Stormbull: See—
Gjerde, Trygve. 3,422,592.
Abeor, Inc.: See—
Crowley, Richard P. 3,422,605.
Abe, Akira, and I. Hatano, to Tatetsi Electronics Co. Reversible counting circuit apparatus. 3,423,576, 1-21-69, Cl. 235-92.
Abe, Ryofehi, and T. Miura, to Kabushiki Kaisha Hitachi Seisakusho. Non-linear, positive-feedback amplifier. 3,423-687, 1-21-69, Cl. 330-8.
Abelseth, Melvin K.: See—
Crawley, John F., and Abelseth. 3,423,505.
Abex Corp.: See—
Gomez, John A., and Hoyer. 3,423,137.
Abitoul, Georges D.: See—
Katzef, Irving B., and Abitoul. 3,423,038.
Abrams, Abraham. Reciprocating lint-removing device for knitting machine. 3,422,640, 1-21-69, Cl. 66-168.
Abrams, Irving M.: See—
Button, Richard G., Abrams, and Burnett. 3,423,336.
Acord, Jerry E., to Northrop Corp. Limit switch actuator. 3,423,554, 1-21-69, Cl. 200-153.
Adam, Ian R., to International Standard Electric Corp. Wear compensated rubber thermostat. 3,423,714, 1-21-69, Cl. 337-382.
Adams, James: See—
Shannon, Jack F., and Adams. 3,422,675.
Adams, Leland D., Jr., to C. J. Heedry Co. Lifeboat cover. 3,422,829, 1-21-69, Cl. 135-6.
Adamson, James C., to American Motors Corp. Device for signalling faulty performance of a vehicle braking system. 3,423,727, 1-21-69, Cl. 340-52.
Addressograph-Multigraph Corp.: See—
Brewster, Donald B. 3,422,758.
Adolph's Food Products Mfg. Co.: See—
Husaini, Syed M. 3,423,397.
Adolph, Heinrich: See—
Schueerer, Guenter, Zeldler, Dieckhaeuser, and Adolph. 3,423,487.
Aeroflex-General Corp.: See—
Baum, Kurt. 3,423,463.
Grakauskas, Vytautas, and Baum. 3,423,419.
Aero-Motive Mfg. Co.: See—
Becker, Roger T. 3,423,545.
Aerquip Corp.: See—
Elsner, Edwin C. 3,423,111.
Ahles, Lavern J., and Y. Iyengar, to E. I. du Pont de Nemours and Co. Tire fabrication process. 3,423,265, 1-21-69, Cl. 156-110.
Aiken, Edwin J.: See—
Hodgdon, Russell B., Jr., Alkeo, and Enos. 3,423,278.
Alkeo, Homer C. Motorized scaffolds. 3,422,922, 1-21-69, Cl. 182-14.
Air Products and Chemicals, Inc.: See—
Currie, Robert B., Sellinger, and Villamae. 3,422,632.
Air Reduction Co., Inc.: See—
Bryant, Horace B., Jr. 3,422,892.
Ajem Laboratories Inc.: See—
Newman, Marvin K. 3,422,938.
Akashi, Goro, and M. Fujiyama, to Fuji Sbaslin Film Kabushiki Kaisha. Magnetic recording element. 3,423,233, 1-21-69, Cl. 117-121.
Aktiebolaget Svenska, Flakfabriken: See—
Jeppsson, Allan. 3,422,525.
Aktiengesellschaft Brown, Boveri & Cie: See—
Plust, Helmut-Gunther. 3,423,248.
Albertson, Orris E., to Dorr-Oliver, Inc. Waste treatment for phosphate removal. 3,423,309, 1-21-69, Cl. 210-5.
Alburger, James R. Cleaning process and compositions for post-emulsifier inspection penetrants. 3,422,670, 1-21-69, Cl. 73-104.
Alcan Co., Inc.: See—
Clark, Homer E., Jr. 3,422,762.
Alexander, John D., J. N. Dew, and W. L. Martin, to Continental Oil Co. Rapid breakthrough in situ combustion process. 3,422,891, 1-21-69, Cl. 166-11.
Alford, John H., H. A. Armand, W. E. Bray, E. E. Hamilton, L. L. Jasper, S. D. Moore, R. L. Renker, and R. M. Ryan, Jr., to Texas Instruments, Inc. Test system for automatically making static and dynamic tests on an electronic device. 3,423,877, 1-21-69, Cl. 324-73.
Alifano, Arthur W. Pitch changing means for pedal steel guitars. 3,422,716, 1-21-69, Cl. 84-312.
Alfred Electronics: See—
Russell, Thomas J. 3,423,702.
Allebach, Gene E.: See—
Grombka, Walter J., and Allebach. 3,422,657.
Allegheny Ludlum Steel Corp.: See—
Ames, Stuart L., and Bitler. 3,423,253.
Sanders, Joseph A. 3,422,725.
Allen-Bradley Co.: See—
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28- 1 : 3,422,510	339 : 3,422,598	496 : 3,422,683	134- 3 : 3,422,824	132- 40 : 3,422,823	188 : 3,422,877
3,422,511	55- 42 : 3,422,599	519 : 3,422,684	134- 3 : 3,422,824	133- 3 : 3,422,824	199 : 3,422,878
54 : 3,422,513	126 : 3,422,600	74- 5.6 : 3,422,686	134- 3 : 3,422,824	134- 3 : 3,422,824	330 : 3,422,879
	350 : 3,422,601				161- 5 : 3,423,273
					6 : 3,423,274
					39 : 3,423,276
					118 : 3,423,277

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161-165	193-1	222-240	252-153	260-307	279-109
189	195-31	309	301.4	308	280-6
194	50	402.11	309	309	11.35
226	99	542	6	2	46
162-65	197-16	567	402	6	47.19
71	3422.946	223-49	427	3423.423	37
157	3422.947	226-97	430	3423.424	96.1
164-26	3422.948	227-8	437	3423.425	218
278	3422.949	131	3423.331	5	502
165-1	3422.950	228-15	455	3423.427	281-21
26	3422.951	229-14	39.15	340.5	283-44
47	61.08	19	77	3423.429	285-149
67	22	31	78	3423.430	277
72	88	41	256-24	346.3	340
80	81.9	53	259-4	347.8	287-20.1
113	83	230-112	6	397.3	51
123	148	134	8	3423.434	87
166-5	153	139	8	4	90
9	166	207	180	45	292-165
11	3422.893	233-7	260-2	3423.437	216
40	3422.894	11	1	3423.438	229
79	3422.895	63	5	3423.439	294-65
113	3422.896	63	420	3423.440	296-24
122	3422.897	92	429.7	3423.441	28
125	3422.898	144	448	3423.442	65
129	3422.899	176	2	3423.443	76
131	3422.900	193.5	13	3423.444	98
134	3422.901	194	18	3423.445	297-457
202	3422.902	196	22	3423.446	300-11
224	3422.903	236-15	28.5	3423.447	301-6
169-39	3422.904	239-53	29.4	3423.448	302-14
170-173	3422.905	207	6	3423.449	36
172-9	3422.906	242	533	3423.450	61
102	3422.907	284	544	3423.451	303-2
106	3422.908	287	559	3423.452	3
629	3422.909	427.3	562	3423.453	54
173-93	3422.910	565	566	3423.454	54
174-36	3422.911	681	570.5	3423.455	132
52	3422.912	240-8.16	580	3423.456	235
68.5	3422.913	41.37	583	3423.457	253
153	3422.914	241-8	585.5	3423.458	270
213	3422.915	15	599	3423.459	273
320	3422.916	32	606	3423.460	300
388	3422.917	51	611.5	3423.461	302
176-24	3422.918	84	612	3423.462	306
37	3422.919	100.5	617	3423.463	308-87
78	3422.920	242-55.11	619	3423.464	132
177-122	3422.921	13	66	3423.465	160
178-2	3422.922	19	67	3423.466	187.2
5.6	3422.923	67.3	67	3423.467	3423.467
6	3422.924	71.6	67	3423.468	206
6	3422.925	75.43	67	3423.469	310-4
7	3422.926	82	67	3423.470	9.5
8	3422.927	96	67	3423.471	11
7.1	3422.928	154	67	3423.472	49
3	3422.929	164	67	3423.473	68
19	3422.930	244-3.18	67	3423.474	93
68	3422.931	43	67	3423.475	106
179-1	3422.932	76	67	3423.476	246
3423.531	8.5	134	67	3423.477	263
3423.532	15	136	67	3423.478	312-71
3423.533	17	149	67	3423.479	280
3423.534	83.1	248-73	67	3423.480	313-65
3423.535	135	296	67	3423.481	92
3423.536	147	301	67	3423.482	344
3423.537	622	316	67	3423.483	315-10
3423.538	9	399	67	3423.484	11
3423.539	3422.977	399	67	3423.485	16
100.2	3422.978	249-92	67	3423.486	18
3423.541	10.75	250-41.9	67	3423.487	22
41	76	43.5	67	3423.488	3423.627
3423.542	98	83.1	67	3423.489	3423.628
107	3423.543	199	67	3423.490	3423.629
110	3423.544	202	67	3423.491	3423.630
180-66	3423.545	203	67	3423.492	3423.631
73	3423.546	204	67	3423.493	3423.632
79.2	3423.547	208	67	3423.494	3423.633
181-33	3423.548	211	67	3423.495	3423.634
3422.920	3423.549	213	67	3423.496	3423.635
3422.921	3423.550	222	67	3423.497	3423.636
182-14	3423.551	231	67	3423.498	3423.637
120	3423.552	231	67	3423.499	3423.638
194	3423.553	231	67	3423.500	3423.639
196	3423.554	231	67	3423.501	123
184-7	3423.555	231	67	3423.502	137
102	3423.556	231	67	3423.503	230
187-29	3423.557	231	67	3423.504	231
188-5	3423.558	231	67	3423.505	231
22	3423.559	231	67	3423.506	231
59	3423.560	231	67	3423.507	231
73	3423.561	231	67	3423.508	231
3422.933	3423.562	231	67	3423.509	231
3422.934	3423.563	231	67	3423.510	231
3422.935	3423.564	231	67	3423.511	231
218	3423.565	231	67	3423.512	231
250	3423.566	231	67	3423.513	231
190-8	3423.567	231	67	3423.514	231
191-12	3423.568	231	67	3423.515	231
192-3.33	3423.569	231	67	3423.516	231
5	3423.570	231	67	3423.517	231
12	3423.571	231	67	3423.518	231
84	3423.572	231	67	3423.519	231
113	3423.573	231	67	3423.520	231

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138	95	72	174	174	50
221	98	83	191	174	175
3423.657	3423.678	3423.699	3423.720	3423.741	3423.149
3423.658	3423.679	3423.700	3423.721	3423.742	3423.150
3423.659	3423.680	3423.701	3423.722	3423.743	3423.151
3423.660	3423.681	3423.702	3423.723	3423.744	3423.152
475	3423.682	3423.703	3423.724	3423.745	3423.153
321-5	3423.683	3423.704	3423.725	3423.746	3423.154
3423.663	3423.684	3423.705	3423.726	3423.747	3423.155
11	3423.664	3423.706	3423.727	3423.748	3423.156
3423.665	3423.665	3423.707	3423.728	3423.749	3423.157
3423.666	3423.666	3423.708	3423.729	3423.750	3423.158
322-28	3423.667	3423.709	3423.730	3423.751	3423.159
323-43.5	3423.668	3423.710	3423.731	3423.752	3423.160
79	3423.669	3423.711	3423.732	3423.753	3423.161
324-5	3423.670	3423.712	3423.733	3423.754	3423.162
1	3423.671	3423.713	3423.734	3423.755	3423.163
8	3423.672	3423.714	3423.735	3423.756	3423.164
34	3423.673	3423.715	3423.736	3423.757	3423.165
45	3423.674	3423.716	3423.737	3423.758	3423.166
58	3423.675	3423.717	3423.738	3423.759	3423.167
68	3423.676	3423.718	3423.739	3423.760	3423.168
73	3423.677	3423.719	3423.740	3423.761	3423.169

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D 9-253	D23-2	D36-8	D50-4	D56-9	D83-12
D13-1	D36-8	D48-24	D54-1	D64-11	D95-5
213.247	213.249	213.251	213.253	213.255	213.257
213.248	213.250	213.252	213.254	213.256	213.258

CLASSIFICATION OF PLANTS

P. - 28	P. - 28	P. - 38
2.856	2.857	2.858

GEOGRAPHICAL INDEX OF RESIDENCE OF INVENTORS

(U.S. States, Territories and Armed Forces, the Commonwealth of Puerto Rico, and the Canal Zone)

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1 : 3,422,576	6 : 3,422,728	6 : 3,423,276	6 : 3,423,755	10 : 3,423,365	17 : 3,422,692
3,422,659	3,422,746	3,423,294	3,423,378	3,423,378	3,422,704
3,423,199	3,422,748	3,423,304	3,423,427	3,423,427	3,422,719
3,423,417	3,422,760	3,423,310	3,423,465	3,423,465	3,422,720
3,423,747	3,422,769	3,423,317	3,423,470	3,423,470	3,422,721
2 : 3,423,711	3,422,770	3,423,336	3,423,498	3,423,498	3,422,729
4 : 3,422,619	3,422,787	3,423,396	3,423,511	3,423,511	3,422,730
3,422,629	3,422,788	3,423,403	3,423,516	3,423,516	3,422,744
3,422,915	3,422,801	3,423,419	3,423,528	3,423,528	3,422,745
3,423,516	3,422,804	3,423,426	3,423,538	3,423,538	3,422,762
5 : 3,422,463	3,422,818	3,423,438	3,423,543	3,423,543	3,422,773
3,422,776	3,422,829	3,423,439	3,423,547	3,423,547	3,422,792
6 : 3,422,465	3,422,832	3,423,463	3,423,551	3,423,551	3,422,802
3,422,469	3,422,838	3,423,474	3,423,552	3,423,552	3,422,805
3,422,471	3,422,839	3,423,491	3,423,554	3,423,554	3,422,810
3,422,473	3,422,840	3,423,515	3,423,556	3,423,556	3,422,812
3,422,478	3,422,847	3,423,517	3,423,557	3,423,557	3,422,842
3,422,495	3,422,851	3,423,518	3,423,558	3,423,558	3,422,848
3,422,498	3,422,886	3,423,524	3,423,559	3,423,559	3,422,869
3,422,509	3,422,897	3,423,526	3,423,560	3,423,560	3,422,879
3,422,520	3,422,898	3,423,532	3,423,561	3,423,561	3,422,899
3,422,527	3,422,901	3,423,533	3,423,562	3,423,562	3,422,941
3,422,529	3,422,925	3,423,543	3,423,563	3,423,563	3,422,948
3,422,533	3,422,953	3,423,548	3,423,564	3,423,564	3,422,962
3,422,535	3,422,954	3,423,551	3,423,565	3,423,565	3,422,964
3,422,536	3,422,977	3,423,554	3,423,566	3,423,566	3,422,980
3,422,541	3,422,990	3,423,556	3,423,567	3,423,567	3,422,984
3,422,548	3,422,996	3,423,579	3,423,568	3,423,568	3,422,988
3,422,554	3,423,017	3,423,584	3,423,569	3,423,569	3,422,992
3,422,558	3,423,038	3,423,595	3,423,570	3,423,570	3,422,998
3,422,565	3,423,062	3,423,601	3,423,571	3,423,571	3,422,999
3,422,567	3,423,065	3,423,603	3,423,572	3,423,572	3,422,999
3,422,571	3,423,073	3,423,608	3,423,573	3,423,573	3,422,999
3,422,581	3,423,086	3,423,609	3,423,574	3,423,574	3,422,999
3,422,584	3,423,094	3,423,623	3,423,575	3,423,575	3,422,999
3,422,585	3,423,095	3,423,627	3,423,576	3,423,576	3,422,999
3,422,593	3,423,096	3,423,638	3,423,577	3,423,577	3,422,999
3,422,601	3,423,111	3,423,642	3,423,578	3,423,578	3,422,999
3,422,625	3,423,147	3,423,643	3,423,579	3,423,579	3,422,999
3,422,636	3,423,155	3,423,644	3,423,580	3,423,580	3,422,999
3,422,670	3,423,181	3,423,651	3,423,581	3,423,581	3,422,999
3,422,671	3,423,182	3,423,658	3,423,582	3,423,582	3,422,999
3,422,674	3,423,187	3,423,669	3,423,583	3,423,583	3,422,999
3,422,680	3,423,205	3,423,672	3,423,584	3,423,584	3,422,999
3,422,689	3,423,221	3,423,676	3,423,585	3,423,585	3,422,999
3,422,696	3,423,224	3,423,695	3,423,586	3,423,586	3,422,999
3,422,699	3,423,226	3,423,702	3,423,587	3,423,587	3,422,999
3,422,707	3,423,237	3,423,737	3,423,588	3,423,588	3,422,999
3,422,720	3,423,264	3,423,744	3,423,589	3,423,589	3,422,999

GEOGRAPHICAL INDEX OF RESIDENCE OF INVENTORS

17 : 3,423,305	25 : 3,423,602	29 : 3,423,027	36 : 3,422,740	39 : 3,422,493	42 : 3,422,459
3,423,322	3,423,652	3,423,106	3,422,741	3,422,500	3,422,485
3,423,342	3,423,668	3,423,301	3,422,756	3,422,505	3,422,487
3,423,345	3,423,684	3,423,321	3,422,759	3,422,517	3,422,488
3,423,355	3,423,689	3,423,324	3,422,765	3,422,544	3,422,492
3,423,359	3,423,699	3,423,343	3,422,778	3,422,553	3,422,494
3,423,373	26 : 3,422,468	3,423,469	3,422,781	3,422,559	3,422,521
3,423,404	3,422,476	3,423,575	3,422,785	3,422,579	3,422,532
3,423,435	3,422,486	3,423,612	3,422,800	3,422,583	3,422,573
3,423,448	3,422,568	30 : 3,423,108	3,422,817	3,422,588	3,422,613
3,423,449	3,422,572	31 : Re. 26,520	3,422,828	3,422,594	3,422,620
3,423,450	3,422,574	32 : 3,423,710	3,422,834	3,422,602	3,422,632
3,423,495	3,422,580	33 : 3,422,875	3,422,867	3,422,607	3,422,649
3,423,544	3,422,633	3,423,019	3,422,887	3,422,661	3,422,650
3,423,589	3,422,663	3,423,574	3,422,888	3,422,662	3,422,655
3,423,615	3,422,677	3,423,582	3,422,889	3,422,675	3,422,656
3,423,617	3,422,679	3,423,622	3,422,910	3,422,705	3,422,658
3,423,661	3,422,694	3,423,626	3,422,919	3,422,722	3,422,660
3,423,704	3,422,698	34 : 3,422,566	3,422,926	3,422,734	3,422,676
3,423,705	3,422,711	3,422,648	3,422,928	3,422,750	3,422,678
3,423,717	3,422,718	3,422,693	3,422,931	3,422,758	3,422,757
3,423,726	3,422,725	3,422,715	3,422,942	3,422,794	3,422,853
3,423,734	3,422,726	3,422,723	3,422,945	3,422,836	3,422,857
18 : 3,422,687	3,422,791	3,422,743	3,422,952	3,422,837	3,422,871
3,422,703	3,422,803	3,422,815	3,422,967	3,422,845	3,422,877
3,422,733	3,422,806	3,422,904	3,422,976	3,422,850	3,422,884
3,422,763	3,422,813	3,422,911	3,422,999	3,422,852	3,422,893
3,422,772	3,422,821	3,422,949	3,423,001	3,422,873	3,422,921
3,423,222	3,422,825	3,422,969	3,423,029	3,422,885	3,422,974
3,423,231	3,422,826	3,422,983	3,423,037	3,422,920	3,423,005
3,423,424	3,422,830	3,423,075	3,423,059	3,422,933	3,423,043
3,423,447	3,422,849	3,423,137	3,423,078	3,422,935	3,423,064
3,423,536	3,422,855	3,423,168	3,423,084	3,422,947	3,423,068
3,423,546	3,422,906	3,423,189	3,423,088	3,422,957	3,423,083
3,423,630	3,422,918	3,423,194	3,423,091	3,422,963	3,423,090
19 : 3,422,606	3,422,937	3,423,211	3,423,113	3,422,972	3,423,112
3,422,608	3,422,943	3,423,212	3,423,121	3,422,982	3,423,122
3,422,610	3,422,944	3,423,213	3,423,149	3,423,012	3,423,123
3,422,751	3,422,958	3,423,246	3,423,150	3,423,026	3,423,167
3,422,814	3,422,997	3,423,274	3,423,169	3,423,032	3,423,191
20 : 3,422,961	3,422,998	3,423,277	3,423,193	3,423,058	3,423,217
3,423,052	3,423,023	3,423,292	3,423,195	3,423,061	3,423,229
21 : 3,422,514	3,423,039	3,423,302	3,423,196	3,423,063	3,423,241
3,422,550	3,423,040	3,423,327	3,423,207	3,423,069	3,423,242
3,422,700	3,423,074	3,423,328	3,423,214	3,423,070	3,423,252
3,422,790	3,423,098	3,423,330	3,423,215	3,423,080	3,423,253
3,422,994	3,423,116	3,423,333	3,423,215	3,423,081	3,423,254
3,423,013	3,423,117	3,423,347	3,423,295	3,423,104	3,423,256
3,423,044	3,423,135	3,423,352	3,423,297	3,423,110	3,423,258
3,423,138	3,423,177	3,423,353	3,423,303	3,423,115	3,423,285
3,423,158	3,423,216	3,423,367	3,423,350	3,423,119	3,423,307
22 : 3,422,483	3,423,235	3,423,368	3,423,393	3,423,154	3,423,308
3,422,524	3,423,240	3,423,376	3,423,400	3,423,175	3,423,311
3,422,534	3,423,283	3,423,381	3,423,407	3,423,186	3,423,313
3,422,717	3,423,299	3,423,382	3,423,430	3,423,198	3,423,315
3,422,843	3,423,314	3,423,398	3,423,440	3,423,218	3,423,316
3,422,973	3,423,334	3,423,406	3,423,457	3,423,227	3,423,319
3,423,102	3,423,375	3,423,409	3,423,510	3,423,230	3,423,320
3,423,446	3,423,377	3,423,412	3,423,527	3,423,243	3,423,337
23 : 3,423,042	3,423,380	3,423,414	3,423,528	3,423,247	3,423,338
24 : 3,422,513	3,423,422	3,423,428	3,423,540	3,423,268	3,423,346
3,422,523	3,423,423	3,423,431	3,423,547	3,423,279	3,423,358
3,422,965	3,423,445	3,423,452	3,423,552	3,423,280	3,423,372
3,423,249	3,423,464	3,423,458	3,423,596	3,423,281	3,423,388
3,423,255	3,423,498	3,423,461	3,423,598	3,423,289	3,423,421
3,423,262	3,423,545	3,423,462	3,423,606	3,423,331	3,423,459
3,423,286	3,423,549	3,423,471	3,423,620	3,423,348	3,423,485
3,423,332	3,423,578	3,423,472	3,423,625	3,423,351	3,423,488
3,423,455	3,423,639	3,423,473	3,423,631	3,423,366	3,423,499
3,423,521	3,423,640	3,423,475	3,423,655	3,423,379	3,423,511
3,423,610	3,423,724	3,423,479	3,423,656	3,423,385	3,423,569
3,423,653	3,423,735	3,423,507	3,423,665	3,423,451	3,423,597
3,423,681	3,423,745	3,423,520	3,423,673	3,423,456	3,423,613
3,423,729	27 : 3,422,549	3,423,525	3,423,680	3,423,503	3,423,614
25 : 3,422,474	3,422,589	3,423,529	3,423,691	3,423,542	3,423,621
3,422,499	3,422,923	3,423,534	3,423,693	3,423,566	3,423,634
3,422,515	3,422,929	3,423,535	3,423,696	3,423,568	3,423,646
3,422,551	3,422,979	3,423,538	3,423,697	3,423,572	3,423,654
3,422,578	3,422,986	3,423,570	3,423,706	3,423,573	3,423,662
3,422,605	3,423,022	3,423,571	3,423,713	3,423,581	3,423,664
3,422,637	3,423,036	3,423,593	3,423,723	3,423,624	3,423,685
3,422,669	3,423,101	3,423,607	3,423,730	3,423,657	3,423,718
3,422,709	3,423,118	3,423,635	3,423,732	3,423,700	43 : 3,423,531
3,422,736	3,423,120	3,423,650	3,423,733	3,423,728	44 : 3,422,540
3,422,797	3,423,204	3,423,674	3,423,736	3,423,742	3,422,617
3,422,808	3,423,234	3,423,686	3,423,740	40 : 3,422,604	3,423,046
3,422,831	3,423,261	3,423,688	3,423,741	3,422,631	3,423,349
3,422,833	3,423,272	3,423,692	3,423,746	3,422,664	45 : 3,422,863
3,422,844	3,423,288	3,423,720	3,423,749	3,422,665	3,422,874
3,422,938	3,423,312	3,423,725	3,423,752	3,422,891	3,422,913
3,422,959	3,423,341	35 : 3,423,500	3,423,754	3,422,894	3,423,166
3,423,130	3,423,364	36 : 3,422,461	3,423,757	3,422,900	47 : 3,422,546
3,423,192	3,423,480	3,422,479	3,422,481	3,422,955	3,422,607
3,423,203	3,423,489	3,422,508	3,422,482	3,423,291	3,422,609
3,423,228	3,423,504	3,422,538	3,422,510	3,423,374	3,422,681
3,423,236	3,423,577	3,422,547	3,422,512	3,423,386	3,422,732
3,423,244	3,423,641	3,422,562	3,422,615	3,423,444	3,422,809
3,423,251	3,423,731	3,422,598	3,422,862	3,423,743	3,422,951
3,423,278	3,423,738	3,422,599	3,423,054	41 : 3,422,768	3,423,085
3,423,306	3,423,739	3,422,640	3,423,490	3,422,798	3,423,132
3,423,326	28 : 3,422,672	3,422,666	3,423,501	3,422,835	3,423,133
3,423,357	3,422,747	3,422,710	3,423,567	3,422,880	3,423,225
3,423,416	3,422,902	3,422,712	3,423,580	3,422,930	3,423,300
3,423,562	29 : 3,422,490	3,422,716	38 : 3,423,126	3,422,975	3,423,394
3,423,594	3,422,595	3,422,737	39 : 3,422,458	3,423,092	3,423,561
3,423,599	3,422,927	3,422,739	3,422,484	3,423,099	3,423,563

48 : 3,422,506 3,422,519 3,422,556 3,422,673 3,422,695 3,422,774 3,422,793 3,422,827 3,422,856 3,422,865 3,422,866 3,422,890 3,422,892	48 : 3,422,895 3,422,896 3,422,899 3,422,981 3,423,011 3,423,057 3,423,109 3,423,131 3,423,146 3,423,185 3,423,237 3,423,323	48 : 3,423,384 3,423,496 3,423,663 3,423,677 3,422,569 3,422,811 3,422,796 3,422,807 3,423,049 3,423,050 3,423,082 3,423,265	51 : 3,423,418 3,423,509 3,423,530 3,423,667 3,423,694 3,422,537 3,422,600 3,422,987 3,423,395 3,423,708 3,422,475 3,422,706	54 : 3,423,477 3,423,483 3,422,489 3,422,497 3,422,560 3,422,643 3,422,644 3,422,714 3,422,724 3,422,767 3,422,799 3,422,876	55 : 3,422,993 3,423,089 3,423,145 3,423,273 3,423,371 3,423,559 3,423,616 3,423,618 3,423,659 3,423,660 3,423,719 3,423,727
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Design Patents

6 : 213,258 20 : 213,248	25 : 213,253 213,257	36 : 213,247 37 : 213,255	39 : 213,249 45 : 213,254	54 : 213,250	54 : 213,251
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Plant Patents

6 : 2,858					
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U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

January 21, 1969

Volume 858

Number 3

TRADEMARKS
NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 165,788. (See 3,205,861.)

Reg. No. 255,741. (See 3,205,863.)

Reg. No. 297,915. (See 3,205,863.)

Reg. No. 300,965. (See 3,205,863.)

Reg. No. 505,581. (See 3,205,863.)

Reg. No. 510,520. (See 3,205,863.)

Reg. No. 577,757. (See Reg. No. 621,917.)

Reg. No. 621,917 (ALLSTATE), Allstate Insurance Company, Underwriting of insurance risks—namely, automobile insurance (fire, theft, property damage, personal liability, etc.), comprehensive liability and medical liability insurance; Reg. No. 761,091, same, Business of making, writing, and underwriting of insurance; Reg. No. 741,744 (YOU'RE IN GOOD HANDS WITH ALLSTATE), same, Insurance underwriting; Reg. No. 577,757 (EXTENDED HANDS HOLDING AUTOMOBILE (DESIGN)), same, Underwriting of insurance risks—namely, automobile insurance (fire, theft, property damage, personal liability, etc.); Reg. No. 621,918 (YOU'RE IN GOOD HANDS WITH ALLSTATE AND PICTURE OF EXTENDED HANDS HOLDING AUTOMOBILE), same; Reg. No. 671,359 (YOU'RE IN GOOD HANDS WITH ALLSTATE AND DESIGN), same, Underwriting of insurance risks, including automobile (liability, property damage, medi-

cal and other coverages), fire, theft, personal liability and other lines of insurance; Reg. No. 751,044 (YOU'RE IN GOOD HANDS WITH ALLSTATE INSURANCE AND DESIGN), same, Insurance underwriting; Reg. No. 712,632 (REPRESENTATION OF HOUSE, ETC.), same, Underwriting of insurance risks, including automobile (liability, property damage, medical, and other coverages), fire, theft, accident and sickness, personal liability, and other lines of insurance; Reg. No. 749,540 (YOU'RE IN GOOD HANDS WITH ALLSTATE AND DESIGN), same, Insurance underwriting; Reg. No. 740,148 (HUMAN HANDS HOLDING REPLICA OF A TRUCK (DESIGN)), same, Underwriting of vehicle insurance risks; Reg. No. 743,145 (HANDS HOLDING SILHOUETTES OF MAN, WOMAN, GIRL AND BOY ON SCARABOID DESIGN), same, Insurance underwriting; Reg. No. 840,187 (ALLSTATE), same, Insurance underwriting services; Reg. No. 848,377 (MISCELLANEOUS DESIGN), same, Making, writing and underwriting of insurance; Reg. No. 848,378 (YOU'RE IN GOOD HANDS WITH ALLSTATE AND DESIGN), same, filed Oct. 2, 1968, D.C., N.D. Tex. (Dallas), Doc. CA-3-2816, Allstate Insurance Company v. Allstate Inc. Co.

Reg. No. 621,918. (See Reg. No. 621,917.)

Reg. No. 639,379. (See 3,205,863.)

Reg. No. 671,359. (See Reg. No. 621,917.)

Reg. No. 708,531 (WELLS FARGO), Wells Fargo & Company, The transportation of money and valuables; Reg. No.

CONDITION OF TRADEMARK APPLICATIONS AS OF NOVEMBER 30, 1968

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]..... 15,923
Date of oldest new application..... September 7, 1967
Date of oldest amended application (filing date)..... May 4, 1964

C. M. WENDT, Director, Trademark Examining Operation TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B.....	4-1-68	7-18-66
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200.....	2-29-68	3-26-65
(III) P. S. BALL, Classes 19, 21, 23, 26, 31, 34, 35, 38.....	3-8-68	5-4-64
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107.....	9-7-67	9-22-65
Renewals (All Classes).....	10-29-68	
Sec. 12(c) Publications (All Classes).....	11-1-68	

Applications filed during the month of November 1968—2,446

Registrations Issued 335—No. 863,734 to No. 864,068
Renewals Issued 80

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price \$20.50 per annum, foreign mailing \$5.75 additional; single copies, 40 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

708,532 (THE PONY EXPRESS ETC. AND DESIGN), same, filed Aug. 30, 1968, D.C., S.D.N.Y., Doc. 68-C-3523, *Boker Industries, Inc. et al. v. Wells Fargo Bank et al.*

Reg. No. 708,532. (See Reg. No. 708,531.)

Reg. No. 712,832. (See Reg. No. 621,917.)

Reg. No. 740,148. (See Reg. No. 621,917.)

Reg. No. 741,744. (See Reg. No. 621,917.)

Reg. No. 743,145. (See Reg. No. 621,917.)

Reg. No. 749,540. (See Reg. No. 621,917.)

Reg. No. 751,044. (See Reg. No. 621,917.)

Reg. No. 781,091. (See Reg. No. 621,917.)

Reg. No. 801,100 (A TO Z), A to Z Rental, Inc., Service of renting tools, equipment and vehicles, filed Sept. 27, 1968, D.C. Oreg. (Portland), Doc. 68-545, *A to Z Rental, Inc. v. A to Z Service Center, Inc.*

Reg. No. 840,187. (See Reg. No. 621,917.)

Reg. No. 847,199 (WEIGHT WATCHERS), Weight Watchers International, Inc., Indicating membership in the appli-

cant association; Reg. No. 847,200 (WW AND DESIGN), same, Indicating membership in applicant, filed Oct. 4, 1968, D.C., N.D. Ohio (Cleveland), Doc. C68-749, *Weight Watchers International, Inc. v. Waist Watchers, International and Not S. Kaufman, doing business as "Waist Watchers of Ohio."*

Reg. No. 847,200. (See Reg. No. 847,199.)

Reg. No. 848,378. (See Reg. No. 621,917.)

Reg. No. 848,377. (See Reg. No. 621,917.)

3,205,883, N. K. Rhoades, WRITING INSTRUMENT; Reg. No. 165,783 (PARKER), The Parker Pen Co., Fountain pens and mechanical pencils; Reg. No. 255,741, same, Desk set (desk stands and holders) for pens and pencils; Reg. No. 510,520, same, Writing ink; Reg. No. 297,913 (EVERSHARP), Eversharp, Inc., Fountain pens; Reg. No. 300,965, same, Writing ink; Reg. No. 505,581, same, Fountain pens and mechanical pencils; Reg. No. 639,379, same, Ball pens and ball pen ink cartridges, filed Apr. 2, 1968, D.C., N.D. Ill. (Chicago), Doc. 68c594, *The Parker Pen Company v. Fisher Pen Company.*

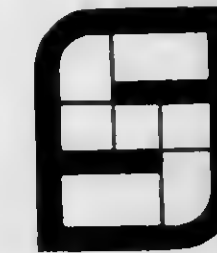
MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105. A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 256,912. L. M. Scofield Company, Los Angeles, Calif. Filed Oct. 7, 1966.



The trademark comprises a stylized letter "S."

Class 4—Abrasives and Polishing Materials

For Wax Coatings and Polishes for the Preservation and Maintenance of Concrete and Other Surfaces (Int. Cl. 3).

Class 16—Protective and Decorative Coatings

For Protective Coatings in the Nature of Sealing Compounds for Concrete, Asphalt, and Other Masonry Surfaces (Int. Cl. 2).

First use Mar. 1, 1965.

SN 257,121. College Hall, Inc., Middletown, N.J. Filed Oct. 25, 1966.

MONKEYSHINERS

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Tote Bags and Folding Suitcases (Int. Cl. 18).

Class 39—Clothing

For Children's and Ladies' Aprons and Dresses (Int. Cl. 25).

First use Sept. 30, 1966.

SN 258,659. American Hospital Supply Corporation, Evanston, Ill. Filed Nov. 15, 1966.

Chieftain

Owner of Reg. No. 443,870.

Class 2—Receptacles

For Multi-Purpose Bags for Use in Hospitals as Containers for Thermometers, Instruments, Gloves, and as Protective Covers for Nipples; Sanitary Napkin Bags and Holders Therefor; Bags and Straps for Holding Catheters During and After Sterilization; Card Folders Which Hold and Protect Needles During and After Sterilization (Int. Cl. 16).

Class 37—Paper and Stationery

For Kraft and/or Glassine Paper Wrappers, Paper and Cellulose Tubing, Pressure Sensitive Labelling Tape, All for Autoclavable Use (Int. Cl. 16).

Class 50—Merchandise Not Otherwise Classified

For Closures for Sterilizing Bags, Wrappers, and Tubing (Int. Cl. 26).

First use in or before January 1964.

SN 267,291. Mosal Aluminium A/S, Oslo, Norway. Filed Mar. 22, 1967.



Priority claimed under Sec. 44(d) on Norwegian Application filed Oct. 14, 1966; Reg. No. 71,332, dated Feb. 17, 1967.

Class 2—Receptacles

For Containers—Namely, Cans for Packaging and Metal Refuse Cans (Int. Cls. 6 and 21).

Class 12—Construction Materials

For Metal House Sidings, Rods and Sheets for Use as Building Materials (Int. Cl. 6).

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Metal Pipes for Transporting Liquid and Gas and Cooking Pots, Pans and Skillets (Int. Cls. 6 and 21).

Class 14—Metals and Metal Castings and Forgings

For Cast Aluminum Ingots, Extrusion Ingots, Wire Bars, Extruded Metal Bars and Plates, Metal Castings and Metal Forgings (Int. Cl. 6).

Class 21—Electrical Apparatus, Machines, and Supplies

For Electrical Conduit and Wire (Int. Cl. 9).

SN 270,096. Kent Rubber Corporation, New York, N.Y. Filed Apr. 27, 1967.



Class 22—Games, Toys, and Sporting Goods

For Underwater Sports Equipment—Namely, Fins, Masks, Goggles, and Snorkels (Int. Cl. 28).

Class 39—Clothing

For Household Rubber Gloves and Bathing Caps (Int. Cl. 25).

Class 44—Dental, Medical, and Surgical Appliances

For Hot Water Bottles (Int. Cl. 21).

First use at least as early as Oct. 26, 1966.
Subj. to Intf. with SN 259,435.

SN 271,549. Trap Rock Industries, Inc., Kingston, N.J. Filed May 15, 1967.

**Class 1—Raw or Partly Prepared Materials**

For Crushed Stone (Int. Cl. 19).

Class 12—Construction Materials

For Bituminous Concrete and Ready Mixed Concrete (Int. Cl. 19).

First use Jan. 15, 1967.

SN 280,986. The Texwipe Company, Hillsdale, N.J. Filed Sept. 22, 1967.

TEXWIPE**Class 29—Brooms, Brushes, and Dusters**For Cleaning Cloths (Int. Cl. 21).
First use Aug. 10, 1963.**Class 52—Detergents and Soaps**For Solvent Cleaners for Industrial Use (Int. Cl. 1).
First use Aug. 30, 1967.

SN 288,500. Farmer Electric Products Co., Inc., Natick, Mass. Filed Jan. 10, 1968.



Owner of Reg. No. 779,858.

Class 21—Electrical Apparatus, Machines, and SuppliesFor Static Industrial Electrical Control Switches (Int. Cl. 9).
First use July 1, 1966.**Class 26—Measuring and Scientific Appliances**For Electrical Sensors for Counting, Detecting, and Monitoring and Electrical Interval and Delay Timers (Int. Cl. 9).
First use Nov. 1, 1967.

SN 294,345. Railroad Friction Products Corporation, Wilmerding, Pa. Filed Mar. 28, 1968.



Owner of Reg. Nos. 617,397 and 629,423.

Class 19—Vehicles

For Brake Shoes for Vehicles—Namely, Railroad Cars and Rapid Transit Cars (Int. Cl. 12).

Class 23—Cutlery, Machinery, and Tools, and Parts ThereofFor Brake Shoes for Railroad Locomotives (Int. Cl. 12).
First use Feb. 27, 1968.

SN 299,899. Chadbourn Gotham, Inc., Charlotte, N.C. Filed June 7, 1968.

GAYLON**Class 39—Clothing**For Ladies' Hosiery (Int. Cl. 25).
First use May 8, 1968.**Class 43—Thread and Yarn**For Yarn (Int. Cl. 23).
First use May 11, 1968.

SN 301,146. Wagner Shokai Inc., Daito-ku, Tokyo, Japan. Filed June 24, 1968.

ATTRAIT**Class 21—Electrical Apparatus, Machines, and Supplies**

For Radios (Int. Cl. 9).

Class 26—Measuring and Scientific AppliancesFor Phonographs and Tape Recorders (Int. Cl. 9).
First use Mar. 21, 1968; in commerce Mar. 21, 1968.

SN 304,642. The Gillette Company, Boston, Mass. Filed Aug. 8, 1968.

SHUN**Class 51—Cosmetics and Toilet Preparations**

For Mouthwash, Breath Freshener, and Deodorant for Personal Use (Int. Cls. 3 and 5).

Class 52—Detergents and SoapsFor Hair Shampoo (Int. Cl. 3).
First use Mar. 29, 1968.

SN 306,574. Mirro Aluminum Company, Manitowoc, Wis. Filed Sept. 4, 1968.

COLORMODE**Class 13—Hardware and Plumbing and Steam-Fitting Supplies**

For Aluminum Cooking Utensils—Namely, Pots, Sauce Pans, Combination Pans, Sauté Pans, Frying Pans, and Dutch Ovens (Int. Cls. 11 and 21).

Class 21—Electrical Apparatus, Machines, and SuppliesFor Electric Percolators, Electric Frying Pans, and Electric Casseroles (Int. Cl. 11).
First use Mar. 26, 1968.

SN 307,799. Diamond Shamrock Corporation, Cleveland, Ohio. Filed Sept. 20, 1968.



The terms "Textile" and "Chemicals" are disclaimed apart from the mark as shown.

Class 6—Chemicals and Chemical Compositions

For Textile Lubricant and Fabric Softener for Use in Professional Laundries, Laundry Soaps, and Laundry Bleach for Industrial Use (Int. Cl. 1).

Class 52—Detergents and SoapsFor Industrial Cleaner for Use in Professional Laundries and Laundry Detergent for Industrial Use (Int. Cl. 1).
First use June 26, 1967.**SECTION 2**The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.
A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 272,542. De Kalb Agricultural Association, Inc., De Kalb, Ill. Filed May 29, 1967.

Owner of Reg. Nos. 705,388, 708,571, and 751,100.
For Chickens, Baby Chicks, Pullets, and Cockerels; and Grain Seed—Namely, Alfalfa, Sorghum and Hybrids of Sorghum, Sorghum-Sudangrass Hybrids, Wheat and Hybrids of Wheat (Int. Cl. 31).
First use Jan. 16, 1967.

SN 275,966. Ashland Oil and Refining Company, Minneapolis, Minn. Filed July 14, 1967.

AROTHANEFor Urethane Coating Resins for Industrial Use and Urethane Foaming Resins (Int. Cl. 1).
First use on or about July 22, 1960.

SN 292,528. Livingston & Doughty Limited, Oadby, Leicester, England. Filed Jan. 16, 1968.

NULITEFor Preparations of Thermo-Setting Plastics and Cork, for Use as a Bottom Filling Agent in the Manufacture of Boots, Shoes, and Slippers (Int. Cl. 1).
First use August 1963; in commerce June 1965.

SN 293,739. Plymouth Rubber Company, Inc., Canton, Mass. Filed Mar. 20, 1968.

PLYPELFor Fabric-Backed Plastic Sheetings for Upholstery Purposes, for Lining Closet Shelves, for Lining Walls, for Facings for Luggage, and for Hand Bags, and Like Uses (Int. Cl. 17).
First use Mar. 7, 1968.

SN 293,786. American Key Products, Inc., New York, N.Y. Filed Mar. 21, 1968.

SPARTANFor Gums Made Out of Vegetable Plants (Int. Cl. 2).
First use Jan. 15, 1968.

SN 308,951. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Oct. 7, 1968.

ELVONFor Hydroxyvinyl Resins for General Use in the Industrial Arts (Int. Cl. 1).
First use Sept. 9, 1968.**Class 2—Receptacles**

SN 273,884. Freeman & Gossage, Inc., San Francisco, Calif. Filed June 14, 1967.

INTRINSICSOwner of Reg. No. 825,328.
For Shopping Bags, Toy Bags, Gift Boxes, Storage Boxes, Lunch Boxes, and Rubbish Bins (Int. Cls. 16 and 20).
First use about Sept. 1, 1965.

SN 280,282. West Chemical Products, Inc., Long Island City, N.Y. Filed Sept. 13, 1967.

Owner of Reg. Nos. 524,371 and 574,971.
For Foot Bath Tray Made of Rubber (Int. Cl. 21).
First use Feb. 13, 1967.

SN 300,645. The Finn Industries, Inc., Chicago, Ill. Filed June 18, 1968.

FINN-SFor Ice Cream Cartons (Int. Cl. 16).
First use Apr. 10, 1968.

SN 302,986. Thermo-Disc, Inc., Boston, Mass. Filed July 17, 1968.
 SN 276,417. Dacar Chemical Products Company, Pittsburgh, Pa. Filed July 20, 1967.

THERMO-DISC

For Containers Made of Foam-Plastic Material and Having Heat-Insulating Qualities Used Primarily for Pizzas and Like Hot-Food Products (Int. Cl. 21).
 First use at least as early as June 25, 1968.

Class 4 — Abrasives and Polishing Materials

SN 278,269. Baltimore-Jamestowne Wax Co., Inc., Baltimore, Md. Filed Aug. 15, 1967.

JAMESTOWNE

For Furniture Polish (Int. Cl. 3).
 First use July 10, 1967.

SN 294,966. Norton Company, Watervliet, N.Y. Filed Apr. 4, 1968.

RAPLON

Owner of Reg. Nos. 417,612, 670,066, and others.
 For Abrasive Articles—Namely, Abrasive Wheels (Int. Cl. 7).
 First use January 1968.

SN 309,210. U.S. Plywood-Champlon Papers Inc., New York, N.Y. Filed Oct. 9, 1968.

WELDWOOD

Owner of Reg. No. 843,483.
 For Abrasives and Polishing Materials, i.e., Liquid Cleaner and Polisher for Wood, Plywood and Lumber Products, Cupboards, Furniture, Vinyl Upholstery, Leather, Chrome, High Pressure Laminates, Ceramic Tile, Kitchen Appliances, and Painted Glass and Semi-Gloss Finishes (Int. Cl. 3).
 First use on or about Aug. 13, 1968.

Class 5 — Adhesives

SN 301,497. Wayne Adhesive and Container Co., Detroit, Mich. Filed June 27, 1968.



For Carpet Seam Cement, Carpet Cement, Carpet Pad Cement, and Strip Cement (Int. Cl. 1).
 First use Apr. 27, 1957.

Class 6 — Chemicals and Chemical Compositions

SN 274,553. Raymond Whalen and Charles E. Weber (joint owners), d.b.a. Metal Corrosion Control, Plainfield, N.J. Filed June 22, 1967.

TUFFEX

For Cement and Concrete Additive for Increasing Strength, Bonding and Abrasion Resistance (Int. Cl. 1).
 First use March 1965.

DA-CAR-COTE

Owner of Reg. No. 295,474.
 For Rust-Proofing Compounds (Int. Cl. 2).
 First use July 3, 1967.

SN 277,545. Eastman Kodak Company, Rochester, N.Y. Filed Aug. 4, 1967.

EASTMAN

Owner of Reg. Nos. 67,012, 641,595, and others.
 For Chemicals and Chemical Compositions for Use in Industry, Science, Photography, Agriculture, and Horticulture (Int. Cl. 1).
 First use 1884.

SN 279,727. Jeffrey L. Fried, d.b.a. Walton-March, Highland Park, Ill. Filed Sept. 6, 1967.

ISOTROL

For Chemical Ingredient To Accelerate the Action of Ice Melting Compositions, Which Is Incorporated in the End Product (Int. Cl. 1).
 First use July 20, 1967.

SN 280,067. Ishihara Sangyo Kaisha Ltd., Nishi-ku, Osaka-shi, Japan. Filed Sept. 11, 1967.

TIPAQUE

For Titanium Dioxide, Titanium Oxide, and Pigments (Int. Cls. 1 and 2).
 First use June 25, 1954; in commerce Nov. 29, 1955.

SN 284,223. Multiform Desiccant Products, Inc., Buffalo, N.Y. Filed Nov. 6, 1967.

CRYOSORB

For Adsorptive Getter for Atmospheric Gases Primarily Used in the Insulating Annulus of Cryogenic Storage Vessels (Int. Cl. 1).
 First use in or about June 1964.

SN 287,092. Pierce Chemical Company, Rockford, Ill. Filed Dec. 18, 1967.

VOLASIL

For Silylating Reagents for Use in Gas Chromatography, Spectrometry and Other Instrumented Analytical Procedures, in Thin-Layer Chromatography and Synthesis (Int. Cl. 1).
 First use about June 1, 1966.

SN 287,093. Pierce Chemical Company, Rockford, Ill. Filed Dec. 18, 1967.

TMS AMAC

For Amino Acid Derivatives Used as Intermediates in Synthesis of Chemical Compounds and for Calibration and Standardization in Gas Chromatography and Spectrometry and Other Analytical Procedures Involving Amino Acids or Peptides (Int. Cl. 1).
 First use about Aug. 1, 1966.

SN 287,094. Pierce Chemical Company, Rockford, Ill. Filed Dec. 18, 1967.
 SN 298,514. Robert I. Schattner, d.b.a. The R. Schattner Company, Washington, D.C. Filed May 20, 1968.

SUGAR SIL

No claim is made to the word "Sugar" apart from the mark as shown.

For Chemical Compounds in the Nature of Derivatives of Sugar Used as Intermediates in Synthesis of Chemical Compounds and for Calibration and Standardization in Gas Chromatography and Spectrometry, and Other Analytical Procedures (Int. Cl. 1).
 First use about June 1, 1966.

SN 289,020. Halby Chemical Co., Inc., Wilmington, Del. Filed Jan. 17, 1968.

ALKOBANE

For Corrosion Inhibiting Agent and Descaling Agent (Int. Cl. 2).
 First use Apr. 24, 1964.

SN 293,298. Process Solvent Company, Inc., Kansas City, Kans. Filed Mar. 14, 1968.

CUR TO SPEC

For Compound for Curing, Sealing and Dustproofing Concrete Surfaces (Int. Cl. 1).
 First use May 25, 1967.

SN 293,341. Ishihara Sangyo Kaisha Ltd., Nishi-ku, Osaka-shi, Japan. Filed Mar. 15, 1968.



For Titanium Dioxide, Titanium Oxide, and Pigments (Int. Cls. 1 and 2).
 First use June 25, 1954; in commerce Nov. 29, 1955.

SN 293,728. Leffingwell Chemical Company, Brea, Calif. Filed Mar. 20, 1968.

THRIP-TOX

For Agricultural Insecticide (Int. Cl. 5).
 First use Apr. 1, 1955.

SN 293,915. Frank J. Curran Co., Downers Grove, Ill. Filed Mar. 22, 1968.

GAZEBO

For Air Fresheners and Room Deodorants (Int. Cl. 5).
 First use Feb. 29, 1968.

SN 296,941. Chemical Industries, Inc., Borger, Tex. Filed Apr. 30, 1968.



For Automobile Radiator Anti-Freeze, Defouling Agent, Emulsion Breaker, Corrosion Inhibitor, and Scale Preventative (Int. Cl. 1).
 First use on or before Dec. 31, 1964.

RISTEX

For Antibacterial Preparation for Use on Textiles and Fabrics (Int. Cl. 1).
 First use May 9, 1968.

SN 306,200. Max D. Howcroft, d.b.a. Gemini Distributing Co., Modesto, Calif. Filed Aug. 29, 1968.

BIOX

For Stabilized Chlorine Dioxide Solution for General Sanitization and Odor Control (Int. Cl. 5).
 First use July 16, 1968.

Class 7 — Cordage

SN 285,360. Topco Associates, Inc., Skokie, Ill. Filed Nov. 21, 1967.



No registration rights are claimed for the word "Noel" apart from the mark shown in the drawing, but applicant waives none of its common law rights in the mark or any feature thereof. Owner of Reg. No. 766,508.
 For Gift Wrapping Ribbon (Int. Cl. 26).
 First use Apr. 13, 1961.

Class 10 — Fertilizers

SN 303,173. Ray W. Kimmey, Dayton, Ohio. Filed July 19, 1968.



For Fertilizer and Soil Conditioner (Int. Cl. 1).
 First use May 4, 1968.

Class 12 — Construction Materials

SN 272,526. Vinylast Corporation, Toledo, Ohio. Filed May 26, 1967.

VINYLAST

For Plastic Construction Materials—Namely, Prime Windows and Doors, Storm Windows and Doors, Combination Screen and Storm Windows and Doors, and Molded Plastic Parts for Fabrication into the Foregoing Goods (Int. Cl. 19).
 First use on or before Feb. 26, 1965.

SN 273,097. Pennsylvania Pacific Corporation, Warminster, Pa. Filed June 5, 1967.

PENNPAC

For Panels for Construction or Containerization Purposes Made in Whole or in Part of Various Materials—Namely, Plastic, Wood, Wood Fibers, Metal, Glass Fibers, Aluminum, Porcelainized Steel, and Foam Plastic (Int. Cls. 6 and 19).
 First use Apr. 15, 1966.

SN 274,750. Joslyn Mfg. and Supply Co., Chicago, Ill. Filed June 26, 1967.

VETO-FIRE

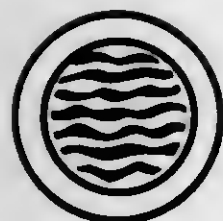
For Wood Products Treated With Fire Retardant Materials—Namely, Lumber, Utility Poles, Cross Arms, and Plywood (Int. Cl. 19).
First use June 15, 1967.

SN 274,763. Owens-Corning Fiberglass Corporation, Toledo, Ohio. Filed June 26, 1967.

AF

For Insulating Bata—Namely, Bata for Insulating Attic, Wall, Ceiling and Floor Constructions, and Construction Boards—Namely, Boards for Wall, Ceiling and Floor Constructions (Int. Cls. 17 and 19).
First use Sept. 13, 1962.

SN 275,191. Zeston, Inc., Fords, N.J. Filed June 30, 1967.



For Thermal Insulation Materials for Covering Pipes and the Like—Namely, Heat Transfer Cements, Insulation Jacketing, Insulation Fitting Covers, and Wrapping Tapes Bonded With a Thermal Resistant Adhesive (Int. Cl. 17).
First use Dec. 6, 1963.

SN 281,880. The Flotkote Company, New York, N.Y. Filed Oct. 5, 1967.

IRON CLAD

Owner of Reg. No. 197,616.
For Portland Cement (Int. Cl. 19).
First use sometime during 1958.

SN 285,677. Frederick W. Rhines, Los Altos, Calif. Filed Nov. 27, 1967.

GLASBAR

For Long Lengths of Bundles of Glass Filaments Coated and Twisted To Form Rigid Lengths, for Use as Reinforcing Elements Bonded Within Mixes of Concrete, Plaster, and the Like (Int. Cl. 19).
First use Oct. 10, 1967.

SN 285,678. Frederick W. Rhines, Los Altos, Calif. Filed Nov. 27, 1967.

GLASCOTE

For Lengths of Glass Fibers Coated With Fine Compatible Particles, for Use in Mixes of Cement, Plaster, and the Like To Provide Strength Thereto and a Bond Therewith (Int. Cl. 19).
First use Oct. 10, 1967.

SN 285,679. Frederick W. Rhines, Los Altos, Calif. Filed Nov. 27, 1967.

GLASCRETE

For Premix Bagged Dry Cement, Sand and Aggregate Mixture With Coated Glass Fibers Therein (Int. Cl. 19).
First use Oct. 10, 1967.

SN 290,987. U.S. Fiber & Plastics Corp., Stirling, N.J. Filed Feb. 13, 1968.

MILLION-AIR

For Prefabricated Swimming Pool With Plastic Liners (Int. Cl. 19).
First use as early as 1950.

SN 291,730. H. B. Fuller Company, St. Paul, Minn. Filed Feb. 23, 1968.



Owner of Reg. No. 798,715.
For Industrial Epoxy Adhesives Applied to Wall Exteriors for the Retention of Stone Chips Randomly Applied Thereto, and for Use in Terrazzo Floors, Mosaic Walls, and Precast Panel Construction and the Like (Int. Cl. 19).
First use April 1962.

SN 294,093. Supradur Manufacturing Corporation, Wind Gap, Pa. Filed Mar. 25, 1968.

SUPRA-CRYLIC

For Asbestos-Cement Siding Shingles (Int. Cl. 19).
First use January 1968.

SN 300,664. U.S. Plywood-Champion Papers Inc., New York, N.Y. Filed June 18, 1968.

VINYLGARD

For Plywood, Wood, and Wood Fiber Products, Plain or Plastic Covered, Used in the Construction, Industrial, and Furniture Fields, i.e., Decorative Panels for Walls, Doors, and Partitions (Int. Cl. 19).
First use on or about May 28, 1968.

SN 302,079. Hornsby & Thorndyke, Inc., Canton, Mass. Filed July 5, 1968.

BET-R-LUBE

For Sealing Compounds (Int. Cl. 17).
First use Apr. 23, 1968.

SN 305,283. Por-Vene Mfg., Inc., La Mirada, Calif. Filed Aug. 16, 1968.



For Architectural Facings—Namely, Sun Screens, Louvers, Porcelainized and Ornamental Metals Used for Facing Materials on Commercial Buildings (Int. Cls. 6 and 19).
First use Jan. 6, 1965.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 283,801. J. A. Henckels Zwillingswerk AG, Solingen, Germany. Filed Oct. 31, 1967.



Owner of German Reg. No. 680,583, dated July 2, 1954; and U.S. Reg. Nos. 297,435, 773,474, and others.

For Metal Household and Kitchen Utensils—Namely, Trays, Strainers, Tea Warmers in the Nature of Metal Stands, Flat and Hollow Tableware, Key Rings and Chains, and Syphons (Int. Cls. 6, 8, and 21).

SN 291,976. Elkay Manufacturing Company, Broadview, Ill. Filed Feb. 27, 1968.

A SINKRONIZED PRODUCT

Owner of Reg. Nos. 726,431 and 726,638.
For Sinks and Water Fountains (Int. Cl. 11).
First use Dec. 4, 1967.

SN 292,517. The Union Malleable Manufacturing Company, Ashland, Ohio. Filed Mar. 5, 1968.

CTT

For Pipe Fittings (Int. Cl. 6).
First use on or about Feb. 23, 1968.

SN 294,883. Dynamic Classics, Ltd., New York, N.Y. Filed Apr. 4, 1968.

JET WHIRL

For Water Agitator Featuring Tubing and Nozzles, Adapted for Use With Bath Tubs and the Like (Int. Cl. 11).
First use Jan. 5, 1968.

SN 295,558. Regal Ware, Inc., Kewaskum, Wis. Filed Apr. 12, 1968.

MARDI GRAS

For Cooking Utensils—Namely, Saucepans, Frylog Pans, Dutch Ovens; and Covers for the Same (Int. Cls. 11 and 21).
First use on or about Mar. 8, 1968.

SN 299,474. The National Screw & Manufacturing Company, Cleveland, Ohio. Filed May 31, 1968.

C-LOCK

For Threaded Fasteners—Namely, Nuts (Int. Cl. 6).
First use Oct. 4, 1967.

SN 301,425. The Harris Caloric Company, Cleveland, Ohio. Filed June 26, 1968.

TIGER

For Gas Pressure Regulators (Int. Cl. 6).
First use at least as early as June 14, 1968.

SN 304,812. Price-Pfister Brass Mfg. Co., Pacoima, Calif. Filed Aug. 9, 1968.

SERV-ALL

For Single-Lever Fixtures for Lavatories, Sinks, and the Like (Int. Cl. 11).
First use May 10, 1968.

SN 304,935. Kirsch Company, Sturgis, Mich. Filed Aug. 12, 1968.

GOLD SEAL

For Curtain Rods and Parts and Accessories, Therefor (Int. Cl. 20).
First use Aug. 1, 1924.

SN 305,033. Bundy Corporation, Detroit, Mich. Filed Aug. 13, 1968.

HYDRASPEC

For Metal Tubing, Straight and Shaped Tube Lengths, With and Without Fittings Attached for Connecting Purposes (Int. Cl. 6).
First use May 22, 1968.

SN 305,164. Standard Screw Company, Hartford, Conn. Filed Aug. 15, 1968.

MARK SIXTY

For Shower Heads (Int. Cl. 11).
First use May 29, 1968.

SN 305,314. Cole Valve Corporation, Menomonee Falls, Wis. Filed Aug. 16, 1968.

SCEPTRE

For Faucets and Valves (Int. Cl. 11).
First use May 29, 1968.

SN 305,440. Hastings Irrigation Pipe Co., Hastings, Nebr. Filed Aug. 19, 1968.

TEX-FLOW

For Irrigation Pipes and Coupling Members for Irrigation Pipes (Int. Cl. 11).
First use 1957.

SN 306,189. Systems Design Company, Inc., Milwaukee, Wis. Filed Aug. 28, 1968.

SPOPPET

For Valves (Int. Cl. 6).
First use July 15, 1968.

SN 306,319. Acme Associates Incorporated, Long Island City, N.Y. Filed Aug. 30, 1968.

ACME

Owner of Reg. No. 439,417.
For Sliders for Slide Fasteners (Int. Cl. 26).
First use Oct. 22, 1940.

SN 306,549. Cenco Instruments Corporation, Chicago, Ill. Filed Sept. 4, 1968.

HYVAC

Owner of Reg. Nos. 178,275 and 354,688.
For Valves (Int. Cl. 6).
First use June 14, 1968.

SN 307,038. Mirro Aluminum Company, Manitowoc, Wis. Filed Sept. 10, 1968.

MIRRO MANHATTAN

Owner of Reg. Nos. 419,237, 665,622, and 690,083.
For Aluminum Cooking Utensils—Namely, Pots, Sauce Pans, Frying Pans, Casseroles, and Dutch Ovens (Int. Cls. 11 and 21).
First use Aug. 6, 1968.

SN 307,138. Jay R. Smith Manufacturing Co., Piscataway, N.J. Filed Sept. 11, 1968.

FUNNEL-CEPTOR

For Sanitary Floor Drain and Waste Receptor (Int. Cl. 6).
First use on or about June 1, 1968.

SN 307,139. Jay R. Smith Manufacturing Co., Piscataway, N.J. Filed Sept. 11, 1968.

SANI-CEPTOR

For Sanitary Floor Drain and Waste Receptor (Int. Cl. 6).
First use on or about June 1, 1968.

SN 307,246. John W. Stang Mfg. Co., Inc., Orange, Calif. Filed Sept. 12, 1968.

aeroglass

For Nozzles (Int. Cl. 11).
First use on or about Apr. 15, 1968.

SN 308,323. A. O. Smith Corporation, Milwaukee, Wis. Filed Sept. 26, 1968.

REDI-THRED

Owner of Reg. No. 692,016.
For Pipe and Pipe Couplings (Int. Cl. 6).
First use May 17, 1968.

SN 308,680. Control Components, Inc., Los Alamitos, Calif. Filed Oct. 2, 1968.



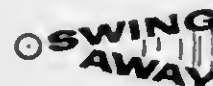
For Hand Valves, Relief Valves, Check Valves, Power Operated Valves, and Fluid Control Valves for Gases and Liquids (Int. Cls. 6 and 7).
First use on or about Oct. 25, 1965.

SN 308,792. Gerald Ovilla Laliberte, Windsor, Ontario, Canada. Filed Oct. 3, 1968.



Applicant disclaims the representation of the goods apart from the mark as shown.
For Nuts and Bolts (Int. Cl. 6).
First use Sept. 1, 1964; in commerce Oct. 1, 1965.

SN 308,931. Stille-Craft Manufacturers, Inc., St. Louis, Mo. Filed Oct. 4, 1968.



For Ball Valves (Int. Cl. 6).
First use Aug. 5, 1968.

SN 309,066. Milwaukee Valve Company, Inc., Milwaukee, Wis. Filed Oct. 7, 1968.



Owner of Reg. No. 385,391.
For Valves and Fittings Made of Bronze, Aluminum, and Iron—Namely, Gate Valves, Globe Valves, Angle Valves, Check Valves, Nozzles, Faucets, Flanges and Fittings, for Plumbing, Steamfitting, Oil and Gasoline, and Chemicals (Int. Cls. 6 and 11).
First use during February 1968.

SN 309,250. Modcraft Company, Inc., Brooklyn, N.Y. Filed Oct. 9, 1968.

PRO-FLO

For Spray Heads for Shampoo Basins (Int. Cl. 11).
First use Aug. 28, 1968.

Class 17—Tobacco Products

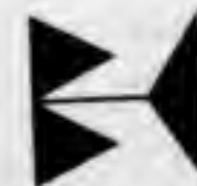
SN 308,949. The American Tobacco Company, New York, N.Y. Filed Oct. 7, 1968.



For Cigarettes (Int. Cl. 34).
First use Oct. 2, 1968.

Class 18—Medicines and Pharmaceutical Preparations

SN 290,941. Barnes-Hind Ophthalmic Products, Inc., d.b.a. Barnes-Hind Ophthalmic Products, Sunnyvale, Calif. Filed Feb. 13, 1968.



For Sterile Ophthalmic Solution (Int. Cl. 5).
First use May 19, 1964.

SN 292,134. Richardson-Merrell Inc., New York, N.Y. Filed Feb. 28, 1968.

VICKS

Owner of Reg. Nos. 314,174, 386,984, and others.
For Medicinal and Pharmaceutical Preparations (Int. Cl. 5).
First use 1894.

SN 294,581. Bristol-Myers Company, New York, N.Y. Filed Apr. 1, 1968.

HAPPY VALLEY

For Analgesic Tablets (Int. Cl. 5).
First use Mar. 6, 1968.

SN 294,587. Bristol-Myers Company, New York, N.Y. Filed Apr. 1, 1968.

COLD NOSE

For Analgesic Tablets (Int. Cl. 5).
First use Mar. 6, 1968.

SN 294,724. Colgate-Palmolive Company, New York, N.Y. Filed Apr. 2, 1968.

BRISK

Owner of Reg. Nos. 268,362 and 354,839.
For Oral Antiseptic (Int. Cl. 5).
First use Mar. 20, 1968.

SN 295,413. Allied Mills, Inc., Chicago, Ill. Filed Apr. 11, 1968.

KOLT KRUNCH

Applicant makes no claim to the exclusive use of the word "Kolt" alone. Owner of Reg. Nos. 590,391, 818,391, and 818,789.
For Medicated Colt Feed Supplement (Int. Cl. 5).
First use Mar. 9, 1965.

SN 299,396. Astra Pharmaceutical Products, Inc., Worcester, Mass. Filed May 31, 1968.

APTIN

Owner of Reg. No. 682,449.
For Beta-Adrenergic and Receptor Blocker for the Management and Treatment of Cardiac Arrhythmias, Angina Pectoris, and Other Cardiovascular Diseases (Int. Cl. 5).
First use Apr. 17, 1968.

SN 301,745. W. R. Grace & Co., Cambridge, Mass. Filed July 1, 1968.

RUFF-ADE

For Mineral Roughage Extender for Animal Feed (Int. Cl. 31).
First use July 2, 1967.

SN 302,568. Parke, Davis & Company, Detroit, Mich. Filed July 12, 1968.

GERIPLEX-FS

Owner of Reg. No. 561,084.
For Nutritive Preparation Containing Vitamins and Minerals (Int. Cl. 5).
First use on or before June 12, 1968.

SN 307,069. Ralston Purina Company, St. Louis, Mo. Filed Sept. 11, 1968.

PURA-STATIN

Owner of Reg. No. 666,511.
For Antibiotic for Poultry and Livestock (Int. Cl. 5).
First use Aug. 16, 1968.

SN 307,915. Carter-Wallace, Inc., New York, N.Y. Filed Sept. 23, 1968.

V GUARD

For Feminine Cleansing Douche (Int. Cl. 5).
First use Aug. 6, 1968.

SN 307,942. Rucker Pharmacal Co., Inc., Shreveport, La. Filed Sept. 23, 1968.

RUCK-SED

For Sedative (Int. Cl. 5).
First use July 9, 1958.

SN 307,946. Rucker Pharmacal Co., Inc., Shreveport, La. Filed Sept. 23, 1968.

RUC-DANE

For Laxative (Int. Cl. 5).
First use Aug. 8, 1958.

SN 307,953. Warner-Lambert Pharmaceutical Company, Morris Plains, N.J. Filed Sept. 23, 1968.

SINUBID

For Sinus Preparation (Int. Cl. 5).
First use Aug. 20, 1968.

SN 308,735. American Home Products Corporation, New York, N.Y. Filed Oct. 3, 1968.

FOAMEDIC

For Acne Preparation (Int. Cl. 5).
First use Sept. 23, 1968.

Class 19—Vehicles

SN 293,460. Albert E. Anderson, d.b.a. A. E. Anderson Industries, Reading, Mich. Filed Mar. 18, 1968.

ANDES

For Pickup Campers, Chassis Mounted Campers, and Travel Trailers (Int. Cl. 12).
First use Apr. 30, 1966.

SN 294,643. The Murray Ohio Manufacturing Co., Nashville, Tenn. Filed Apr. 1, 1968.

RAM-ROD

For Recreational Wheel Goods—Namely, Bicycles (Int. Cl. 12).
First use on or about Dec. 15, 1967.

SN 298,932. Ford Motor Company, Dearborn, Mich. Filed May 23, 1968.

MARQUIS

For Automobiles (Int. Cl. 12).
First use during September 1966.

SN 298,953. North American Rockwell Corporation, Pittsburgh, Pa. Filed May 23, 1968.

DARTER COMMANDER

Owner of Reg. Nos. 588,526, 834,266, and others.
For Airplanes and Component Parts Thereof (Int. Cl. 12).
First use Jan. 26, 1968.

SN 298,954. North American Rockwell Corporation, Pittsburgh, Pa. Filed May 23, 1968.

LARK COMMANDER

Owner of Reg. Nos. 588,526, 834,266, and others.
For Airplanes and Component Parts Thereof (Int. Cl. 12).
First use Apr. 15, 1968.

SN 298,955. North American Rockwell Corporation, Pittsburgh, Pa. Filed May 23, 1968.

COURSER COMMANDER

Owner of Reg. Nos. 588,526, 834,266, and others.
For Airplanes and Component Parts Thereof (Int. Cl. 12).
First use Apr. 30, 1968.

SN 298,956. North American Rockwell Corporation, Pittsburgh, Pa. Filed May 23, 1968.

QUAIL COMMANDER

Owner of Reg. Nos. 588,526, 834,266, and others.
For Airplanes and Component Parts Thereof (Int. Cl. 12).
First use Feb. 22, 1968.

SN 298,957. North American Rockwell Corporation, Pittsburgh, Pa. Filed May 23, 1968.

SNIPER COMMANDER

Owner of Reg. Nos. 588,526, 834,266, and others.
For Airplanes and Component Parts Thereof (Int. Cl. 12).
First use Feb. 16, 1968.

SN 298,958. North American Rockwell Corporation, Pittsburgh, Pa. Filed May 23, 1968.

SHRIKE COMMANDER

Owner of Reg. Nos. 588,526, 834,266, and others.
For Airplanes and Component Parts Thereof (Int. Cl. 12).
First use Apr. 22, 1968.

SN 298,959. North American Rockwell Corporation, Pittsburgh, Pa. Filed May 23, 1968.

SPARROW COMMANDER

Owner of Reg. Nos. 588,526, 834,266, and others.
For Airplanes and Component Parts Thereof (Int. Cl. 12).
First use Apr. 15, 1968.

SN 301,442. North American Rockwell Corporation, Pittsburgh, Pa. Filed June 26, 1968.

THRUSH COMMANDER

Owner of Reg. Nos. 588,526, 834,266, and others.
For Airplanes and Component Parts Thereof (Int. Cl. 12).
First use Feb. 19, 1968.

Class 20—Linoleum and Oiled Cloth

SN 291,043. Congoleum Industries, Inc., Kearny, N.J., assignee of Congoleum-Nairn Inc., Kearny, N.J. Filed Feb. 14, 1968.

WILLIAMSBURG BRICK

For Plastic Coverings of the Solid Surface, Resilient Type for Surfaces Such as Floors, Walls, Countertops, and the Like in the Form of Rolls, Rugs, and Tiles (Int. Cl. 27).
First use Jan. 31, 1968.

SN 298,704. Congoleum Industries, Inc., Kearny, N.J., assignee of Congoleum-Nairn Inc., Kearny, N.J. Filed May 21, 1968.

KID-CUSHIONED

For Plastic Coverings of the Solid Surface, Resilient Type for Surfaces Such as Floors, Walls, Countertops, and the Like, in the Form of Rolls, Rugs, and Tiles (Int. Cls. 19 and 27).
First use Apr. 17, 1968.

SN 301,512. Carthage Mills Incorporated, Cincinnati, Ohio. Filed June 27, 1968.

COLORDEPTH

For Printed Material for Covering Floors, Walls, and the Like (Int. Cl. 27).
First use Oct. 6, 1967.

SN 302,376. American Biltrite Rubber Co., Inc., Trenton, N.J. Filed July 10, 1968.

LORENZO

For Vinyl Flooring (Int. Cl. 27).
First use June 6, 1968.

SN 302,377. American Biltrite Rubber Co., Inc., Trenton, N.J. Filed July 10, 1968.

SHALIMAR

For Vinyl Flooring (Int. Cl. 27).
First use June 6, 1968.

SN 305,192. American Biltrite Rubber Co., Inc., Chelsea, Mass. Filed Aug. 15, 1968.

UNI-TURF

For Plastic Flooring for Use as an Indoor-Outdoor Floor Covering for Play and Recreation Areas (Int. Cl. 27).
First use May 23, 1967.

SN 308,450. American Biltrite Rubber Co., Inc., Trenton, N.J. Filed Sept. 30, 1968.

MANDALAY

For Vinyl Asbestos Flooring (Int. Cl. 27).
First use June 26, 1968.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 291,163. Klipsch and Associates, Inc., Hope, Ark. Filed Feb. 15, 1968.

CORNWALL II

For Loudspeakers (Int. Cl. 9).
First use 1958.

SN 294,508. Joslyn Mfg. and Supply Co., Chicago, Ill. Filed Mar. 29, 1968.

VISI-GUARD

For Protective Device—Namely, a Spark Gap Device, for Electrical Circuitry To Protect the Circuitry From High Voltage Surges (Int. Cl. 9).
First use Mar. 15, 1968.

SN 298,165. United Aircraft Corporation, East Hartford, Conn. Filed May 14, 1968.

NORMOD

For Compact Assemblies of Integrated Micro-Circuits (Int. Cl. 9).
First use about Apr. 4, 1968.

SN 298,417. Capitol Stage Lighting Co., Inc., New York, N.Y. Filed May 17, 1968.

QUARTZFOLLOW

For Spotlights (Int. Cl. 9).
First use on or about Apr. 10, 1968.

SN 298,418. Capitol Stage Lighting Co., Inc., New York, N.Y. Filed May 17, 1968.

QUARTZELLIPOSIDAL

For Spotlights (Int. Cl. 9).
First use on or about Apr. 10, 1968.

QUARTZSCOOP

For Spotlights (Int. Cl. 9).
First use on or about Apr. 10, 1968.

SN 298,654. Xerox Industries Inc., Fleetwood, Mount Vernon, N.Y. Filed May 20, 1968.

REGISTRAX

For Printed Circuits (Int. Cl. 9).
First use Apr. 3, 1968.

SN 298,949. Molex Products Company, Downers Grove, Ill. Filed May 23, 1968.

CLASPCON

For Electrical Connectors (Int. Cl. 9).
First use May 10, 1968.

SN 303,384. Wells Television, Inc., New York, N.Y. Filed July 23, 1968.

OMNICABLE

For Cable Used in Connection With Television Systems for Transmission of Television Signals and for Voltage Supply (Int. Cl. 9).
First use June 12, 1965.

Class 22—Games, Toys, and Sporting Goods

SN 293,547. Milton Bradley Company, East Longmeadow, Mass. Filed Mar. 18, 1968.

FLANOTEX

For Flannel Board Teaching Aids Kits (Int. Cl. 16).
First use Nov. 15, 1967.

SN 308,979. Mattel, Inc., Hawthorne, Calif. Filed Oct. 7, 1968.

HENRIETTA

For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use Aug. 9, 1968.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 288,330. S. S. Kresge Company, Detroit, Mich. Filed Jan. 8, 1968.



For Electric Drills and Attachments Therefor—Namely, Lawn Mower Sharpeners, Grinding Points, Drum Rasps, Cup Brushes, Wire Wheels, Sanders, Rotary Rasps, Rotary Files, Drill Bits, and Palat Mixers; Razor Blades; Counter Sinks; Knife and Scissor Sharpeners; and Hacksaw Blades (Int. Cls. 7 and 8).
First use in or before December 1967.

SN 288,331. S. S. Kresge Company, Detroit, Mich. Filed Jan. 8, 1968.



For Electric Drills and Attachments Thereof—Namely, Lawn Mower Sharpeners, Grinding Polots, Drum Rasps, Cup Brushes, Wire Wheels, Sanders, Rotary Rasps, Rotary Files, Drill Bits, and Paint Mixers; Razor Blades; Counter Slaks; Knife and Scissor Sharpeners; and Hacksaw Blades (Int. Cls. 7 and 8).

First use in or before December 1967.

SN 290,068. Baldwin-Lima-Hamilton Corporation, Chicago, Ill. Filed Feb. 1, 1968.

ECHO

For Remote Control Units for Operating Hydraulic Cranes (Int. Cl. 9).

First use on or prior to Jan. 12, 1968.

SN 292,780. General Consolidated, Ltd., Lodi, N.J. Filed Mar. 8, 1968.

Chapparel

For Sewing Machines and Typewriters (Int. Cls. 7 and 16). First use on or about Feb. 26, 1968.

SN 300,644. The Finn Industries, Inc., Chicago, Ill. Filed June 18, 1968.

FINN-S

For Ice Cream Carton Sealing Machines and Parts Thereof (Int. Cl. 7).

First use Apr. 17, 1968.

SN 306,423. "Automstic" Sprinkler Corporation of America, d.b.a. Essick Manufacturing Company, Cleveland, Ohio. Filed Aug. 30, 1968.

BIG BOY

For Concrete Mixers (Int. Cl. 7). First use Apr. 19, 1945.

SN 308,421. Dynacast Limited, Lachine, Quebec, Canada. Filed Sept. 30, 1968.



For Die-Casting Machines and Parts Thereof (Int. Cl. 7). First use Apr. 1, 1966; in commerce Apr. 1, 1966.

SN 308,422. Dynacast Limited, Lachine, Quebec, Canada. Filed Sept. 30, 1968.

DYNACAST

For Die-Casting Machines and Parts Thereof (Int. Cl. 7). First use May 15, 1968; in commerce May 15, 1968.

Class 25—Locks and Safes

SN 286,819. Harlan Knox Perrill, Los Angeles, Calif. Filed Dec. 13, 1967.

PARK-SAFE

For Parking Lot Coin Collection Boxes Having in Them Locking Means, an Envelope Container, and a Coin Safe (Int. Cl. 6).

First use Oct. 30, 1967.

Class 26—Measuring and Scientific Appliances

SN 243,717. The Scam Instrument Corporation, Skokie, Ill. Filed Apr. 18, 1966.

PANAGARD

Owner of Reg. Nos. 577,378, 768,668, and others. For Variable Condition Monitoring System, and Parts Thereof, for Monitoring Temperature (Int. Cl. 9). First use Mar. 31, 1966.

SN 262,134. Data Corporation, Dayton, Ohio, assignee, by mesne assignment, of Data Corporation, Dayton, Ohio. Filed Jan. 9, 1967.



Applicant disclaims the words "Data" and "Corporation" apart from the mark as shown. Owner of Reg. No. 762,470.

For Microanalysers—Namely, Microdensitometers, Microphotometers and Measuring Comparators, Engineering Standards Including Photometric Standards, Photometric Spheres, Color Temperature Meters, Illumination Intensity Meters and Associated Standards, Instrumentation Processing Equipment Comprising a Special Purpose Laboratory Sensitometric Processor Used for Quality Control and Research in the Field of Sensitized Materials and Chemicals, and Associated Data Processing and Test Equipment (Int. Cl. 9). First use Sept. 13, 1961.

SN 271,487. Klöckner Handelsmaatschappij N.V., The Hague, Netherlands. Filed May 15, 1967.

T-NOCK

For Proportioner for Feeding Additional Materials into a Stream of Molten Metal (Int. Cl. 9).

First use Aug. 3, 1965; in commerce Feb. 7, 1967.

SN 272,515. Motomco, Inc., Clark, N.J. Filed May 26, 1967.

For Air Meters (Int. Cl. 9).

COMP-OM-ETERS

First use Apr. 20, 1967.

SN 278,725. N.V. Nederlandsche Kabelfabrieken, Delft, Netherlands. Filed Aug. 21, 1967.



For Differential Discharge Detector; Transistorized Discharge Calibrator; Adapter Bridge and 100 Amp Impedance (Int. Cl. 9).

First use Jan. 2, 1928; in commerce Jan. 11, 1966.

SN 280,423. Kabushiki Kaisha Ozaki Selsakusho, d.b.a. Ozaki Manufacturing Company Limited, Itabashi-ku, Tokyo, Japan. Filed Sept. 15, 1967.



For Dial Gauges for Use With Precision Measuring Instruments, Dial Indicators, Dial Callipers, Dial Calliper Gauges, Dial Height Gauges, Cylinder Gauges, Micrometers, Signal Indicators, and Vernier Callipers (Int. Cl. 9).

First use November 1958; in commerce Nov. 30, 1959.

SN 282,083. Henry's Camera Corporation, Los Angeles, Calif. Filed Oct. 9, 1967.

DELTARON

For Photographic Equipment—Namely, Cameras, Lenses, Projectors, Tripods, Viewers, Exposure Meters, Developing Tanks, Editors, Carrying Cases for Binoculars, and Parts Thereof (Int. Cl. 9).

First use Apr. 15, 1967.

SN 284,343. N. P. Benson Optical Company, d.b.a. Benson Optical Company, Minneapolis, Minn. Filed Nov. 8, 1967.

BLEND-EDGE

For Metallic Edge Coating Sold as a Component of Glass Lenses (Int. Cl. 9).

First use Aug. 1, 1967.

SN 286,220. Charles F. Warrick Company, Berkley, Mich. Filed Dec. 4, 1967.



The drawing is lined for blue, but no claim is made to color.

For Liquid Level Control Systems and Parts Thereof (Int. Cl. 9).

First use Nov. 1, 1967.

SN 288,933. Bencini S.p.A., Milan, Italy. Filed Jan. 16, 1968.

BENCINI

For Photographic and Cinematographic Projectors and Photographic and Cinematographic Cameras (Int. Cl. 9). First use January 1938; in commerce January 1950.

CALI-BLOCKS

For Standards for Setting Apparatus to Test Roughness of Surfaces (Int. Cl. 9). First use Jan. 22, 1952.

SN 289,437. Wilhelm Anger OHG., Traun, Austria. Filed Jan. 23, 1968.



The mark consists of a fanciful design of the letters "AW." Owner of Austrian Reg. No. 33,724, dated Jan. 17, 1956. For Eye Glasses and Eye Glass Frames (Int. Cl. 9). First use 1957; in commerce 1966.

SN 290,616. W. H. Joens & Co., G.m.b.H., Duaseldorf, Germany. Filed Feb. 8, 1968.

JOEMATIC

Owner of German Reg. No. 838,384, dated Oct. 25, 1967. For Compensating Amplifiers With Printed Circuit Accessory for Performing Various Measuring and Control Functions (Int. Cl. 9).

SN 291,629. Nutting Industries Ltd., Milwaukee, Wis. Filed Feb. 21, 1968.

I.Q. COMPUTER

For Electronic Multiple Choice Question and Answer Machines Usable as an Entertainment Device and as an Instructional Apparatus (Int. Cl. 9).

First use July 1966.

SN 297,084. Panametrics, Inc., Waltham, Mass. Filed May 1, 1968.

PANA-PROBE

For Ultrasonic Probe (Int. Cl. 9). First use on or about Mar. 18, 1968.

SN 297,098. Svend T. Simonsen, d.b.a. Coast Navigation School, Santa Barbara, Calif. Filed May 1, 1968.

SIMEX

For Sextants (Int. Cl. 9). First use on or about July 28, 1967.

SN 303,112. J. Ulano & Company, Inc., Brooklyn, N.Y. Filed July 19, 1968.



For Presensitized Screen Process Film (Int. Cl. 1). First use in or about September 1966.

Class 27 — Horological Instruments

SN 292,284. Norman Watch Company, New York, N.Y. Filed Mar. 1, 1968.

NORMAN DE LUXE

Applicant disclaims the word "De Luxe" apart from the mark as shown.

For Watches, Watch Movements, and Watch Dials (Int. Cl. 14).

First use Jan. 1, 1921.

Class 29 — Brooms, Brushes, and Dusters

SN 296,493. A/S Jordan Børste & Penselfabrik, Oslo, Norway. Filed Apr. 25, 1968.

*Jordan
interbrush*

Priority claimed under Sec. 44(d) on Norwegian application filed Jan. 17, 1968; Reg. No. 74,819, dated July 18, 1968. For Toothbrushes (Int. Cl. 21).

Class 31 — Filters and Refrigerators

SN 272,018. Builders Plumbing Supply Company, Chicago, Ill. Filed May 22, 1967.

Rayline

For Automatic Water Conditioners Adapted To Automatically Reduce the Water Hardness Caused by Mineral Scales and Other Impurities to Any Desired Degree of Softness (Int. Cl. 11).

First use Mar. 3, 1967.

SN 272,019. Builders Plumbing Supply Company, Chicago, Ill. Filed May 22, 1967.

Watchman

For Automatic Water Conditioners Adapted To Automatically Reduce the Water Hardness Caused by Mineral Scales and Other Impurities to Any Desired Degree of Softness (Int. Cl. 11).

First use Mar. 3, 1967.

SN 293,218. Farr Company, El Segundo, Calif. Filed May 15, 1968.

DYNACELL

For Air Cleaners of the Type Having Replaceable Air Filter Cartridges (Int. Cl. 11).

First use August 1967.

SN 298,863. Bill Rivers Trailers, Inc., Jacksonville, Fla. Filed May 22, 1968.

BR

For Mechanical Refrigeration Units for All Types of Truck Trailers, Containers, Automobiles and Trucks, and Commercial Type Freezers and Coolers (Int. Cl. 11).

First use June 1, 1961.

SN 299,062. GAF Corporation, New York, N.Y., by merger from American Felt Company, Glenville, Conn. Filed May 27, 1968.

AFCO

Owner of Reg. Nos. 520,827 and 702,567.

For Filter Elements for Liquids or Gas; Filter Media and Equipment—Namely, Filter Bags and Supports Therefor (Int. Cl. 11).

First use Aug. 10, 1967.

Class 32 — Furniture and Upholstery

SN 298,357. Barbara Byk Schulman and Fernando Olea (joint owners), Los Angeles, Calif. Filed May 16, 1968.

"MY ROOM"

For Juvenile Bedroom Furniture—Namely, Beds, Clothing Dressers and Chests Therefor, Night Stands, Book Shelves, Corner Tables, Vanity Stools and Desk Stools, and Desk Chairs (Int. Cl. 20).

First use Mar. 27, 1968.

SN 309,649. Radio Corporation of America, New York, N.Y. Filed Oct. 15, 1968.

RCA

Owner of Reg. Nos. 167,591, 438,872, and others. For Merchandise Display Shelves, Racks, Counters, Cabinets, Showcases, and Stands (Int. Cl. 20).

First use at least as early as Mar. 11, 1968; Sept. 12, 1946, as to the mark "RCA," in a different form.

SN 309,650. Radio Corporation of America, New York, N.Y. Filed Oct. 15, 1968.

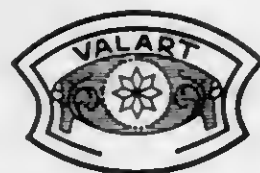
RCA

Owner of Reg. Nos. 167,591, 438,872, and others. For Merchandise Display Shelves, Racks, Counters, Cabinets, Showcases, and Stands (Int. Cl. 20).

First use at least Sept. 12, 1946.

Class 33 — Glassware

SN 291,312. Cristalleries du Val Saint Lambert, Val-Saint-Lambert, Liege, Belgium. Filed Feb. 19, 1968.



Priority claimed under Sec. 44(d) on Belgian Reg. No. 9,018, dated Nov. 13, 1967. The lining is part of applicant's design and is not for the purpose of indicating color.

For Colored Glass Slabs Having Relief Patterns (Int. Cl. 21).

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 261,331. United States Register Company, d.b.a. United States Register Co., Battle Creek, Mich. Filed Sept. 27, 1967.



The letters "US" are disclaimed apart from combination shown. Owner of Reg. No. 817,790.

For Registers, Grilles, Diffusers, Deflectors, and Parts Thereof Including Parts for Regulating Same (Int. Cl. 11).

First use 1953.

SN 293,638. Nooter Corporation, St. Louis, Mo. Filed Mar. 19, 1968.

CORRAPAN

For Heat Transfer Units in the Form of Cooling Panels Used in Connection With Transformers (Int. Cl. 9).

First use Feb. 27, 1968.

SN 297,269. Bow Solder Products Co., Inc., Newark, N.J. Filed May 3, 1968.



For Solder (Int. Cl. 6).

First use June 1951.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 288,026. O.K. Tire and Rubber Co., Inc., Littleton, Colo. Filed Jan. 3, 1968.

LYNX

For Vehicle Tires (Int. Cl. 12).

First use at least as early as Dec. 1, 1967.

SN 288,507. The General Tire & Rubber Company, Akron, Ohio. Filed Jan. 10, 1968.

CAB

For Tires (Int. Cl. 12).

First use Jan. 26, 1967.

SN 295,331. Harmo Tire & Rubber Corporation, Detroit, Mich. Filed Apr. 10, 1968.

CONTESTAR

For Vehicle Tires (Int. Cl. 12).

First use Oct. 12, 1967.

SN 298,728. The Kelly-Springfield Tire Company, Cumberland, Md. Filed May 21, 1968.

RIB TRAC

For Tires (Int. Cl. 12).

First use Mar. 6, 1962.

Class 36 — Musical Instruments and Supplies

SN 260,161. Jose Ramirez Martinez, Madrid, Spain. Filed Dec. 6, 1966.

Jose Ramirez

Owner of Spanish Reg. No. 434,033, dated Apr. 9, 1964. For Guitars, Lutes, Violins, Cello, Bass Viols, and Parts Thereof (Int. Cl. 15).

SN 274,232. New International Entertainment Establishment, Vaduz, Liechtenstein. Filed June 19, 1967.

bewitch

Priority claimed under Sec. 44(d) on Liechtenstein Reg. No. 2,309, dated Mar. 10, 1967.

For Phonograph Records and Pre-recorded Magnetic Tapes (Int. Cl. 9).

SN 276,665. Hitachi, Ltd., Chiyoda-ku, Tokyo, Japan. Filed July 24, 1967.

LEVEL MATIC

Applicant disclaims the word "Level" apart from the mark as shown.

For Magnetic Tape Recorders and Reproducers (Int. Cl. 9).

First use June 1963; in commerce August 1963.

SN 278,924. Vanguard Recording Society, Inc., New York, N.Y. Filed Aug. 23, 1967.



Owner of Reg. No. 855,566. For Grooved Phonograph Records (Int. Cl. 9).

First use Sept. 1, 1950.

SN 278,926. Vanguard Recording Society, Inc., New York, N.Y. Filed Aug. 23, 1967.



Owner of Reg. No. 855,566. For Pre-recorded Tapes (Int. Cl. 9).

First use July 1, 1957.

SN 281,492. Spencer David Saxon, Van Nuys, Calif. Filed Sept. 29, 1967.

TRANSPOS-A-CHORD

For Slide Rule for Musical Chords (Int. Cl. 15).
First use May 1, 1961.

SN 283,269. Musical Specialties Inc., New Brunswick, N.J. Filed Oct. 24, 1967.



For Drums, Guitars, Saxophones, Trumpets, Organs, Pianos, and Parts and Accessories for Each of Said Respective Instruments (Int. Cl. 15).
First use May 20, 1966.

SN 290,835. Family Achievement Institute, Salt Lake City, Utah. Filed Feb. 12, 1968.



For Phonograph Records (Int. Cl. 9).
First use July 29, 1967.

SN 306,109. S.G.C. Records, Inc., New York, N.Y. Filed Aug. 28, 1968.



Applicant disclaims the representation of the musical symbol apart from the mark as shown.
For Phonograph Records and Pre-Recorded Magnetic Tapes (Int. Cl. 9).
First use July 22, 1968.

Class 37—Paper and Stationery

SN 276,051. Trav-Sec, Inc., Louisville, Ky. Filed July 14, 1967.

TRAV SEC

For Plastic Cards for Recording Items of Related Information Pertaining to Maintenance of Automobiles (Int. Cl. 16).
First use May 19, 1967.

SN 280,619. The National Cash Register Company, Dayton, Ohio. Filed Sept. 18, 1967.

CARES

For Hospital Accounting Forms (Int. Cl. 16).
First use Apr. 24, 1967.

SN 285,362. Topco Associates, Inc., Skokie, Ill. Filed Nov. 21, 1967.



No registration rights are claimed for the word "Noel" apart from the mark shown in the drawing, but applicant waives none of its common law rights in the mark or any feature thereof. Owner of Reg. No. 766,916.
For Gift Wrapping Paper (Int. Cl. 16).
First use Apr. 13, 1961.

Class 38—Prints and Publications

SN 270,429. Lou Stringer, Nashville, Tenn. Filed May 1, 1967.



For News Releases and a Magazine (Int. Cl. 16).
First use Feb. 1, 1966.

SN 282,534. Better Business Bureau of Metropolitan Detroit, Detroit, Mich. Filed Oct. 16, 1967.



For Newsletter (Int. Cl. 16).
First use Aug. 3, 1967.

SN 297,091. Putman Publishing Company, Chicago, Ill. Filed May 1, 1968.

FOODS OF TOMORROW

For Magazine (Int. Cl. 16).
First use Apr. 10, 1968.

SN 297,426. The McNaught Syndicate, Inc., New York, N.Y. Filed May 6, 1968.

SOUND OFF!

For Newspaper Feature Consisting of a Computerized Newspaper Reader Survey for Syndication (Int. Cl. 16).
First use Apr. 14, 1968.

SN 297,684. The Leatherneck Association, Incorporated, Washington, D.C. Filed May 8, 1968.



For Magazine (Int. Cl. 16).
First use Jan. 1, 1960.

SN 299,145. The McNaught Syndicate, Inc., New York, N.Y. Filed May 27, 1968.

GRAFFITI

For Panel Feature for Newspaper Publication (Int. Cl. 16).
First use May 17, 1968.

SN 309,719. National Periodical Publications, Inc., New York, N.Y. Filed Oct. 16, 1968.

ANTHRO

For Comic Magazines (Int. Cl. 16).
First use May 2, 1968.

SN 309,928. The Bureau of National Affairs, Inc., Washington, D.C. Filed Oct. 18, 1968.

BNA

For Periodically Published News Reports, Books, and Films (Int. Cl. 16).
First use in 1939.

Class 39—Clothing

SN 256,215. Robert Hall Clothes, Inc., d.b.a. Robert Hall Clothes, New York, N.Y. Filed Oct. 11, 1966.



For Men's Suits (Int. Cl. 25).
First use on or about Sept. 8, 1966.

SN 276,943. Nina Footwear Co., Inc., Long Island City, N.Y. Filed July 27, 1967.

NINA

Owner of Reg. Nos. 681,187 and 752,173.
For Ladies' Shoes (Int. Cl. 25).
First use Mar. 17, 1954.

SN 277,308. Sport-Obermeyer, Ltd., Aspen, Colo. Filed Aug. 1, 1967.

OBERMEYER

For Stretch Pants, Knickers, Sweaters, Parkas, Nylon Shirts and Shells, Hats, Gloves, Mittens, Ski Socks, Ski Underwear, Headbands, and Turtleneck Shirts (Int. Cl. 25).
First use May 5, 1954.

SN 278,886. Eurolink Corporation, New York, N.Y. Filed Aug. 23, 1967.

CREAZIONI PINOCCHIO

No claim is made to the word "Creazioni" apart from the mark as an entirety.
For Children's Shoes (Int. Cl. 25).
First use Sept. 15, 1966.

SN 279,635. Anne Fogarty, Inc., New York, N.Y. Filed Sept. 5, 1967.

RUFFITS

For Women's Dresses (Int. Cl. 25).
First use at least by Apr. 3, 1965.

SN 280,827. V.I.P. Imports, Ltd., New York, N.Y. Filed Sept. 20, 1967.

VIP-LON

For Men's and Boys' Knit Shirts (Int. Cl. 25).
First use Aug. 2, 1967.

SN 286,368. Salom Trading Company, Inc., New York, N.Y. Filed Dec. 6, 1967.

SALOMSET

For Ladies' and Men's Wearing Apparel—Namely, Sweaters, Shirts, Cardigans, and Pullovers (Int. Cl. 25).
First use January 1967.

SN 286,369. Salom Trading Company, Inc., New York, N.Y. Filed Dec. 6, 1967.

SALOMFIL

For Ladies' and Men's Wearing Apparel—Namely, Sweaters, Shirts, Cardigans, and Pullovers (Int. Cl. 25).
First use January 1967.

SN 287,125. Academy Sporting Goods Inc., New York, N.Y. Filed Dec. 18, 1967.

JOBMASTER

For Shoes (Int. Cl. 25).
First use in or about July 1962.

SN 287,458. Pacific Cotton Goods Company, San Francisco, Calif. Filed Dec. 22, 1967.

"BUBA"

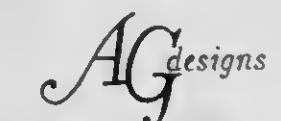
For Women's Sportswear—Namely, Shirts, Shifts, Tunics, Shorts, Jackets, Pant-Dresses, Playsuits, Culottes, Swim Cover-Ups and Dresses; Women's Robes, Dusters, and Housecoats (Int. Cl. 25).
First use Oct. 26, 1967.

SN 288,858. RIC Sales Corporation, Rockville Centre, N.Y. Filed Jan. 15, 1968.

RIC

For Baby Pants, Bibs, Aprons, and Shower Caps (Int. Cl. 25).
First use Dec. 1, 1967.

SN 288,927. American Golfer, Inc., Baltimore, Md. Filed Jan. 16, 1968.



Owner of Reg. Nos. 598,523 and 632,333.
For Ladies' Dresses, Including Golf Dresses, Tennis Dresses, Sports Dresses and Casual Dresses; Suits; Jackets, Including Golf Jackets; Skirts; Shirts; Shorts; Slacks; Culottes; and Coats (Int. Cl. 25).
First use on or about Dec. 7, 1967.

SN 289,086. Endicott Johnson Corporation, Endicott, N.Y. Filed Jan. 18, 1968.



Applicant disclaims trademark rights in the word "Boot" apart from the mark as shown.
For Boots for Women and Girls (Int. Cl. 25).
First use Dec. 5, 1967.

SN 292,086. Davidsville Sportswear Co., Davidsville, Pa. Filed Feb. 28, 1968.



For Children's Snow Suits and Jackets (Int. Cl. 25).
First use Nov. 22, 1967.

SN 293,511. Glesder Corporation, New York, N.Y. Filed Mar. 18, 1968.

THE CROWNING TOUCH OF FASHION

The words "of Fashion" are disclaimed apart from the mark as shown.

For Ladies', Misses', and Girls' Outerwear—Namely, Scarfs, Shifts, Blouses, Shells, Bandanas, and Tops Consisting of Blousettes, Bandeaux and Halters (Int. Cl. 25).
First use Jan. 7, 1963.

SN 293,626. The Design Establishment, Inc., New York, N.Y. Filed Mar. 19, 1968.

ADRI

For Women's Clothing—Namely, Dresses, Coats, Jackets, Swim Wear, Beach Wear, Lounging Pajamas, and Rainwear (Int. Cl. 25).
First use Nov. 9, 1967.

SN 294,092. Superior Surgical Mfg. Co., Inc., Huntington, N.Y. Filed Mar. 25, 1968.

FASHION SEAL

DISPOSABLES

Applicant disclaims the word "Disposable" apart from its use in the mark as shown. Owner of Reg. No. 833,395.

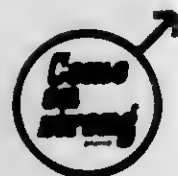
For Medical, Hospital and Professional Uniforms, Aprons, Blouses, Boots, Caps, Coats, Dresses, Gloves, Gowns, Jackets, Capes, Pinafores, Robes, Shirts, Skirts, Smocks, Suits and Trousers (Int. Cl. 25).
First use July 1, 1967.

SN 294,262. Cisco, Inc., New York, N.Y. Filed Mar. 27, 1968.

SCARTLE

For Muffler Having an Aperture Through Which the Head of the Wearer Extends (Int. Cl. 25).
First use Feb. 7, 1968.

SN 294,571. B & L Sales Associates, Boston, Mass. Filed Apr. 1, 1968.



Applicant disclaims the word "Brand." Owner of Reg. No. 802,314.

For Men's Slacks and Pants (Int. Cl. 25).
First use February 1968.

SN 294,603. Dunloggin Classics, Inc., New York, N.Y. Filed Apr. 1, 1968.

the Shift

For Misses' and Junior Misses' Shirt-Dresses and Long Outer Shirts (Int. Cl. 25).
First use Dec. 5, 1966.

SN 295,148. Joséf Bari Company, Baltimore, Md. Filed Apr. 8, 1968.

JOSÉF



BARI

The name "Joséf Bari" is fanciful. The words "Superb Hand" are disclaimed apart from the mark as shown and without disclaimer of common law rights.

For Trousers (Int. Cl. 25).
First use on or about Feb. 16, 1968.

SN 295,491. Allied Stores Corporation, New York, N.Y. Filed Apr. 12, 1968.

KENTFIELD

Owner of Reg. No. 691,317.

For Boys' Wear—Namely, Sport Shirts, Knit Shirts, Dress Shirts, Pajamas, Sweaters, Dress Slacks, Casual Slacks, Walking Shorts, Suits, Sport Coats, Hosiery, Underwear, Robes and All Weather Coats; Men's Clothing—Namely, Sport Shirts, Dress Shirts, Casual Slacks, Walking Shorts, Sport Coats, Suits, Topcoats, Overcoats, Pajamas, Robes, Sweaters, Hosiery, Underwear, Belts, and Handkerchiefs (Int. Cl. 25).
First use June 5, 1958.

SN 295,748. Mandarin Textiles Limited, Kowloon, Hong Kong. Filed Apr. 16, 1968.

TRULY SOCIAL

For Articles of Apparel for Women—Namely, Bathing Suits, Beachwear, Blouses, Coats, Dresses, Dressing Gowns, Evening and Cocktail Jackets, Foundation Garments, Including Brassieres and Panties; Hosiery, House Coats, Pajamas, Petticoats, Rainwear, Shirts, Slacks, Sleepwear, Sweaters, Walking Shorts and Play Shorts; and Articles of Apparel for Men—Namely, Beachwear, Dressing Gowns, Fancy Vests, Pajamas, Raincoats, Shirts, Slacks, Smoking Jackets, Sport Coats, Suits, Sweaters, Underwear, Under Shorts, Walking and Play Shorts (Int. Cl. 25).

First use in or about September 1967; in commerce in or about September 1967.

SN 301,669. The Alligator Company, Inc., St. Louis, Mo. Filed July 1, 1968.



Owner of Reg. Nos. 75,365, 706,041, and 841,267.
For All Weather Coats for Men and Women (Int. Cl. 25).
First use in or about October 1967.

SN 301,945. Mary Wear, Inc., Portland, Ore. Filed July 3, 1968.

CANDIDRESS

For Women's Clothing—Namely, Dresses (Int. Cl. 25).
First use at least as early as June 21, 1968.

SN 302,108. Nina Footwear Co., Inc., Long Island City, N.Y. Filed July 5, 1968.

CAPAPIC

For Women's Shoes (Int. Cl. 25).
First use June 7, 1968.

SN 302,462. Unroyal, Inc., New York, N.Y. Filed July 10, 1968.



Owner of Reg. No. 263,101.
For Shoes (Int. Cl. 25).
First use in the summer of 1967 or earlier.

SN 307,265. Camp and McJones, Inc., Reading, Pa. Filed Sept. 13, 1968.

SHORT CUT

For Men's Hosiery (Int. Cl. 25).
First use Sept. 6, 1968.

SN 307,360. Wolverine World Wide, Inc., Rockford, Mich. Filed Sept. 13, 1968.

RIGHT DRESS

For Hosiery (Int. Cl. 25).
First use on or about Aug. 7, 1968.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 281,374. Jaymar-Ruby, Inc., Michigan City, Ind. Filed Sept. 28, 1967.



The drawing is lined for the colors red and green, but applicant claims the colors red, white, and green.
For Wool Fabrics Used for Men's Clothing (Int. Cl. 24).
First use Aug. 25, 1967.

SN 283,568. Radiant Color Company, Richmond, Calif. Filed Oct. 27, 1967.



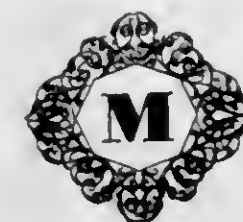
The stippling shown in the drawing is not actually part of the mark, but is used to indicate shading only.
For Fabrics and Plastic Film Coated or Impregnated With Fluorescent Materials (Int. Cls. 17 and 24).
First use about Aug. 14, 1967.

SN 290,079. Decorator Industries, Inc., Pittsburgh, Pa. Filed Feb. 1, 1968.

Tiara

For Draperies (Int. Cl. 24).
First use Sept. 20, 1967.

SN 290,081. Decorator Industries, Inc., Pittsburgh, Pa. Filed Feb. 1, 1968.



For Draperies (Int. Cl. 24).
First use Sept. 20, 1967.

SN 290,082. Decorator Industries, Inc., Pittsburgh, Pa. Filed Feb. 1, 1968.



For Draperies (Int. Cl. 24).
First use Sept. 20, 1967.

SN 290,083. Decorator Industries, Inc., Pittsburgh, Pa. Filed Feb. 1, 1968.

Medallion

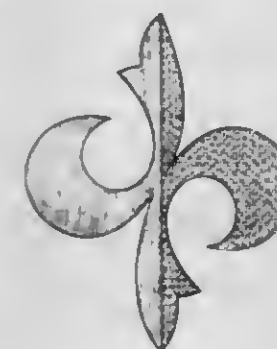
For Draperies (Int. Cl. 24).
First use Sept. 20, 1967.

SN 293,032. Graniteville Company, Graniteville, S.C. Filed Mar. 12, 1968.

X-IT

For Piece Goods of Cotton and Synthetic Fibers Treated With a Soil Release Finish (Int. Cl. 24).
First use Jan. 18, 1967.

SN 296,313. Dan River Mills, Incorporated, Danville, Va. Filed Apr. 23, 1968.



The drawing is lined for the colors red and gold.
For Fabric in the Piece of Cotton and Blends of Cotton With Synthetic Fibers, Sheets, Sheetting and Pillowcases, Carpets, Rugs, Drapes, and Towels (Int. Cls. 24 and 27).
First use June 15, 1958.

SN 300,061. Cannon Mills Company, Kannapolis, N.C. Filed June 10, 1968.

Monticello

Owner of Reg. Nos. 411,659 and 802,325.
For Sheets, Pillow Cases, Blankets, Bedspreads, Towels, and Washcloths (Int. Cls. 21 and 24).
First use Nov. 30, 1967, on towels and washcloths; as early as July 9, 1935, in a different form.

SN 300,808. Mohasco Industries, Inc., Amsterdam, N.Y.
Filed June 17, 1968.

CITADEL

For Carpets (Int. Cl. 27).
First use Feb. 15, 1965.

SN 300,866. Advance Glove Manufacturing Company, Detroit, Mich. Filed June 18, 1968.

TERRI-CORD

For Fabric Useful, for Example, in Making Gloves (Int. Cl. 24).
First use June 1960.

SN 301,099. Foy Streetman, d.b.a. Sta-Style Mfg. Company, Plains, Tex. Filed June 21, 1968.



The figure of the woman used in the design is not of any person living or dead; it is a fanciful drawing.
For Pillow Cases (Int. Cl. 24).
First use on or before Mar. 23, 1967.

SN 301,416. Glenolt Mills, Inc., New York, N.Y. Filed June 26, 1968.

PLUSH-DEK

For Carpets (Int. Cl. 27).
First use Oct. 5, 1967.

SN 301,459. J. P. Stevens & Co., Inc., New York, N.Y. Filed June 26, 1968.

ASTROTHOR

Owner of Reg. No. 805,648.
For Graphite Fabrics Sold in the Bolt or by the Piece (Int. Cl. 24).
First use May 22, 1968.

SN 301,461. J. P. Stevens & Co., Inc., New York, N.Y. Filed June 26, 1968.

ASTRONEL

Owner of Reg. Nos. 805,646 and 805,647.
For Textile Fabrics Made From Nickel Filaments (Int. Cl. 24).
First use May 22, 1968.

SN 304,866. Mercantile Stores Company, Inc., New York, N.Y. Filed Aug. 12, 1968.

MERVILLE

Owner of Reg. Nos. 524,796 and 542,284.
For Chair Covers and Sofa Covers (Int. Cl. 24).
First use on or about Mar. 11, 1968.

SN 307,924. Deering Milliken, Inc., New York, N.Y. Filed Sept. 23, 1968.

ZOLANA

For Textile Fabrics Made of Wool, Cotton and Textile Fibers and Combinations Thereof (Int. Cl. 24).
First use Sept. 13, 1968.

Class 43—Thread and Yarn

SN 293,485. Dixie Yarns, Inc., Chatham, Tenn. Filed Mar. 18, 1968.

CANDLEWICK

For Yarns and Threads (Int. Cl. 23).
First use November 1946.

SN 301,190. Brunswick Worsted Mills, Inc., Pickens, S.C. Filed June 24, 1968.



For Knitting Yarns (Int. Cl. 23).
First use about June 15, 1968.

SN 301,191. Brunswick Worsted Mills, Inc., Pickens, S.C. Filed June 24, 1968.



For Knitting Yarns (Int. Cl. 23).
First use about May 1, 1968.

SN 307,922. Deering Milliken, Inc., New York, N.Y. Filed Sept. 23, 1968.

DEERAMILLE

For Yarn (Int. Cl. 23).
First use Sept. 12, 1968.

SN 307,923. Deering Milliken, Inc., New York, N.Y. Filed Sept. 23, 1968.

WYNMILL

For Yarn (Int. Cl. 23).
First use Sept. 12, 1968.

Class 44—Dental, Medical, and Surgical Appliances

SN 277,192. Medco Products Company, Inc., Tulsa, Okla. Filed July 31, 1967.

MEDCOTHERM

Owner of Reg. Nos. 579,679, 733,146, and 793,449.
For Electrical Equipment in the Medical Field for Therapeutic Purposes, for Use in Connection With the Body, Such as Electrical Devices Designed To Permit the Simultaneous Application of Thermostatically Controlled Moist Infrared Heat and Electric Muscle Stimulation (Int. Cl. 10).
First use Apr. 27, 1966.

SN 280,557. Clairrol Incorporated, New York, N.Y. Filed Sept. 18, 1967.

YOUTH-A-CISOR

For Electric Muscle Exerciser Which Stimulates Muscles by the Application of a Mild, Controlled, Electrical Current Which Causes the Muscles Alternately To Contract and Relax (Int. Cl. 10).
First use Aug. 25, 1967.

SN 283,575. Royalmetal Corporation, New York, N.Y. Filed Oct. 27, 1967.

REGALMATIC

Owner of Reg. No. 715,068.
For Hospital Beds (Int. Cl. 10).
First use Sept. 1, 1967.

SN 304,960. R-L Laboratories, Inc., New York, N.Y. Filed Aug. 12, 1968.

FINESSE

For Water Bottles (Int. Cl. 21).
First use Oct. 24, 1963.

SN 307,140. Spoucel Limited, Croydon, Surrey, England. Filed Sept. 11, 1968.

SPONTAMS

Owner of British Reg. No. 910,832, dated June 16, 1967.
For Tampons and Sanitary Towels (Int. Cl. 5).

SN 308,658. Kimberly-Clark Corporation, Neenah, Wis. Filed Oct. 2, 1968.

DISCREET

For Sanitary Napkins (Int. Cl. 5).
First use Jan. 16, 1968.

Class 46—Foods and Ingredients of Foods

SN 299,218. Cherokee Products Company, Haddock, Ga. Filed May 28, 1968.

CHEROKEE'S

Owner of Reg. No. 843,318.
For Canned Fruits and Canned Vegetables (Int. Cl. 29).
First use 1950.

SN 299,330. Donovan Coffee Company, Birmingham, Ala. Filed May 29, 1968.

DONCO

For Coffee (Int. Cl. 30).
First use Apr. 15, 1968.

SN 299,844. Borden, Inc., New York, N.Y. Filed June 4, 1968.

MODERN AGE

For Imitation Fluid Milk (Int. Cl. 29).
First use on or about Mar. 13, 1968.

SN 300,086. Kellogg Company, Battle Creek, Mich. Filed June 10, 1968.

KEL-PRO

Owner of Reg. Nos. 693,590, 842,187, and others.
For Animal Feed for Milk and Other Fur-Bearing Animals (Int. Cl. 31).
First use May 3, 1968.

SN 300,449. Gloria J. Hoover, Granville, Ohio. Filed June 14, 1968.

HETUCK

For Cookies (Int. Cl. 30).
First use Apr. 3, 1967.

SN 300,581. General Foods Corporation, White Plains, N.Y. Filed June 17, 1968.

POPCHIPS

For Popcorn Chips (Int. Cl. 30).
First use May 20, 1968.

SN 301,968. W. F. Schrafft & Sons Corporation, Boston, Mass. Filed July 3, 1968.

LEXINGTON

For Candy (Int. Cl. 30).
First use Apr. 12, 1968.

SN 304,743. Safeway Stores, Incorporated, Oakland, Calif. Filed Aug. 9, 1968.

SAFEWAY

Owner of Reg. Nos. 226,854, 763,794, and others.
For Corn Flakes and Artificial Food Sweetener (Int. Cls. 1 and 30).
First use Dec. 1, 1967.

SN 309,338. Philip Morris Incorporated, New York, N.Y. Filed Oct. 10, 1968.



Owner of Reg. Nos. 609,236, 826,996, and others.
For Chewing Gum (Int. Cl. 30).
First use Sept. 19, 1968; at least as early as 1924 as to "Clark's."

Class 48—Malt Beverages and Liquors

SN 275,768. Lone Star Brewing Co., San Antonio, Tex. Filed July 11, 1967.



For Caps Applied to Filled Beer Bottles and Cans (Int. Cl. 6).
First use July 10, 1966.

Class 50—Merchandise Not Otherwise Classified

SN 298,212. William d'Ulisse, doing business as House of William Beauty Salon, Drexel Hill, Pa. Filed May 15, 1968.

BUZZZ-OUT

For Nets To Be Placed Over an Umbrella To Form an Enclosure (Int. Cl. 22).
First use Mar. 12, 1968.

SN 301,609. Countess Natalie, Chicago, Ill. Filed June 28, 1968.

Countess Natalie

For Wig Stands (Int. Cl. 20).
First use on or about June 20, 1968.

SN 301,610. Countess Natalie, Chicago, Ill. Filed June 28, 1968.

Mini Puff

For Wig Stands (Int. Cl. 20).
First use on or about June 20, 1968.

SN 301,611. Countess Natalie, Chicago, Ill. Filed June 28, 1968.



For Wig Stands (Int. Cl. 20).
First use on or about June 20, 1968.

SN 302,382. Barcar Enterprises, Inc., Grand Rapids, Mich. Filed July 10, 1968.

SILLY SIPPER

For Straws (Int. Cl. 20).
First use on or about June 11, 1968.

Class 51—Cosmetics and Toilet Preparations

SN 270,991. Whisperwill, Inc., New Rochelle, N.Y. Filed May 8, 1967.

*Danish
DRAB*

The word "Drab" is disclaimed apart from the mark as shown.
For Additive for Hair Coloring To Eliminate Brassy, Old, or Red Tones (Int. Cl. 3).
First use Dec. 19, 1966.

SN 277,531. Burna Pharmaceuticals, Inc., d.b.a. Burna Pharmaceuticals, Oakland, Calif. Filed Aug. 4, 1967.

PetDent

For Veterinary Preparation for Use as a Dentifrice (Int. Cl. 3).
First use May 3, 1967.

SN 280,246. Neotia S.a.s., Villa Guardia, Como, Italy. Filed Sept. 13, 1967.

FOLTENE

The word "Foltene" is fanciful. Owner of Italian Reg. No. 164,514, dated Nov. 5, 1963.
For Hair and Eyelash Conditioners (Int. Cl. 3).

SN 280,959. Marcel Jean-Marie Bierlot, Formerie, Olse, France. Filed Sept. 22, 1967.

PERBORAGA

Owner of French Reg. No. 2,508, dated May 4, 1962 (Beauvais); Natl. Inst. No. 185,571.
For Cleaning Detergent for Dentures (Int. Cl. 3).

SN 282,853. Yardley of London, Inc., Totowa, N.J. Filed Oct. 18, 1967.

DOLLY MASK

Applicant disclaims any exclusive right in the word "Mask" apart from the mark as shown.
For Beauty Facial Mask (Int. Cl. 3).
First use June 27, 1967.

SN 284,716. Merle Norman Cosmetics, Inc., Los Angeles, Calif. Filed Nov. 13, 1967.

FRESH 'N FAIR

For Skin Freshener (Int. Cl. 3).
First use Sept. 22, 1964.

SN 284,723. Parfums Marcel Rochas, Inc., New York, N.Y. Filed Nov. 13, 1967.

Moustache

Owner of Reg. No. 558,889.
For Perfumes and Toilet Waters (Int. Cl. 3).
First use 1947.

SN 286,419. Elizabeth Arden Sales Corporation, New York, N.Y. Filed Dec. 7, 1967.

SILVER SIREN

No claim is made to the word "Silver" apart from the mark as shown.
For Foundation Cream, Facial Cream, Lipstick, Creamy Powder Eye Shadow and Face Powder (Int. Cl. 3).
First use Oct. 19, 1967.

SN 288,784. Clairol Incorporated, New York, N.Y. Filed Jan. 15, 1968.

WILD STREAKS!

Applicant disclaims the word "Streaks" apart from the mark as shown.
For Hair Tinting, Dyeing and Coloring Preparation (Int. Cl. 3).
First use Dec. 28, 1967.

SN 288,786. Clairol Incorporated, New York, N.Y. Filed Jan. 15, 1968.

FROST TAN

Applicant disclaims the word "Tan" apart from the mark as shown.
For Sun Tan Gel, Sun Tan Lotion and Sun Tan Oil (Int. Cl. 3).
First use Dec. 18, 1967.

SN 293,611. Yardley of London, Inc., Totowa, N.J. Filed Mar. 18, 1968.

THE WHITER SHADES OF PALE

Applicant disclaims "The Whiter Shades" apart from the mark as shown.
For Eye Shadow (Int. Cl. 3).
First use Feb. 15, 1968.

SN 294,001. American Home Products Corporation, New York, N.Y. Filed Mar. 25, 1968.

ALL SAFE

For Personal Deodorants (Int. Cl. 5).
First use Feb. 1, 1968.

SN 294,048. Hilton Hotels Corporation, Chicago, Ill. Filed Mar. 25, 1968.

LATIN MOOD

For Perfumes and Colognes (Int. Cl. 3).
First use Feb. 7, 1968.

SN 294,116. Alberto-Culver Company, Melrose Park, Ill. Filed Mar. 26, 1968.

WINNING STREAK

The word "Streak" is disclaimed apart from the mark as shown.
For Hair Color Preparation (Int. Cl. 3).
First use Nov. 22, 1967.

SN 294,121. Alberto-Culver Company, Melrose Park, Ill. Filed Mar. 26, 1968.

SHINE ON

Applicant disclaims the word "Shine" apart from the mark as shown.
For Hair Dressing and Conditioner Preparation (Int. Cl. 3).
First use Nov. 22, 1967.

SN 295,504. Rexall Drug and Chemical Company, Los Angeles, Calif., assignee of Beauty Counselors, Inc., Grosse Pointe, Mich. Filed Apr. 12, 1968.

ELOQUENCE

For Cologne (Int. Cl. 3).
First use Feb. 16, 1968.

GATSBY

For Men's Cologne, and After Shave Lotion (Int. Cl. 3).
First use May 29, 1968.

SN 301,135. Chas. Pfizer & Co., Inc., New York, N.Y. Filed June 24, 1968.

FLAGRANTE

The English translation of the mark is "flagrant."
For Toilet Water and Make-Up Foundation (Int. Cl. 3).
First use May 29, 1968.

SN 301,136. Chas. Pfizer & Co., Inc., New York, N.Y. Filed June 24, 1968.

FLAGRANT

For Men's Cologne, and After Shave Lotion (Int. Cl. 3).
First use May 29, 1968.

SN 301,593. Pan-Am Cosmetic Company, Inc., d.b.a. Pan-Am, Brooklyn, N.Y. Filed June 28, 1968.

SMUGGLER'S GOLD

For Talcum Powder, Cologne, and After-Shave Lotion (Int. Cl. 3).
First use July 11, 1957.

SN 302,172. Alberto-Culver Company, Melrose Park, Ill. Filed July 8, 1968.

BOUTIQUE BLONDE

Applicant disclaims the word "Blonde" apart from the mark as shown.
For Hair Color Preparation (Int. Cl. 3).
First use Mar. 15, 1968.

SN 305,923. Clairol Incorporated, New York, N.Y. Filed Aug. 26, 1968.

THE WILD STREAK

Applicant disclaims the word "Streak" apart from the mark as shown.
For Hair Lightening and Hair Coloring Kit (Int. Cl. 3).
First use July 3, 1968.

Class 52—Detergents and Soaps

SN 253,415. Bale & Church, Limited, Crawley, Sussex, England. Filed Aug. 30, 1966.

KLEENOFF

For Detergent Preparation for Removing Grease From Gas Stoves and the Like (Int. Cl. 3).
First use Mar. 24, 1949; in commerce Mar. 24, 1949.

SN 279,700. Wyandotte Chemicals Corporation, Wyandotte, Mich. Filed Sept. 5, 1967.

AMMOSENE

Owner of Reg. No. 647,989.
For All Purpose Janitorial Cleaning Composition (Int. Cl. 3).
First use July 24, 1967.

SN 282,044. Bristol-Myers Company, New York, N.Y. Filed Oct. 9, 1967.

SN 294,586. Bristol-Myers Company, New York, N.Y. Filed Apr. 1, 1968.

HEAD TO TOE

For Hair Shampoo and a Combined Toilet Soap and Hair Shampoo Preparation (Int. Cl. 3).
First use July 7, 1967.
Subj. to Intf. with SN 279,299 and SN 282,702.

SN 284,711. Nalco Chemical Company, Chicago, Ill. Filed Nov. 13, 1967.

SOFT'N PURE

For Water Softener Cleanser and Rust-Water Stain Remover (Int. Cl. 3).
First use September 1967.

HAPPY VALLEY

For Hair Shampoo (Int. Cl. 3).
First use Mar. 6, 1968.

SN 309,138. Colgate-Palmolive Company, New York, N.Y. Filed Oct. 4, 1968.

GLACIER

Owner of Reg. No. 200,666.
For Heavy Duty Laundry Detergent Containing Bleach (Int. Cl. 3).
First use Sept. 23, 1968.

SERVICE MARKS**Class 100 — Miscellaneous**

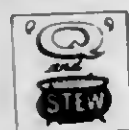
SN 269,878. Where Chicken Is King, Inc., Girard, Pa., assignee of Mildred L. Ford, d.b.a. Ford's Restaurant, Girard, Pa. Filed Apr. 24, 1967.



Applicant disclaims the word "Chicken" apart from the mark.

For Restaurant Services (Int. Cl. 42).
First use June 1966.
Subj. to Intf. with SN 278,043.

SN 281,619. Posa's Famous Foods, Inc., Athens, Ga. Filed Oct. 2, 1967.

POSS'

Applicant disclaims any exclusive rights to the letter "Q" and the word "Stew" apart from the mark as shown.
For Restaurant Services (Int. Cl. 42).
First use July 28, 1967.

SN 283,919. National Basketball Association, New York, N.Y. Filed Nov. 1, 1967.

NATIONAL BASKETBALL ASSOCIATION

No claim is made to the words "Basketball Association" apart from and except in association with the rest of the mark as shown.

For Association Services—Namely, Promoting the Interest of Basketball Clubs and Promoting Interest in the Game of Basketball (Int. Cl. 42).
First use Aug. 11, 1949.

SN 293,756. Thunderbird Motel Corporation, Minneapolis, Minn. Filed Mar. 20, 1968.

THUNDERBIRD

For Motel Service (Int. Cl. 42).
First use Jan. 2, 1959.
Subj. to Intf. with SN 219,763 and SN 234,657.

SN 305,353. Harry M. Stevens, Inc., New York, N.Y. Filed Aug. 16, 1968.

HARRY'S ORIGINALS

Without waiving its common law rights herein, applicant makes no claim to the word "Originals" apart from the mark as shown.

For Snack Bar Services (Int. Cl. 42).
First use Apr. 28, 1967.

SN 306,619. Span-America Motels, Inc., Dayton, Ohio. Filed Sept. 5, 1968.



The lining on the drawing represents a feature of the mark as used. No claim is made to the word "Motels" apart from the mark as shown.

For Motel Services (Int. Cl. 42).
First use July 17, 1968.

SN 307,386. The Flame of Countryside, Inc., Countryside, Ill. Filed Sept. 16, 1968.



For Restaurant Services (Int. Cl. 42).
First use May 30, 1958.
Subj. to Intf. with SN 302,291.

Class 101 — Advertising and Business

SN 274,845. Accro Systems, Inc., Richmond, Va. Filed June 27, 1967.

ACCRO SYSTEMS

For Designing and Installing Business Systems, Filing Systems, Inventory Systems, and Product Control Systems (Int. Cl. 35).
First use Mar. 16, 1967.

SN 278,031. James F. Relter, Jr., Glenview, Ill. Filed Aug. 10, 1967.

SN 305,616. The Miller-Wohl Company, Inc., New York, N.Y. Filed Aug. 21, 1968.

SKI*FREE

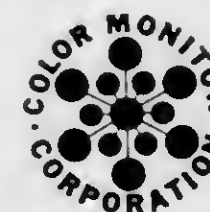
For Promotion of the Use of Skiing Facilities Owned by Others (Int. Cl. 35).
First use Feb. 1, 1967.

SN 278,822. Road Runner Campgrounds, Incorporated, Hamburg, Ark. Filed Aug. 22, 1967.

ROAD RUNNER CAMPGROUNDS

Applicant disclaims the word "Campgrounds."
For Providing Advertising, Management Advisory, and Central Purchasing Services to Owners of Tent and Recreational-Vehicle Campgrounds and Providing Site Location Assistance to Prospective Owners of Such Campgrounds (Int. Cl. 35).
First use June 22, 1967.

SN 279,630. Color Monitor Corporation, Rye, N.Y. Filed Sept. 5, 1967.



For Reproducing Documents and Papers for Others (Int. Cl. 35).
First use June 30, 1967.

SN 283,285. Societe Ferriere des Colonnes Affiches, Paris, France. Filed Oct. 24, 1967.



Priority claimed under Sec. 44(d) on French Reg. No. 736,093, dated June 20, 1967.

For Billboard Display Services Consisting in Providing Space on Rental for the Display of Billboards of Its Customers (Int. Cl. 35).

SN 294,973. Roalyn Stationers, Philadelphia, Pa. Filed Apr. 4, 1968.



The word "Stationers" and the pictorial representations of a "pen point," "pencil," "paper clip," and a "rubber stamp," are disclaimed apart from the mark as shown.

For Retail Stationery Store Services (Int. Cl. 35).
First use Mar. 10, 1967.

SN 301,566. White Front Stores, Inc., Los Angeles, Calif. Filed June 27, 1968.

WHITE FRONT

For Discount Department Store Services (Int. Cl. 35).
First use at least as early as 1930.

Three Sisters

Owner of Reg. No. 635,830.
For Retail Apparel and Accessory Store Services (Int. Cl. 35).
First use Aug. 15, 1928.

Class 102 — Insurance and Financial

SN 290,506. Million Dollar Round Table of the National Association of Life Underwriters, Chicago, Ill. Filed Feb. 7, 1968.

MILLION DOLLAR ROUND TABLE

Owner of Reg. Nos. 677,105 and 687,001.
For Educational, Professional, and Informational Services to the Public, Legal Reserve Life Insurance Companies and Life Underwriters, Rendered by Means of Cooperative Studies of Problems Affecting Life Insurance and Techniques of Successful Underwriting, and Regular Distribution (Int. Cl. 36).
First use Oct. 14, 1927.

SN 291,273. Million Dollar Round Table of the National Association of Life Underwriters, Chicago, Ill. Filed Feb. 16, 1968.



Owner of Reg. Nos. 677,105 and 687,001.
For Educational, Professional, and Informational Services to the Public, Legal Reserve Life Insurance Companies and Life Underwriters, Rendered by Means of Cooperative Studies of Problems Affecting Life Insurance and Techniques of Successful Underwriting, and Regular Distribution (Int. Cl. 36).
First use October 1966.

Class 103 — Construction and Repair

SN 302,192. William H. Hauer, Poland, Ohio. Filed July 8, 1968.



The drawing is lined for the colors blue, yellow, brown, red, and silver.

For Construction and Repair of Residential and Commercial Buildings (Int. Cl. 37).
First use at least as early as June 1957.

Class 106 — Material Treatment

SN 267,343. Mosal Aluminum A/S, Oslo, Norway. Filed Mar. 22, 1967.



The mark comprises a monogram of the letters "M" and "A." Priority claimed under Sec. 44(d) on Norwegian application filed Oct. 14, 1966; Reg. No. 71,332, dated Feb. 17, 1967.

For Fabrication and Machining of Metal Parts and House Siding and the Hot and Cold Treatment of Metals (Int. Cl. 40).

Class 107 — Education and Entertainment

SN 285,957. Roberts, Walsh Stenotype School, Newark, N.J. Filed Nov. 29, 1967.

KWIK-RITE

For Educational Services—Namely, Instruction in Machine Shorthand (Int. Cl. 41).
First use Nov. 1, 1967.

TRADEMARK REGISTRATIONS ISSUED**PRINCIPAL REGISTER****Class 1 — Raw or Partly Prepared Materials**

- 863,734. ISOLENE. Hardman Incorporated, by merger from DPR Incorporated. SN 255,067. Pub. 11-5-68. Filed 9-26-66.
863,735. QUINTESS. Phillips Petroleum Company. SN 286,058. Pub. 11-5-68. Filed 12-4-67.
863,736. TAMRON. Tenneco Advanced Materials Inc. SN 303,241. Pub. 11-5-68. Filed 7-22-68.
863,737. TENTURA. Tenneco Advanced Materials Inc. SN 303,242. Pub. 11-5-68. Filed 7-22-68.

Class 2 — Receptacles

- 863,738. E-Z CLOSE. Gulf States Paper Corporation. SN 278,485. Pub. 11-5-68. Filed 8-17-67.
863,739. LITTER LADY. Fusion Rubbermaid Corporation. SN 296,822. Pub. 11-5-68. Filed 4-29-68.
863,740. BERG'S QUIK-SNAP. Peter Berg & Co., Inc. SN 300,325. Pub. 11-5-68. Filed 6-13-68.
863,741. STANICORE. Consolidated Papers, Inc. SN 300,427. Pub. 11-5-68. Filed 6-14-68.
863,742. PLUSCORE. Consolidated Papers, Inc. SN 300,429. Pub. 11-5-68. Filed 6-14-68.
863,743. BASICORE. Consolidated Papers, Inc. SN 300,430. Pub. 11-5-68. Filed 6-14-68.
863,744. STABLECORE. Consolidated Papers, Inc. SN 300,431. Pub. 11-5-68. Filed 6-14-68.
863,745. GREEN GROCER. American Can Company. SN 300,795. Pub. 11-5-68. Filed 6-19-68.
863,746. E-Z LIVIN'. Gulf States Paper Corporation. SN 301,064. Pub. 11-5-68. Filed 6-21-68.
863,747. E-Z LIVING. Gulf States Paper Corporation. SN 301,065. Pub. 11-5-68. Filed 6-21-68.
863,748. T AND DESIGN. Techs, Incorporated. SN 301,496. Pub. 11-5-68. Filed 6-27-68.
863,749. ARTISAN AND DESIGN. Allied Chemical Corporation. SN 302,374. Pub. 11-5-68. Filed 7-10-68.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

- 863,750. HI-FIDO. Gene Dare Miller, d.b.a. Canine Behavior Institute. SN 291,303. Pub. 11-5-68. Filed 2-19-68.
863,751. AIR PAK. Seward Luggage Manufacturing Company. SN 302,532. Pub. 11-5-68. Filed 7-11-68.

Class 4 — Abrasives and Polishing Materials

- 863,752. JET. Harold Simpson Ltd. SN 290,198. Pub. 11-5-68. Filed 2-2-68.

Class 5 — Adhesives

- 863,753. FELCO-BOND. Felt Products Mfg. Co. SN 278,097. Pub. 11-5-68. Filed 8-11-67.

Class 6 — Chemicals and Chemical Compositions

- 863,754. DAITOPHOR. Daito Chemical Industry Co., Ltd. SN 279,631. Pub. 11-5-68. Filed 9-5-67.
863,755. "LIVELLO." N. Knute Morelli, d.b.a. Numor Products Co. SN 284,493. Pub. 11-5-68. Filed 11-9-67.
863,756. PROFESSIONAL TOUCH. Racine Industrial Plant, Inc. SN 286,033. Pub. 11-5-68. Filed 12-1-67.
863,757. HY-REZ. Magnaflex Corporation. MULTIPLE CLASS (Classes 6 and 52). SN 286,458. Pub. 11-5-68. Filed 12-8-67.
863,758. PENTEL. Pennsalt Chemical Corporation. SN 286,551. Pub. 11-5-68. Filed 12-8-67.
863,759. Z-BRITE. The Udyllite Corporation. SN 293,328. Pub. 11-5-68. Filed 3-14-68.
863,760. DEOXO. Engelhard Minerals & Chemicals Corporation. SN 294,175. Pub. 11-5-68. Filed 3-26-68.
863,761. VANDRIDE. R. T. Vanderbilt Company, Inc. SN 294,221. Pub. 11-5-68. Filed 3-26-68.
863,762. VAN GO. R. T. Vanderbilt Company, Inc. SN 294,222. Pub. 11-5-68. Filed 3-26-68.
863,763. RAGGEDY ANDY'S. Faultless Starch Company. SN 294,270. Pub. 11-5-68. Filed 3-27-68.
863,764. DOLL (DESIGN). Faultless Starch Company. SN 294,271. Pub. 11-5-68. Filed 3-27-68.
863,765. DICHLOR-1. Velsicol Chemical Corporation. SN 294,335. Pub. 11-5-68. Filed 3-27-68.
863,766. CUPROBOND. Hooker Chemical Corporation. SN 294,505. Pub. 11-5-68. Filed 3-29-68.
863,767. OUTSIDE INN. The Fuller Brush Company. SN 294,613. Pub. 11-5-68. Filed 4-1-68.
863,768. CONCENTREX. Canal Industrial Corporation. SN 294,809. Pub. 11-5-68. Filed 4-3-68.
863,769. EASTOFIX. Eastman Kodak Company. SN 295,128. Pub. 11-5-68. Filed 4-8-68.
863,770. PARTRON. Velsicol Chemical Corporation. SN 295,266. Pub. 11-5-68. Filed 4-9-68.
863,771. PHOTO-DIRECT. Addressograph Multigraph Corporation. SN 295,290. Pub. 11-5-68. Filed 4-10-68.
863,772. CARNEBON. International Dioxide, Inc. SN 297,738. Pub. 11-5-68. Filed 5-9-68.
863,773. FYRQUEL. Stauffer Chemical Company. SN 300,661. Pub. 11-5-68. Filed 6-18-68.
863,774. PENTABEAD. Philadelphia Quartz Company. SN 302,900. Pub. 11-5-68. Filed 7-17-68.

Class 7 — Cordage

- 863,775. HERCO-WEAVE. Columbus McKinnon Limited. SN 259,133. Pub. 11-5-68. Filed 11-21-66.
863,776. IMPALA. N.V. Lankhorst Touwfabrieken. SN 294,299. Pub. 11-5-68. Filed 3-27-68.

Class 8 — Smokers' Articles, Not Including Tobacco Products

- 863,777. MYON. Anciena Etablissements Myon & Cie. SN 298,081. Pub. 11-5-68. Filed 5-14-68.

Class 12 — Construction Materials

- 863,778. SLIMSHADE. Rolscreen Company. SN 265,921. Pub. 11-5-68. Filed 3-3-67.
- 863,779. FLEXATRED. Allied Compositions Co., Inc. SN 271,326. Pub. 11-5-68. Filed 5-12-67.
- 863,780. GGG CORPORATION AND DESIGN. General Clay Products Corp. SN 274,058. Pub. 11-5-68. Filed 6-16-67.
- 863,781. "BRICKY" AND DESIGN. General Clay Products Corp. SN 274,059. Pub. 11-5-68. Filed 6-16-67.
- 863,782. TAYLOR AND DESIGN. Taylor Lock Co. MULTIPLE CLASS (Classes 12, 13, 23, and 25). SN 277,730. Pub. 11-5-68. Filed 8-7-67.
- 863,783. E (DESIGN). Seltzingers, Inc., d.b.a. Evans Metal Co. MULTIPLE CLASS (Classes 12, 13, and 14). SN 278,039. Pub. 11-5-68. Filed 8-10-67.
- 863,784. CERAMIDEK. Munters Corporation. SN 279,315. Pub. 11-5-68. Filed 8-29-67.
- 863,785. DECK-O-CAP. Harry Fox, d.b.a. D.F.C. Enterprises. SN 281,061. Pub. 11-5-68. Filed 9-25-67.
- 863,786. MIRA-CHIP AND DESIGN. Armstrong Seamless Floors, Inc. SN 282,167. Pub. 11-5-68. Filed 10-10-67.
- 863,787. ZIP-PER STRIP. Kold-Seal. SN 293,199. Pub. 11-5-68. Filed 3-14-68.
- 863,788. MISCELLANEOUS DESIGN. Chem-Tex Paint Company, Inc. SN 294,471. Pub. 11-5-68. Filed 3-29-68.
- 863,789. WIND SEAL JET. Bird & Son, Inc. SN 295,716. Pub. 11-5-68. Filed 4-16-68.
- 863,790. VINA-CLAD. Continental Vinyl Products Corporation. SN 303,738. Pub. 11-5-68. Filed 7-29-68.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

- 863,782. (See Class 12 for this trademark.)
- 863,783. (See Class 12 for this trademark.)
- 863,791. DEMCO. Demco, Incorporated, by change of name from Drilling Equipment Manufacturing Company. MULTIPLE CLASS (Classes 13, 23, and 26). SN 230,366. Pub. 7-2-68. Filed 10-18-65.
- 863,792. DEMCO AND DESIGN. Demco, Incorporated, by change of name from Drilling Equipment Manufacturing Company. MULTIPLE CLASS (Classes 13, 23, and 26). SN 230,367. Pub. 7-2-68. Filed 10-18-65.
- 863,793. OMRON. Tateisi Electronica Co. MULTIPLE CLASS (Classes 13, 21, 23, 26, and 44). SN 256,997. Pub. 11-5-68. Filed 10-24-68.
- 863,794. K-TOK. Coupling Frame, Inc. SN 268,708. Pub. 11-5-68. Filed 4-10-67.
- 863,795. B.I.A. Belgian Importers Assn., Inc., d.b.a. Belgian Importers, Inc. MULTIPLE CLASS (Classes 13, 23, 30, and 33). SN 268,916. Pub. 11-5-68. Filed 4-12-67.
- 863,796. BIG GRIPPER. Jeffrey L. Fried, d.b.a. Walton-March. SN 273,954. Pub. 11-5-68. Filed 6-15-67.
- 863,797. WEJLOC. Josam Manufacturing Co. SN 275,445. Pub. 11-5-68. Filed 7-6-67.
- 863,798. LABORA 2000S. R. Nussbaum & Co. A.O. SN 282,715. Pub. 11-5-68. Filed 10-17-67.
- 863,799. BETTY JORDAN. Arlan's Dept. Stores, Inc. SN 283,418. Pub. 11-5-68. Filed 10-26-67.
- 863,800. LUMA-CORE AND DESIGN. The West Bend Company. MULTIPLE CLASS (Classes 13 and 21). SN 283,486. Pub. 11-5-68. Filed 10-27-67.
- 863,801. TAGUS. A Alumina, Lda. SN 284,975. Pub. 11-5-68. Filed 11-16-67.
- 863,802. K.C.M. AND DESIGN. Kaga Industries Co., Ltd. SN 285,024. Pub. 11-5-68. Filed 11-16-67.
- 863,803. ECONOTRON. Josam Manufacturing Co. SN 287,434. Pub. 11-5-68. Filed 12-22-67.

- 863,804. INSTAMATIC. Calgon Corporation (Delaware corporation), assignee of Calgon Corporation (Pennsylvania corporation). SN 288,676. Pub. 11-5-68. Filed 1-12-68.
- 863,805. TOMORROW'S DESIGN IS ADVANCE AND DESIGN. Advance Food Service Equipment, Inc. SN 290,372. Pub. 11-5-68. Filed 2-6-68.
- 863,806. SATIN GLOW. Beneke Corporation. SN 291,019. Pub. 11-5-68. Filed 2-14-68.
- 863,807. PAMPA. Pan American Trade Development Corp. SN 291,179. Pub. 11-5-68. Filed 2-15-68.
- 863,808. HYDRO COMMAND. International Telephone and Telegraph Corporation. SN 291,402. Pub. 11-5-68. Filed 2-19-68.
- 863,809. PSI. Piping Specialties, Inc. SN 292,285. Pub. 11-5-68. Filed 3-1-68.
- 863,810. MUELLER 110. Mueller Co. SN 292,493. Pub. 11-5-68. Filed 3-5-68.
- 863,811. MISCELLANEOUS DESIGN. Russell, Burdall & Ward Bolt and Nut Company. SN 303,230. Pub. 11-5-68. Filed 7-22-68.

Class 14 — Metals and Metal Castings and Forgings

- 863,783. (See Class 12 for this trademark.)
- 863,812. XALOY. Xaloy Incorporated. SN 252,985. Pub. 11-5-68. Filed 8-24-66.
- 863,813. VECTOR CORE. Fujii Seltetsu Kabushiki Kaisha (Fujii Iron & Steel Co., Ltd.). SN 290,059. Pub. 11-5-68. Filed 2-1-68.

Class 15 — Oils and Greases

- 863,814. SWISS. R. L. Spillman Company. SN 280,182. Pub. 11-5-68. Filed 9-12-67.
- 863,815. FLUISIL. Farbenfabriken Bayer Aktiengesellschaft. SN 286,812. Pub. 11-5-68. Filed 12-13-67.
- 863,816. FRIOL-LUBE. Wyandotte Chemicals Corporation. SN 288,905. Pub. 11-5-68. Filed 1-15-68.

Class 17 — Tobacco Products

- 863,817. PALADIN. The American Tobacco Company. SN 244,068. Pub. 1-17-67. Filed 4-22-66.

Class 18 — Medicines and Pharmaceutical Preparations

- 863,818. ESL AND DESIGN. Eastern Shore Laboratories, Inc. MULTIPLE CLASS (Classes 18 and 100). SN 269,815. Pub. 11-5-68. Filed 4-24-67.
- 863,819. HYDRA-LYTES. Eastern Shore Laboratories, Inc. SN 273,620. Pub. 11-5-68. Filed 6-12-67.
- 863,820. FELAXIN. Burns Pharmaceuticals, Inc., d.b.a. Burns Pharmaceuticals. SN 277,518. Pub. 11-5-68. Filed 8-4-67.
- 863,821. SCORBATE. Burns Pharmaceuticals, Inc., d.b.a. Burns Pharmaceuticals. SN 277,522. Pub. 11-5-68. Filed 8-4-67.
- 863,822. FIVEX. Burns Pharmaceuticals, Inc., d.b.a. Oxford-Universal. SN 277,533. Pub. 11-5-68. Filed 8-4-67.
- 863,823. NEUTRA PLAN. Robert Earle Company, d.b.a. RE Co. SN 280,304. Pub. 11-5-68. Filed 9-14-67.
- 863,824. SPECTAM. Abbott Laboratories. SN 280,753. Pub. 11-5-68. Filed 9-20-67.

- 863,825. QUIK-STIK. Blair Laboratories, Inc. SN 282,432. Pub. 11-5-68. Filed 10-13-67.
- 863,826. LETTAR. Armour Pharmaceutical Company. SN 283,609. Pub. 11-5-68. Filed 10-30-67.
- 863,827. FLESHMAN'S FOOTADE. Clarence E. Fleshman, d.b.a. Fleshman Footade Co. SN 284,005. Pub. 11-5-68. Filed 11-2-67.
- 863,828. CANDECIN. Julius Schmid, Inc. SN 284,323. Pub. 11-5-68. Filed 11-7-67.
- 863,829. ABSORBINE. W. F. Young, Incorporated. SN 288,966. Pub. 11-5-68. Filed 12-14-67.
- 863,830. TRANISOL. Janssen Pharmaceutica N.Y. SN 296,072. Pub. 11-5-68. Filed 4-22-68.
- 863,831. PRESTOLE. Smith Kline & French Laboratories. SN 302,903. Pub. 11-5-68. Filed 7-17-68.

Class 19 — Vehides

- 863,832. POLYVIC AND DESIGN. Charles Duvicq & Fils. SN 259,818. Pub. 11-5-68. Filed 12-1-66.
- 863,833. ROYALWOOD. Overhead Door Corporation. SN 283,355. Pub. 11-5-68. Filed 10-25-67.
- 863,834. MISCELLANEOUS DESIGN. Shelby American Inc. MULTIPLE CLASS (Classes 19 and 20). SN 285,756. Pub. 11-5-68. Filed 11-29-67.
- 863,835. PARKETTE. United States Mobile Homes, Inc. SN 293,652. Pub. 11-5-68. Filed 3-19-68.
- 863,836. FUL-FLOATING. Schwinn Bicycle Company. SN 294,212. Pub. 11-5-68. Filed 3-26-68.
- 863,837. RINGER. C. Itoh & Co. (America), Inc. SN 294,404. Pub. 11-5-68. Filed 3-29-68.
- 863,838. TEMP TITE. Highway Trailer Industries, Inc. SN 295,026. Pub. 11-5-68. Filed 4-5-68.

Class 20 — Linoleum and Oiled Cloth

- 863,839. BELLAIRE. Congoleum Industries, Inc., assignee of Congoleum-Nairn Inc. SN 283,634. Pub. 11-5-68. Filed 10-30-67.

Class 21 — Electrical Apparatus, Machines, and Supplies

- 863,793. (See Class 13 for this trademark.)
- 863,800. (See Class 13 for this trademark.)
- 863,840. IXL. IXL Appliances Inc. SN 245,717. Pub. 9-10-68. Filed 5-16-66.
- 863,841. ELREMO. Electrical Remote Control Co. Limited. MULTIPLE CLASS (Classes 21, 23, and 26). SN 250,141. Pub. 11-5-68. Filed 7-13-68.
- 863,842. BAUER. Granger Associates, assignee of Bauer Electronics Corporation. SN 251,083. Pub. 11-5-68. Filed 7-26-66.
- 863,843. F AND DESIGN. Circle F Industries, Inc. SN 254,671. Pub. 11-5-68. Filed 9-19-66.
- 863,844. F AND DESIGN. Circle F Industries, Inc. SN 255,292. Pub. 11-5-68. Filed 9-28-66.
- 863,845. CIRCLE F. Circle F Industries, Inc. SN 255,293. Pub. 11-5-68. Filed 9-28-66.
- 863,846. PYRAMIDAL FEED. Square D Company. SN 257,731. Pub. 11-5-68. Filed 11-1-66.
- 863,847. WATCH DOG. Goldpoint Industries, Inc. SN 265,516. Pub. 6-25-68. Filed 2-27-67.
- 863,848. SOUNDLUME. Solar Light Manufacturing Co. SN 266,094. Pub. 11-5-68. Filed 3-14-67.
- 863,849. EKKOFON. Gustav A. Ring System Maskiner A/S. SN 266,755. Pub. 7-2-68. Filed 3-15-67.
- 863,850. MINACTOR. EG & G, Inc. SN 271,237. Pub. 11-5-68. Filed 5-11-67.

- 863,851. LOAD LIFTER. Dresser Industries, Inc. MULTIPLE CLASS (Classes 21 and 23). SN 272,778. Pub. 11-5-68. Filed 6-1-67.
- 863,852. BRITE-VUE. Yankee Metal Products Corp. SN 276,377. Pub. 11-5-68. Filed 7-19-67.
- 863,853. VEE JEM. Vitramon, Incorporated. SN 277,946. Pub. 11-5-68. Filed 8-9-67.
- 863,854. EMTROL AND DESIGN. Virginia Electronics Company, Inc. SN 286,801. Pub. 11-5-68. Filed 12-13-67.
- 863,855. SUMMATION SYMBOL DESIGN. Hofmeister Company. MULTIPLE CLASS (Classes 21 and 34). SN 287,483. Pub. 11-5-68. Filed 12-26-67.
- 863,856. HOFECO. Hofmeister Company. MULTIPLE CLASS (Classes 21 and 34). SN 287,484. Pub. 11-5-68. Filed 12-26-67.
- 863,857. RING-A-ROUND. Seaelectro Corporation. SN 302,901. Pub. 11-5-68. Filed 7-17-68.
- 863,858. 911. Electro-Nite Co. SN 303,018. Pub. 11-5-68. Filed 7-18-68.

Class 22 — Games, Toys, and Sporting Goods

- 863,859. GOOPAROO. Mattel, Inc., assignee of John H. Goettsch, d.b.a. Toy Concepts Co. SN 270,127. Pub. 2-6-68. Filed 4-27-67.
- 863,860. MOON SKOOT. Big Boy Manufacturing Co., Inc. SN 276,403. Pub. 11-5-68. Filed 7-20-67.
- 863,861. PRO SHOP AND DESIGN. Regent Sports Co. SN 278,731. Pub. 11-5-68. Filed 8-21-67.
- 863,862. AQUATANA AND DESIGN. Robert M. Channon. SN 283,745. Pub. 11-5-68. Filed 10-11-67.
- 863,863. RINGS 'N THINGS. De Luxe Topper Corporation. SN 283,990. Pub. 11-5-68. Filed 11-2-67.
- 863,864. TREBLE-O-TRAINS. Die Casting Machine Tools Limited. SN 285,531. Pub. 11-5-68. Filed 11-24-67.
- 863,865. KAMAR'S CANNED CRITTERS. Kamar, Incorporated. SN 286,013. Pub. 11-5-68. Filed 12-1-67.
- 863,866. WILD WHEELS. Cragstan Industries, Inc. SN 294,168. Pub. 11-5-68. Filed 3-26-68.
- 863,867. DETROIT SR. Cragstan Industries, Inc. SN 294,169. Pub. 11-5-68. Filed 3-26-68.
- 863,868. WIDDLE-WEIRDIES. Wham-O Mfg. Co. SN 296,282. Pub. 11-5-68. Filed 4-23-68.
- 863,869. SHRINK MACHINE. Wham-O Mfg. Co. SN 296,283. Pub. 11-5-68. Filed 4-23-68.
- 863,870. CREEPY CRAWLERS. Mattel, Inc. SN 298,074. Pub. 11-5-68. Filed 5-21-68.
- 863,871. MISCELLANEOUS DESIGN. Fownes Brothers & Co., Incorporated. SN 301,488. Pub. 11-5-68. Filed 6-27-68.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

- 863,782. (See Class 12 for this trademark.)
- 863,791. (See Class 13 for this trademark.)
- 863,792. (See Class 13 for this trademark.)
- 863,793. (See Class 13 for this trademark.)
- 863,795. (See Class 13 for this trademark.)
- 863,841. (See Class 21 for this trademark.)
- 863,851. (See Class 21 for this trademark.)
- 863,872. HY-LO. Monarch Road Machinery Company. SN 233,810. Pub. 12-19-67. Filed 12-2-65.
- 863,873. CENTRIDYNE. Entoleter, Inc. SN 253,131. Pub. 11-5-68. Filed 8-25-66.
- 863,874. ROYAL SWEDISH. Aktiebolaget Gense. SN 253,350. Pub. 11-5-68. Filed 11-10-66.
- 863,875. BRAZIER AND DESIGN. American Dairy Queen Corporation. SN 262,107. Pub. 11-5-68. Filed 1-9-67.

- 863,876. WYATT AND DESIGN. The Wyatt Manufacturing Company, Inc. MULTIPLE CLASS (Classes 23 and 26). SN 263,145. Pub. 11-5-68. Filed 1-23-67.
- 863,877. SW. Bombardier Limited, by change of name from Bombardier Snowmobile Ltd. SN 266,195. Pub. 11-5-68. Filed 3-8-67.
- 863,878. SIGVAC. Swiss Industrial Company. SN 267,194. Pub. 8-20-68. Filed 3-20-67.
- 863,879. SIGMAGIC. Swiss Industrial Company. SN 267,195. Pub. 8-20-68. Filed 3-20-67.
- 863,880. SIGOTHERM. Swiss Industrial Company. SN 267,196. Pub. 8-20-68. Filed 3-20-67.
- 863,881. CATRAC. Gemco Electric Company. SN 267,416. Pub. 11-5-68. Filed 3-23-67.
- 863,882. THERM-O-BENDER. Tapco Products Company, Inc. SN 274,782. Pub. 11-5-68. Filed 6-26-67.
- 863,883. THE MONSTER. The Gillette Company. SN 276,604. Pub. 10-17-67. Filed 7-24-67.
- 863,884. BONAMATIC. Hermann Kronseder, d.b.a. Hermann Kronseder Maschinenfabrik. SN 282,809. Pub. 11-5-68. Filed 10-18-67.
- 863,885. STA-FIT DOCTORS BY BELOIT. Beloit Corporation. SN 286,243. Pub. 11-5-68. Filed 12-5-67.
- 863,886. TRU-FLEX. Rex Chainbelt Inc. SN 286,367. Pub. 11-5-68. Filed 12-6-67.
- 863,887. FLOATER. Russell E. Jones. SN 286,431. Pub. 11-5-68. Filed 12-7-67.
- 863,888. GP GLOBAL PNEUMATIC AND DESIGN. U.S. Air Tool Co., Inc. SN 287,708. Pub. 11-5-68. Filed 12-28-67.
- 863,889. TRIM STEERING. Hesston Corporation, Inc. SN 288,314. Pub. 11-5-68. Filed 1-8-68.
- 863,890. GCA AND DESIGN. GCA Corporation. MULTIPLE CLASS (Classes 23 and 34). SN 288,804. Pub. 11-5-68. Filed 1-15-68.
- 863,891. PONY PACER. New Jersey Machine Corporation. SN 289,802. Pub. 11-5-68. Filed 1-25-68.
- 863,892. EI (DESIGN). Economotion, Inc. SN 289,792. Pub. 11-5-68. Filed 1-29-68.
- 863,893. ADCO. Automotive Devices Company of Pennsylvania. SN 289,957. Pub. 11-5-68. Filed 1-31-68.
- 863,894. WT AND DESIGN. World Tableware Corporation. SN 295,600. Pub. 7-9-68. Filed 4-15-68.
- 863,895. GENUINE US GEAR AND DESIGN. United States Gear Corporation. SN 301,598. Pub. 11-5-68. Filed 6-28-68.

Class 25 — Locks and Safes

- 863,782. (See Class 12 for this trademark.)

Class 26 — Measuring and Scientific Appliances

- 863,791. (See Class 13 for this trademark.)
- 863,792. (See Class 13 for this trademark.)
- 863,793. (See Class 13 for this trademark.)
- 863,834. (See Class 19 for this trademark.)
- 863,841. (See Class 21 for this trademark.)
- 863,876. (See Class 23 for this trademark.)
- 863,896. VIXEN. Koyu International, Inc. SN 268,502. Pub. 11-5-68. Filed 4-6-67.
- 863,897. REMIND-O-TIMER. Clifford E. Miller, d.b.a. James Remind-O-Timer Co. SN 275,860. Pub. 11-5-68. Filed 7-12-67.
- 863,898. MULTIZONE I. Materials Research Corporation. SN 276,152. Pub. 11-5-68. Filed 7-17-67.
- 863,899. BETA LOGIC. William H. Johnston Laboratories, Inc. SN 276,069. Pub. 11-5-68. Filed 7-24-67.
- 863,900. AUTOMATRON. Pavelle Limited. SN 283,550. Pub. 11-5-68. Filed 10-27-67.

- 863,901. VIS-U-TRIEVER. Sperry Rand Corporation. SN 285,947. Pub. 11-5-68. Filed 11-30-67.
- 863,902. FFW FAILURE FREE WARRANTY AND DESIGN. Lear Siegler, Inc. SN 287,368. Pub. 11-5-68. Filed 12-21-67.

Class 27 — Horological Instruments

- 863,903. SNAP MASTER. Fabrique d'Horlogerie Lemania Lugrin S.A., d.b.a. Lemania Watch Co. SN 273,627. Pub. 11-5-68. Filed 4-25-68.
- 863,904. MISCELLANEOUS DESIGN. Kabushiki Kaisha Hattori Tokiten. SN 281,204. Pub. 11-5-68. Filed 9-26-67.
- 863,905. MISCELLANEOUS DESIGN. Kabushiki Kaisha Hattori Tokiten. SN 281,205. Pub. 11-5-68. Filed 9-26-67.
- 863,906. CHRONOVAC. Palmer Sales Corporation. SN 289,417. Pub. 11-5-68. Filed 1-23-68.
- 863,907. AQUAVAC. Palmer Sales Corporation. SN 289,418. Pub. 11-5-68. Filed 1-23-68.
- 863,908. RIVITA. Moskovitz & Gluck, Inc. SN 296,444. Pub. 11-5-68. Filed 4-24-68.

Class 28 — Jewelry and Precious-Metal Ware

- 863,909. ELKINGTON. British Silverware Limited. SN 264,016. Pub. 11-5-68. Filed 2-6-67.

Class 29 — Brooms, Brushes, and Dusters

- 863,910. ZENITH. Zenith Radio Corporation. SN 269,593. Pub. 11-5-68. Filed 4-19-67.
- 863,911. MIGHTY WIPE. Pellon Corporation. SN 290,105. Pub. 11-5-68. Filed 2-1-68.

Class 30 — Crockery, Earthenware, and Porcelain

- 863,795. (See Class 13 for this trademark.)
- 863,912. TRANSITION. Block China Company. MULTIPLE CLASS (Classes 30 and 33). SN 291,488. Pub. 11-5-68. Filed 2-20-68.
- 863,913. 2ND CHOICE. M. Fortunoff of Westbury Corp. SN 302,561. Pub. 11-5-68. Filed 7-12-68.

Class 31 — Filters and Refrigerators

- 863,914. BRAZIER AND DESIGN. American Dairy Queen Corporation. SN 262,110. Pub. 11-5-68. Filed 1-9-67.
- 863,915. THE GOLD STANDARD IN FILTRATION. Wix Corporation. SN 266,818. Pub. 11-5-68. Filed 3-15-67.
- 863,916. FOR THE HOSTESS OF GOOD TASTE. Aodex Corporation. SN 269,278. Pub. 11-5-68. Filed 4-17-67.
- 863,917. HERMETICCOOL. Tenney Engineering, Inc. SN 284,949. Pub. 11-5-68. Filed 11-15-67.
- 863,918. NEOTEKI CRYSTAL SEA. Neotek Associates. SN 302,899. Pub. 11-5-68. Filed 7-17-68.

Class 32 — Furniture and Upholstery

- 863,919. DESIGNER. The Tappan Company. SN 269,235. Pub. 11-5-68. Filed 4-14-67.
- 863,920. MAGIC-AISLE. Jackson Exit Device Corporation. SN 273,593. Pub. 11-5-68. Filed 6-9-67.

- 863,921. DESIGN OF FISH. Colonial Latex Cushion Inc. SN 279,809. Pub. 11-5-68. Filed 9-7-67.
- 863,922. VISTABASE. Estey Corporation. SN 280,881. Pub. 11-5-68. Filed 12-14-67.
- 863,923. PLAYMATE. Re-Ly-On Metal Products, Inc. SN 291,287. Pub. 11-5-68. Filed 2-16-68.
- 863,924. VERSA-MAGIC. Re-Ly-On Metal Products, Inc. SN 291,288. Pub. 11-5-68. Filed 2-16-68.
- 863,925. INFACIT AND DESIGN. International Factory Sales Service Ltd. SN 291,401. Pub. 11-5-68. Filed 2-19-68.

Class 33 — Glassware

- 863,795. (See Class 13 for this trademark.)
- 863,912. (See Class 30 for this trademark.)

Class 34 — Heating, Lighting, and Ventilating Apparatus

- 863,855. (See Class 21 for this trademark.)
- 863,856. (See Class 21 for this trademark.)
- 863,890. (See Class 23 for this trademark.)
- 863,926. BRAZIER AND DESIGN. American Dairy Queen Corporation. SN 262,109. Pub. 11-5-68. Filed 1-9-67.
- 863,927. WET-PAK. Research Products Corporation. SN 268,765. Pub. 11-5-68. Filed 4-10-67.
- 863,928. GULF AND DESIGN. Gulf Oil Corporation. SN 271,938. Pub. 11-5-68. Filed 5-19-67.
- 863,929. DYNASHIELD AND DESIGN. Liquid Carbonic Corporation. SN 272,286. Pub. 11-5-68. Filed 5-24-67.
- 863,930. DRUM FIRE. Drum Fire, Inc. SN 276,820. Pub. 11-5-68. Filed 7-26-67.
- 863,931. PPG INDUSTRIES AND DESIGN. PPG Industries, Inc., by change of name from Pittsburgh Plate Glass Company. SN 294,238. Pub. 11-5-68. Filed 3-27-68.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

- 863,932. RPM. Standard Oil Company of California, assignee of The Kelly-Springfield Tire Company. SN 284,671. Pub. 6-11-68. Filed 11-13-67.

Class 36 — Musical Instruments and Supplies

- 863,933. POPO RECORDS AND DESIGN. Antonio Ochoa Lopez, d.b.a. Popo Records. SN 241,156. Pub. 11-5-68. Filed 3-16-66.
- 863,934. TENNESSEAN. The Fred Gretsch Company, Inc., by assignment and change of name from The Fred. Gretsch Mfg. Co. SN 243,240. Pub. 11-5-68. Filed 4-12-66.
- 863,935. NASHVILLE. The Fred Gretsch Company, Inc., by assignment and change of name from The Fred. Gretsch Mfg. Co. SN 243,241. Pub. 11-5-68. Filed 4-12-66.
- 863,936. DIAMOND JUBILEE. Transcriber Company, Inc. SN 292,723. Pub. 11-5-68. Filed 1-17-67.

Class 37 — Paper and Stationery

- 863,937. SEVENTEEN. Swasee Paper Corporation. SN 269,471. Pub. 11-5-68. Filed 4-18-67.
- 863,938. TAROTEXT. Brown Company. SN 278,866. Pub. 11-5-68. Filed 8-23-67.

- 863,939. CURLON. Curwood, Inc. SN 280,214. Pub. 11-5-68. Filed 9-13-67.
- 863,940. SUNWEAVE DUPLEX. Georgia-Pacific Corporation. SN 283,244. Pub. 7-2-68. Filed 10-24-67.
- 863,941. FIBRALO. Fabrique Suisse de Crayons Caran d'Ache Societe Anonyme. SN 283,648. Pub. 11-5-68. Filed 10-30-67.
- 863,942. I-A INC. AND DESIGN. Industrial-Automotive, Inc. SN 285,551. Pub. 11-5-68. Filed 11-24-67.
- 863,943. DECOR. Textron Inc. SN 286,048. Pub. 11-5-68. Filed 12-1-67.
- 863,944. KOTE 70. U.S. Plywood-Champion Papers Inc. SN 288,143. Pub. 11-5-68. Filed 1-4-68.
- 863,945. NILO-PAKE. Olin Mathieson Chemical Corporation. SN 297,632. Pub. 11-5-68. Filed 5-8-68.

Class 38 — Prints and Publications

- 863,946. BRANDER. Continental Oil Company. SN 278,193. Pub. 11-5-68. Filed 8-14-67.
- 863,947. SELECTIVE EYE. Jason Halley, d.b.a. Jason Halley Photography. SN 282,579. Pub. 11-5-68. Filed 10-16-67.
- 863,948. SKI INTERNATIONAL AND DESIGN. Western Art, Inc. SN 284,260. Pub. 11-5-68. Filed 11-6-67.
- 863,949. ELECTRONIC PRODUCTS. United Technical Publications, Inc. SN 286,859. Pub. 11-5-68. Filed 12-13-67.
- 863,950. GROOVY. Perfect Film & Chemical Corporation, d.b.a. Marvel Comics Group, assignee, by mesne assignment, of Magazine Management Company, d.b.a. Marvel Comics Group. SN 288,440. Pub. 10-22-68. Filed 1-9-68.
- 863,951. EL SURCO. Deere & Company. SN 290,477. Pub. 11-5-68. Filed 2-7-68.
- 863,952. WALTER LANTZ. Walter Lantz Productions, Inc. SN 291,880. Pub. 11-5-68. Filed 2-26-68.
- 863,953. LAB REPORTER. Fisher Scientific Company. SN 292,475. Pub. 11-5-68. Filed 3-5-68.
- 863,954. MED-LAB REPORTER. Fisher Scientific Company. SN 292,476. Pub. 11-5-68. Filed 3-5-68.
- 863,955. AQUEDUCT BOOKS. The Lawyers' Co-Operative Publishing Company. SN 292,795. Pub. 11-5-68. Filed 3-8-68.

Class 39 — Clothing

- 863,956. TARTANS BY BECK AND DESIGN. A. S. Beck Shoe Corporation. SN 227,817. Pub. 3-28-67. Filed 9-15-65.
- 863,957. EXCHECQUER COLLECTION. Wembley, Inc. SN 285,780. Pub. 11-5-68. Filed 11-28-67.
- 863,958. TONI LYNN. Toni Lynn Maternities, Inc. SN 288,651. Pub. 11-5-68. Filed 1-11-68.
- 863,959. DURAWOOL. Koracorp Industries, Inc., assignee of Koret of California, Inc. SN 289,511. Pub. 11-5-68. Filed 1-24-68.
- 863,960. PERMA FASHION. The Woodlin Shirt Corp. SN 290,120. Pub. 11-5-68. Filed 2-1-68.
- 863,961. SIL-PREST. Silver Mfg. Co., Inc. SN 294,976. Pub. 11-5-68. Filed 4-4-68.
- 863,962. HADDON HALL. Mamiye Brothers Inc. SN 295,242. Pub. 11-5-68. Filed 4-9-68.
- 863,963. CREST AUSTRALIA AND DESIGN. Crestknit (Australia) Proprietary Limited. SN 295,514. Pub. 11-5-68. Filed 4-12-68.
- 863,964. "STEP UP TO DOWN!" Benjamin Harrison Weiss, Inc. SN 290,059. Pub. 11-5-68. Filed 4-19-68.
- 863,965. BELLY BUSTER. Wembley, Inc. SN 296,060. Pub. 11-5-68. Filed 4-19-68.
- 863,966. PRE-SOLD. Wembley, Inc. SN 302,549. Pub. 11-5-68. Filed 7-11-68.
- 863,967. SHAGGY KNIT. Camp and McInnes, Inc. SN 303,640. Pub. 11-5-68. Filed 7-26-68.

Class 40—Fancy Goods, Furnishings, and Class 46—Foods and Ingredients of Foods Notions

863,968. SUPER SIXTY. Fashion Tress, Inc. SN 301,898. Pub. 11-5-68. Filed 7-2-68.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

863,969. DYNACOR. Dynacor Manufacturing Company. SN 281,277. Pub. 11-5-68. Filed 9-27-67.
863,970. AEROTRON. American Combining Company. SN 289,253. Pub. 11-5-68. Filed 1-22-68.
863,971. WARMWEAVE. Chatham Manufacturing Company. SN 291,133. Pub. 11-5-68. Filed 2-15-68.
863,972. HERCULEX. Herculte Protective Fabrics Corporation. SN 291,317. Pub. 11-5-68. Filed 2-19-68.
863,973. MANEATER. Deering Milliken, Inc. SN 303,472. Pub. 11-5-68. Filed 7-24-68.

Class 44—Dental, Medical, and Surgical Appliances

863,793. (See Class 13 for this trademark.)
863,974. CP. Chlcal Products Inc. SN 219,325. Pub. 11-5-68. Filed 5-20-65.
863,975. MELPRO. Francis J. Mancini, d.b.a. Melrose Specialty Products Company. SN 245,834. Pub. 1-31-67. Filed 5-17-66.
863,976. ACHILLEOMETER. Medco Products Company, Inc. SN 277,193. Pub. 11-5-68. Filed 7-31-67.
863,977. REDI-VACETTE. Orthopedic Equipment Company, Inc. SN 280,327. Pub. 11-5-68. Filed 9-14-67.
863,978. SPINHALER. Fisons Pharmaceuticals Limited. SN 286,659. Pub. 11-5-68. Filed 12-11-67.
863,979. ROLLS AND DESIGN. Rolls Equipment, Inc. SN 287,461. Pub. 11-5-68. Filed 12-22-67.
863,980. SAFETY-CENTER. American White Cross Laboratories, Inc. SN 287,870. Pub. 11-5-68. Filed 1-2-68.
863,981. LADY SCHICK. Schick Electric Inc. SN 289,214. Pub. 11-5-68. Filed 1-19-68.
863,982. DUO. Relaxalzor, Inc. SN 290,648. Pub. 11-5-68. Filed 2-8-68.
863,983. THERMAPOOL. Harry M. Devane, d.b.a. Thermapool. SN 290,727. Pub. 11-5-68. Filed 2-9-68.
863,984. JOYCO. Thomas W. Oder, d.b.a. The Joy Co. SN 293,639. Pub. 11-5-68. Filed 3-19-68.
863,985. PORTO-VAC. Howmet Corporation. SN 294,506. Pub. 11-5-68. Filed 3-29-68.
863,986. TRACHEOFLEX. Willy Rüsck. SN 294,665. Pub. 11-5-68. Filed 4-1-68.
863,987. STERILON AND DESIGN. Sterilon Corporation. SN 295,856. Pub. 11-5-68. Filed 4-17-68.
863,988. SOME BUGS FLY . . . OURS DRY! Caryl Richards, Inc. SN 295,956. Pub. 11-5-68. Filed 4-18-68.
863,989. VACURETTE. Bio-Engineering Company, d.b.a. Berkeley Tonometer Company. SN 296,295. Pub. 11-5-68. Filed 4-23-68.

Class 45—Soft Drinks and Carbonated Waters

863,990. PUNCH PY-KI. Hi-Flavor Packing Corporation. SN 296,693. Pub. 11-5-68. Filed 9-26-66.

863,991. MTOP FROZEN PIES AND DESIGN. Quality Bakery Co. SN 281,820. Pub. 11-5-68. Filed 10-4-67.
863,992. SKRAMS. Mead Johnson & Company. SN 288,751. Pub. 11-5-68. Filed 1-15-68.
863,993. MANGANARO'S HERO BOY AND DESIGN. Hero Boy, Inc. SN 289,439. Pub. 11-5-68. Filed 12-28-67.
863,994. R.K.'S. Stonington Packing Co., Inc. SN 289,845. Pub. 11-5-68. Filed 1-29-68.
863,995. STUART WHITNEY. The Kroger Co. SN 292,698. Pub. 11-5-68. Filed 3-7-68.
863,996. BLACK DIAMOND. Black Diamond Cheese Limited. SN 294,367. Pub. 11-5-68. Filed 3-28-68.
863,997. CAP'N CRUNCH'S SHIP SHAKE. The Quaker Oats Company. SN 297,343. Pub. 11-5-68. Filed 5-6-68.
863,998. CRUNCH NOG. The Quaker Oats Company. SN 297,344. Pub. 11-5-68. Filed 5-6-68.
863,999. ROYAL GOLD. Diversified Packaging Service, Inc. SN 297,737. Pub. 11-5-68. Filed 5-9-68.
864,000. DUTCH UNCLE. Van Buren Packing Company. SN 298,989. Pub. 11-5-68. Filed 5-23-68.
864,001. BUTTER-NUT. The Coca-Cola Company. SN 299,067. Pub. 11-5-68. Filed 5-27-68.

Class 49—Distilled Alcoholic Liquors

864,002. AUDUBON BOTTLE. Stitzel-Weller Distillery. SN 301,314. Pub. 11-5-68. Filed 6-25-68.

Class 50—Merchandise Not Otherwise Classified

864,003. JIF (DESIGN). Jiffasteners Limited. SN 293,524. Pub. 11-5-68. Filed 3-18-68.
864,004. HUMMINGBIRD AND DESIGN. Hawk Model Company. SN 295,796. Pub. 11-5-68. Filed 4-17-68.

Class 51—Cosmetics and Toilet Preparations

864,005. OASIS. Luxuria Cosmetics, Ltd. SN 276,672. Pub. 11-5-68. Filed 7-24-67.
864,006. REMBRANDT SQUARE. Phillips Roxane Laboratories, Inc., assignee of Phillips Roxane, Inc. SN 278,246. Pub. 11-5-68. Filed 8-14-67.
864,007. POLY BLOND. Therachemie Chemisch Therapeutische GmbH, d.b.a. Therachemie GmbH. SN 279,012. Pub. 11-5-68. Filed 8-24-67.
864,008. SULLEGE. L'Oreal. SN 280,431. Pub. 11-5-68. Filed 9-15-67.
864,009. CALIBER. Nutrilite Products, Inc. SN 281,101. Pub. 11-5-68. Filed 9-25-67.
864,010. STRUCTURE S. Sybil Ives Incorporated. SN 281,726. Pub. 11-5-68. Filed 10-3-67.
864,011. ON YOUR MARK. Kenneth Beauty Salons & Products, Inc. SN 283,903. Pub. 11-5-68. Filed 11-1-67.
864,012. PSYCHEDELIC. Richard Hudnut. SN 286,762. Pub. 11-5-68. Filed 12-12-67.
864,013. PSYCHEDELITE. Richard Hudnut. SN 286,763. Pub. 11-5-68. Filed 12-12-67.
864,014. CONSTANCE CARROLL. Constance Carroll, Inc. SN 287,991. Pub. 11-5-68. Filed 1-2-68.
864,015. LOOK TWICE. Colgate-Palmolive Company. SN 291,355. Pub. 11-5-68. Filed 2-19-68.

864,016. ADELE SIMPSON COLLAGE THE FASHION FRAGRANCE. Adele Simpson, Inc. SN 292,224. Pub. 11-5-68. Filed 2-29-68.
864,017. THINKOOL. Seymour Fox, Inc. SN 297,221. Pub. 11-5-68. Filed 5-2-68.
864,018. LOVE STORY LOOK. Chas. Pfizer & Co., Inc. SN 299,075. Pub. 11-5-68. Filed 5-27-68.
864,019. MR. ROBERTS. "42" Products, Ltd., Inc., d.b.a. Spray Specialties. SN 299,157. Pub. 11-5-68. Filed 5-27-68.
864,020. SPRING 'N SUMMER. Parfums Schlaparelli, Inc. SN 301,444. Pub. 11-5-68. Filed 6-26-68.
864,021. GLEAM TEAM. Elizabeth Hartley, Inc. SN 302,894. Pub. 11-5-68. Filed 7-17-68.
864,022. CONTAIN. The Gillette Company. MULTIPLE CLASS (Classes 51 and 52). SN 303,735. Pub. 11-5-68. Filed 7-29-68.

Class 52—Detergents and Soaps

863,757. (See Class 6 for this trademark.)
864,007. (See Class 51 for this trademark.)
864,022. (See Class 51 for this trademark.)
864,023. LIFE GUARD VISION. The Maltby Company. SN 281,097. Pub. 11-5-68. Filed 9-25-67.
864,024. CALIBER. Nutrilite Products, Inc. SN 284,717. Pub. 11-5-68. Filed 11-13-67.
864,025. DIVER STEAM. The Diversey Corporation. SN 286,913. Pub. 11-5-68. Filed 12-14-67.
864,026. SHROUD LIFE. B. E. Williams. SN 288,043. Pub. 11-5-68. Filed 1-3-68.
864,027. MOLECTRA. Premier Industrial Corporation. SN 300,234. Pub. 11-5-68. Filed 6-12-68.
864,028. ALI BABA. The Gillette Company. SN 303,744. Pub. 11-5-68. Filed 7-29-68.
864,029. RW BETTER WAY AND DESIGN. Creative Development Corp. SN 303,856. Pub. 11-5-68. Filed 6-13-68.

Service Marks

Class 100—Miscellaneous

863,818. (See Class 18 for this trademark.)
864,030. PORTOFINO. Port-O-Fino. SN 246,099. Pub. 11-5-68. Filed 5-19-66.
864,031. TRUST AND DESIGN. Thrift Drug Company of Pennsylvania. SN 259,538. Pub. 11-5-68. Filed 7-18-66.
864,032. NFMA AND DESIGN. National Footwear Manufacturers Association. SN 265,094. Pub. 11-5-68. Filed 2-20-67.
864,033. GAS FLAME (DESIGN). Atlanta Gas Light Company. SN 279,521. Pub. 11-5-68. Filed 9-1-67.
864,034. NBA. National Basketball Association (joint venture). SN 287,030. Pub. 11-5-68. Filed 12-15-67.
864,035. YOUR OASIS IN THE NIGHT. James Restaurants, Inc. SN 288,829. Pub. 11-5-68. Filed 1-15-68.
864,036. LE BARON. Hotel Circle, Inc. SN 303,021. Pub. 11-5-68. Filed 7-18-68.

Class 101—Advertising and Business

864,037. TEMPOSITIONS. Tempositions, Inc. SN 246,820. Pub. 5-23-67. Filed 5-27-66.
864,038. SPELL GOLD. J & H International Corporation. SN 271,476. Pub. 11-5-68. Filed 5-15-67.
864,039. GANGBUSTERS. J & H International Corporation. SN 271,477. Pub. 11-5-68. Filed 5-15-67.

864,040. CONTINENTAL TRADING POST. Continental Trading Post. SN 271,692. Pub. 11-5-68. Filed 5-17-67.
864,041. REWARD. J & H International Corporation. SN 271,800. Pub. 11-5-68. Filed 5-18-67.
864,042. WHEEL 'N DEAL. J & H International Corporation. SN 271,802. Pub. 11-5-68. Filed 5-18-67.
864,043. FOLDING MONEY. J & H International Corporation. SN 271,893. Pub. 11-5-68. Filed 5-18-67.
864,044. FILL-R-UP AND DESIGN. FILL-R-UP Auto Wash, Inc. MULTIPLE CLASS (Classes 101 and 103). SN 273,388. Pub. 11-5-68. Filed 6-8-67.
864,045. UNIFRAME AND DESIGN. Portland Cement Association. SN 283,032. Pub. 11-5-68. Filed 10-20-67.

Class 102—Insurance and Financial

864,046. GREEN SHIELD AND DESIGN. Green Shield. SN 271,949. Pub. 11-5-68. Filed 5-9-67.
864,047. PERSONAL LINES INSURANCE AND DESIGN. Reserve Insurance Company. SN 271,176. Pub. 11-5-68. Filed 5-10-67.

Class 103—Construction and Repair

864,044. (See Class 101 for this trademark.)
864,048. OVAL AND ARROW (DESIGN). Midas, Inc. SN 276,244. Pub. 11-5-68. Filed 7-18-67.
864,049. OVAL AND ARROW (DESIGN). Midas, Inc. SN 276,245. Pub. 11-5-68. Filed 7-18-67.
864,050. PIEPERPOWER. Pieper Electric, Inc. SN 281,718. Pub. 11-5-68. Filed 10-3-67.
864,051. CAVALON. Leonard Press, d.b.a. Cavalon Drapery Cleaners. SN 283,271. Pub. 11-5-68. Filed 10-24-67.
864,052. NATGUN. Natgun Corporation. SN 284,224. Pub. 11-5-68. Filed 11-6-67.
864,053. COACH AND DESIGN. Josephus Püllen, Jr., d.b.a. J. P. Coach & Co. SN 285,690. Pub. 11-5-68. Filed 10-30-67.

Class 106—Material Treatment

864,054. SCANALOG. Schlumberger Technology Corporation, assignee of Plastic Applicators, Inc. SN 215,262. Pub. 2-14-67. Filed 3-29-65.
864,055. HEART-TREATED. J. H. Baxter & Co. SN 278,186. Pub. 11-5-68. Filed 8-14-67.
864,056. BB AND DESIGN. Baron Blakeslee, Inc. SN 302,095. Pub. 11-5-68. Filed 7-5-68.

Class 107—Education and Entertainment

864,057. DEERWOOD. The Deerwood Club, Inc. SN 295,881. Pub. 11-5-68. Filed 4-18-68.
864,058. DEERWOOD AND CREST DESIGN. The Deerwood Club, Inc. SN 295,883. Pub. 11-5-68. Filed 4-18-68.

Collective Membership Mark

Class 200

864,059. MISCELLANEOUS DESIGN. The Sovereign Byzantine Order Lascaris-Comnenus of Saints Constantine the Great and Helen A.D. 312, Inc., d.b.n. Knights of Constantine, or Knights of Christ, or Ladies of Saint Helen, and Constantine's Knights of Christ. SN 270,524. Pub. 11-5-68. Filed 4-28-67.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 2 — Receptacles

864,060. Simmonds Industries, Inc., Grant Park, Ill. SN 285,068. Filed P.R. 11-16-67; Am. S.R. 10-30-68.

SIMMONDS

For Tool, Tackle, Machinists and Utility Boxes and Chests (Int. Cl. 6).

First use prior to Jan. 15, 1967.

Class 39 — Clothing

864,061. Liberty Trouser Company, Birmingham, Ala. SN 272,932. Filed P.R. 6-2-67; Am. S.R. 10-18-68.

HOGARTH

For Men's and Boys' Trousers (Int. Cl. 25).

First use Mar. 16, 1967.

Class 46 — Foods and Ingredients of Foods

864,062. Morton International, Inc., Chicago, Ill. SN 284,547. Filed P.R. 11-13-67; Am. S.R. 10-21-68.

THE DIPPIN' CUP

For Food Sauces—Namely, Meatless Condimental Sauces (Int. Cl. 30).

First use on or about Sept. 15, 1967.

864,063. Jerrico, Inc., d.b.a. Jerry's Restaurants, Lexington, Ky. SN 290,300. Filed P.R. 2-5-68; Am. S.R. 8-12-68.

PIC-NIC-PAC

For Fried Chicken Packed in Take-Out Containers (Int. Cl. 29).

First use Oct. 14, 1965.

864,064. Beech-Nut, Inc., New York, N.Y. SN 298,410. Filed 5-17-68.



The drawing is lined for the colors red, green, orange and yellow.

For Chewing Gum (Int. Cl. 30).
First use June 1966.

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Class 47 — Wines

864,065. Caves do Casalinho, Limitada, Felgueiras, Portugal. SN 256,720. Filed P.R. 10-19-66; Am. S.R. 8-26-68.



For Rose Wines (Int. Cl. 33).

First use Sept. 26, 1961; in commerce on or about Sept. 26, 1961.

Class 49 — Distilled Alcoholic Liquors

864,066. Sazerac Company, Inc., New Orleans, La. SN 259,174. Filed P.R. 11-21-60; Am. S.R. 10-29-68.

Old Superior

For Rye Whiskey (Int. Cl. 33).

First use Dec. 27, 1950.

Class 50 — Merchandise Not Otherwise Classified

864,067. Construction Specialties, Inc., Williamsport, Pa., by change of name from E-L Corporation, Williamsport, Pa. SN 250,464. Filed P.R. 7-18-66; Am. S.R. 11-16-67.

PEDIGRID

For Foot Grilles (Int. Cl. 19).

First use Nov. 13, 1964.

Class 51 — Cosmetics and Toilet Preparations

864,068. Alberto-Culver Company, Melrose Park, Ill. SN 286,869. Filed P.R. 12-14-67; Am. S.R. 11-6-68.

AMBER GLOW

For Hair Coloring Preparation (Int. Cl. 3).

First use at least as early as 1958.

TRADEMARK REGISTRATIONS RENEWED

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|--|---|
| 32,606. "HH" MONOGRAM ENCLOSED BY DIAMOND DESIGN. Cl. 46 (Int. Cl. 30). 3-21-1899. | 505,311. BIG BOSS. Cl. 52 (Int. Cl. 3). 12-28-48. |
| 249,544. "DR. C. W. PARKER" AND PORTRAIT. Cl. 18 (Int. Cl. 5). 11-20-28. | 505,327. COLOSSUS. Cl. 4 (Int. Cls. 3 and 21). 1-4-49. |
| 250,230. FORD. Cl. 26 (Int. Cl. 9). 12-4-28. | 505,332. POWERLUBER. Cl. 23 (Int. Cl. 7). 1-4-49. |
| 250,584. MATALESE. Cl. 42 (Int. Cl. 24). 12-11-28. | 505,352. NATIONAL. Cl. 42 (Int. Cl. 22). 1-4-49. |
| 252,200. HTH. Cl. 6 (Int. Cl. 1). 1-29-29. | 505,540. FLEX TAILORED. Cl. 39 (Int. Cl. 25). 1-4-49. |
| 253,792. D-Z-L. Cl. 15 (Int. Cl. 4). 3-5-29. | 505,553. TRICOSUEDE. Cl. 39 (Int. Cl. 25). 1-4-49. |
| 254,387. "LADY LANE" AND DESIGN. Cl. 39 (Int. Cl. 25). 3-26-29. | 505,601. OLOSSTEX. Cl. 6 (Int. Cl. 3). 1-18-49. |
| 254,507. PITRESSIN. Cl. 18 (Int. Cl. 5). 3-26-29. | 505,835. GRIFFIN AND DESIGN. Cl. 4 (Int. Cl. 3). 1-18-49. |
| 254,636. "H. F. BYRD" ETC. AND DESIGN. Cl. 46 (Int. Cl. 31). 3-26-29. | 505,841. TRUBLOND. Cl. 52 (Int. Cl. 3). 1-18-49. |
| 254,790. FLUXINE. Cl. 6 (Int. Cl. 1). 4-2-29. | 506,143. SC AND DESIGN. Cl. 39 (Int. Cl. 25). 2-1-49. |
| 255,453. MESHTX. Cl. 12 (Int. Cl. 6). 4-23-29. | 506,392. SYNTCH. Cl. 35 (Int. Cl. 7). 2-8-49. |
| 255,632. AIR-MAZE. Cl. 31 (Int. Cl. 7). 4-30-29. | 506,487. CEROL. Cl. 46 (Int. Cl. 30). 2-8-49. |
| 255,953. FARM KITCHEN. Cl. 46 (Int. Cl. 29). 4-30-29. | 506,494. ARMORTITE. Cl. 21 (Int. Cl. 9). 2-8-49. |
| 439,066. DIGESTEX. Cl. 52 (Int. Cl. 3). 8-3-48. | 506,508. FN AND DESIGN. Cl. 21 (Int. Cl. 9). 2-8-49. |
| 440,282. DICTRONIC. Cl. 21 (Int. Cl. 9). 8-24-48. | 506,521. BANNER AND OVAL DESIGN. Cl. 6 (Int. Cl. 5). 2-8-49. |
| 441,226. CIRCO-SWING. Cl. 39 (Int. Cl. 25). 11-2-48. | 506,549. FOR-FUT-D. Cl. 18 (Int. Cl. 31). 2-8-49. |
| 441,380. SUPPOSICONES. Cl. 18 (Int. Cl. 5). 11-23-48. | 506,670. SPERTI. Cl. 18 (Int. Cl. 5). 2-15-49. |
| 441,392. SCA AND DESIGN. Cl. 1 (Int. Cl. 1). 11-23-48. | 506,766. SCOREBOARD. Cl. 42 (Int. Cl. 24). 2-15-49. |
| 441,462. SCA AND DESIGN. Cl. 37 (Int. Cl. 16). 11-30-48. | 506,857. EISENBERG. Cl. 39 (Int. Cl. 25). 2-22-49. |
| 441,752. ARMO AND DESIGN. Cl. 42 (Int. Cl. 24). 1-4-49. | 507,185. CROSS-WINDOW. Cl. 42 (Int. Cl. 24). 3-1-49. |
| 501,455. AUTOTECHNICON. Cl. 26 (Int. Cl. 10). 8-10-48. | 507,248. DYLAN. Cl. 6 (Int. Cl. 2). 3-1-49. |
| 501,617. HEATHER DOWN. Cl. 39 (Int. Cl. 25). 8-17-48. | 507,249. GRECIAN HEAD (DESIGN). Cl. 6 (Int. Cl. 2). 3-1-49. |
| 502,118. SUSY GOOSE AND DESIGN. Cl. 22 (Int. Cl. 28). 9-14-48. | 507,285. POST & RAIL. Cl. 39 (Int. Cl. 25). 3-1-49. |
| 502,581. GUILD CRAFT. Cl. 11 (Int. Cls. 9 and 16). 9-28-48. | 507,326. MEAD'S FINE. Cl. 46 (Int. Cl. 30). 3-1-49. |
| 503,800. SKORTEX. Cl. 52 (Int. Cl. 3). 11-9-48. | 507,367. TRITON. Cl. 40 (Int. Cls. 29 and 32). 3-8-49. |
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| 504,310. DANFORTH. Cl. 14 (Int. Cl. 6). 11-30-48. | 508,580. JAN-O AND DESIGN. Cl. 4 (Int. Cls. 3 and 4). 4-12-49. |
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| 505,052. NOREEN. Cl. 51 (Int. Cl. 3). 12-21-48. | 509,115. SIL-TRODE. Cl. 14 (Int. Cls. 6 and 9). 4-26-49. |
| 505,233. CONFOREZE. Cl. 39 (Int. Cl. 25). 12-28-48. | 509,222. BETTY SMART. Cl. 39 (Int. Cl. 25). 5-3-49. |

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| 741,448. FLAME-GLO. Cl. 1. | 741,506. T AND DESIGN. Cl. 12. |
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 741,749. GOLD SEAL FILM SERVICE AND DESIGN. Cl. 106.
 741,756. DOK-GARD. Cl. 12.
 741,758. GORGERAT-1896. Cl. 27.

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249,000. I. MILLER. Cl. 39. 11-6-28. I. Miller and Sons, Incorporated, Genesco Inc., Nashville, Tenn. Amended: In the statement, column 2, lines 16 and 17 are deleted, and the drawing is amended to appear:

I. MILLER

500,964. TRUFLEX. Cl. 14. 7-13-48. Metals & Controls Corporation, Texas Instruments Incorporated, Dallas, Tex. Amended to appear:

TRUFLEX

508,985. SUPERIOR 70 AND DESIGN. Cl. 6. 4-26-49. Puerto Rico Distilling Company, Puerto Rico Distillers, Inc., Arecibo, Puerto Rico. Amended to appear:



573,363. KOLOR BAK. Cl. 51. 4-21-53. Consolidated Royal Chemical Corporation, Chicago, Ill. Amended to appear:

KOLOR BAK

599,533. LESTER AND DESIGN. Cl. 6. 12-28-54. Lester Laboratories, Ltd. Lester Laboratories, Inc., Atlanta, Ga. Amended: In the statement, column 2, line 6, after "Purity," and is inserted and in line 7, "and 'Laboratories'" is deleted, and the drawing is amended to appear:



758,370. POLY WELD. Cl. 21. 10-15-63. U.S. Engineering Company, Inc. Litton Precision Products, Inc., San Carlos, Calif. Amended to appear:

POLY WELD

825,064. LIPSAVERS. Cl. 51. 2-28-67. Sea & Ski Corporation, Millbrae, Calif. Amended to appear:

LIPSAVERS

860,512. BRISTOLINE. Cl. 26. 11-19-68. Bristolline Inc., New York, N.Y. Corrected: In the statement, column 1, line 1, "Bristolines" should be deleted and *Bristoline* should be inserted.

860,627. WELCHBERRY. Cl. 45. 11-19-68. The Welch Grape Juice Company, Inc., Westfield, N.Y. Corrected: In the statement, column 1, line 1, "Co." should be deleted and *Company, Inc.* should be inserted.

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 Adler Co., The, Cincinnati, Ohio, to Burlington Industries, Inc., Greensboro, N.C. 506,143, ren. 1-21-69. Cl. 39.
 Advance Food Service Equipment, Inc., Westbury, N.Y. 863,805, pub. 11-5-68. Cl. 13.
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 Alberto-Culver Co., Meirose Park, Ill. 864,068, Cl. 51.
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 Andex Corp., Rochester, N.Y. 863,916, pub. 11-5-68. Cl. 31.
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 Diebold, Inc., Canton, Ohio. 503,896-7, ren. 1-21-69. Cl. 25.
 Diverser Corp., The, Chicago, Ill. 864,025, pub. 11-5-68. Cl. 52.
 Diversified Packaging Service, Inc., Alliance, Ohio. 863,099, pub. 11-5-68. Cl. 46.
 Dr. Parker Medicine Co.: See—
 Parker, Edgar W.
 Doray Lamp Co., Inc., Chicago, Ill. 504,810, ren. 1-21-69. Cl. 21.
 Dresser Industries, Inc., Dallas, Tex. 863,851, pub. 11-5-68. Multiple Class (Classes 21 and 23).
 Drilling Equipment Mfg. Co.: See—
 Demco, Inc.
 Drum Fire, Inc., Tuckahoe, N.Y. 863,930, pub. 11-5-68. Cl. 34.
 Du Pont de Nemours, E. I. & Co., Wilmington Del. 163,057, can. Cl. 6.
 Duratrou Corp., Los Angeles, Calif. 741,562, can. Cl. 22.
 Duvoig, Charles, & Fils, Tosse, Landes, France. 863,832, pub. 11-5-68. Cl. 10.
 Dynacor Mfg. Co., Evanston, Ill. 863,969, pub. 11-5-68. Cl. 42.
 EG & G Inc., Bedford, Mass. 863,850, pub. 11-5-68. Cl. 21.
 E-I Corp.: See—
 Construction Specialties, Inc. of Pennsylvania.
 Earle, Robert, Co., Greeley, Colo. 863,823, pub. 11-5-68. Cl. 18.
 Eastern Co., The: See—
 Dnforth Anchors.
 Eastern Shore Laboratories, Inc., Laurel, Del. 863,818-19, pub. 11-5-68. Multiple Class (Classes 18 and 100).
 Eastman Kodak Co., Rochester, N.Y. 863,760, pub. 11-5-68. Cl. 6.
 Ebsco Industries, Inc., Birmingham, Ala. 741,604, can. Cl. 26.
 Economation, Inc., Indianapolis, Ind. 863,892, pub. 11-5-68. Cl. 23.
 Eisenberg & Sons, Inc., Chicago, Ill. 506,857, ren. 1-21-69. Cl. 39.
 Electrical Remote Control Co. Ltd., Harlow, Essex, England. 863,841, pub. 11-5-68. Multiple Class (Classes 21, 23, and 26).
 Electro Optical Systems, Inc., Pasadena, Calif. 741,587, can. Cl. 26.
 Electro-Nite Co., Philadelphia, Pa. 863,858, pub. 11-5-68. Cl. 21.
 Electro-Solid Controls, Inc., Minneapolis, Minn. 741,548, can. Cl. 21.
 Engelhard Minerals & Chemicals Corp., Newark, N.J. 863,760, pub. 11-5-68. Cl. 6.
 Engineered Container Corp., Houston, Tex. 741,451, can. Cl. 2.
 Engineering Co., Inc., to Litton Precision Products, Inc., San Carlos, Calif. 758,370, Am. 7(d), Cl. 21.
 English Electric Co. Ltd., The, London, England. 741,547, can. Cl. 21.
 Enterprise Publishing Co., The, Brockton, Mass. 508,764, ren. 1-21-69. Cl. 38.
 Entoleter, Inc., Hamden, Conn. 863,873, pub. 11-5-68. Cl. 23.
 Estey Corp., Red Bank, N.J. 863,922, pub. 11-5-68. Cl. 32.
 Evans Metal Co.: See—
 Seltzingers, Inc.
 Fabrique d'Horlogerie Lemanla Lucrin S.A., d.b.a. Lemanla Watch Co. Lucrin Ltd., Orient, Switzerland. 863,903, pub. 11-5-68. Cl. 27.
 Fabrique Suisse de Crayons Caran d'Ache Societe Anonyme, Geneva, Switzerland. 863,941, pub. 11-5-68. Cl. 37.
 Fairfax Distributing Co., Inc.: See—
 Rosenthal, E. M., Jewelry Co.
 Faraday, Inc., from Sperti Faraday Inc., Adrian, Mich. 741,710, can. Cl. 50.
 Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Bayerwerk, Germany. 863,815, pub. 11-5-68. Cl. 15.
 Fashion Tress, Inc., Miami Beach, Fla. 863,968, pub. 11-5-68. Cl. 40.
 Faultless Starch Co., Kansas City, Mo. 863,763-4, pub. 11-5-68. Cl. 6.
 Federal-Mogul Corp.: See—
 National Motor Bearing Co., Inc.
 Felker Mfg. Co., Torrance, Calif. 741,462, can. Cl. 4.
 Felt Products Mfg. Co., Skokie, Ill. 863,753, pub. 11-5-68. Cl. 5.
 Fill-R-Up Auto Wash, Inc., Fort Lauderdale, Fla. 864,044, pub. 11-5-68. Multiple Class (Classes 101 and 103).
 Fisher Scientific Co., Pittsburgh, Pa. 863,953-4, pub. 11-5-68. Cl. 38.
 Flisons Pharmaceuticals Ltd., Loughborough, England. 863,978, pub. 11-5-68. Cl. 44.
 Fleshman, Clarence E., d.b.a. Fleshman Footade Co., Oak Hill, W. Va. 863,827, pub. 11-5-68. Cl. 18.
 Fleshman Footade Co.: See—
 Fleshman, Clarence E.
 Ford Motor Co., Dearborn, Mich. 250,230, ren. 1-21-69. Cl. 26.
 Ford Motor Co., Dearborn, Mich. 741,538, can. Cl. 19.
 Forms Inc., Los Angeles, Calif., to California Forms, Inc., Culver City, Calif. 508,695, ren. 1-21-69. Cl. 40.
 Fortunoff, M., of Westbury Corp., Westbury, N.Y. 863,913, pub. 11-5-68. Cl. 30.
 "42" Products, Ltd., Inc., d.b.a. Spray Specialties, Santa Monica, Calif. 864,019, pub. 11-5-68. Cl. 51.
 Fownes Brothers & Co., Inc., New York, N.Y. 863,871, pub. 11-5-68. Cl. 22.
 Fox, Harry, d.b.a. D.F.C. Enterprises, Beverly Hills, Calif. 863,755, pub. 11-5-68. Cl. 12.
 Fox, Seymour, Inc., New York, N.Y. 864,017, pub. 11-5-68. Cl. 51.

Fried, Jeffrey L., d.b.a. Walton-March, Highland Park, Ill. 863,796, pub. 11-5-68. Cl. 13.
 Friel, S. E. W., Queestown, Md. 507,924, ren. 1-21-69. Cl. 46.
 Fuller Brush Co., The, East Hartford, Conn. 863,767, pub. 11-5-68. Cl. 6.
 Fuller, W. P., & Co., San Francisco, Calif. 741,506, can. Cl. 12.
 Fuji Seltetsu Kabushiki Kaisha (Fuji Iron & Steel Co., Ltd.), Tokyo, Japan. 863,813, pub. 11-5-68. Cl. 14.
 Fuston Rubbermaid Corp., Statesville, N.C. 863,739, pub. 11-5-68. Cl. 2.
 GAF Corp.: See—
 General Aniline & Film Corp.
 GCA Corp., Bedford, Mass. 863,890, pub. 11-5-68. Multiple Class (Classes 23 and 34).
 Gardner Mfg. Co., Horicon, Wis. 741,634, can. Cl. 34.
 Gemco Electric Co., Clawson, Mich. 863,881, pub. 11-5-68. Cl. 23.
 General Aniline & Film Corp., to GAF Corp., New York, N.Y. 503,910, ren. 1-21-69. Cl. 26.
 General Clay Products Corp., Columbus, Ohio. 863,780-1, pub. 11-5-68. Cl. 12.
 General Dynamics Corp., San Diego, Calif. 741,535, can. Cl. 19.
 General Foods Corp., White Plains, N.Y. 741,684, can. Cl. 46.
 General Foods Corp., White Plains, N.Y. 741,687, can. Cl. 46.
 Georgia-Pacific Corp., Portland, Oreg. 863,940, pub. 7-2-68. Cl. 37.
 Gillette Co., The, Boston, Mass. 863,883, pub. 10-17-67. Cl. 23.
 Gillette Co., The, Boston, Mass. 864,022, pub. 11-5-68. Multiple Class (Classes 51 and 52).
 Gillette Co., The, Boston, Mass. 864,028, pub. 11-5-68. Cl. 52.
 Goettsch, John H.: See—
 Mattel, Inc.
 Goldpoint Industries, Inc., New York, N.Y. 863,847, pub. 6-25-68. Cl. 21.
 Gorgierat, Jean-Raoul, La Chaux-De-Fonds, Switzerland. 741,758, can. Cl. 27.
 Gorman Games, Inc., Chicago, Ill. 741,554, can. Cl. 22.
 Goteborgs Kemish-Tekniska Fabrik Vasco Aktiebolag, Gothenberg, Sweden. 741,714, can. Cl. 51.
 Granger Associates, Palo Alto, Calif., from Bauer Electronics Corp., San Carlos, Calif. 863,842, pub. 11-5-68. Cl. 21.
 Green Shield, Stratford, N.J. 864,046, pub. 11-5-68. Cl. 102.
 Gretschi, Fred. Co., Inc., The, New York, N.Y., from The Fred Gretschi Mfg. Co., Brooklyn, N.Y. 863,934-5, pub. 11-5-68. Cl. 36.
 Gretschi, Fred. Mfg. Co., The: See—
 Gretschi, Fred. Co., Inc., The.
 Griffin Mfg. Co., Inc., Brooklyn, N.Y., to Americo Home Products Corp., New York, N.Y. 505,835, ren. 1-21-69. Cl. 4.
 Gulf Oil Corp., Pittsburgh, Pa. 863,928, pub. 11-5-68. Cl. 34.
 Gulf States Paper Corp., Tuscaloosa, Ala. 863,738, pub. 11-5-68. Cl. 2.
 Gulf States Paper Corp., Tuscaloosa, Ala. 863,746-7, pub. 11-5-68. Cl. 2.
 Gustav A. Ring System Maskiner A/S, Oslo, Norway. 863,849, pub. 7-2-68. Cl. 21.
 Halley, Jason, d.b.a. Jason Halley Photography, Los Angeles, Calif. 863,947, pub. 11-5-68. Cl. 38.
 Halley, Jason, Photography: See—
 Halley, Jason.
 Hamilton Shoe Co., St. Louis, Mo. 741,654, can. Cl. 39.
 Hammors Products Co., Stockton, Mo. 741,428, can. Cl. 1.
 Hardman Inc., from Di'R Inc., Belleville, N.J. 863,734, pub. 11-5-68. Cl. 1.
 Hartley, Elizabeth, Inc., New York, N.Y. 864,021, pub. 11-5-68. Cl. 51.
 Hawaii Art Publishing Co., Ltd., Honolulu, Hawaii. 741,501, can. Cl. 26.
 Hawk Model Co., Chicago, Ill. 864,004, pub. 11-5-68. Cl. 50.
 Heide, Henry, New York, N.Y., to Henry Heide, Inc., New Brunswick, N.J. 32,606, ren. 1-21-69. Cl. 40.
 Heide, Henry, Inc.: See—
 Heide, Henry.
 Herculte Protective Fabrics Corp., Newark, N.J. 863,972, pub. 11-5-68. Cl. 42.
 Hero Boy, Inc., New York, N.Y. 863,993, pub. 11-5-68. Cl. 46.
 Hesstoo Corp., Inc., Hesston, Kans. 863,889, pub. 11-5-68. Cl. 23.
 Hettrick Mfg. Co., The, Toledo, Ohio. 741,709, can. Cl. 50.
 Heyden Newport Chemical Corp., New York, N.Y. 399,407, can. Cl. 16.
 Hi-Flavor Packing Corp., Philadelphia, Pa. 863,090, pub. 11-5-68. Cl. 45.
 Highway Trailer Industries, Inc., Edgerton, Wis. 863,838, pub. 11-5-68. Cl. 19.
 Hofmeister Co., Park Ridge, Ill. 863,855-6, pub. 11-5-68. Multiple Class (Classes 21 and 34).
 Hooker Chemical Corp., Niagara Falls, N.Y. 863,760, pub. 11-5-68. Cl. 6.
 Hotel Circle, Inc., San Diego, Calif. 864,036, pub. 11-5-68. Cl. 100.
 Howmott Corp., New York, N.Y. 863,985, pub. 11-5-68. Cl. 44.
 Hudaut, Richard, Morris Plains, N.J. 864,012-13, pub. 11-5-68. Cl. 51.
 IXL Appliances Inc., Hollis, N.Y. 863,840, pub. 9-10-68. Cl. 21.
 Industrial-Automotive, Inc., Newark, Ohio. 863,942, pub. 11-5-68. Cl. 37.
 International Dioxide, Inc., New York, N.Y. 863,772, pub. 11-5-68. Cl. 6.
 International Factory Sales Service Ltd., Vancouver, British Columbia, Canada. 863,925, pub. 11-5-68. Cl. 32.
 International Telephone & Telegraph Corp., New York, N.Y. 863,808, pub. 11-5-68. Cl. 13.
 Ireland, Glen V., d.b.a. The Irelok Co., West Allis, Wis. 741,581, can. Cl. 23.
 Irelok Co., The: See—
 Ireland, Glen V.
 Itok Corp., Cambridge, Mass. 741,546, can. Cl. 21.
 Itoh, C., & Co. (America), Inc., New York, N.Y. 863,837, pub. 11-5-68. Cl. 19.
 Ives, Sybil, Inc., Yonkers, N.Y. 864,010, pub. 11-5-68. Cl. 51.
 J & H International Corp., Chicago, Ill. 864,038-9, pub. 11-5-68. Cl. 101.
 J & H International Corp., Chicago, Ill. 864,041-3, pub. 11-5-68. Cl. 101.
 Jackson Exit Device Corp., Los Angeles, Calif. 863,920, pub. 11-5-68. Cl. 32.
 James Remind-O-Timer Co.: See—
 Miller, Clifford E.
 James Restaurants, Inc., Toledo, Ohio. 864,035, pub. 11-5-68. Cl. 100.
 Janitors Supply House, Inc., Baltimore, Md. 508,580, ren. 1-21-69. Cl. 4.
 Janssen Pharmaceutica N.V., Beerse, Belgium. 863,830, pub. 11-5-68. Cl. 18.
 Jemco, Inc., Jemison, Ala. 741,504, can. Cl. 12.
 Jerico, Inc., d.b.a. Jerry's Restaurants, Lexington, Ky. 864,063, Cl. 46.
 Jerry's Restaurants: See—
 Jerico, Inc.
 Jfasteners Ltd., Brampton, Ontario, Canada. 864,003, pub. 11-5-68. Cl. 50.
 Johnston, William H., Laboratories, Inc., Baltimore, Md. 863,899, pub. 11-5-68. Cl. 26.
 Jones, Paul A., d.b.a. Kiddle Brush & Toy Co., to Kiddle Brush & Toy Co., Inc., Jonesville, Mich. 502,118, ren. 1-21-69. Cl. 22.
 Jones, Russell E., Kingston, Ohio. 863,887, pub. 11-5-68. Cl. 23.
 Josam Mfg. Co., Michigan City, Ind. 863,797, pub. 11-5-68. Cl. 13.
 Josam Mfg. Co., Michigan City, Ind. 863,803, pub. 11-5-68. Cl. 13.
 Joseph & Fels Co., The: See—
 Shane, C. B., Corp.
 Joy Co., The: See—
 Oder, Thomas W.
 Kabushiki Kaisha Hattori Toketen, Tokyo, Japan. 863,904-5, pub. 11-5-68. Cl. 27.
 Kaga Industries, Co., Ltd., Omiya-shi, Saltama-ken, Japan. 863,802, pub. 11-5-68. Cl. 13.
 Kaiser Aluminum & Chemical Corp., Oakland, Calif. 741,495, can. Cl. 12.
 Kaiser Industries Corp., Oakland, Calif. 741,452, can. Cl. 2.
 Kamar, Inc., Gardena, Calif. 863,865, pub. 11-5-68. Cl. 22.
 Kayser-Roth Corp.: See—
 Wimbacher & Rice Inc.
 Keene Corp.: See—
 Penn Metal Co.
 Kelly-Springfield Tire Co., The: See—
 Standard Oil Co. of California.
 Keneth Beauty Salons & Products, Inc., New York, N.Y. 864,011, pub. 11-5-68. Cl. 51.
 Kiddle Brush & Toy Co.: See—
 Jones, Paul A.
 Kiddle Brush & Toy Co., Inc.: See—
 Jones, Paul A.
 Kimball, C. M., Co., Boston, Mass., to Standard International Corp., Andover, Mass. 508,483, ren. 1-21-69. Cl. 6.
 Knights of Christ: See—
 Sovereign Byzantine Order Lascaris-Comnenus of Saints Constantine the Great and Helen A.D. 312, Inc.
 Knights of Constantine: See—
 Sovereign Byzantine Order Lascaris-Comnenus of Saints Constantine the Great and Helen A.D. 312, Inc.
 Koehler Pharmacy, Blue Earth, Minn. 741,688, can. Cl. 46.
 Kold-Seal, Belmont, Calif. 863,787, pub. 11-5-68. Cl. 12.
 Koracorp Industries, Inc., from Koret of Calif., Inc., San Francisco, Calif. 863,959, pub. 11-5-68. Cl. 39.
 Koret of Calif., Inc.: See—
 Koracorp Industries, Inc.
 Koyu International, Inc., Los Angeles, Calif. 863,896, pub. 11-5-68. Cl. 26.
 Krembs & Co.: See—
 Krembs, Ottmar M.
 Krembs, Mary Bruecke: See—
 Krembs, Ottmar M.
 Krembs, Ottmar M., d.b.a. Krembs & Co., to Mary Bruecke Krembs, d.b.a. Krembs & Co., Chicago, Ill. 254,799, ren. 1-21-69. Cl. 6.
 Kroger Co., The, Cincinnati, Ohio. 863,995, pub. 11-5-68. Cl. 46.
 Kronseder, Hermann, d.b.a. Hermann Kronseder Maschinenfabrik, Bavaria, Germany. 863,884, pub. 11-5-68. Cl. 23.
 Kronseder, Hermann, Maschinenfabrik: See—
 Kronseder, Hermann.
 La-Cal Automotive Co., Los Angeles, Calif. 741,707, can. Cl. 50.

- Ladies of St. Helen: See—
Sovereign Byzantine Order Lascaris-Comnenus of Saints
Constantine the Great and Helen A.D. 312, Inc.
Lakeside Laboratories, Inc., Milwaukee, Wis. 741,528, cano.
Cl. 18.
Lamson Corp., Syracuse, N.Y. 741,569, cano. Cl. 23.
Lane Bryant, Inc., New York, N.Y. 254,387, ren. 1-21-69.
Cl. 39.
Lantz, Walter, Productions, Inc., Hollywood, Calif. 863,952,
pub. 11-5-68. Cl. 38.
Lawyers' Co-Operative Publishing Co., The, Rochester, N.Y.
863,955, pub. 11-5-68. Cl. 38.
Lehr, Slegler, Inc., Grand Rapids, Mich. 863,962, pub. 11-5-
68. Cl. 26.
Lemania Watch Co. Lugrin Ltd.: See—
Fabrique D'Horlogerie Lemania Lugrin S.A.
Lester Laboratories, Ltd., to Lester Laboratories, Inc., At-
lanta, Ga. 599,833, Am. 7(d). Cl. 6.
Liberty Trouser Co., Birmingham, Ala. 864,061, Cl. 39.
Lift Parts Mfg., Inc., Chicago, Ill. 741,574, cano. Cl. 23.
Lilla, Michael John, d.b.a. M. Lilley & Co., Brooklyn, N.Y.
741,729, cano. Cl. 52.
Lilley, M., & Co.: See—
Lilla, Michael John.
Lincoln Engineering Co., St. Louis, Mo., to McNell Corp.,
Akron, Ohio. 505,332, ren. 1-21-69. Cl. 23.
Liquid Carbonic Corp., Chicago, Ill. 863,929, pub. 11-5-68.
Cl. 34.
Lopez, Antonio Ocho A., d.b.a. Popo Records, La Puente,
Calif. 863,933, pub. 11-5-68. Cl. 36.
Lorain Products Corp., Lorain, Ohio. 566,508, ren. 1-21-69.
Cl. 21.
L'Oreal, Paris, France. 864,008, pub. 11-5-68. Cl. 51.
Lumitex Luminous Panel Co.: See—
Naony, William G.
Luzuria Cosmetics, Ltd., New York, N.Y. 864,005, pub. 11-5-
68. Cl. 51.
Magazine Management Co.: See—
Perfect Film & Chemical Corp.
Magnabuz Corp., Chicago, Ill. 863,757, pub. 11-5-68. Multiple
Class (Classes 6 and 52).
Majestic Seat Co., Inc., The, Newnan, Ga. 741,622, cano. Cl.
32.
Majestic Silver Co., The, New Haven, Conn. 504,540, ren.
1-21-69. Cl. 23.
Maltby Co., The, Culver City, Calif. 864,623, pub. 11-5-68.
Cl. 52.
Mamiye Brothers Inc., New York, N.Y. 863,962, pub. 11-5-68.
Cl. 39.
Mancini, Francis J., d.b.a. Melrose Specialty Products Co.,
Plymouth Meeting, Pa. 863,975, pub. 1-31-67. Cl. 44.
Margrace Corp.: See—
Parker, Edgar W.
Marvel Comics Group: See—
Perfect Film & Chemical Corp.
Materials Research Corp., Orangeburg, N.Y. 863,898, pub.
11-5-68. Cl. 26.
Mathieson Alkali Works, Inc., The, to Olin Mathieson Chemi-
cal Corp., New York, N.Y. 252,200, ren. 1-21-69. Cl. 6.
Mattel, Inc., Hawthorne, Calif., from Goettsch, John H.,
d.b.a. Toy Concepts Co., Chicago, Ill. 863,859, pub. 2-6-68.
Cl. 22.
Mattel, Inc., Hawthorne, Calif. 863,870, 11-5-68. Cl. 22.
Mayborn Products Ltd., London, England. 507,248-9, ren.
1-21-69. Cl. 6.
McGraw-Edition Co.: See—
Swartzbaugh Mfg. Co., The.
McKinnon, Columbus, Ltd., St. Catharines, Ontario, Canada.
863,775, pub. 11-5-68. Cl. 7.
McNell Corp.: See—
Lincoln Engineering Co.
Mead Johnson & Co., Evansville, Ind. 863,992, pub. 11-5-68.
Cl. 46.
Mead's Bakery, Abilene, Tex., to Mead Foods, Inc., Amarillo,
Tex. 507,326, ren. 1-21-69. Cl. 46.
Mead Foods, Inc.: See—
Mead's Bakery.
Medana Pharmaceuticals Ltd., Bradford, England. 741,530,
cano. Cl. 18.
Medco Products Co., Inc., Tulsa, Okla. 863,976, pub. 11-5-68.
Cl. 44.
Melrose Specialty Products Co.: See—
Mancini, Francis J.
Metals & Controls Corp., to Texas Instruments Inc., Dallas,
Tex. 500,964, Am. 7(d). Cl. 14.
Michigan Chemical Corp., St. Louis, Mich. 506,521, ren.
1-21-69. Cl. 6.
Midas, Inc., Chicago, Ill. 864,048-9, pub. 11-5-68. Cl. 103.
Miller, Clifford E., d.b.a. James Remind-O Timer Co., Oak-
land, Calif. 863,897, pub. 11-5-68. Cl. 26.
Miller, Gene D., d.b.a. Canine Behavior Institute, West Los
Angeles, Calif. 863,750, pub. 11-5-68. Cl. 3.
Miller, J. & Sons, Inc., to Genesco Inc., Nashville, Tenn.
249,000, Am. 7(d). Cl. 39.
Minnesota Mining & Mfg. Co., St. Paul, Minn. 741,549, cano.
Cl. 21.
Minnesota Mining & Mfg. Co., St. Paul, Minn. 741,638, cano.
Cl. 37.
Minnesota Mining & Mfg. Co., St. Paul, Minn. 741,713, cano.
Cl. 50.
Mohamed, Ahmed, Sacramento, Calif. 741,735, cano. Cl. 62.
Monarch Road Machinery Co., Grand Rapids, Mich. 863,872,
pub. 12-19-67. Cl. 23.
Morelli, N. Knute, d.b.a. Numor Products Co., Canton, Ohio.
863,755, pub. 11-5-68. Cl. 6.
Morton International, Inc., Chicago, Ill. 864,062, Cl. 16.
Moskovitz & Gluck, Inc., New York, N.Y. 863,808, pub. 11-5-
68. Cl. 27.
Mossberg, O. F., & Sons, Inc., New Haven, Conn. 741,552,
cano. Cl. 22.
Mueller Co., Decatur, Ill. 863,810, pub. 11-5-68. Cl. 13.
Munters Corp., Fort Myers, Fla. 863,784, pub. 11-5-68. Cl.
12.
N.V. Lankhorst Tonwafabriek, Soeck, Netherlands. 863,776,
pub. 11-5-68. Cl. 7.
Nanny, William C., d.b.a. Lumitex Luminous Panel Co., San
Francisco, Calif. 741,545, cano. Cl. 21.
Natgun Corp., Boston, Mass. 864,052, pub. 11-5-68. Cl.
103.
National Basketball Association, New York, N.Y. 864,034,
11-5-68. Cl. 100.
National Footwear Manufacturers Association, New York,
N.Y. 864,032, pub. 11-5-68. Cl. 100.
National Motor Bearing Co., Inc., Redwood City, Calif., to
Federal-Mogul Corp., Southfield, Mich. 506,392, ren. 1-21-
69. Cl. 35.
Nationwide Homes Corp., Atlanta, Ga. 741,4922, cano. Cl.
12.
Nentek Associates, Miami, Fla. 863,918, pub. 11-5-68. Cl.
31.
New Jersey Machine Corp., Hoboken, N.J. 863,891, pub. 11-5-
68. Cl. 23.
Noreen, Inc., to Ellen & Co., Denver, Colo. 505,052, ren. 1-21-
69. Cl. 51.
Norfolk & Western Railway Co., Roanoke, Va. 741,747, cano.
Cl. 105.
North American Rockwell: See—
Air-Maze Corp.
Numor Products Co.: See—
Morelli, N. Knute.
Nuqup Ltd., London, England. 741,580, cano. Cl. 23.
Nussbaum, R., & Co., A.G., Olten, Solothurn, Switzerland.
863,798, pub. 11-5-68. Cl. 13.
Nutrilite Products, Inc., Buena Park, Calif. 864,009, pub.
11-5-68. Cl. 51.
Nutrilite Products, Inc., Buena Park, Calif. 864,024, pub.
11-5-68. Cl. 52.
Oder, Thomas W., d.b.a. The Joy Co., White Hall, Va. 863,984,
pub. 11-5-68. Cl. 44.
Okonite Co., The, to The Okonite Co., Passaic, N.J. 506,404,
ren. 1-21-69. Cl. 21.
Olin Mathieson Chemical Corp.: See—
Mathieson Alkali Works, Inc.
Olin Mathieson Chemical Corp., New York, N.Y. 863,945, pub.
11-5-68. Cl. 37.
Orthopedic Equipment Co., Inc., Bourbon, Ind. 863,977, pub.
11-5-68. Cl. 44.
Overhead Door Corp., Dallas, Tex. 863,833, pub. 11-5-68.
Cl. 19.
Oxford-Universal: See—
Burns Pharmaceuticals, Inc.
PPG Industries, Inc., from Pittsburgh Plate Glass Co., Pitts-
burgh, Pa. 863,931, pub. 11-5-68. Cl. 34.
Pacific & Atlantic Shippers, Inc., d.b.a. Tyroco Industries,
Emeryville, Calif. 741,756, cano. Cl. 12.
Palmer Sales Corp., New York, N.Y. 863,906-7, pub. 11-5-
68. Cl. 27.
Pan American Trade Development Corp., New York, N.Y.
863,807, pub. 11-5-68. Cl. 13.
Paramount Products Co.: See—
Bright, Catherine T., and H. C. Bright, Jr.
Paramount Textile Machinery Co., Chicago, Ill. 741,579, cano.
Cl. 23.
Parfums Schiaparelli, Inc., New York, N.Y. 861,020, pub.
11-5-68. Cl. 51.
Parke, Davis & Co., Detroit, Mich. 254,507, ren. 1-21-69.
Cl. 18.
Parker, Edgar W., d.b.a. Dr. Parker Medicine Co., Tampa,
Fla., to Margrace Corp., New York, N.Y. 249,544, ren.
1-21-69. Cl. 18.
Patek & Co., to Amerace Corp., New York, N.Y. 439,966, ren.
1-21-69. Cl. 52.
Pavelle Ltd., Epsom, Surrey, England. 863,900, pub. 11-5-68.
Cl. 26.
Peck & Peck, New York, N.Y. 507,285, ren. 1-21-69. Cl.
39.
Pellon Corp., New York, N.Y. 863,911, pub. 11-5-68. Cl.
29.
Penn Metal Co., Cambridge, Mass., to Keene Corp., New
York, N.Y. 255,453, ren. 1-21-69. Cl. 12.
Pennsalt Chemicals Corp., Philadelphia, Pa. 863,758, pub.
11-5-68. Cl. 6.
Perfect Film & Chemical Corp., d.b.a. Marvel Comics Group,
from Magazine Management Co., d.b.a. Marvel Comics
Group, New York, N.Y. 863,950, pub. 10-22-68. Cl. 38.
Perfex Co., The, Shenandoah, Iowa, to Tidy House Products
Co., Omaha, Nebr. 505,691, ren. 1-21-69. Cl. 6.
Perry Safety Wheel Corp., Inglewood, Calif. 741,551, cano.
Cl. 22.
Pfizer, Chas., & Co., Inc., New York, N.Y. 864,018, pub. 11-5-
68. Cl. 51.
Philadelphia Quartz Co., Philadelphia, Pa. 863,774, pub.
11-5-68. Cl. 6.
Phillips Roxane, Inc.: See—
Phillips Roxane Laboratories, Inc.
Phillips Roxane Laboratories, Inc., from Phillips Roxane, Inc.,
New York, N.Y. 864,006, pub. 11-5-68. Cl. 51.
Phillips Petroleum Co., Bartlesville, Okla. 863,735, pub.
11-5-68. Cl. 1.

- Pieper Electric, Inc., Milwaukee, Wis. 864,050, pub. 11-5-68.
Cl. 103.
Piping Specialties, Inc., New York, N.Y. 863,809, pub. 11-5-
68. Cl. 13.
Pittsburgh Plate Glass Co.: See—
PPG Industries, Inc.
Plastic Applicators, Inc.: See—
Schlumberger Technology Corp.
Pledger-Cockle Sales Co., Inc., Cincinnati, Ohio. 741,631,
cano. Cl. 34.
Popo Records: See—
Lopez, Antonio Ocho A.
Portland Cement Assn., Chicago, Ill. 864,045, pub. 11-5-68.
Cl. 101.
Port-O-Flao, Redondo Beach, Calif. 864,030, pub. 11-5-68.
Cl. 100.
Precipitator Corp. of America, Boston, Mass. 741,618, cano.
Cl. 31.
Precision Thermometer & Instrument Co., Philadelphia, Pa.
741,588, cano. Cl. 26.
Premier Industrial Corp., Cleveland, Ohio. 864,027, pub.
11-5-68. Cl. 52.
Press, Leonard, d.b.a. Cavalon Drapery Cleaners, Dayton,
Ohio. 864,051, pub. 11-5-68. Cl. 103.
Presto Palat Products Corp., Miami, Fla. 741,516, cano. Cl.
16.
Producers Creamery Co., Springfield, Mo. 741,682, cano. Cl.
46.
Programmed Teaching Aids, Inc., Arlington, Va. 741,712,
cano. Cl. 50.
Puerto Rico Distilling Co., to Puerto Rico Distillers, Inc.,
Arecibo, Puerto Rico. 508,985, Am. 7(d). Cl. 6.
Pullen, Josephus, Jr., d.b.a. Coach & Co., Chicago, Ill. 864-
053, pub. 11-5-68. Cl. 103.
Parex Corp. Ltd.: See—
Cudaby Packing Co., The.
Purex Corp., Ltd., Wilmington, Calif. 741,734, cano. Cl. 52.
Quaker Oats Co., The, Chicago, Ill. 863,997-8, pub. 11-5-68.
Cl. 46.
Quality Bakery Co., Columbus, Ohio. 863,991, pub. 11-5-68.
Cl. 46.
Quartz & Silice, Paris, France. 741,593, cano. Cl. 26.
R. I. N. C. O., Los Angeles, Calif. 741,511, cano. Cl. 13.
Racine Industrial Plant, Inc., Racine, Wis. 863,756, pub.
11-5-68. Cl. 6.
Regeat Sports Co., New York, N.Y. 863,861, pub. 11-5-68. Cl.
22.
Relaxacizor, Inc., Los Angeles, Calif. 863,982, pub. 11-5-68.
Cl. 44.
Re-Ly-On Metal Products, Inc., Brooklyn, N.Y. 863,923-4,
pub. 11-5-68. Cl. 32.
Reynolds-Tancon Industries, Inc., Beverly Hills, Calif. 741-
635, cano. Cl. 34.
Research Products Corp., Madison, Wis. 863,927, pub. 11-5-
68. Cl. 34.
Reserve Insurance Co., Chicago, Ill. 864,047, pub. 11-5-68.
Cl. 102.
Rex Chabubelt Inc., Milwaukee, Wis. 863,856, pub. 11-5-68.
Cl. 23.
Reynolds Metals Co., Richmond, Va. 741,493, cano. Cl. 12.
Rhodes, James H., & Co., Chicago, Ill. 505,327, ren. 1-21-69.
Cl. 4.
Richards, Caryl, Inc., New York, N.Y. 863,988, pub. 11-5-68.
Cl. 44.
Rinsch-Mason Co., Detroit, Mich. 741,517, cano. Cl. 16.
Rolls Equipment, Inc., Elyria, Ohio. 863,979, pub. 11-5-68.
Cl. 44.
Rolscreen Co., Pella, Iowa. 863,778, pub. 11-5-68. Cl. 12.
Rosenthal, E. M., Jewelry Co., to Fairfax Distributing Co.,
Inc., Washington, D.C. 504,661, ren. 1-21-69. Cl. 27.
Royal Ranger Distilling Co.: See—
Herbiglia, Inc.
Rusch, Willy, Rommelshause, Germany. 863,986, pub. 11-5-
68. Cl. 44.
Russell, Burdall & Ward Bolt & Nut Co., Port Chester, N.Y.
863,811, pub. 11-5-68. Cl. 13.
Sazerac Co., Inc., New Orleans, La. 864,066, Cl. 49.
Schlick Electric Inc., Lancaster, Pa. 863,081, pub. 11-5-68.
Cl. 44.
Schjeldahl, O. T., Co., Northfield, Minn. 741,497, cano. Cl. 12.
Schlumberger Technology Corp., from Plastic Applicators,
Inc., Houston, Tex. 864,054, pub. 2-14-67. Cl. 106.
Schmid, Julius, Inc., New York, N.Y. 863,828, pub. 11-5-68.
Cl. 18.
Schoeneman, J., Inc., Baltimore, to J. Schoeneman, Inc.,
Owings Mills, Md. 505,540, ren. 1-21-69. Cl. 39.
Schofield, E. L., Inc., Rockford, Ill. 741,539, cano. Cl. 19.
Schwinn Bicycle Co., Chicago, Ill. 863,836, pub. 11-5-68. Cl.
19.
Scott Corp., The, Houston, Tex. 741,745, cano. Cl. 103.
Sea & Ski Corp., Milbrae, Calif. 825,064, Am. 7(d). Cl. 51.
Selectro Corp., Mamaronck, N.Y. 863,857, pub. 11-5-68.
Cl. 21.
Searle, G. D., & Co., to G. D. Searle & Co., Chicago, Ill. 441-
380, ren. 1-12-69. Cl. 18.
Seltzingers, Inc., d.b.a. Evans Metal Co., Atlanta, Ga. 863-
783, pub. 11-5-68. Multiple Class (Classes 12, 13 and 14).
Select Nurseries, Inc., Brea, Calif. 741,435-6, cano. Cl. 1.
Senior Hill Orchards, Waynesboro, Pa. 741,678, cano. Cl. 46.
Seton Corp., Providence, R.I. 741,498, cano. Cl. 12.
Sevenska Cellulosa Aktiebolaget, Sundsvall, Sweden. 441,392,
ren. 1-21-69. Cl. 1.
Sevenska Cellulosa Aktiebolaget, Sundsvall, Sweden. 441,462,
ren. 1-21-69. Cl. 37.
Seward-Luggage Mfg. Co., Inc., Petersburg, Va. 863,751,
pub. 11-5-68. Cl. 3.
Shane, C. B., Corp., Chicago, Ill., to The Joseph & Feiss Co.,
Cleveland, Ohio. 501,617, ren. 1-21-69. Cl. 39.
Shelby American Inc., Los Angeles, Calif. 863,834, pub. 11-5-
68. Multiple Class (Classes 19 and 26).
Silver Mfg. Co., Inc., Michigan City, Ind. 863,961, pub. 11-5-
68. Cl. 39.
Shimmoods Industries, Inc., Grant Park, Ill. 864,060, Cl. 2.
Simpson, Adele, Inc., New York, N.Y. 864,016, pub. 11-5-68.
Cl. 51.
Simpson, Harold, Ltd., Vancouver, Canada. 863,752, pub.
11-5-68. Cl. 4.
Smith Kline & French Laboratories, Philadelphia, Pa. 863-
831, pub. 11-5-68. Cl. 18.
Societe Genevoise d'Instruments de Physique (Societe
Anonyme), Geneva, Switzerland. 741,592, cano. Cl. 26.
Soennecken, F., Bonn (Rhine), Germany. 741,572, cano. Cl.
23.
Soennecken, F., Bonn (Rhine), Germany. 741,620, cano. Cl.
32.
Solar Light Mfg. Co., Melrose Park, Ill. 863,848, pub. 11-5-
68. Cl. 21.
Sovereign Byzantine Order Lascaris-Comnenus of Saints Con-
stantine the Great and Helen A.D. 312, Inc., d.b.a. Knights
of Constantine, or Knights of Christ, or Ladies of St. Helen,
and Constantine's Knights of Christ, Miami, Fla. 864,059,
11-5-68. Cl. 200.
Spry Road Corp., New York, N.Y. 863,901, pub. 11-5-68.
Cl. 26.
Sperli Faraday Inc.: See—
Faraday, Inc.
Sperli, Inc., Cincinnati, Ohio, to American Home Products
Corp., New York, N.Y. 506,679, ren. 1-21-69. Cl. 18.
Spillman, R. L., Co., Columbus, Ohio. 863,814, pub. 11-5-68.
Cl. 15.
Spitz, Paul, Co., Inc., The, New York, N.Y. 741,677, cano.
Cl. 46.
Spray Specialties: See—
"42" Products, Ltd., Inc.
Square D Co., Park Ridge, Ill. 863,840, pub. 11-5-68. Cl.
21.
Square Dingee Co., to Beatrice Foods Co., Chicago, Ill. 508-
389, ren. 1-21-69. Cl. 46.
Standard International Corp.: See—
Kimball, C. M., Co.
Standard Oil Co. of California, San Francisco, Calif., from
The Kelly-Springfield Tire Co., Cumberland, Md. 863,932,
pub. 6-11-68. Cl. 35.
Staples-Hopmann, Inc., Alexandria, Va. 741,598, cano. Cl.
26.
Stationers' Guild of America, Haddonfield, N.J. 502,581, ren.
1-21-69. Cl. 11.
Stauffer Chemical Co., New York, N.Y. 863,773, pub. 11-5-
68. Cl. 6.
Sterilon Corp., Braintree, Mass. 863,987, pub. 11-5-68. Cl.
44.
Stern's Nurseries, Inc., Geneva, N.Y. 741,442, cano. Cl. 1.
Steven, David G., Inc., New York, N.Y. 741,613, cano. Cl.
27.
Stitzel-Weller Distillery, Louisville, Ky. 864,002, pub. 11-5-
68. Cl. 49.
Stonington Packing Co., Inc., Stonington, Maine. 863,994,
pub. 11-5-68. Cl. 46.
Sturgeon Bay Metal Products: See—
Anderson, John M.
Sun Chemical Corp., New York, N.Y. 741,432, cano. Cl. 1.
Sunshine Biscuits, Inc., Long Island City, N.Y. 397,030,
cano. Cl. 46.
Swanee Paper Corp., New York, N.Y. 863,937, pub. 11-5-68.
Cl. 37.
Swartzbaugh Mfg. Co., The, Toledo, Ohio, to McGraw-Edition
Co., Elgin, Ill. 503,558, ren. 1-21-69. Cl. 21.
Swiss Industrial Co., Schaffhouse, Switzerland. 863,878-80,
pub. 8-20-68. Cl. 23.
Tapco Products Co., Inc., Detroit, Mich. 863,882, pub. 11-5-
68. Cl. 23.
Tappan Co., The, Mansfield, Ohio. 863,919, pub. 11-5-68.
Cl. 32.
Tateisi Electronics Co., Kyoto, Japan. 863,793, pub. 11-5-68.
Multiple Class (Classes 13, 21, 23, 26, and 44).
Taylor Lock Co., Philadelphia, Pa. 863,782, pub. 11-5-68.
Multiple Class (Classes 12, 13, 23, and 25).
Technicon Co., The, New York, to Technicon Corp., Ardsley,
N.Y. 501,455, ren. 1-21-69. Cl. 26.
Technicon Corp.: See—
Technicon Co., The.
Techs, Inc., Warren, Pa. 863,748, pub. 11-5-68. Cl. 2.
Tempositions, Inc., New York, N.Y. 864,037, pub. 5-23-67.
Cl. 101.
Tenneco Advanced Materials Inc., Newton Upper Falls, Mass.
863,736-7, pub. 11-5-68. Cl. 1.
Tenney Engineering, Inc., Union, N.J. 863,917, pub. 11-5-68.
Cl. 31.
Textron Inc., Providence, R.I. 863,943, pub. 11-5-68. Cl.
37.
Therachemie Chemisch Therapeutische G.m.b.H., d.b.a. Thera-
chemie G.m.b.H., Dusseldorf, Germany. 864,007, pub. 11-5-
68. Multiple Class (Classes 51 and 52).
Therachemie G.m.b.H.: See—
Therachemie Chemisch Therapeutische G.m.b.H.
Thermapool: See—
De Vane, Harry M.
Thompson-Hayward Chemical Co., to Thompson-Hayward
Chemical Co., Kansas City, Kans. 506,549, ren. 1-21-69.
Cl. 18.

INDEX OF REGISTRANTS

- Thrift Drug Co. of Pennsylvania, Pittsburgh, Pa. 864,031, pub. 11-5-68. Cl. 100.
 Tico-Toys, Inc., Pawtucket, R.I. 741,561, conc. Cl. 22.
 Tidy House Products Co.: See—
 Perfex Co., The.
 Toni Lynn Materials, Inc., New York, N.Y. 863,958, pub. 11-5-68. Cl. 39.
 Toy Concepts Co.: See—
 Mattel, Inc.
 Transcriber Co., Inc., Attleboro, Mass. 863,936, pub. 11-5-68. Cl. 36.
 Tyroco Industries: See—
 Pacific & Atlantic Shippers, Inc.
 Udyllite Corp., The, Warren, Mich. 863,759, pub. 11-5-68. Cl. 6.
 United Oil Co., Pittsburgh, Pa. 253,792, ren. 1-21-69. Cl. 15.
 United Technical Publications, Inc., Garden City, N.Y. 863,949, pub. 11-5-68. Cl. 38.
 U.S. Air Tool Co., Inc., Garden City Park, N.Y. 863,888, pub. 11-5-68. Cl. 23.
 U.S. Mobile Homes, Inc., Henderson, N.C. 863,835, pub. 11-5-68. Cl. 19.
 U.S. Plywood-Champlon Papers Inc., Hamilton, Ohio. 863,944, pub. 11-5-68. Cl. 37.
 United States Gear Corp., Chicago, Ill. 863,895, pub. 11-5-68. Cl. 23.
 Valley Evaporating Co., Yakima, Wash. 507,367, ren. 1-21-69. Cl. 46.
 Van Buren Packing Co., Hartford, Mich. 864,000, pub. 11-5-68. Cl. 46.
 Vanderbilt, R. T. Co., Inc., New York, N.Y. 863,761-2, pub. 11-5-68. Cl. 6.
 Velsicol Chemical Corp., Chicago, Ill. 863,765, pub. 11-5-68. Cl. 6.
 Velsicol Chemical Corp., Chicago, Ill. 863,770, pub. 11-5-68. Cl. 6.
 Vicom, Inc., Rochester, N.Y. 741,603, conc. Cl. 26.
 Virginia Electronics Co., Inc., Falls Church, Va. 863,854, pub. 11-5-68. Cl. 21.
 Vitramon, Inc., Monroe, Conn. 863,853, pub. 11-5-68. Cl. 21.
 Walton-March: See—
 Fried, Jeffrey L.
 Wayland Chemical Co., Saylesville, R.I. 741,476-7, conc. Cl. 6.
 Weiss, Benjamin Harrison, Inc., New York, N.Y. 863,964, pub. 11-5-68. Cl. 39.
 Welch Grape Juice Co., Inc., The, Westfield, N.Y. 860,627, cor. Cl. 45.
 Wembley, Inc., New Orleans, La. 863,957, pub. 11-5-68. Cl. 39.
 Wembley, Inc., New Orleans, La. 863,965-6, pub. 11-5-68. Cl. 39.
 West Bend Co., The, West Bend, Wis. 863,800, pub. 11-5-68. Multiple Class (Classes 13 and 21).
 Western Art, Inc., Colorado Springs, Colo. 863,948, pub. 11-5-68. Cl. 38.
 Western Distributors: See—
 Challman, George M.
 Wham-O Mfg. Co., San Gabriel, Calif. 863,868-9, pub. 11-5-68. Cl. 22.
 Whitehall Pharmacal Co., to American Home Products Corp., New York, N.Y. 505,841, ren. 1-21-69. Cl. 52.
 Williams, B. E., La Grange Park, Ill. 864,026, pub. 11-5-68. Cl. 52.
 Wimmelbacher & Rice Inc., to Kayser-Roth Corp., New York, N.Y. 505,553, ren. 1-21-69. Cl. 39.
 Wix Corp., Gastonia, N.C. 863,915, pub. 11-5-68. Cl. 31.
 Woodlin Shirt Corp., The, New York, N.Y. 863,960, pub. 11-5-68. Cl. 39.
 World Tableware Corp., Meriden, Conn. 863,894, pub. 7-9-68. Cl. 23.
 Wyandotte Chemicals Corp., Wyandotte, Mich. 503,800, ren. 1-21-68. Cl. 52.
 Wyandotte Chemicals Corp., Wyandotte, Mich. 863,816, pub. 11-5-68. Cl. 15.
 Wyatt Mfg. Co., Inc., The, Salina, Kans. 863,876, pub. 11-5-68. Multiple Class (Classes 23 and 26).
 Wyeth Inc., Philadelphia, Pa., to American Home Products Corp., New York, N.Y. 506,487, ren. 1-21-69. Cl. 46.
 Xaloy Inc., New Brunswick, N.J. 863,812, pub. 11-5-68. Cl. 14.
 Yankee Metal Products Corp., Norwalk, Conn. 863,852, pub. 11-5-68. Cl. 21.
 Young, W. F., Inc., Springfield, Mass. 863,829, pub. 11-5-68. Cl. 18.
 Zenith Radio Corp., Chicago, Ill. 863,910, pub. 11-5-68. Cl. 29.

U. S. GOVERNMENT PRINTING OFFICE O—1969

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OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

January 28, 1969

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Number 4

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of November 1968

Examiner affirmed	134
Examiner affirmed in part	20
Examiner reversed	32
Total	186

Disclaimers and Dedications

3,199,878.—*Robert A. Cunningham, Bellaire, Gerald O. Atkinson, Pasadena, and William H. Cline, Jr., deceased, late of Bellaire, by Morilyn C. Cline, executrix, Houston, Tex. SEAL BETWEEN A PAIR OF RELATIVELY ROTATABLY, RADIALY EXTENDING SURFACES.* Patent dated Aug. 10, 1965. Disclaimer and dedication filed Sept. 11, 1968, by the assignee, *Hughes Tool Company*.

Hereby disclaims and dedicates to the Public the entire term of said patent.

3,328,325.—*Richard E. Zdonowski, Fort Washington, Pa. FLOOR POLISH AND METHOD OF USE.* Patent dated June 27, 1967. Disclaimer and dedication filed Sept. 23, 1968, by the assignee, *Rohm and Haas Company*.

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to Mar. 7, 1984.

3,351,030.—*Orris E. Albertson, Norwalk, and William E. Budd, Ridgefield, Conn. TREATMENT AND INCINERATION OF WASTE SLUDGES.* Patent dated Nov. 7, 1967. Disclaimer and dedication filed Sept. 27, 1968, by the assignee, *Dorr-Oliver Incorporated*.

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to May 15, 1984.

Certificates of Correction for the Week of Jan. 28, 1969

3,293,238	3,353,604
3,310,144	3,354,767
3,317,618	3,357,367
3,332,953	3,358,860
3,332,958	3,359,043
3,335,006	3,359,484
3,338,891	3,359,799
3,340,271	3,360,337
3,342,795	3,360,385
3,342,839	3,360,468
3,348,923	3,360,883
3,351,906	3,361,377
3,353,169	3,362,022

New Applications Received During November 1968

Patents	7821
Designs	468
Plant Patents	3
Reissues	8
Total	8300

Patent Classification

As a service to the public, effective with the issue of December 10, 1968, all patents will contain at the end of the specification, after the "List of References," a list of all classes and subclasses in the U.S. Classification System into which the patent was cross-referenced at the time of issue. This listing will be headed "U.S. Cl. X.R."

Beginning with the issue of January 7, 1969, all patents will also include International Patent Classifications in the heading and identified as "Int. Cl."

RICHARD A. WAHL,
Assistant Commissioner.

Nov. 29, 1968.

Dedication

3,054,594.—*Victor Hecht, Haysville, Kans. CARBURETOR VALVE ASSEMBLY.* Patent dated Sept. 18, 1962. Dedication filed Sept. 25, 1968, by the inventor and the assignee, *The Haysville State Bank*.

Hereby dedicate to the Public the entire remaining term of said patent.

Disclaimers

Reissue No. 25,184.—*John C. McAdam, Burbank, Calif. HEAT DISSIPATORS FOR TRANSISTORS.* Reissue patent dated June 12, 1962. Disclaimer filed Sept. 23, 1968, by the assignee, *International Electronic Research Corporation*.

Hereby enters this disclaimer to claims 1, 7 and 8 of said patent.

2,841,414.—*James C. Ward, Springfield, Mo. ANTI-BRAKE-HOP STRUCTURES FOR WHEELED VEHICLES.* Patent dated July 1, 1958. Disclaimer filed Sept. 13, 1968, by the assignee, *A.J. Industries, Inc.*

Hereby enters this disclaimer to claims 1-12, inclusive, of said patent.

3,055,952.—*Earl J. Goldberg, Wilmington, Del. HYDROXYL-TERMINATED POLYMERS.* Patent dated Sept. 25, 1962. Disclaimer filed Oct. 31, 1968, by the assignee, *E. I. du Pont de Nemours and Company*.

Hereby enters this disclaimer to claims 1 and 3 of said patent.

3,271,035.—*Henry E. Johnston, Huntingdon Valley, Pa. PHONOGRAPH APPARATUS.* Patent dated Sept. 6, 1966. Disclaimer filed Sept. 19, 1968, by the assignee, *Philco-Ford Corporation*.

Hereby enters this disclaimer to claims 1, 2, and 9 of said patent.

Issue—January 28, 1969

Patents	1302—No. 3,423,758 to No. 3,425,059, incl.
Designs	25—No. 213,259 to No. 213,283, incl.
Plant Patents	2—No. 2,859 to No. 2,860, incl.

Total 1329

3,330,848.—*Henri Ulrich*, Northford, Conn. ISOCYANATO-SUBSTITUTED SULFONYL ISOCYANATES. Patent dated July 11, 1967. Disclaimer filed Sept. 10, 1968, by the inventor; the assignee, *The Upjohn Company*, assenting.

Hereby enters this disclaimer to claims 2 and 3 of said patent.

3,404,400.—*Park H. Miller, Jr.*, Del Mar, Calif. SIGNALING METHOD AND APPARATUS. Patent dated Oct. 1, 1968. Disclaimer filed Sept. 30, 1968, by the inventor; the assignee, *Gulf General Atomic Incorporated*, assenting.

Hereby disclaims the terminal portion of the term of the patent subsequent to Jan. 9, 1985.

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF JANUARY 14, 1969

PATENT EXAMINING OPERATIONS AND GROUPS	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
* Denotes date of oldest application for each Operation.		
CHEMICAL EXAMINING OPERATION		
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director..... Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	10-03-66	5-05-64
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director..... Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	6-20-66	7-10-63
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING, GROUP 140—L. J. BERCOVITZ, Director..... Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	12-05-66	3-18-64
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—J. R. LIBERMAN, Director..... Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	*4-14-66	*7-03-63
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director..... Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	10-10-66	5-07-64
ELECTRICAL EXAMINING OPERATION		
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—W. S. COLE, Director..... Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	1-30-67	4-20-64
SECURITY, GROUP 220—S. BOYD, Director..... Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	9-06-67	6-01-65
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—M. L. LEVY, Director..... Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	*3-14-66	1-23-67
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director..... Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	5-03-66	*12-16-63
PHYSICS, GROUP 280—R. L. EVANS, Director..... Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	1-11-67	7-01-65
DESIGNS, GROUP 290—S. BOYD, Director..... Industrial Arts; Household, Personal and Fine Arts.	4-24-68	8-02-67
MECHANICAL EXAMINING OPERATION		
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director..... Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	8-17-67	2-04-66
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—N. BERGER, Director..... Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.	*4-03-67	2-26-65
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director..... Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletary; Printing; Type-writers; Stationery; Information Dissemination.	4-03-67	1-28-65
HEAT AND POWER ENGINEERING, GROUP 340—C. F. GAREAU, Director..... Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.	11-20-67	1-16-67
FIXED CONSTRUCTIONS, SUPPORTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Director..... Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures.	9-12-67	6-29-65
TEXTILES, CLEANING AND FLUID HANDLING, GROUP 360—F. H. BRONAUGH, Director..... Fluid Handling, including Valves; Conduits; Filling Receptacles; Lubrication; Joint Packing; Bathroom Fixtures; Centrifugal Separators; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes and their Manufacture; Sewing Machines; Winding and Reeling.	4-15-67	*7-02-64
Total number of pending applications (excluding Designs).....	186,568	
Total number of Design applications pending.....	3,137	

Expiration of patents: The patents within the range of numbers indicated below expire during February 1969, except those which may have expired earlier due to shortened terms under the provisions of Public Law 690, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 619, 83rd Congress, approved August 23, 1964 (68 Stat. 764), or which may have had their term curtailed by disclaimer under the provisions of 35 U.S.C. 263.

Patents..... Numbers 2,584,102 to 2,587,575, inclusive
Plant Patents..... Numbers 1,071 to 1,076, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

ROBERT S. KRAVIG AND ARNOLD E. JOHNSON

v.

DAVID J. HENDERSON

No. 7862. Decided May 16, 1968

[55 CCPA —; 393 F.2d 1017; 157 USPQ 564]

1. INTERFERENCE—BURDEN OF PROOF—PATENT AND APPLICATION.

"Henderson, as junior party, had the burden of proving priority beyond a reasonable doubt, the counts having come from Kravig Patent 2,933,223, which issued before Henderson's application was filed. The Board concluded that Henderson had established introduction of a machine, illustrated in Exhibits 3A and 3B, which the Board thought embodied the invention of all four counts, into the United States from Canada in the spring of 1956. In consequence, the Board held Henderson had a reduction to practice in the United States at that time. Henderson had to overcome at least the filing date of the Kravig patent, July 23, 1958."

APPEAL from the Patent Office. Interference No. 92,874.

REVERSED.

Harold J. Kinney, Stanley G. DeLaHunt, Kinney, Alexander, Sell, Steldt & DeLaHunt, Thomas V. Koykka, Arter, Hadden, Wykoff & Van Duzer for appellants.

John J. Hart for appellee.

Before WORLEY, Chief Judge, and Judges RICH, SMITH, ALMOND, and KIRKPATRICK¹

RICH, J., delivered the opinion of the court.

This case is here on Kravig's petition for further review, having been previously before us as reported at 53 CCPA 1534, 362 F.2d 1015, 150 USPQ 377, to which reference is made for background. The parties re-briefed the case in March 1968 and reargued it on April 3, 1968.

In the opinion by the late Judge Martin, July 14, 1966, we reported our unanimous decision to reverse the award of priority by the Board of Patent Interferences to Henderson on counts 3 and 6 and to remand to the Board on those counts. On remand, the Board awarded priority to Kravig. As to counts 1 and 2, however, we affirmed the Board's award of priority to Henderson. Only the latter two counts are here involved.

[1] Henderson, as junior party, had the burden of proving priority beyond a reasonable doubt, the counts having come from Kravig Patent 2,933,223, which issued before Henderson's application was filed. The Board concluded that Henderson had established introduction of a machine, illustrated in Exhibits 3A and 3B,² which the Board thought embodied the invention of all four counts, into the United States from Canada in the spring of 1956. In consequence, the Board held Henderson had a reduction to practice in the United States at that time. Henderson had to overcome at least the filing date of the Kravig patent, July 23, 1958.

¹ Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

² Exhibits 3A and 3B, as stated in our earlier opinion, were recent photographs of a model about which oral testimony was given in the interference, the model itself having been before the witnesses, the Board, and this court. We have it before us now. It is sometimes referred to herein as Henderson's "first model."

JANUARY 28, 1969

U. S. PATENT OFFICE

1033

We formerly reversed only as to counts 3 and 6 on the ground that the machine of Exhibits 3A and 3B did not support those counts. It was not disputed that it supported counts 1 and 2 and we affirmed as to them because we, like the Board, accepted the proofs as to the date that the machine was in the United States.

In making our prior decision, we remanded the case to the Board for further consideration of evidence in the record with respect to counts 3 and 6 which it had not deemed it necessary to consider. Before the Board rendered any decision on that remand, Kravig came to this court with a motion to recall our mandate and vacate the judgment on the ground of fraud, with respect to counts 1 and 2, submitting in support copies of depositions taken, subsequent to our prior decision, in Canada. Appellant's assignee, 3M, prosecuting a suit in the United States District Court for the Northern District of New York, In Utica, New York, entitled *Minnesota Mining and Manufacturing Company v. Aranac Ribbons Inc. and David J. Henderson* (Civil Action No. 65-CV-134), obtained an order therein for a rogatory commission, confirmed by order of the Superior Court of the District of Montreal, pursuant to which the depositions were taken before William S. Tyndale, Q.C., as commissioner, at the Harrington Tool and Die Co., Ltd., plant in Lachine, Quebec. Henderson, appellee herein, was present and represented by counsel. There are three volumes of stenographic reports of the depositions totalling 348 pages plus numerous exhibits. After we had considered them on the motion, by order of February 6, 1967, we granted Kravig's motion to the extent that we enlarged our final order (or mandate) on the prior appeal "to include a remand to the Board of Patent Interferences for consideration of the evidence in the above mentioned depositions." At that time we expressed no opinion on the evidence or on Kravig's allegations of fraud, desiring, as a court of review, not to pass on any matter relating to priority, or the evidence relating thereto, which had not first been considered by the Board.

Pursuant to our mandate, the Board, on March 10, 1967, without seeking or having briefing or argument from the parties on the question raised by the new evidence, rendered a decision on our original remand with an extensive opinion in which it found nothing in the original evidence to support an award of priority to Henderson on counts 3 and 6 and therefore awarded priority thereon to Kravig.

Responsive to our enlarged remand to consider the new deposition evidence obtained in Canada, the Board made only the following brief statement:

In accordance with the court's mandate we have considered the evidence in the depositions and related exhibits relating to fraud and we find that it is insufficient to support any action by us. [Our emphasis.]³

Henderson has not appealed from the award of priority against him on counts 3 and 6 and the decision on them is final.

As to counts 1 and 2, Kravig asks us, on the basis of the deposition evidence taken in Canada subsequent to our prior decision, which has now been reviewed by the Board, which took no action thereon, and which has now been certified to us by the Patent Office as part of the record, to set aside the earlier award of priority to Henderson and award priority to appellants. Error is alleged in the Board's failure to do this. Kravig's petition briefs this question and Henderson has filed a reply brief making only the following points: (1) the decision

³ This laconic comment leaves us wholly in the dark as to the reasons for the Board's conclusion.

of the Board saying it found nothing to support any action by it is not a decision on priority and there is no basis in statute or rules for our considering it; (2) the decision of the Board is only "procedural" for which reason we are not authorized to review it; (3) the question before us is not "ancillary" to priority and so not reviewable; (4) the priority issue is also involved in the suit in the District Court for the Northern District of New York and 3M will have ample opportunity to prove its contentions there for which reason, we presume he thinks, we should consider the issue no further; (5) no reason has been given why the deposition evidence was not presented previously. We see no merit in any of these arguments. In reviewing them we have noted with interest that there has been no refutation of Kravig's primary contention now before us that the new evidence shows that the machine allegedly brought into the United States from Canada in 1956 was not built until 1958, a point which has a vital bearing on the central issue of priority and which we shall now consider.

As above indicated and as our former opinion shows, our affirmance of the Board's award of priority on counts 1 and 2 to Henderson was based entirely on our acceptance of evidence that the machine depicted in photographic Exhibits 3A and 3B was introduced into the United States from Canada at least as early as 1956, thus antedating any date asserted by Kravig as an actual reduction to practice. The evidence, as the Board initially recognized, was oral testimony of the party Henderson corroborated by the oral testimony of two of his own employees, all given eight or nine years after the alleged events.

The crux of the matter now before us is that the evidence Kravig subsequently obtained in Canada flatly contradicts the evidence on which we relied in reaching our prior decision. We shall review the essential points.

Henderson, a Canadian, operated two companies: Beacon Ribbon Mills Ltd. and Aranac Ribbon Mills Inc., the former owning the stock of the latter. Beacon was a Canadian corporation located at Valleyfield, Quebec and Aranac a New York corporation located at Plattsburgh, N.Y. He testified, "you might say it is a one man's business." The business was ribbon and bow manufacturing. The Plattsburgh operation was initiated under the Beacon name, later changed to Aranac, and was limited to the manufacture of bows. It began April 1, 1955, at 49-51 South River Street. About five months later he moved to another location across the street at 70 South River Street. Upon coming to Plattsburgh, Henderson met Robert E. Glenn who owned and operated a parking lot adjacent his newly rented factory. Glenn had, until 1954, worked at the Pal Razor Blade plant in Plattsburgh which had been sold to American Razor Company and closed down and shortly after meeting Henderson, who was looking for someone to run his new plant, went to work for him. In 1964, when the interference testimony was taken, he was his plant manager. Shortly after the Aranac plant was moved, Thomas G. McGrath, an employee of Plattsburgh Foundry and Machine Company in maintenance work, met Henderson in connection with moving some Pal Blade machinery out of the building at 70 South River Street. Mr. Henderson and Mr. Glenn, McGrath testified, rented an air compressor from the Plattsburgh Foundry and McGrath was in charge of installing and maintaining it, by reason of which he was frequently in the Aranac plant. That was in July 1958. In 1959 the foundry built a complete machine for Aranac and McGrath did much of the work on it. At the time

the testimony was taken, McGrath was working part time for Aranac and had so worked for three or four years previously. These are the *dramatis personae*, Henderson, Glenn, and McGrath.

The evidence initially taken in the interference tells of the building of a whole series of bow-making machines, from a first crude, hand-operated model (note 2, *supra*) with a single bow-making head, to several multiple-head, power-operated machines which, after much travail, were finally capable of commercial production. In the sequence of events developed in what the Board characterized repeatedly as "an extremely confusing record," the only matter of importance here is the date when the first crude model (illustrated in photographs, Exhibits 3A and 3B) was in being and introduced into the United States so as to constitute an actual reduction to practice in this country. The Board found such a reduction to practice prior to Kravig's filing date. It did so on the basis of the actual model before it, the oral testimony of Henderson, and the supposedly corroborating oral testimony of Glenn and McGrath.

Summarizing the story told by these witnesses, Henderson said he got the idea for the machine from fixing his daughter's record-player in 1954, went to his bench a few days later, got out some metal, and put together the first model (a working model) which, in admittedly modified form, he produced before the Board. He fixed the year only by association with a move of his Valleyfield plant from one location to another. He produced no scrap of supporting documentation referring in any way to this first model. The photographs of the model were taken only three days before the testimony for use in the interference. These alleged activities were all in Canada. He said he made the model from a few pieces of scrap in the Valleyfield plant. This model, Henderson said, he brought to Plattsburgh when he opened his plant there in April 1955. He said "at that time" he showed it to Mr. Glenn, that they made sample bows on the machine in Plattsburgh, but only samples, no production. He said he showed it to Glenn in his first plant in Plattsburgh. He thought the machine too slow, however, and "let it go" allegedly turning his attention to a second machine in 1955, using the same "basic ideas."

As the Board correctly pointed out, this testimony would have availed Henderson nothing unless corroborated. Glenn was one corroborating witness and testified Henderson showed him the first model not later than June 1955 and explained how it worked, in the building at the edge of his parking lot. He also testified that later, when he was working for Aranac, they were still making bows entirely by hand in the summer of 1957 and that the first machine "successfully completed" was in 1958. However, in the summer of that year they were having so much trouble with production on later power-driven machines, made in Canada by Harrington Tool and Die Co., that he quit:

Q. Did the operation of this machine have anything to do with your leaving Aranac Mills in 1958? A. Yes, it did.

Q. Will you please explain the reason? A. Well, for approximately two months after the receipt of these machines in Plattsburgh, I was spending about twelve to fourteen hours a day, from early morning to late evening, trying to get the machine to run properly and finally got disgusted with the whole detail and, in so many words, said "the devil with it." I did not have to do this whole thing this whole summer. I had other things coming up with my own personal business on the side, and I said "Life is too short to put my chest against a wheel," and gave up trying to get things going.

For the last of 1958 and 1959 he said he did nothing except supervise his parking lots.

Mr. McGrath was the only other corroborating witness as to the date the first model was allegedly in the United States. He testified that he first met Henderson in the spring of 1956, that he recognized the model shown in Exhibits 3A and 3B, that he called it a "gadget," that it was in the office the day he was down in the building packing up Pal Blade machinery. This is his entire direct testimony on that particular machine:

Q. When did you see this machine? A. This machine here and this view, if you want to call this machine at the time I saw it, I called it a gadget. It was in the office the day I was down there packing up machinery. Mr. Glenn invited me over to their part of the Ribbon Mill which was separate from where we were working and he asked me if I wanted to see something. I went over and Mr. Henderson made a bow on this machine, which amazed me.

Q. Did they explain to you how this worked? A. Well, not too thoroughly, we ran over the thing briefly, and as I recall at the time they were interested in finding some way to fasten the bow after it was made and wanted to know if we had any suggestions. I wasn't too familiar with it. I saw the thing made and I had no suggestions at the time as to how they could finish it.

Q. Did you understand how the machine operated? A. Yes, the machine was a simple operation the way he explained it I had no trouble following him. That is about the extent I am familiar with this machine.

We turn now to the relevant later testimony obtained by Kravig's assignee, 3M, by means of the rogatory commission. It relates to this same first model, Exhibits 3A and 3B, the time, place, and circumstances of its creation, hence, it relates directly to the issue of priority, which issue was decided by the Board and this court solely on the existence of this first model in the United States in 1956.

To start with a summary of what the new evidence appears to show, as stated in Kravig's renewal petition,

The device actually was built "from scratch" at the request of, and for, appellee Henderson in the five-day period May 12-17, 1958, in the shops of Harrington Tool & Die Co., Ltd., in Lachine, Canada . . .

The Commissioner took the depositions December 7, 1966, in the board room of the Harrington Company. The first witness was Gordon McNaught, its vice-president. He brought, under subpoena,⁴ certain company records which he identified and explained. It appears that Henderson had been a customer on other matters than the bow-making machine here involved, that on May 12, 1958, he gave a verbal order as shown on an order sheet for a single "prototype" ribbon-forming machine, which order was designated "S-15430-A1." Delivery May 14 was requested or promised as shown on the order sheet. "S" meant the machine was to be built according to a sketch and that the sketch was made by Harrington, not the customer, "A" that it was a first issue (a second machine of the same kind would be called a B issue) and "1" that one of them was ordered. The customer was named as "Beacon Ribbon Mills, Valleyfield, P.Q."

Another Harrington record in evidence is the customer engineering card for the individual customer. This is headed "Beacon Ribbon Mills Limited" and the second item on it reads "Machine, Ribbon Forming, Prototype, DWG.#S-15430 Inter: May 12/58 S-15430." There is an individual job engineering card carrying the designation "No. 15430" bearing the notation "Inter: May 12/58" an entry under the printed heading "Date" of May 13/58 a delivery date of May 14/58, the title "Machine, Ribbon, Forming, Prototype," the customer

⁴ There is rather persuasive evidence in the depositions and exhibits that attempts to get information from Harrington personnel by Kravig were frustrated until the commission and the issuance of subpoenas. In fact, Henderson, in November 1966, threatened Harrington with legal action if it gave out any information to his damage.

name is Beacon Ribbon Mills, and a cost entry "59 $\frac{3}{4}$ —238.15." The former item is hours, the latter is dollars.

There is a printed form entitled with the Harrington company name and "Factory Cost Record," relating to "Job No. S-15430-A1," with "Date of Issue May 13/58" and "Delivery Date May 14/58" itemizing some 20 material units and their costs, "total labour" and a total cost of \$238.15. There is reference to a shipping record "B-51071-1—May 17." Under "Remarks" is the date "May 26/58." On the reverse side is the "Labour Record" showing the names of five workmen, their clock numbers, charge rates, and time spent on various stated operations, with calculated labor charges and overhead.

There are 9 individual Harrington workmen's parts orders, requesting materials from stock, dated May 12, 14, and 15 attached to a job sheet identifying the customer, machine, order and delivery dates marked "Date of Issue: May 13/58."

Finally there is the delivery record, dated May 17, 1958, No. B-51071, addressed to Beacon Ribbon Mills on "1 Ribbon Forming Machine for trial."

The above exhibits all bear the mark of regular, orderly, entries in the ordinary course of business of a machine shop. They all tie together, they all identify the same machine, there seems no possibility of questioning the authenticity of the dates they bear. The next question is whether they pertain to the first model shown in Exhibits 3A and 3B in its original form. There can be no doubt that a "prototype" ribbon-forming machine was built by Harrington for Beacon Ribbon Mills in May 1958; we have only to relate it to the one about which testimony was given initially and which was produced before the Patent Office and this court. This brings us to the witness Tobber.

Arno W. Tobber is a mechanical engineer educated in Danzig, employed by Harrington from 1957 to 1964, first as works manager and chief engineer and finally as vice-president of engineering and manufacturing. When shown the first model, of Exhibits 3A and 3B, he said it looked very familiar, "it looks exactly the same as the one I designed." Explaining the circumstances behind that response he said that Mr. Henderson was brought to him as a customer and explained to him that he wanted a machine built to do a certain operation—a cheap simple thing that could even be made of wood—that he wanted it in a hurry. With a pin or pins and a disc which he could hold in his hands and some ribbon Henderson showed him what he wanted to accomplish. It was a Thursday or a Friday and Tobber decided not to give it to a designer from the shop "who would tend to make a neat drawing and take a long time" so he did it himself at home over the weekend. He said no complete device was brought to him, that it was explained that it should function to place ribbon on a needle, which would turn so a loop could be formed, then the ribbon would rest on the needle and another loop would be formed and so on. Coming back from the weekend he gave the shop a sketch to have the device made. The sketch appears to have been lost or destroyed.

With the first model here involved before him, marked as deposition Exhibit No. M-11, M-11A, the same machine shown in Exhibits 3A and 3B, Mr. Tobber identified numerous of the detail items of material on the factory cost record, supra, as they now exist in the machine in spite of alterations, more than half a dozen. According to his testimony, the machine was built to some extent on a cut-and-try basis and Mr. Tobber was able to say what changes had been made in this

respect to make the machine operative. He also explained the reason for the existence of certain holes, for example, which no longer have any function as the machine stands now but which were used in trying out various arrangements of parts.

On the whole record, we are persuaded that the first model was actually made by Harrington Tool & Die Company; that clear documentation establishes the date of that manufacture as May 1958. If we are correct in this, then it is not possible that Henderson made the machine himself in his shop, as he testified, or that he took it to Plattsburgh in 1955 or that it was seen there by Glenn in 1955 or McGrath in 1956. Of course, it is entirely possible they saw it in Plattsburgh at some time many years before they testified and that their testimony is merely in error as to the date.

It also appears that immediately after the building of the first model by Harrington that plant proceeded with what might be described as a crash program to build bigger, better, and more commercial bow-making machines for Henderson with assistance by way of designing from others and that such machines were in Plattsburgh by late 1958 and 1959, where they had many troubles with them for some time. But these are not important to the issue here which is whether there was an operative machine meeting counts 1 and 2 in the United States before July 23, 1958. Since Henderson attempted to prove that there was evidence that the first model was in Plattsburgh in 1955 and 1956, which testimony we find ourselves unable to believe, we find the record to be devoid of believable proof that the first model, built in May 1958—the only one of its kind and certainly the earliest—ever left Canada, where it was built, prior to July 23, 1958.

At the very least, under the rule of law here applicable that Henderson must prove his case beyond a reasonable doubt, we must hold that on the whole record he has failed in that regard because of the substantial doubt cast on the proofs by the conflicts in the evidence.

We therefore are of the opinion that the Board erred in failing to set aside its award of priority to Henderson on counts 1 and 2 on the enlarged remand in the light of the evidence subsequently obtained.

For the foregoing reasons, our prior affirmance of the Board's award of priority of counts 1 and 2 to Henderson is vacated and said award is reversed, priority being awarded thereon to Kravig and Johnson.

REVERSED.

U.S. Court of Customs and Patent Appeals

IN RE JEROME H. LEMELSON

No. 7980. Decided June 27, 1968

[55 CCPA —; 397 F.2d 1008; 158 USPQ 275]

1. PATENTABILITY—REFERENCE—PATENT REFERENCE AVAILABLE FOR ALL FAIRLY TAUGHT TO LIKE ART.

"As we said in *In re Boe*, 53 CCPA 1079, 355 F.2d 961, 148 USPQ 507 (1966), 'All of the disclosures in a reference must be evaluated for what they fairly teach one of ordinary skill in the art.' The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain. We say this in answer to appellant's contentions that none of the references positively teaches the need for a core material and a sheath material having different indices of refraction and that none discloses an intent to solve the problem appellant solved. These are legal-

ly irrelevant considerations and, as to the problem, we agree with the Patent Office Solicitor that appellant has not disclosed what it is other than causing light to be reflected. The references teach how to do that with glass monofilaments embedded in transparent plastic."

2. SAME—PARTICULAR SUBJECT MATTER—"OPTICAL DEVICES."

The refusal of certain claims in an application entitled "Optical Devices," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 78,484.

AFFIRMED.

R. J. Lasker for appellant.

Joseph Schimmel (Jere W. Sears, of counsel) for the Commissioner of Patents.

Before WORLEY, Chief Judge, and Judges RICH, SMITH, ALMOND, and KIRKPATRICK *

RICH, J., delivered the opinion of the court.

This appeal is from the decision of the Patent Office Board of Appeals affirming the rejection of claims 7 and 10-19 of application Serial No. 78,484, filed December 27, 1960, entitled "Optical Devices." Appellant has withdrawn claims 16-19, as to which the appeal will be dismissed. As to the others we affirm.

The only issue is patentability of the claimed subject matter over the following prior art references relied on by the Board:

Slayter, 2,311,613, Feb. 16, 1943.

Biefeld et al., 2,723,215, Nov. 8, 1955 (filed May 31, 1950).

Squires, 2,758,342, Aug. 14, 1956 (filed May 17, 1952).

During the prosecution there has been argument as to whether appellant was entitled to the benefit of the filing date of an earlier application, Serial No. 360,954, filed June 11, 1953. It was held he was entitled to it as to certain claims but it is no longer of importance as it will be observed that all of the above patents have effective dates as references earlier than June 11, 1953. *In re Hilmer*, 53 CCPA 1288, 359 F.2d 859, 149 USPQ 480.

Appellant's "optical devices" consist simply of transparent filaments, such as glass fibers or monofilaments, embedded in symmetrical longitudinal array in transparent plastic, such as nylon. His drawings contain three figures showing a rod-like member of plastic having a circular array of glass monofilaments embedded in it just below the surface; a bundle of filaments of generally circular cross section, the filaments being surrounded by and embedded in a transparent plastic; and a flat sheet of plastic with a layer of transparent monofilaments parallel to one surface. Various proposed uses of such articles are as light-reflecting media or for transmitting light longitudinally of the filaments (piping light). Appellant's specification explains that to function in these uses his filamentary material and the enclosing transparent plastic must have different indices of refraction. For example, he may use glass filaments of a glass having a high index of refraction and a plastic material surrounding it having a lower index of refraction but, broadly, the requirement is simply that the indices of refraction be different. Appellant appears to regard that as "the salient feature of all claims * * *."

Claim 7 is illustrative and reads:

7. A fiber optical device comprising in combination, a plurality of flexible, cylindrical transparent mono-filaments which are elongated in shape, a sheaving

* Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

surrounding said mono-filaments, said sheaving totally encapsulating said filaments and comprising a transparent flexible material having a substantially cylindrical external shape and having an index of refraction which is different from the index of refraction of the material of said encapsulated mono-filaments, said mono-filaments being arranged in a substantially symmetrical array and extending along the entire length of the device.

Claims 10-12 are directed to the sheet form and describe the filaments as glass. Claim 13 is directed to a bundle of glass filaments of high refractive index encapsulated in plastic of lower index. Claim 14 would cover a single monofilament of high refractive index glass coated with a protective light transmitting material of lower refractive index. Claim 15 is similar but calls for a bundle of monofilaments.

Slayter's invention is concisely described in his claim 1:

1. A flexible, non-porous, transparent plastic organic material having the appearance of glass, and a plurality of attenuated glass fibers embedded in said plastic material to form a clear transparent body free from interstitial spaces or voids, said transparent glass fibers having a diameter less than 10 microns, the indices of refraction of said glass fibers and said plastic being the same, whereby the embedded glass fibers optically disappear.

He illustrates the use of his material in a drinking glass or tumbler. To make his plastic tumbler look like glass, though containing reinforcing glass fibers, he wants his fibers to be invisible. He teaches that they will be if their index of refraction is the same as that of the plastic in which they are embedded. Of course, this is the antithesis of appellant's invention but the question here is not novelty or anticipation but obviousness under 35 U.S.C. 103. In the course of teaching how to make glass fibers in plastic invisible, Slayter provides an explicit, detailed description, illustrated in his drawings, of what happens if the glass fibers and plastic have *different* indices of refraction—as claimed by appellant. He says, *inter alia*,

• • • When light rays are directed to and through irregularly shaped bodies embedded within a transparent material having a *different index of refraction*, the light is broken up and diffused into many foreign refractions and reflections. This may destroy the transparency so that it is impossible to see through such material. [Our emphasis.]

The Board described the pertinent disclosures of Biefeld et al. and Squires as follows:

The Biefeld et al. patent discloses textile strands, yarns and cords made of a bundle of glass fibers which extend in substantially parallel relation with each other. In order to protect the glass fibers from abrasion they are each surrounded with a plastic material some of which are the same as the plastic materials disclosed by appellant. The strand as disclosed in FIG. 4 is substantially circular in cross-section.

The Squires patent shows a plastic mullion which is reinforced with longitudinally extending glass fibers. The patent states that if the mullion is to be transparent, the indices of refraction of the materials used must be the same. However, he states that it is not necessary that the mullion be transparent, hence, it would be obvious that the indices of refraction of the materials used may be different. The mullion shown is substantially identical with appellant's FIG. 3 disclosure.

Appellant attempts to counter Biefeld et al. by saying the "patent does not touch on the significance of differing indices of refraction," and this is true but it was relied on by the Patent Office for its disclosure of the bundle structure of glass fibers embedded in plastic. As to Squires, appellant says that the "patent mentions differing indices of refraction with regard to the need for the presence or absence for transparency." This is not an adequate refutation of the reference. Squires' mullion, which is for the protection of windows against shock,

discloses at least one of the plastic materials disclosed by appellant with glass fibers arranged therein as called for by the claims and, like Slayter, teaches that if you want transparency, the indices of refraction of the glass and plastic must be the same, "as is known in the art." If the indices are not the same, it would seem to be obvious to one skilled in the art that the mullions would not be transparent and that the reason for that phenomenon would be that light impinging on the filaments embedded in the plastic is reflected, as taught in detail by Slayter.

[1] As we said in *In re Boe*, 53 CCPA 1079, 355 F.2d 961, 148 USPQ 507 (1966), "All of the disclosures in a reference must be evaluated for what they fairly teach one of ordinary skill in the art." The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain. We say this in answer to appellant's contentions that none of the references positively teaches the *need* for a core material and a sheath material having different indices of refraction and that none discloses an *intent* to solve the problem appellant solved. These are legally irrelevant considerations and, as to the problem, we agree with the Patent Office Solicitor that appellant has not disclosed what it is other than causing light to be reflected. The references teach how to do that with glass monofilaments embedded in transparent plastic.

We think it clear that the references relied on, taken collectively, make the subject matter of the appealed claims obvious within the meaning of section 103.

[2] The decision of the Board rejecting claims 7 and 10-15 is therefore affirmed and the appeal is dismissed as to claims 16-19.

AFFIRMED.

SMITH, J., dissents.

U.S. Court of Customs and Patent Appeals

IN RE JOHN A. GALE

No. 7962. Decided June 27, 1968

[55 CCPA —; 396 F.2d 1019; 158 USPQ 263]

1. PATENTABILITY—PARTICULAR SUBJECT MATTER—"SEATING STRUCTURE."

The decision of the Board of Appeals, refusing certain claims in an application entitled "Seating Structure" as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 268,492.

AFFIRMED.

James R. Cwayna (James W. Dent, of counsel) for appellant.

Joseph Schimmel (Fred W. Sherling, of counsel) for the Commissioner of Patents.

Before WORLEY, Chief Judge, and Judges RICH, SMITH, ALMOND, and KIRKPATRICK¹

WORLEY, Chief Judge, delivered the opinion of the court.

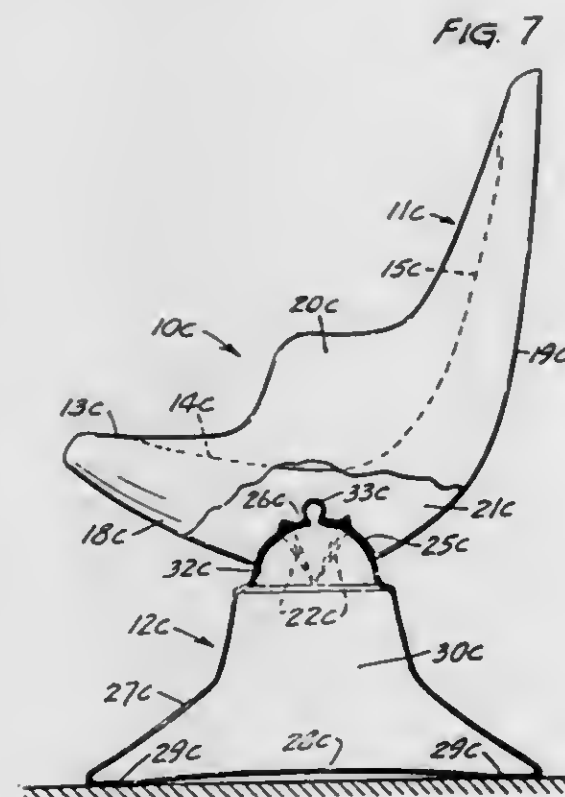
This appeal is from the decision of the Board of Appeals affirming the rejection on prior art of claims 14 and 17 of appellant's application² entitled "Seating Structure."

¹ Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

² The application, Serial No. 268,492, filed March 27, 1963, includes three allowed claims.

The invention relates to a chair which provides seat and back portions in one integral plastic unit. The unit, which is preferably blow-molded, is formed with a front or top section including the seat and back portions for the occupant and a rear or bottom section spaced therefrom to provide a hollow cavity therebetween and furnish support to the front section. In the modification of the device most pertinent here, the unit rests on a base member with coupling means provided therebetween to permit it to pivot about a vertical axis.

The structure may be more fully understood by reference to FIG. 7 of the application and the appealed claims, to which claims we have added bracketed reference numerals identifying the parts shown in that figure:



14. A chair device [10c] comprising a unitary integral, hollow, molded, resilient, plastic upper chair structure [11c] including an integral, generally upwardly concave, continuous upper panel [13c] shaped to define a continuous contoured seat portion [14c] and back rest portion [15c], an integral, generally downwardly convex continuous lower panel [18c and 19c] spaced from said upper panel and being integrally formed at its peripheral edges with the upper panel, an upstanding lower chair structure [12c] flaring outwardly and downwardly from the upper portion thereof, and cooperating releasable coupling means on the upper portion of said lower chair structure and on the lower panel of said upper chair structure respectively, pivotally and releasably interconnecting said chair structures together, and comprising a male socket element [32c and 33c] fixedly carried by one of said chair structures and a hollow female socket element [25c and 26c] fixedly carried by the other of said chair structures releasably engaging said male socket element and permitting revolving movement of said chair structures relative to each other about a substantially vertical axis.

17. A hollow chair structure [10c] comprising a one-piece continuous sheet-like lamina body [11c] formed of homogeneous thermoplastic material throughout defining an occupant supporting panel portion [13c] contoured and shaped to define a seat portion [14c] and a back rest portion [15c], said body also defining a supporting panel portion [18c and 19c] spaced from said occupant supporting panel portion to define a completely unobstructed substantially enclosed cavity [21c] therewithin whereby the substantially enclosed construction imparts the necessary structural integrity to the chair structure, and said supporting panel portion including portions [25c] thereof adapted to engage a support means for supporting said supporting panel, said occupant supporting panel and an occupant seated thereon.

The references are:

Donohue, 2,764,228, Sept. 25, 1956.

Avedon, 3,034,830, May 15, 1962.

Hoven et al., 3,111,344, Nov. 19, 1963.

Saarinén (Canada), 632,584, Dec. 12, 1961.

Donohue discloses a chair having a seating structure which is made by combining two pre-formed sections. A first sheet of plastic-impregnated fabric is molded to form a front or body-engaging section with seat and back portions conforming to the contours of the seated body. A second sheet is molded of similar material to form a backing section corresponding generally in shape and extent to the first. The two sections are joined and sealed along their edges to provide a "self-supporting unit" of bucket-seat shape having a closed air space or cavity between the sections. The unit is adapted to be supported from the floor on a suitable frame. It is stated that the body-engaging section "may be formed in part or totally of somewhat softer and less rigid sheet material than the back section so as to afford limited flexibility and resilience under body weights."

Avedon discloses a formed or bucket-seat type chair wherein the seating structure, including both the seat and back portions, is molded in one piece from a plastic material, such as polypropylene, which is flexible and resilient.

Hoven relates to a chair made up of separate seat and back portions attached to a frame. The portions are each blow-molded from a plastic material such as polyethylene "in much the same manner as the familiar squeeze bottles in use today." Both portions are hollow. The patent states that the seat "possesses high integrity and because of its hollowness a considerable degree of resilience which makes for comfort in the chair," while the back is likewise described as "resilient."

Saarinén discloses a chair comprising an integral shell-type seating structure which is attached to a pedestal-type base. In one embodiment, the seating structure is attached to the base for pivotal movement by coupling means which includes a male member attached to the bottom of the seating structure in mating engagement with a recessed member formed within the base.

The rejections are under 35 U.S.C. 103. The Examiner held claim 14 obvious over Donohue in view of Hoven and Saarinén. He considered claim 17 obvious from two combinations of references, Donohue in view of Hoven and Hoven in view of Avedon. The Board affirmed all rejections but apparently did not regard Hoven as necessary in connection with claim 14.

After acknowledging appellant's arguments, the Board stated:

In connection with claim 14 stress is placed on the character of materials and articles as expressed by "integral, hollow, molded, resilient, plastic." We do not see where such recitation varies from the shape retaining fabric reinforced plastic sheet presented by Donohue as "sufficiently rigid as to substantially maintain its pre-established shape under loadings." * * * While Donohue states that his front section may be less rigid, we find nothing within claim 14 to exclude such variation and further are convinced that persons of ordinary skill in the art would understand that it would be no more than an obvious use of the Donohue teachings to form front and back panels of equal rigidity. The bonded structure taught in Donohue satisfies the recitation "integral" as above quoted. See *In re Larson et al.*, 52 CCPA 930; [340 F.2d 965], 144 USPQ 347. The Donohue plastic unit is attached to a support structure and it appears to us that no more than routine substitution of old support expedients is involved in using support structure from the Saarinén combination. Fastener expedients to implement such fabrication with or without access to the inside of the wall struc-

tures of the chair seat are well known and do not appear to us to defeat the obvious character of such substitution. * * *

We find no error in that analysis and think that it answers the substance of appellant's arguments before us. Appellant does contend here that one utilizing Saarinen's teachings to fasten the seat and support (base) structures together would include additional mechanical attachment units while his own attachment members are integral with the two structures making up his article. That argument is of little significance, however, in view of the fact that the claim requires merely that the coupling means be "on" the upper portion of the lower chair structure and the lower panel of the upper chair structure and that the male and female socket elements be "fixedly carried" by the structures, a condition clearly met by substitution of the coupling means of Saarinen as referred to by the Board.

As to claim 17, the Board stated:

Rejection of claim 17 involving Donohue in view of Hoven et al. presents a more direct need to rely on Hoven et al. for the fabrication of a two walled seat element of "homogeneous thermoplastic material." Without deciding that bonded panels in Donohue of identical characteristics would satisfy this terminology, we share the Examiner's view that Hoven et al. teach the molding of one piece structure to simultaneously form two such panels. We see nothing unobvious in the article so produced by reason of extension of the design to include seat and back portions. Claim 17 does not exclude the use of suspending framework as taught in Hoven et al. and does not require it. A balloon-like bag placed on the floor for use as a seat would present every element and contour required by claim 14 [sic: 17]. While appellant argues that pliable character for the seat is a feature of his structure, claim 17 requires no such character and is met by structure as in Donohue even if fabricated in the most rigid possible form. Such selection would be clearly adapted to the post support of Saarinen and be a clear substitute for the chair structure of that reference. * * *

We also agree with those views of the Board. The fact, emphasized by appellant, that his structure lacks the separate rigid frame connection which Hoven provides between the seat rest and back rest portions is not material. The seat and back portions are unitary in the basic reference, Donohue, and Hoven is relied on as a suggestion that such structure be formed by blow-molding.

We also agree with the additional rejection of claim 17 as obvious over Hoven in view of Avedon. The unitary seating structure with both seat and back portions in Avedon clearly suggests fabricating the hollow seat and back portions of Hoven in a single piece.

[1] The decision is affirmed.
AFFIRMED.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

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2,643,463. (See 2,604,313.)

2,605,645, E. S. Tupper, BREAD SERVER OR ANALOGOUS SEAL TIGHT CONTAINER; 2,752,970, same, RECTANGULAR CONTAINER AND HERMETICAL SEAL THEREFOR; 2,859,786, same, COUPLING MEANS FOR TUBULAR VESSELS; 2,816,589, same, SALAD BOWL; Re. 24,889, same, CONTAINER AND COVER THEREFOR; D. 206,016, T. E. Brown, FOOD MOLD OR THE LIKE; 3,307,603, James B. Swett,

CONTAINER, filed Aug. 6, 1968, D.C., C.D. Calif. (Los Angeles), Doc. 68-1290-CC, *Rexall Drug and Chemical Company v. APL Corporation*.

2,718,706, E. Kustusch, AMPLIFYING FLUSH PIN GAUGE; Re. 24,177, same, filed Feb. 2, 1968, D.C., E.D. Mich. (Detroit), Doc. 30822, *Keyn Tool Company, Inc. and James E. Westman v. The Laurel Corporation*. Dismissed on defendant's motion, Aug. 13, 1968.

2,752,970. (See 2,605,645.)

2,816,589. (See 2,605,645.)

2,859,786. (See 2,605,645.)

2,964,883, J. F. Harper, BUFFING MACHINERY, filed July 24, 1968, D.C. Md. (Baltimore), Doc. 12670, *The Packer Machine Company v. The Harper Buffing Machine Company*.

3,011,057, H. O. Anger, RADIATION IMAGE DEVICE, filed June 21, 1968, D.C. Conn. (New Haven), Doc. 12618, *Hal O. Anger and Nuclear Chicago Corporation v. Interlech, Inc. and Picker Corporation*.

3,018,189, G. W. Traver, METHOD OF CONDITIONING POLYETHYLENE SURFACES FOR THE ADHESION OF MATERIALS COATED THEREON AND RESULTING PRODUCT, filed May 29, 1968, D.C. Del. (Wilmington), Doc. 3555, *E. I. du Pont de Nemours and Company v. Extrudor Film Corporation*.

3,028,713, Kennedy, Martinez, Paprzycki and Stablito, ARTICLE COUNTING AND LOADING MACHINE; 3,064,406, same, filed Nov. 29, 1967, D.C.N.J. (Camden), Doc. C-1213-67, *Edward J. Kennedy et al. v. Lasko Company, Inc.* Defendant's answers to plaintiffs' interrogatories, Aug. 28, 1968.

3,064,406. (See 3,028,713.)

3,103,466, A. Farkas, TOPICAL MEDICAMENT INCLUDING POLYURONIDE DERIVED FROM ALOE; 3,360,511, same, ALOE POLYSACCHARIDE COMPOSITION AND ITS PREPARATION; 3,362,951, same, POLYSACCHARIDE PRODUCT DERIVED FROM THE JUICE OF THE ALOE PLANT AND METHODS FOR PREPARING SAME, filed Aug. 13, 1968, D.C., S.D. Fla. (Miami), Doc. 68-963-C, *Alexander Farkas and Robert A. Mayer v. C. W. Teague et al.*

3,107,401. (See D. 208,067.)

3,212,648, Baker and Hall, CANTILEVER RACK, filed Aug. 28, 1968, D.C., C.D. Calif. (Los Angeles), Doc. 68-1434-F, *Palmer-Shile Company v. John D. Krummell, doing business as Advance Equipment Company*.

3,216,135, C. B. Wright, HOLDER; 3,295,235, G. G. Tauber, same, filed Feb. 13, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c236, *Gabriel G. Tauber v. Erill Manufacturing Company*. Motion for summary judgment granted, vacated, June 26, 1968. Reversed judgment, no infringement, dismissed without prejudice, Aug. 16, 1968.

3,220,334. (See Re. 25,663.)

3,226,891. (See D. 208,067.)

3,295,235. (See 3,216,235.)

3,303,001. (See 3,388,872.)

3,307,603. (See 2,605,645.)

3,309,256, R. Warsager, APPARATUS FOR SURFACE DECORATING OF ARTICLES, filed Sept. 5, 1968, D.C. Conn. (New Haven), Doc. 12746, *Rubin Warsager v. The Bristol Brass Corporation*.

3,313,978, T. J. Engelbach, ADHESIVE TRANSFERS, filed July 11, 1968, D.C., N.D. Ohio (Cleveland), Doc. C68-526, *Avery Products Corporation v. Morgan Adhesives Company*.

3,360,511. (See 3,103,466.)

3,362,951. (See 3,103,466.)

3,374,897. (See Re. 25,663.)

3,382,045. (See 3,388,972.)

3,388,972, Reitmeyer and Fleming, LOW TEMPERATURE SHIFT REACTION CATALYSTS AND METHODS FOR THEIR PREPARATION; 3,303,001, E. K. Dienes, LOW TEMPERATURE SHIFT REACTION INVOLVING A ZINC OXIDE COPPER CATALYST; 3,382,045, Habermehl and Atwood, PRODUCTION OF HYDROGEN, filed June 26, 1968, D.C., N.D. Ohio (Cleveland), Doc. C68-459, *Catalysts and Chemicals Inc. v. The Standard Oil Company*.

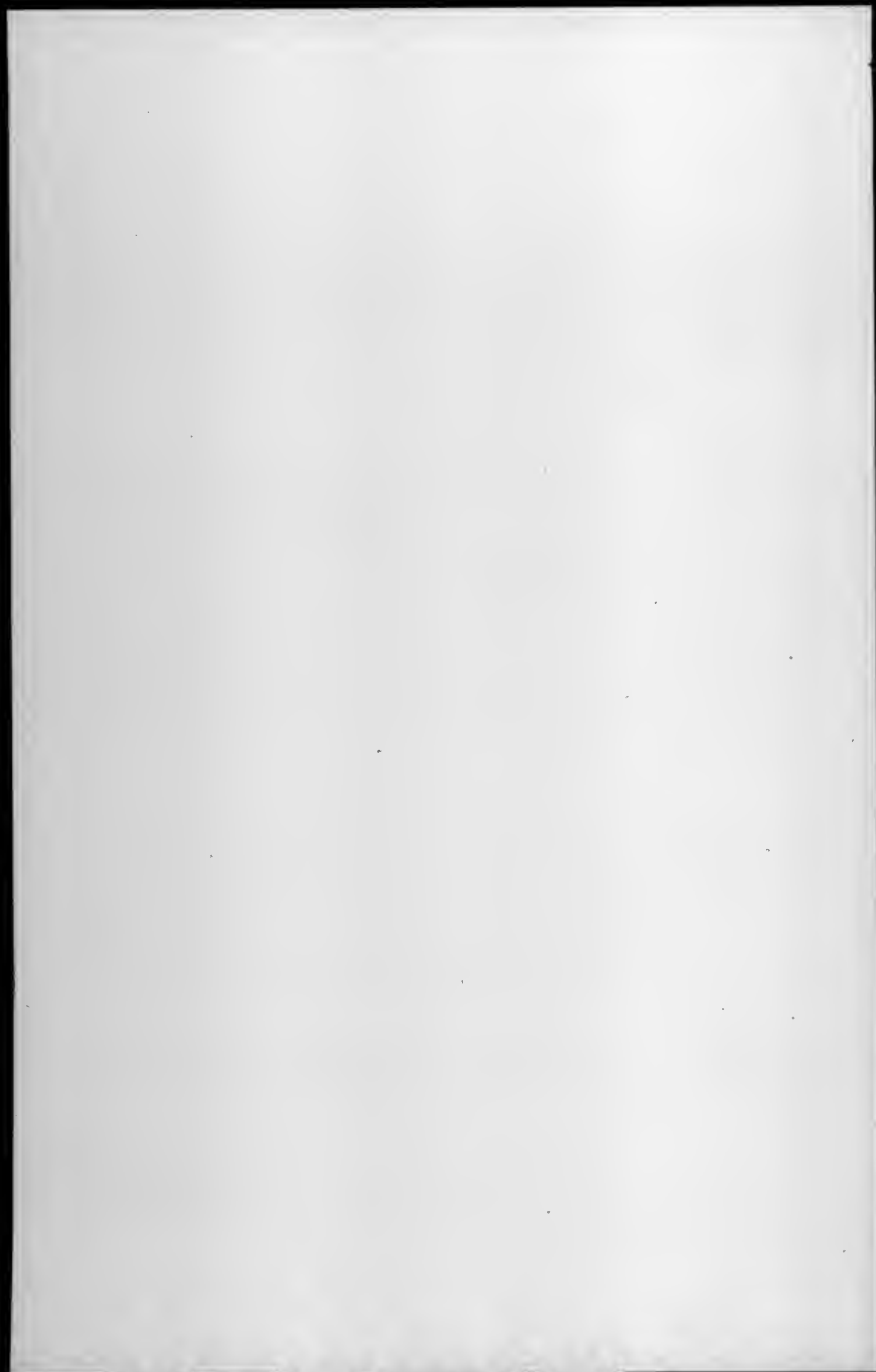
Re. 24,177. (See 2,718,706.)

Re. 24,889. (See 2,605,645.)

Re. 25,663, G. R. Bunn, COFFEE MAKING MACHINE; 3,220,334, J. C. Martin, same; 3,374,897, same, ONE-PIECE FUNNEL WITH INTEGRAL RIBS FOR HOLDING DISPOSABLE COFFEE CARRYING FILTER, filed Apr. 1, 1968, D.C., N.D. Ill. (Chicago), Doc. 68c584, *Bunn-O-Matic Corp. v. Reynolds Products, Inc.* Dismissed on stipulation of counsel without prejudice, July 30, 1968.

D. 206,016. (See 2,605,645.)

D. 208,067, W. C. Heirich, STRIP USED IN FORMING A SOLAR SCREEN; 3,107,401, same, MARQUEE; 3,226,891, same, CANOPIES, filed June 7, 1968, D.C., N.D. Tex. (Dallas), Doc. CA-3-2627-C, *Sunco Mfg. Co., Inc. and Wm. C. Heirich v. Frank D. Mason, doing business as Reddy Metal Products*.



PLANT PATENTS

GRANTED JANUARY 28, 1969

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,859

ROSE PLANT

Marie Louise Meilland, Cap-d'Antibes,
Alpes-Maritimes, France

Filed July 7, 1967, Ser. No. 651,960

Claims priority, application France, July 29, 1966,
47,596

1 Claim. (Cl. Plt.—20)

1. A new and distinct variety of rose plant of the hybrid tea class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a vigorous, hardy, bushy, upright and well-branched habit of growth, abundant, large, heavy foliage of an attractive Spinach Green color, having average disease resistance, a free blooming habit, with the flowers usually borne singly on long, strong stems firm flower petals, with attendant long lasting qualities and a habit of dropping the petals cleanly at the end of the flower life,

a double flower form, a distinctive, attractive and brilliant Rose Red flower color which is retained until the petals drop, and a light but penetrating centifolia flower fragrance.

2,860

ASH TREE

Markie McCabe, Azusa, Calif., assignor to Monrovia
Nursery Company, Azusa, Calif., a corporation of
California

Filed July 27, 1967, Ser. No. 656,603

1 Claim. (Cl. Plt.—51)

1. A new and distinct variety of the *Fraxinus uhdei* tree substantially as shown and described, characterized by its upright growing habit, by its unusually large and dark green leathery leaves and by its ability to retain its foliage for a longer period of time during the winter months (of a mild climate) than previously known *Fraxinus uhdei*.

PATENTS

GRANTED JANUARY 28, 1969

GENERAL AND MECHANICAL

3,423,758

HELMET SHIELD FASTENER

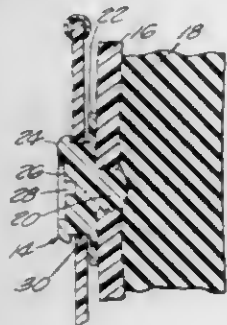
Frank Heacox, Long Beach, Calif., assignor to Bell-Toptex, Inc., Long Beach, Calif., a corporation of California

Filed July 28, 1966, Ser. No. 568,433

U.S. Cl. 2-3

Int. Cl. A42b 3/02

4 Claims



In particular, this patent describes a novel crash helmet fastener means for the connection of the shield to the body of the crash helmet, said fastener means comprising a body having a generally stud-like configuration which is of low profile and made of a shatterable material, and having a shank portion adapted to be received in the body of the helmet without any fitting or retainer on the inside of the helmet. The outer end of the shank portion has attached a head portion thereto having inner and outer flanged portions each of which is larger in area than the shank portion, the inner flange serving to distribute the force of impact over a large area of the helmet, the flanges forming therebetween a retainer groove for the shield.

3,423,759

PROTECTIVE AND SOUND ATTENUATION HELMET

Frank A. Catroppa, Philadelphia, and Sidney Hirsch, Elkins Park, Pa., assignors to the United States of America as represented by the Secretary of the Navy

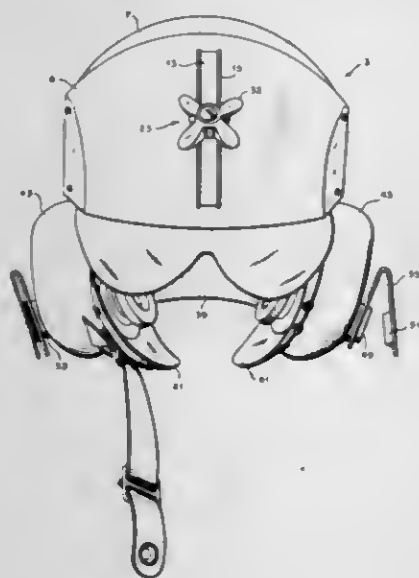
Filed Nov. 25, 1966 Ser. No. 597,138

U.S. Cl. 2-6

Int. Cl. A42b 3/02, 1/06

1 Claim

The present invention relates to a novel and improved protective helmet that can be readily and effectively



adapted to selectively exclude external environmental noise. The improved helmet includes a hard outer shell

of Fiberglas or other suitable material, an inner energy absorbent shell, a headband liner which is secured to the inner surface of the energy absorbing shell and which includes annular portions that extend downwardly about the ear area of the wearer, and ear cups which are removably secured in the aperture of each annular ear portion of the liner and which include a relief port that is selectively opened or closed to the exterior environment.

3,423,760

METHOD OF DRESS SHIELD MANUFACTURE

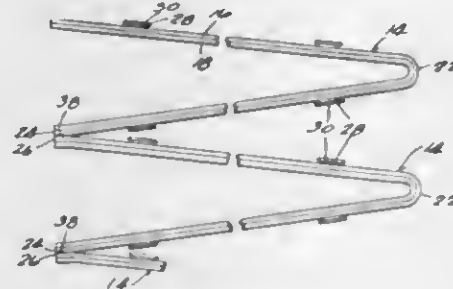
Wallace B. Tyrrell, Jr., Venice, Fla., assignor to Tyrrell Industries, Inc., Venice, Fla., a corporation of Florida

Filed May 10, 1966, Ser. No. 548,927

U.S. Cl. 2-58

Int. Cl. A41d 27/12; B65h 39/00

8 Claims



Composite webs of paper, gauze, and heat-sealable plastic, prefabricated to include spaced longitudinally extending transfer tapes and protective strips, are first folded longitudinally and then stacked with their free edges aligned at one side of the stack and their folds aligned at the other. A heat sealing instrument is then passed along the free edges to unite heat sealable plies of adjacent webs. Disposable dress shields with wide intermediate wings and narrow terminal tabs are blanked transversely from the stacked webs. Each shield has transfer tapes and protective strips extending across it to its extreme margins.

3,423,761

NIGHTGOWNS FOR NURSING MOTHERS

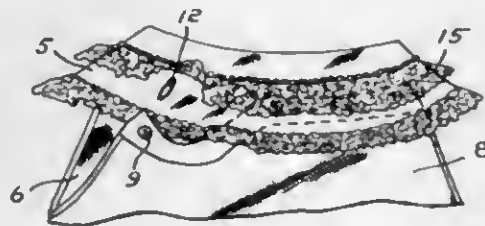
Edith E. Nickerson, 32 Spencer Ave., Somerville, Mass. 02144

Filed Oct. 21, 1965, Ser. No. 499,375

U.S. Cl. 2-74

Int. Cl. A41d 9/00

2 Claims



Sleeveless nursing nightgown with its front portion having an upper flap portion detachably attached to a collar-like yoke substantially at the shoulders of the garment, the upper flap portion covering the breast area with its upper edge covered by the yoke.

JANUARY 28, 1969

GENERAL AND MECHANICAL

1051

3,423,762

PRETIED NECKTIE AND CLIP

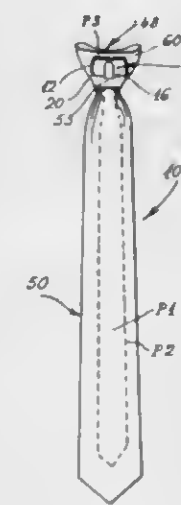
Herbert Spiegel, Tenafly, and Frank Sweeney, Bayonne, N.J. (both of 21 E. Lafayette St., Hackensack, N.J. 07601)

Filed July 6, 1967, Ser. No. 651,604

U.S. Cl. 2-153

Int. Cl. A41d 25/02

5 Claims



The disclosure describes a tie clip having a winged metal body to which a hook is pivotally mounted. The hook engages over the collar of a shirt. The wings engage in folds of a pretied necktie and serve as a form for the knot. A springy tongue is formed on the metal body for holding the hook in open and closed positions.

3,423,763

WIND PROTECTIVE HEADGEAR

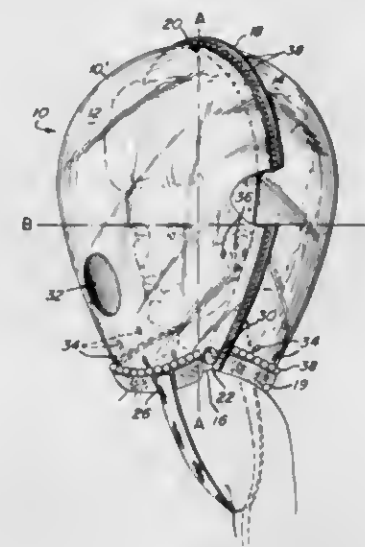
Natalie Pels Schwartz, Chicago, Ill., assignor to Countess Natalie, Inc., Chicago, Ill., a corporation of Illinois

Filed July 15, 1966, Ser. No. 565,575

U.S. Cl. 2-171

Int. Cl. A42b 1/20

5 Claims



There is described a wind protective headgear comprising a hollow body of ovoidal configuration formed of a pair of transparent, rigid, similar dish-shaped plastic members, one of which is slightly smaller than the other, said body having a major and minor axis and said members being secured pivotally for relative rotation on the major axis between a nested condition for storage or transport and an extended condition; the edge of the inner member telescopically is engaged within the first dish-shaped member along the edge thereof when the members are in the extended condition.

3,423,764

GARMENT ANCHOR

Carl E. Cassling, Dallas, Tex., assignor of one-fourth interest to D. Carl Richards, Dallas, Tex.

Filed Sept. 14, 1965, Ser. No. 487,135

U.S. Cl. 2-337

Int. Cl. A41f 11/16

5 Claims



1. Garment supporting means comprising unitary structure including a flexible strip having an adhesive layer on one side for adhering to a body surface, and an anchor layer occupying at least a portion of the surface of said strip opposite said adhesive layer and means anchoring said anchor layer at points spaced over the contact area between said strip and said anchor layer to unify said strip and said anchor layer, and to distort said anchor layer into a non-planar configuration when said flexible strip is in a planar configuration, said anchor layer being characterized by a plurality of outwardly directed resilient rods having hook-shaped ends.

3,423,765

PROSTHETIC DEVICE WITH ELECTRONIC PROPORTIONAL CONTROL GRASP

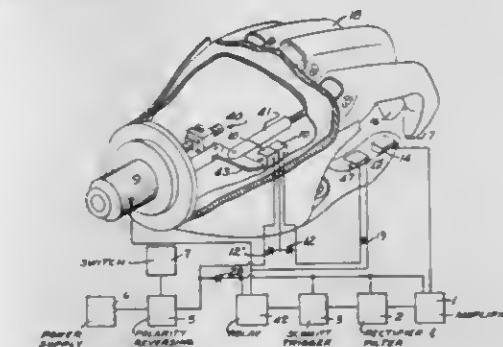
Lloyd L. Salisbury, Jr., Kensington, Md., assignor to the United States of America as represented by the Secretary of the Army

Filed Aug. 11, 1966, Ser. No. 572,170

U.S. Cl. 3-1.1

Int. Cl. A61f 1/06

8 Claims



A prosthetic device including sensor means for providing a signal indicative of the slippage of an object from the grasp of the device and electrical and electronic means responsive to such signal for controlling the grasping action of the prosthetic device.

3,423,766

SANITATION SYSTEM

Leroy O. Eger, P.O. Box 5707, Jacksonville, Fla. 32207

Filed Oct. 13, 1965, Ser. No. 495,645

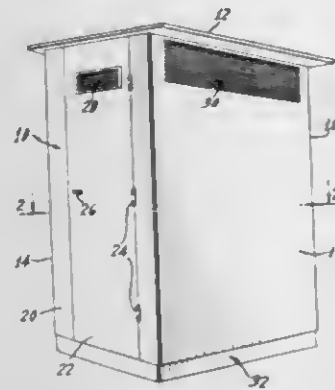
U.S. Cl. 4-115

Int. Cl. E03d 7/00

12 Claims

A portable self-contained toilet and sewage treatment plant having a flush type toilet including a water storage tank and toilet bowl for the deposit of waste and excreta, with the water storage tank containing a float and lever

arm connected thereto. The system includes a sewage treating tank positioned below the toilet for receiving and treating water and the waste and excreta deposited in the toilet bowl, with an upright screen extending from top to



bottom across the mid-section of the sewage treating tank to divide the tank into forward and rearward sections, the water and waste being received in the rearward section and the screen maintaining the waste in the rearward section.

3,423,767

SWIMMING POOL COVER

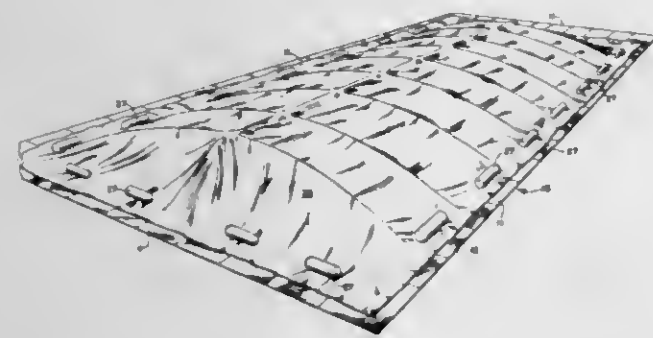
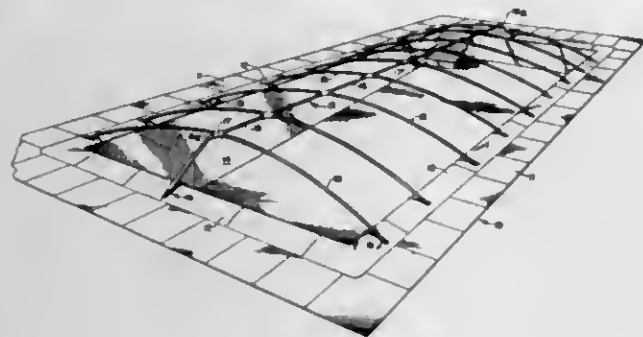
Hubert D. Crook, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

Filed Jan. 30, 1967, Ser. No. 612,661

U.S. Cl. 4-172

Int. Cl. E04h 3/16; E04f 10/04

8 Claims



The swimming pool cover of the present invention includes a cover support structure having a center support member consisting of short lengths of pipe coupled by means of four-way fittings. Side support members consisting of bowed or arched lengths of flexible pipe are joined to the center support section by means of the four-way fittings. The ends of the side support members are anchored to the pool coping by means of a three-fingered anchoring device having an upturned center finger inserted in the end of the respective side support pipes and having two downturned finger portions engaging the coping on the edge of the pool. A flexible pool cover is supported by the cover support structure and can be retained in place by means of weights such as sandbags.

SAFETY PLATFORM FOR SWIMMING POOLS

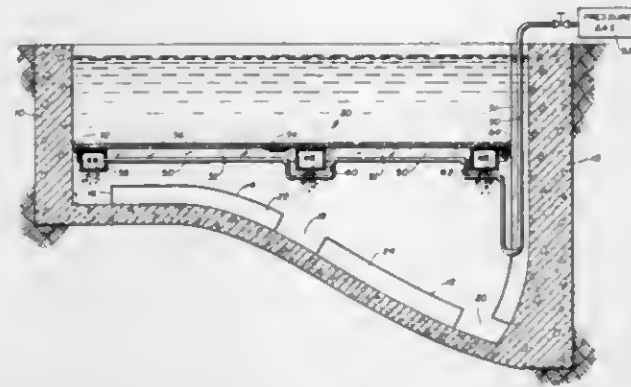
Lee E. Glenn, 529 E. 49th Court N.,
Tulsa, Okla. 74126

Filed Oct. 22, 1965, Ser. No. 501,459

U.S. Cl. 4-172

Int. Cl. E04h 3/19

2 Claims



Open bottom ballast or pontoon tanks are positioned below a protective screen or cover. Compressed air injected into the ballast tanks force water therefrom to float the protective cover. Discontinuance of compressed air allows the liquid to reenter the tanks allowing the cover to sink into a recess substantially forming the bottom of the pool.

3,423,769

BATH

George E. Cowley, Longmynd, Congleton Road,
Alderley Edge, Cheshire, England

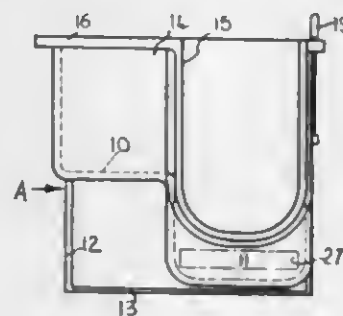
Filed Mar. 23, 1966, Ser. No. 536,784

Claims priority, application Great Britain, May 7, 1965, 19,278/65

U.S. Cl. 4-173

Int. Cl. A47k 3/022; F16j 15/46

11 Claims



A bath tub especially for infirm persons including a door in one side with a watertight seal between the door and the opening therefor, an integral seat portion with runners whereby a person can be wheeled on a trolley into the bath.

3,423,770

SNAP-IN APPLIANCE MOUNTING

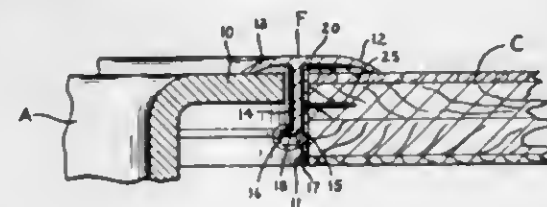
Alfred C. Jensen, 3025 NW. Rio Vista Terrace,
Portland, Oreg. 97210

Filed Mar. 12, 1965, Ser. No. 439,214

U.S. Cl. 4-187

Int. Cl. E03c 1/33

2 Claims



A mounting arrangement for an appliance, such as a sink, in a counter opening, employing a conventional

mounting frame and snap locking clips for securing the appliance in the mounting frame and for securing the mounting frame in the counter.

or drafting table. The master panel is comprised of plural planar portions each having recessed extendable legs mounted thereon.

3,423,771

WASTE AND VENT PIPES

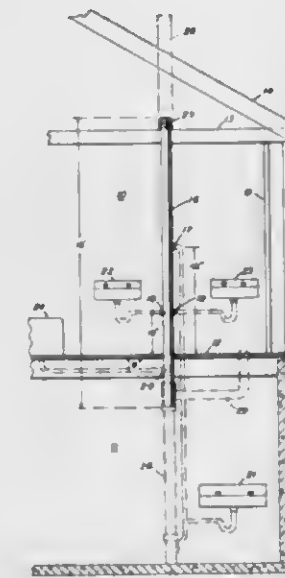
Francis M. Dirks, 604 S. Cloudas Ave.,
Sioux Falls, S. Dak. 57103

Filed June 13, 1966, Ser. No. 557,252

U.S. Cl. 4-211

Int. Cl. E03d 9/04

2 Claims



The invention relates to a single waste and vent pipe adapted to be installed in a dwelling wall supported by studding and having side openings for connection to conventional horizontal drain and vent pipes extending from basins, sinks, and other plumbing fixtures. The diameter of the single pipe is less than the larger width of the studding and is substantially constant throughout its length. The waste and vent pipe extends above a ceiling and below a floor of the dwelling.

3,423,772

MULTI-PURPOSE FURNITURE UNIT

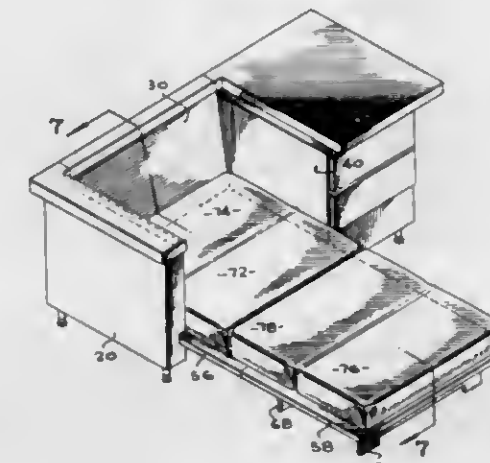
Donald N. Mainguy, Montgomery, Ala., assignor of one-half interest to John S. Andrews, Grenada, Miss.

Filed Aug. 29, 1967, Ser. No. 664,000

U.S. Cl. 5-2

Int. Cl. A47b 83/00, 85/00, 87/00

14 Claims



A convertible furniture unit having a hinged master panel insertable in various positions on a base unit for selectively providing a table, bed, desk, love seat, easel

3,423,773

ORTHOPEDIC DEVICE FOR PATIENT WITH IMMOBILIZED LEGS

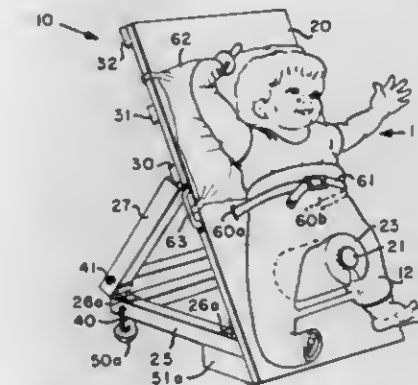
Emiko Y. Yamate, 3553 Amber Drive,
San Jose, Calif. 95117

Filed June 19, 1967, Ser. No. 646,809

U.S. Cl. 5-68

Int. Cl. A61g 7/06; A61f 5/37; A47d 13/00

14 Claims



An orthopedic device for supporting a patient whose legs are immobilized by a cast. The patient is supported on a platform by means of one or more padded posts which project from the platform and engage the cast in hanging relationship. The platform is secured by hinges to a base frame, and the base frame is secured by hinges to a rotating frame. The angle of inclination for the platform is established by engaging the free end of the rotating frame in one of a plurality of stop structures on the back of the platform. A pair of wheels attached to the bottom of the base frame permits the patient to be moved with the orthopedic device. A pair of blocks attached to the bottom of the base frame gives additional support to the inclined platform when it is in position of approximately 60° with respect to the horizontal, this being the most advantageous position for the patient to observe his environment and use his hands. The rotating frame may be locked in horizontal alignment with the base frame with the platform resting on top of these two frames for purposes of placing the patient in a reclining position for moving and storing the orthopedic device.

3,423,774

PILLOW COVER

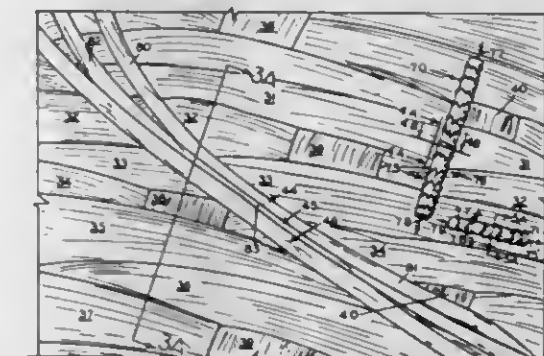
Foy J. Streetman, Fritch, Tex., assignor to Seagraves Industries, Inc., Seagraves, Tex., a corporation of Texas

Filed July 24, 1967, Ser. No. 655,601

U.S. Cl. 5-339

Int. Cl. A47g 9/02

3 Claims



This invention provides a combination of size and arrangement of fibres of particular chemical and physical characteristics in combination with and forming a reservoir for an oleophobic and hydrophobic coating material ade-

quately held on said combination of fibres for use as a nondisturbing support element for human hair arranged in a decorative coiffure.

3,423,775

MEANS FOR FIXING A SEAT COVER TO A SEAT
Richard Cockerill, Blisworth, England, assignor to Boston Manufacturing Company Limited, Northampton, Northamptonshire, England, a British company.

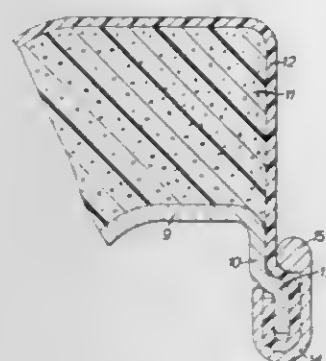
Filed Jan. 11, 1967, Ser. No. 608,596

Claims priority, application Great Britain, Jan. 13, 1966, 1,557/66

U.S. Cl. 5—353.1

Int. Cl. A47c 31/02, 27/14

2 Claims



A seat, particularly for a vehicle, comprising a seat pan, and a seat cover whose edge portion is folded over a lip of the seat pan and is secured by a V-section trim which grips it on to the lip, one side of the trim having an inward projection which locks over a step or other projection on the seat pan lip. The grip of the trim can be supplemented by V-shaped clips, which can have barbs thereon and which can be separate from, or integral with, the trim.

3,423,776

BUOYANT BODY OF PLASTIC PROVIDED WITH A TUBULAR PASSAGE THERETHROUGH

Knut Beyer-Olsen and Otto Steffensen, both of Aalesund, Norway

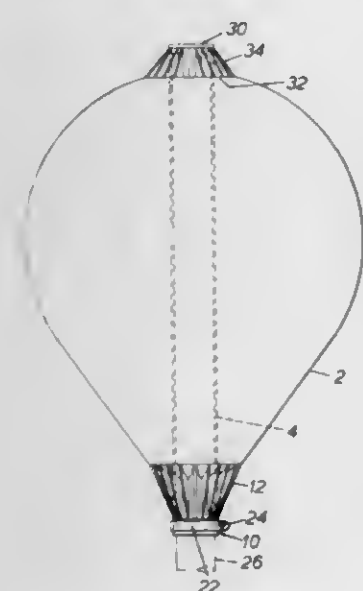
Filed May 16, 1966, Ser. No. 550,310

Claims priority, application Norway, Nov. 26, 1965, 160,650

U.S. Cl. 9—8

Int. Cl. B63b 21/52

4 Claims



A buoyant plastic body has a tubular element extending through said buoyant body forming a diametrical tubular passage therethrough. The tubular element has an extension protruding exteriorly from the body as a tubular stub. A plurality of substantially radially extending circumferentially spaced rib elements are secured to the exterior

surface of the stub and to the adjacent outside wall of the tubular body. These rib elements are molded to the stub and also to the buoyant body exterior wall. A clamp device may be provided upon the stub and the buoyant body, tubular element and ribs may be molded from the same plastic material and are of the same thickness as the walls of the body and the tubular element.

3,423,777

BUOY APPARATUS

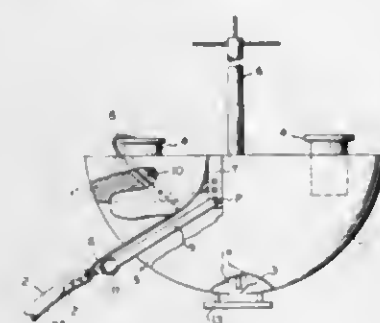
Anders Fred Feyling, Cambridge, Mass., assignor, by mesne assignments, to EG & G International, Inc., Bedford, Mass., a corporation of Delaware

Filed Nov. 10, 1966, Ser. No. 593,458

U.S. Cl. 9—8

Int. Cl. B63b 21/52; H02b 3/00

9 Claims



Hemispherical buoy with an upper buoyant section, a compartmentalized lower free-flooding stabilizing section, and a counterweight below a flooding opening. A slot in the lower section contains a mooring bar pivoted at one end to the buoy substantially at its center of gravity and connected at the other end to a mooring line comprising a chain and an electrical conductor bound thereto by a surrounding sheath.

3,423,778

MEANS AND METHOD OF MAKING THREADED FASTENERS

Milton Morse, Fort Lee, N.J.

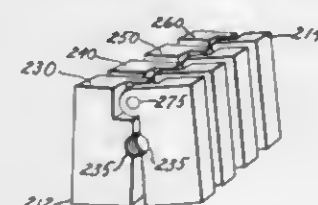
(41 Honeck St., Englewood, N.J. 07631)

Filed Oct. 12, 1966, Ser. No. 586,295

U.S. Cl. 10—2

Int. Cl. B21h 3/02; B21d 11/06; F16b 35/00

6 Claims



1. Structure for forming a spiraled threaded fastener comprising a plurality of plates each having a hole, at least a portion of which is threaded, and means to disalign the portion having the hole of said plates.

3,423,779

METHODS OF CONDITIONING SHOE PARTS

Hubert O. Chaplin, Roy D. McQueen, and Kenneth Lee, Leicester, England, assignors to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey

No Drawing. Filed June 15, 1965, Ser. No. 464,212

U.S. Cl. 12—146

Int. Cl. A43b 10/00; D06c 1/00

5 Claims

This invention relates to a method of mulling shoe parts comprising subjecting a shoe part to an atmosphere at a pressure less than atmospheric pressure to withdraw air, moisture and foreign substances from the interstices

between the fibrils of the material of the shoe part and thereafter exposing the shoe part to a moist atmosphere at a pressure above atmospheric pressure whereby moisture is forced into the evacuated interstices.

3,423,780

FRAMEWORK-SHAPED TRANSLOADING BRIDGE

Kurt Alten, 14 Ringstrasse, 3015 Wennigsen-Hannover, Germany

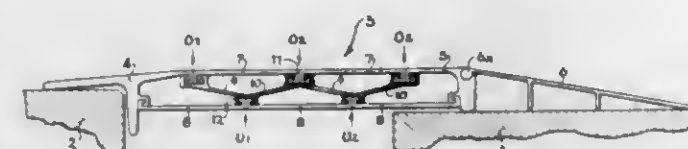
Filed June 27, 1966, Ser. No. 560,443

Claims priority, application Germany, June 29, 1965, A 49,599

U.S. Cl. 14—72

Int. Cl. E01d 15/12; E04c 1/04, 1/10

4 Claims



A girder-shaped structure, especially transloading bridge, with an upper cord formed by a plurality of first endwise abutting plates arranged along a first horizontal plane, and with a lower cord formed by second endwise abutting plates arranged along a second horizontal plane vertically spaced from said first plane, said second plates being located below said first plates. The respective abutting ends of said first plates and the respective abutting ends of said second plates are hook-shaped, while braces with C-shaped terminal ends alternately embrace abutting hook-shaped ends of said first and second plates and brace said upper and lower cords relative to each other.

3,423,781

SECUREMENT FOR MOP OR BROOM HEADS

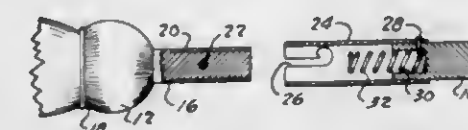
Harry H. Henson, Box 505, Urania, La. 71480

Filed Oct. 25, 1967, Ser. No. 678,084

U.S. Cl. 15—145

Int. Cl. A46b 5/00

2 Claims



A mop including a handle and a mop head secured to the handle by means of a sleeve secured to the head by a pin which extends from the sleeve, a second sleeve for slidably receiving the first sleeve, and second sleeve including a bayonet slot for receiving and engaging the pin and a compression spring secured in the second sleeve is disclosed.

3,423,782

ROTOR FOR THIN LAYER EVAPORATOR

Gerhard Klösel, Opladen, Germany, assignor to Farbfabrikanten Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

Filed Mar. 21, 1967, Ser. No. 624,892

U.S. Cl. 15—246.5

Int. Cl. B01d 1/22; F22b 37/48; F28q 3/10

2 Claims

A rotor for wiped film evaporators comprises a vertical shaft and a ribbon like helicoid coiled about the shaft and supported therefrom in concentric relationship and

coextensive therewith by means of radial arms. Coplanar, staggered, wiper blades which may overlap in axial extent



on alternate sides of the shaft, have a radius such as to extend at least as far as the inner periphery of the helicoid.

3,423,783

CARRIER DUST ACCUMULATORS

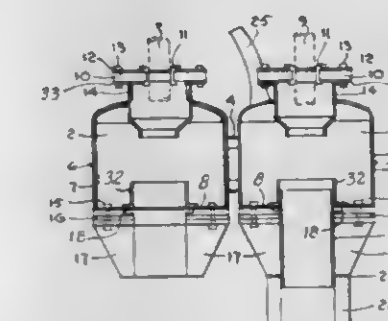
Elpbege Carrier, Qualicum Bay, British Columbia, Canada (Suite 1, 1945 Marine Drive, North Vancouver, British Columbia, Canada)

Filed Dec. 6, 1965, Ser. No. 511,878

U.S. Cl. 15—339

Int. Cl. E21c 7/02

4 Claims



A dust collector for attachment to the drill rod of a rock drill or the like for collecting the dust particles during the drilling operation to protect the health of the operator.

3,423,784

STOP AND HOLD DEVICE FOR DOORS

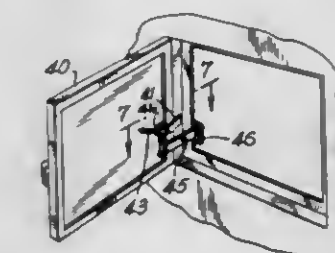
Eugene Albert Reynders, Northville, Mich., assignor to Ajem Laboratories, Inc., Livonia, Mich.

Filed Oct. 20, 1965, Ser. No. 498,692

U.S. Cl. 16—82

Int. Cl. E05f 5/02

4 Claims



A stop and hold device for a door hinged to a housing, with the door having a fulcrum member secured to the housing.

the door along the hinged edge, and a spring biased hold member which is rotatable about the fulcrum member as the door is opened and closed, with one end of hold member bearing against one surface of the housing to hold the door open, and a stop member rotatable about the fulcrum member as the door is opened and closed, and with a hooked end which hooks onto a second surface of the housing, spaced from the first surface, after the door is opened to prevent the door from opening further.

3,423,785

POSITION CONTROL MECHANISM

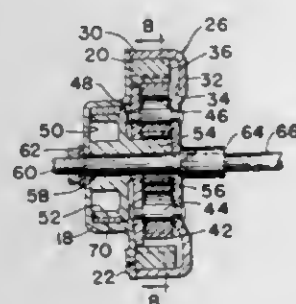
Joseph Pickles, Dearborn, Mich., assignor to Ferro Manufacturing Corporation, Detroit, Mich., a corporation of Michigan

Filed Jan. 10, 1966, Ser. No. 519,740

U.S. Cl. 16—140

Int. Cl. E05d 11/08; G05g 5/06; B60n 1/02

9 Claims



A pair of members are pivoted together and a friction drum is rotatable substantially about the pivot axis between said members. Epicyclic gearing interconnects said members and includes an eccentric mounting effective to produce substantial rotation of said friction drum upon limited rotation between said members. A coil spring brake is wound around the friction drum, and a release lever acts upon one end of the coil spring brake to release the same.

3,423,786

CABINET HINGE HAVING SEPARABLE HINGE LEAVES

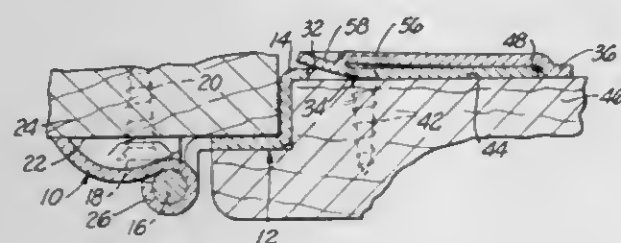
Henry Arias, Jr., Rowland Heights, and Viles K. Fremstad, Pomona, Calif., assignors to Ajax Hardware Manufacturing Corp., City of Industry, Calif., a corporation of California

Filed June 23, 1966, Ser. No. 560,005

U.S. Cl. 16—171

Int. Cl. E05d 7/10, 1/06

4 Claims



First and second hinge leaves are hingedly connected through a connector portion of the second hinge leaf. The connector portion extends generally perpendicularly from said hinged connection with a free end spaced therefrom. A second hinge leaf mounting portion is formed with an end opening and outwardly covered channel therein complementary to the connector portion for endwise slidably receiving the connector portion free end therein substantially outwardly covered thereby and with resil-

iently engageable detent means therebetween to retain said assembly.

3,423,787

TWO-PART HINGE WITH INTEGRAL PIN

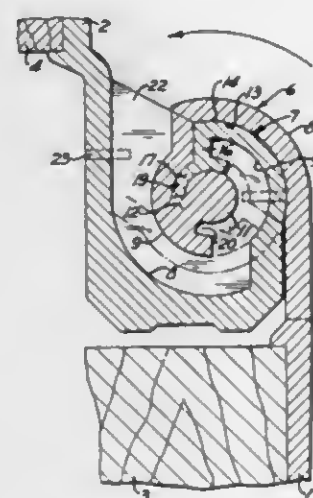
Robert L. Horstman, Clarks Summit, Pa., assignor to McKinney Manufacturing Company, Scranton, Pa., a corporation of Pennsylvania

Filed Jan. 23, 1967, Ser. No. 610,947

U.S. Cl. 16—178

Int. Cl. E05d 1/04, 1/02

5 Claims



A hinge is formed from only two parts, aside from the bearings. Joined to the leaves of the hinge are nesting open loops, one of which can rotate on the other to permit the hinge to be opened and closed. The loops are provided with curved sliding surfaces for this purpose. A hinge pin, integral with the inner loop, is engaged by an extension of the outer loop which projects into the inner loop.

3,423,788

MACHINE FOR TREATING SHRIMP

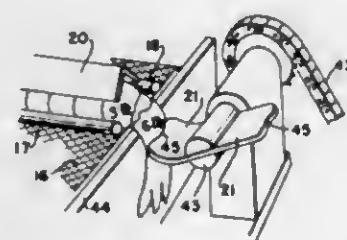
Fernand S. Lapeyre, New Orleans, La., assignor to The Laltram Corporation, New Orleans, La., a corporation of Louisiana

Original application June 11, 1965, Ser. No. 463,290, now Patent No. 3,331,097, dated July 18, 1967. Divided and this application Sept. 9, 1966, Ser. No. 593,619

U.S. Cl. 17—2

Int. Cl. A22e 29/00

8 Claims



The present invention is directed to a machine for treating shrimp to break both of the condyle hinges between the fifth and sixth abdominal shell segments in which an immobilizing means is provided for immobilizing the fifth shell segment of a shrimp and a fulcrum is positioned relative to the immobilizing means for engaging the sixth shell segment in the immobilized position and a movable means having a single movement is positioned to cause movement of the sixth shell segment about the fulcrum while the fifth shell segment is held immovable by the immobilizing means so that the sixth

shell segment moves away from shell segment number five.

3,423,789

ANIMAL DEHIDER

Edward Ochylski, % The American Meat Packing Corporation, Union Stockyards, Chicago, Ill. 60609

Filed Aug. 8, 1966, Ser. No. 571,079

U.S. Cl. 17—21

Int. Cl. A22b 5/16

6 Claims



Machine for dehiding carcasses that depend from a constantly moving animal suspension system and are attached at their lower ends to a constantly moving power driven anchoring means. The dehider consists of a constantly moving power driven conveyor inclined upwardly from the anchoring means to a point above the suspension system, to which conveyor preloosened hides are connected and pulled off of the carcasses as the carcasses move along the conveyor.

3,423,790

EXTRUSION APPARATUS

Ernesto Gabbiell, 9 Spechtweg, Lustenau, Austria

Filed July 8, 1965, Ser. No. 470,501

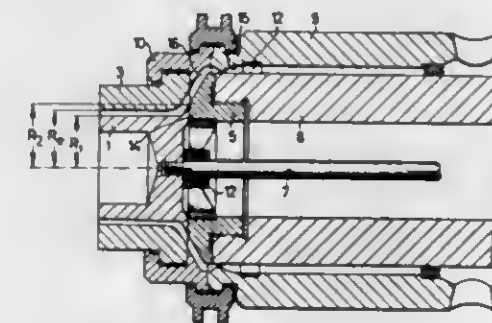
Claims priority, application Switzerland, July 10, 1964,

9,091/64

U.S. Cl. 18—14

Int. Cl. B29d 23/04

7 Claims



A cylindrical body is rotatably mounted within a stationary cylindrical body. The two bodies are coaxially arranged and defined therebetween an annular chamber. A die member and a mandrel member coaxially define an annular extrusion gap, and channel means define a channel for the flow of a fluid from said chamber to said gap, allowing said fluid to flow further outwardly of the gap. Plastic material fed into the extrusion apparatus is extruded so that the molecular chains of the extruded material remain oriented in planes transverse of the extruder axis.

3,423,791

APPARATUS FOR FORMING WALLED STRUCTURES OF PLASTIC FOAM

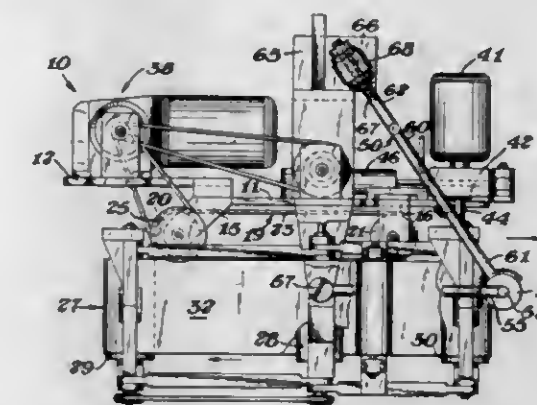
Hubert S. Smith, Jr., Bay City, and Donald R. Wright, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Sept. 28, 1966, Ser. No. 582,670

U.S. Cl. 18—5

Int. Cl. B29d 25/00; B29c 23/00, 27/00

4 Claims



1. In an apparatus for the formation of a walled structure by a spiral generation technique which comprises in operative cooperation means so constructed and arranged so as to position an operating head at a desired location and to successively deposit a synthetic resinous foamed material to form a walled structure, the improvement which comprises a spacing means pivotally supported adjacent and forward of a means to provide a foamable hardenable synthetic resinous material, the spacing means adapted to engage the previously deposited foam layer in a plane of a forming surface of a top belt of the depositing head, the spacing means being adjustably secured to a frame of the depositing head and adapted to be moved in a direction generally normal to the forming surface of the top belt of the depositing head.

3,423,792

APPARATUS FOR FEEDING INSERTS FROM MAGAZINE TO MOLDING MACHINE

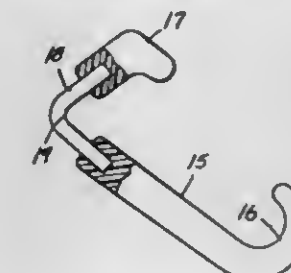
Louis H. Morin, Bronx, N.Y., assignor to Coats & Clark Inc., New York, N.Y., a corporation of Delaware

Original application Mar. 11, 1964, Ser. No. 351,107, now Patent No. 3,354,252. Divided and this application Oct. 24, 1966, Ser. No. 588,975

U.S. Cl. 18—5

Int. Cl. B29d 3/02; B22d 33/00

12 Claims



This disclosure relates to machines for producing travelers and like plastic moldings, wherein inserts are part of the resulting end product.

3,423,793

EXTRUSION HEAD

Anton Anger, Auf der Gugl 36, Linz (Danube), Austria

Filed July 19, 1966, Ser. No. 566,293

Claims priority, application Austria, July 29, 1965,

A 7,003/65

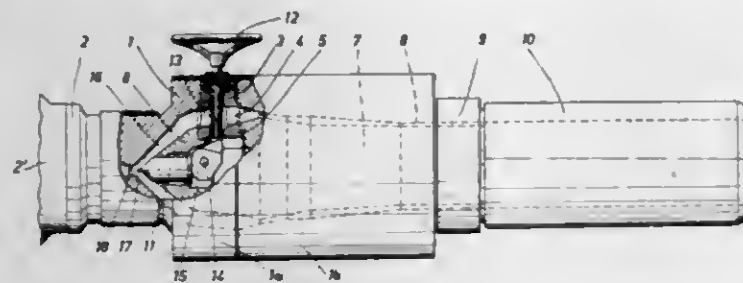
U.S. Cl. 18—14

Int. Cl. B29d 23/04

3 Claims

An extrusion head for plastic tubing is equipped with a valve member capable of being extended from the mandrel into the inlet orifice of the extruder head by

means of a handwheel on a threaded spindle which passes through the housing wall of the head and a hollow radial

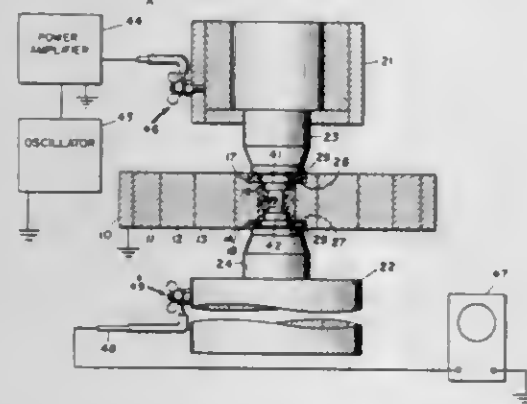


rib into the interior of the mandrel to actuate a lever against which the valve member bears, whereby flow of plastic into the head may be throttled.

3,423,794 ULTRASONIC METHOD FOR PRODUCING PHASE TRANSITIONS IN MATERIALS AT HIGH PRESSURES

Wayne D. Wilson, 2000 Wallace Ave.,
Silver Spring, Md. 20902

Filed June 30, 1964, Ser. No. 379,423
U.S. Cl. 18-16.5 5 Claims
Int. Cl. B29c 3/00

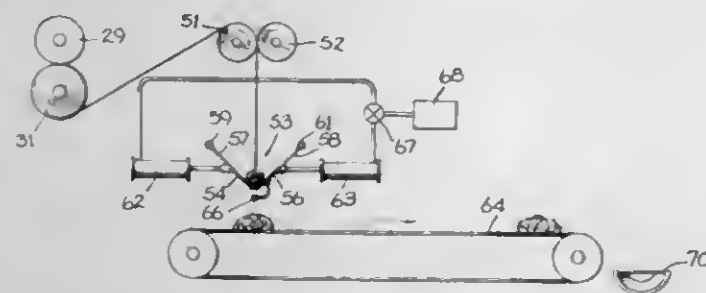


A method and apparatus for phase transforming certain materials. A specimen material to be phase transformed is placed in a pressure vessel and subjected to high pressure. An ultrasonic transducer placed in contact with the specimen material is excited to apply transverse ultrasonic shear waves to the specimen material so as to effect the phase transformation.

3,423,795 CONTINUOUS FILAMENTARY CUSHIONING MATERIAL

George A. Watson, Charlotte, N.C., assignor to Celanese Corporation of America, New York, N.Y., a corporation of Delaware

Continuation-in-part of applications Ser. No. 382,018, and Ser. No. 382,263, July 13, 1964. This application Dec. 30, 1964, Ser. No. 422,341
U.S. Cl. 19-66 12 Claims
Int. Cl. B01b 3/04



Cushioning batts and especially pillows comprising coherent webs of a multiplicity of parallel crimped continuous filaments, characterized by high springiness and

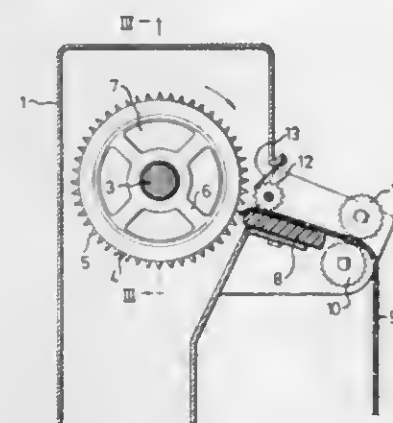
plumpness retained through use and washing, produced by continuously deregistering the crimp in a continuous filamentary crimped tow, spreading the deregistered tow to a light cohesive web, continuously and intermittently engaging the web with a barrier to fold and crumple a portion of it thereagainst, and severing the folded and crumpled portion of the web from the deregistered tow.

3,423,796 DEFIBRATOR

Leif R. Nordstrand, Malmö, Sweden, assignor to Mo Och Domsjö Aktieförägar, Örnsköldsvik, Sweden, a limited company of Sweden

Continuation-in-part of application Ser. No. 434,761, Feb. 24, 1965. This application July 10, 1967, Ser. No. 658,584
Claims priority, application Netherlands, Feb. 28, 1964, 6402040

U.S. Cl. 19-156.3 14 Claims
Int. Cl. D01g 11/00, 23/08

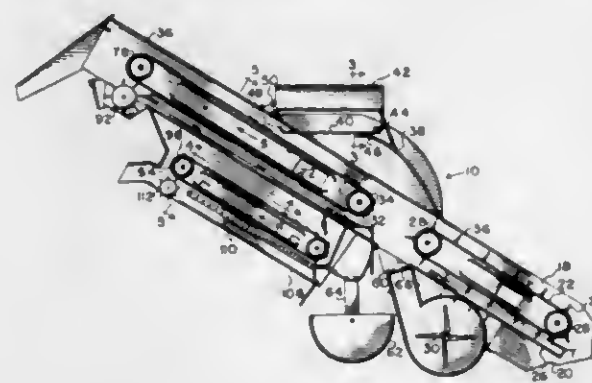


A defibrator for tearing a web of cellulose pulp fiber into small pieces is provided which is composed of a rotatable tearing device, such as a toothed tearing roll, a support ledge for the pulp web extending substantially along an axial plane of the tearing device, at substantially zero clearance from the rotating tearing device, and means for feeding the pulp fiber web into the bite between the tearing device, such as the teeth of the roll, and the support ledge.

3,423,797 BOLL AND BURR EXTRACTORS

Donald J. Cox, Enochs, Tex., assignor to Colton Enterprises, Inc., Paris, Tex., a corporation of Texas

Filed Nov. 5, 1965, Ser. No. 506,563
U.S. Cl. 19-202 3 Claims
Int. Cl. D01b 3/00, 1/00; B07b 7/00



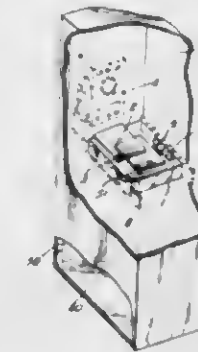
In cleaning cotton, green bolls are separated from the cotton by blowing the seed cotton upward, allowing the heavier green bolls to fall downward. While the seed cotton is entrained in a blast of air, it is blown onto a saw

belt. Burrs are removed from the saw belt by resiliently pressing transverse bars against the seed cotton on the saw belt.

3,423,798 CLAMP OVERALL ADAPTABLY COMBINED WITH A WRITING PLATFORM

Thomas P. O'Donnell, 220 Highland Blvd.,
Brooklyn, N.Y. 11207

Filed July 19, 1965, Ser. No. 472,950
U.S. Cl. 24-66 17 Claims
Int. Cl. B42f 1/02; B431 5/02

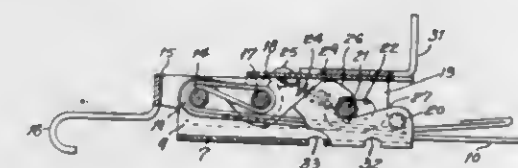


A clamping device securable to an edge of a shelf in a telephone booth to securely retain papers supported by the shelf. A generally C-shaped clamp actuating spring is securable directly to the shelf so that a rear inside portion thereof provides a stop means to limit insertion of papers into the clamp.

3,423,799 WEB TENSIONING BUCKLE WITH SAFETY LOCK

Nori Higuchi, Northport, N.Y., assignor to Davis Aircraft Products, Inc., Northport, N.Y., a corporation of New York

Filed Apr. 12, 1967, Ser. No. 630,243
U.S. Cl. 24-68 3 Claims
Int. Cl. A44b 21/00

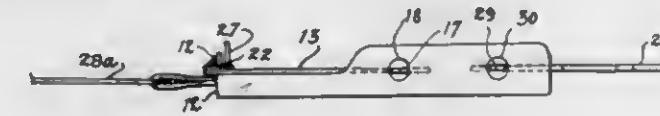


Buckle with web tensioning and slack takeup toggle lever which may carry a locking pin slideable into and out of locking engagement with hooks on the sides of the frame of the buckle.

3,423,800 CARGO TIEDOWN WITH LOCK FOR ADJUSTED, WEB TENSIONED RELATION

Frank L. Davis, Fort Salonga Road,
Fort Salonga, N.Y.

Filed July 6, 1967, Ser. No. 654,314
U.S. Cl. 24-68 10 Claims
Int. Cl. A44b 21/00

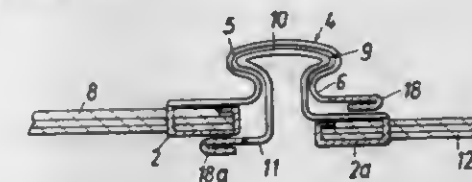


Cargo tiedown web is adjustably connected with a pivoted takeup lever, which can be locked in the web tensioning position by a manually releasable catch, and duplicate terminal hooks pivotally engageable in buckle frame or connected with web.

3,423,801 ZIPPER

Valio Nikodemus Hytonen, Jonkolantie 3,
Helsinki, Finland

Filed Dec. 27, 1965, Ser. No. 516,288
Claims priority, application Finland, Jan. 8, 1965, 29/65; Dec. 3, 1965, 2,920/65
U.S. Cl. 24-201 16 Claims
Int. Cl. A44b 19/02

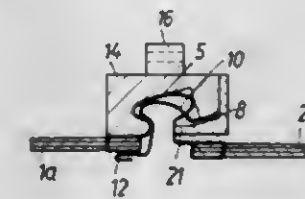


A zipper comprised of elongated resilient male and female members deformed transversely, thereby forming an enlarged ridge with a narrow neck portion. Longitudinal flexibility is achieved by means of a plurality of transverse slits. Teeth are spaced longitudinally along the members for anchoring the members to the edges to be fastened.

3,423,802

LOCK FOR CLOSING AND OPENING A ZIPPER
Valio Nikodemus Hytonen, Jonkolantie 3,
Helsinki, Finland

Filed Dec. 27, 1965, Ser. No. 516,289
Claims priority, application Finland, Jan. 8, 1965, 30/65
U.S. Cl. 24-201 7 Claims
Int. Cl. A44b 19/24

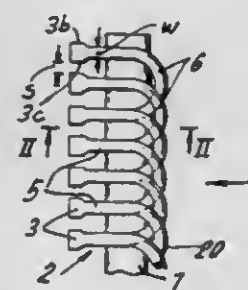


A zipper including elongated ridgelike male and female members having a general U-shaped cross section with a narrow neck portion. A slide lock is adapted to transversely spread the female member and transversely compress and insert the male member into the female member.

3,423,803

MULTI-STRAND SLIDE FASTENER
Alfons Fröhlich, Essen, Germany, assignor to Opti-Holding AG, Glarus, Switzerland, a corporation of Switzerland

Filed July 14, 1967, Ser. No. 653,421
Claims priority, application Germany, Aug. 11, 1966, O 11,874
U.S. Cl. 24-205.13 5 Claims
Int. Cl. A44b 19/00



A coupling element adapted to be affixed to a support tape to form one half of a slide-fastener stringer, the coupling element consisting of a coil of a number of intertwined synthetic-resin thermoplastic monofilamentary strands, the turns of which have mutually parallel and

coplanar shanks terminating at a respective flattened head (along one side of the coil) with protuberances extending in the direction of the coil axis and transversely to the plane of the turn. The heads are spaced apart while the bight connecting each of the shanks with the shank of the next turn of the same strand extend at an angle to the axis of the coil (i.e. at the pitch angle) and in contiguous flank-to-flank contact with the corresponding bight of the adjacent turns of the other strands.

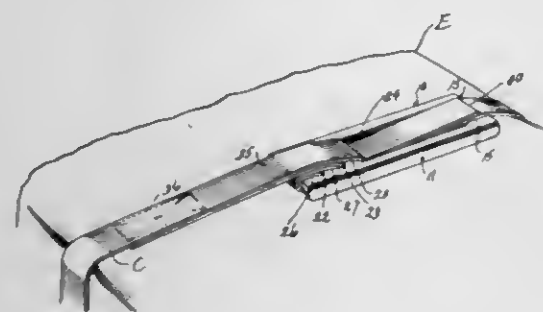
3,423,804

COMBINATION BUCKLE AND TIE TENSIONING DEVICE

John Edward Hatfield, Stotfold, England, assignor to Irvin Industries Inc., a corporation of New York
Filed Aug. 10, 1967, Ser. No. 659,659
Claims priority, application Great Britain, Sept. 15, 1966, 41,350/66

U.S. Cl. 24-273
Int. Cl. B65d 63/16

4 Claims



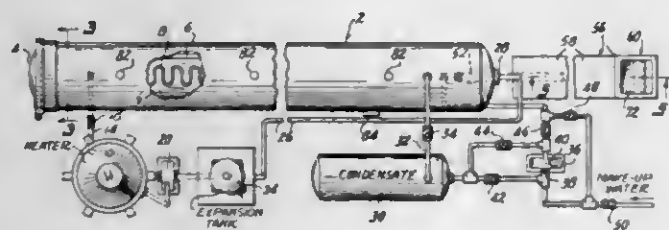
A combination buckle and tie tensioning device adapted to be used for tying bundles, packages, boxes, cartons, etc. in which the buckle and strap tensioning device comprises a one piece buckle body which has associated therewith a flexible tie strap or webbing which can be placed around a bundle and so associated with the one piece buckle body that the strap can be tensioned prior to a complete tying operation by using the rigid buckle as a lever to effect the tensioning.

3,423,805

AUTOCLAVING APPARATUS

John B. Klingel, Titusville, Pa., assignor to Struthers Scientific and International Corporation, a corporation of Delaware
Continuation-in-part of application Ser. No. 445,181, Apr. 2, 1965. This application June 15, 1966, Ser. No. 557,802
U.S. Cl. 25-133
Int. Cl. F27b 9/04

3 Claims



1. Apparatus for autoclaving concrete building blocks adapted to undergo transformation upon subjection thereof to high temperatures and pressures, comprising, in combination:

- (a) a closed chamber;
- (b) a reservoir for liquid water within said chamber;
- (c) tracks within said chamber and cars on said tracks which may be rolled in and out of said chamber,

said cars supporting said building blocks out of contact with liquid water within said chamber;

- (d) an externally located fired heater for heating oil;
- (e) pipe coils submerged within said reservoir of said chamber;
- (f) conduit means and pump means circulating heated oil between said heating means and said pipe coils;
- (g) a valve in said conduit means controlling passage of hot oil therethrough;
- (h) means relieving steam pressure from within said chamber;
- (i) a second insulated storage vessel having at least the capacity of said reservoir for maintaining water against heat loss;
- (j) a pipe leading from the bottom of said reservoir in said closed chamber to said storage vessel; and
- (k) at least one valve in said pipe.

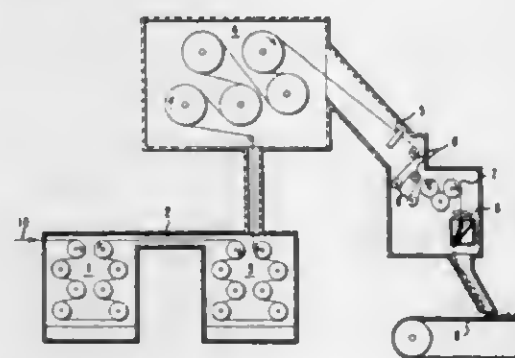
3,423,806

APPARATUS FOR SHAPING AND GUIDING A TEXTILE TOW

John Shuford Dickens III, Kinston, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed July 18, 1967, Ser. No. 654,240

U.S. Cl. 28-1
Int. Cl. D02g 1/14

4 Claims



An improvement in an apparatus for drawing and stuffer box crimping filamentary tow which allows a single tow to be run through the draw machine rather than a number of separate ribbons that later are combined to form the tow prior to crimping resulting in a higher permissible tow tension and the associated improvement in fiber properties, the improvement being a roller convergence guide arrangement operatively mounted between the draw machine and crimper comprising a pair of elongated cylindrical rollers vertically mounted on each side of the tow path and spaced apart a distance about equal to the crimper chamber width and at least four flanged elongated cylindrical rollers horizontally mounted in the tow path having substantially parallel longitudinal axes, said horizontal rollers being mounted between the vertical rollers and the pull rolls, the distance between the flanges corresponding to about the crimper chamber width.

3,423,807

APPARATUS FOR THE LAYERING OF TOW

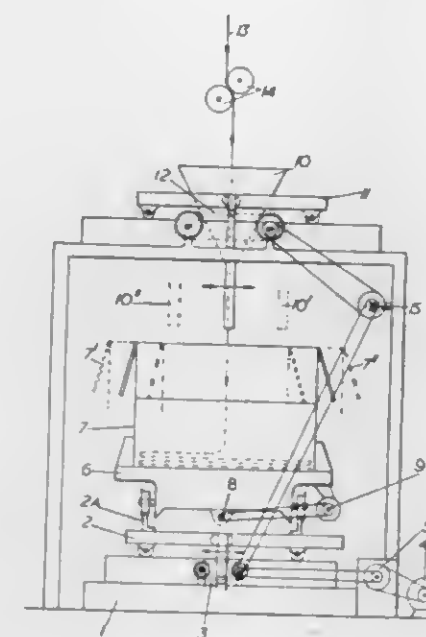
Georges Couturier and Charles Gauthier, Lyon, France, assignors to Crylor, Paris, France, a French body corporate
Filed Feb. 16, 1966, Ser. No. 527,905
Claims priority, application France, Feb. 19, 1965, 6,315/65

U.S. Cl. 28-21
Int. Cl. B65h 54/78

3 Claims

Apparatus is provided for the layering of a textile tow in a receptacle in horizontal parallel layers with folds in each layer; the apparatus includes a tow-distributing device which is movable with a reciprocal rectilinear movement, means for moving the receptacle with a rectilinear and

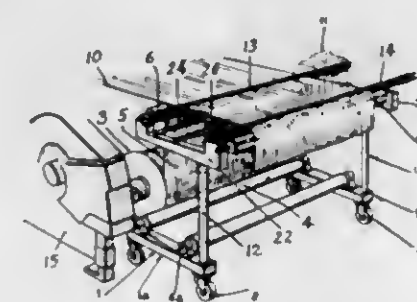
reciprocal motion which is complementary and parallel to that of the tow distributor but in the opposite direction,

3,423,808
DEVICE FOR PREPARING AND PRESENTING NEW WARP TO A WEAVING LOOM

Alois Altenweger, Uster, Switzerland, assignor to Zellweger Ltd.—Uster Factories for Apparatus and Machines, Uster, Switzerland
Filed Dec. 12, 1966, Ser. No. 600,842
Claims priority, application Switzerland, Dec. 10, 1965, 17,182/65

U.S. Cl. 28-49
Int. Cl. D03j 1/16

4 Claims



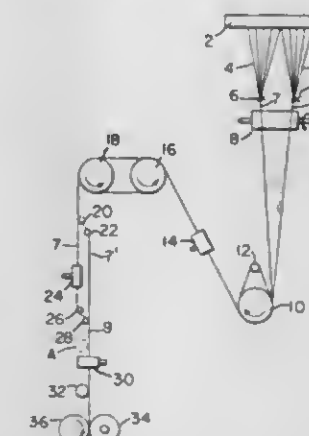
A device for supporting a new warp beam to permit preparation of the warp end is described in relation to a loom. The device includes means for stretching the end of the new warp prior to its placement on a loom which includes a supporting frame which also provides support for the new warp beam with the new warp wound thereon. The device is constructed so that it may be pushed toward the operating loom which has been operated to a point at which the old warp thread has been substantially completely unwound from its beam and the beam is to be replaced. The supporting device for the new warp beam with the new warp threads thereon carries spaced frame elements for supporting stretching devices so that the new warp threads may be oriented in a stretched condition at which they may be placed directly beneath the old warp. The device includes means for stretching the old warp threads over the new warp threads in a position so that a twisting-in device may be manipulated across the frame to easily join the threads together so that the new warp beam may be positioned on the loom in place of the old beam.

3,423,809

PROCESS FOR FORMING DIFFERENTIAL SHRINKAGE BULKED YARN

Donald B. Schmitt, Hendersonville, Tenn., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Continuation-in-part of application Ser. No. 623,406, Mar. 15, 1967. This application Nov. 15, 1967, Ser. No. 715,470
U.S. Cl. 28-72
Int. Cl. D01f 7/06; D01d 5/12; D01h 9/14

7 Claims



Improvements are disclosed in the production of composite yarn containing heat-shrinkable filaments, which develops bulk due to differential shrinkage of the filaments when heated. Filaments of synthetic linear condensation polymer are melt spun in conventional manner to form separate filament bundles, the bundles are separately drawn in a first jet supplied with superheated steam, the bundles are annealed under the same conditions on hot draw rolls, one bundle is further annealed in a second jet supplied with superheated steam, and the bundles are then combined in conventional manner to form a composite yarn. The filament bundles pass through separate passageways in the draw jet, so that they will receive the same heat treatment but entanglement of filaments will be avoided between the bundles. The yarn produced has highly uniform shrinkage characteristics when heat-bulked, thereby avoiding objectional streaks, or other non-uniformities, in fabric prepared from the yarn.

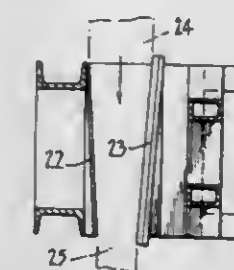
3,423,810

METHOD FOR THE FORMATION OF FELT

George Francis Flanagan, Pascoe Vale, Victoria, Australia, assignor to Commonwealth Scientific and Industrial Research Organization, East Melbourne, Victoria, Australia
Filed Feb. 1, 1966, Ser. No. 524,341
Claims priority, application Australia, Feb. 5, 1965, 54,795/65

U.S. Cl. 28-72.3
Int. Cl. D04h 17/00

2 Claims

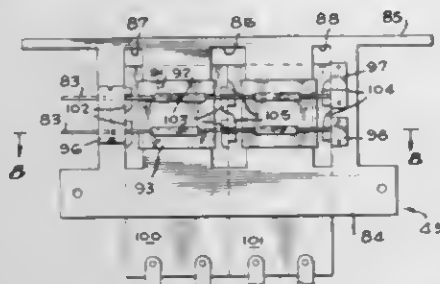


A method of continuous fulling an elongated felt member by feeding it lengthwise to a work station where it is repeatedly subjected to intermittent compressive forces applied generally normally to the longitudinal axis thereof in at least two planes normal to the axis and mutually perpendicular to each other while rotating the member about its axis with the extent of the compressive force

applied in at least one of the planes gradually varying along the axis of the member inwardly toward the member from the inlet to the outlet end of the work station.

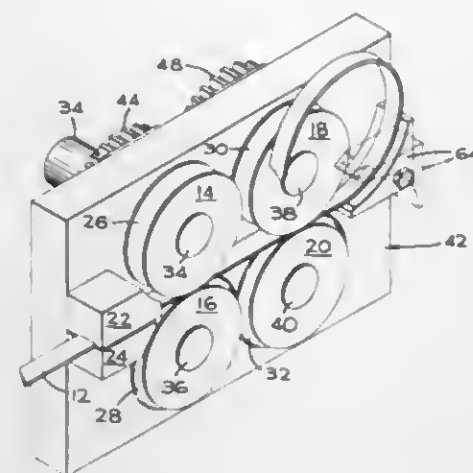
verse cross-section, curing the shaped strip about a transverse axis to form a helical coil, and severing the coil longitudinally to separate it into a plurality of individual

3,423,811
TIE BAR FORMING AND FEEDING APPARATUS
Raymond W. Clanton, 9735 Orcas Ave.,
Sunland, Calif. 91040
Filed Apr. 4, 1967, Ser. No. 628,475
U.S. Cl. 29—33 13 Claims
Int. Cl. B21f 45/00; B23b 23/02

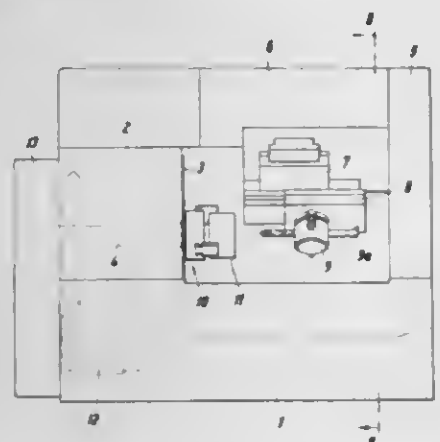


The application discloses apparatus for cutting and forming tie bars from wire rod stock and apparatus for feeding the formed tie bars into the molds of a concrete block-making machine designed to produce dual blocks connected by tie bars.

ring-like race inserts. The inserts also may be shaped individually from blanks of properly pre-cut lengths, and the inserts made by either procedure may then be heat-treated to increase their hardness.

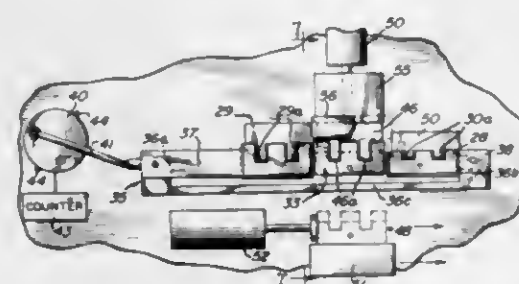


3,423,812
MULTIPLE SPINDLE MACHINE
Guenter Spur, Berlin, Germany, assignor to Werkzeugmaschinenfabrik Gildemeister & Comp. AG, Bielefeld, Germany
Filed Sept. 6, 1966, Ser. No. 577,254
Claims priority, application Germany, Sept. 29, 1965, W 39,998
U.S. Cl. 29—38 13 Claims
Int. Cl. B23p 23/04



A multiple spindle machine tool wherein one or more working stations accommodate tool changers which can exchange tools in the course of a working cycle so that the workpieces can be subjected to several treatments whose number exceeds the number of working stations. The exchange of tools can take place during indexing of the spindle carrier or while the carrier dwells between successive indexing movements.

A machine for stacking core laminations of two different configurations in which the laminations are alternately selected from two stacks of laminations. A reciprocating shuttle selects the laminations alternately from each stack and transfers them to a central assembly position. A slide member moves transversely of the direction of reciprocation of the shuttle and moves the assembled stack of laminations from the assembly position to a fastening position for fastening the transferred stack of laminations together.



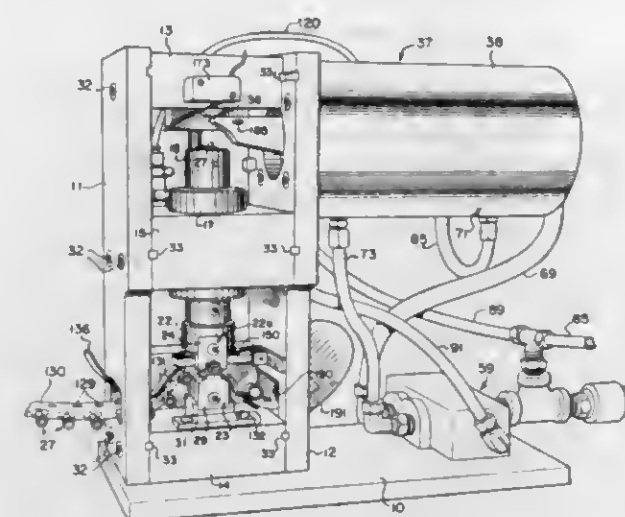
3,423,813
METHOD OF MAKING RACE INSERTS
George W. Bloomquist, Long Beach, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Mar. 28, 1966, Ser. No. 537,922
U.S. Cl. 29—148.4 5 Claims
Int. Cl. F16c 33/64; B21h 1/12

A method of making bearing race inserts involving shaping a blank, such as an elongated metal strip, relative to its longitudinal centerline to give it a curved trans-

3,423,815
FLUID-ACTUATED CRIMPING PRESS
Paul J. Spangler, University Heights, and Alfred W. Schmidt, Jr., Le Roy, Ohio, assignors to ETC Incorporated, Cleveland, Ohio, a corporation of Ohio
Filed Oct. 13, 1966, Ser. No. 586,418
U.S. Cl. 29—203 13 Claims
Int. Cl. H01r 43/04; B21d 11/04, 43/16

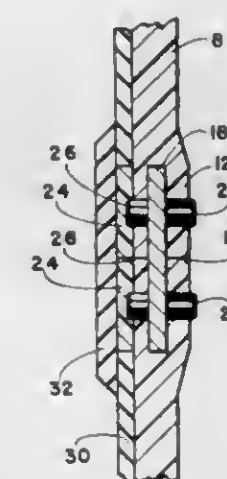
1. A crimping press for crimping ferrules carried by a perforated tape comprising a ram, means mounting said ram for reciprocation between first and second positions, dies on said frame and ram operable to crimp a ferrule at a crimping station when said ram reaches said

first position, means to move said ram from a third position intermediate said first and second positions to said first position to thereby crimp said ferrule, first position responsive means to raise said ram to said second posi-



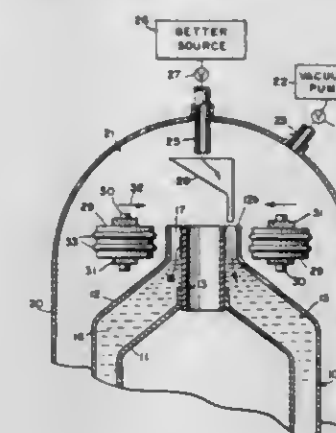
tion when said ram reaches said first position, and second position responsive means to advance said tape and to move said ram to said third position when said ram reaches said second position.

3,423,816
PROCESS OF MAKING A GLASS FIBER VESSEL HAVING A CLEVIS JOINT
James L. Grosb and Christian M. Frey, Los Altos, Calif., assignors to United Aircraft Corporation, a corporation of Delaware
Original application Feb. 21, 1962, Ser. No. 174,844, now Patent No. 3,357,594, dated Dec. 12, 1967. Divided and this application Oct. 12, 1966, Ser. No. 606,476
U.S. Cl. 29—416 2 Claims
Int. Cl. B23p 19/00; B29d 23/00, 25/00



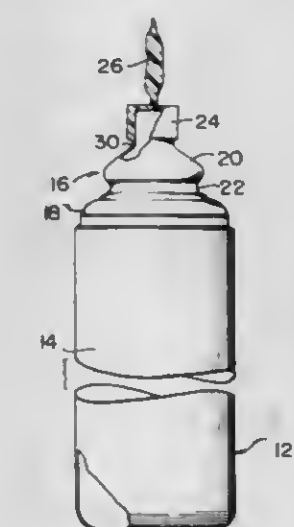
1. The process of making a glass fiber vessel having a clevis joint therein comprising forming a glass fiber vessel with an annular member embedded in the wall thereof, parting said vessel on a line intermediate of and substantially equidistance from the ends of the annular member, removing the thus severed parts of the annular member leaving two portions of the vessel with an annular slot in the ends of each of the portions, inserting a solid member in the slots and reassembling the vessel, forming holes through each of the vessel portions, said holes extending through the solid member, and inserting pins in said holes to hold the vessel together.

3,423,817
METHOD OF EVACUATING AND SEALING A DOUBLE-WALLED CONTAINER
Donald E. Bobo, 2217 N. Auburn,
Indianapolis, Ind. 46224
Filed Aug. 3, 1966, Ser. No. 570,037
U.S. Cl. 29—421 10 Claims
Int. Cl. B65b 55/00, 31/02; B23p 15/00



9. In a method of evacuating and sealing a space between the inner and outer shells of a double-walled container, the inner shell having an upstanding neck tube and the outer shell being of deformable material and having an enlarged neck defining an annular passage about said neck tube, the steps comprising: evacuating gas from the space between said inner and outer shells by withdrawing it through said annular passage; and then deforming said neck of said outer shell inwardly into sealing engagement with said neck tube to seal the evacuated space between said shells.

3,423,818
METHOD OF PRODUCING COLLAPSIBLE PLASTIC LINER AND ASSEMBLING LINER TO AEROSOL CONTAINER
Herbert S. Ruekberg, Highland Park, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Mar. 25, 1966, Ser. No. 537,570
U.S. Cl. 29—451 10 Claims
Int. Cl. B23p 11/00; B65d 35/14, 35/28



This disclosure relates to a method of assembling a dispensing container by first providing a tubular container body open at one end and having a restricted opening at the other end defined by a radially inwardly projecting lip, and a liner having an intermediate portion of reduced section defining a lip receiving recess and having a projection at an end thereof adjacent the recess. The liner is passed into the container body through the one end thereof toward the other end until the projection passes through the restricted opening; thereafter the projection

is gripped externally of the can body, and the liner is thereafter pulled farther through the restricted opening until the lip seats in the lip receiving recess.

3,423,819

METHOD OF FORMING RELATIVELY STRAIGHT LENGTHS OF METAL INTO ELONGATED MEMBERS

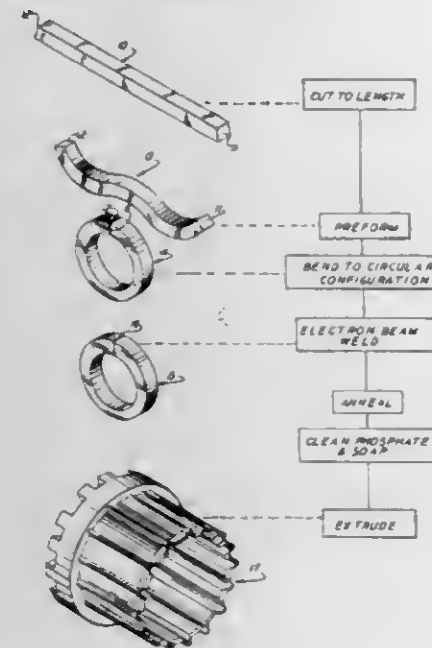
Donald W. Carlson and Phillip E. Eller, Belleville, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Dec. 12, 1966, Ser. No. 601,078

U.S. Cl. 29—471.1

Int. Cl. H01r 43/06; B23k 31/02

8 Claims



This disclosure specifically relates to a method of forming a relatively straight length of copper metal into a commutator blank of circular cross section by the following steps. First, the straight length of copper metal is formed into a circular configuration with the first end of the metal being positioned adjacent the second end of the metal in parallel, spaced relationship therewith. Second, the copper metal in the area of the two adjacent ends is electron beam welded so as to form a welded joint between the ends. Third, the circular blank is then prepared for an extrusion operation and inserted into an extrusion press. Finally, the extrusion blank is extruded to form the commutator blank of circular cross section.

3,423,820

METHOD OF FORMING PRE-STRESSED LAMINATED HEADS

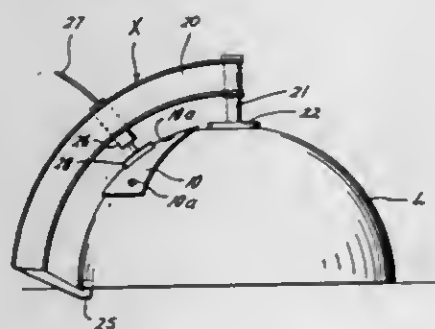
Raymond E. Pechacek, Eugene J. Clay, and Lawrence F. Megow, Houston, Tex., assignors to Hahn & Clay, a corporation of Texas

Filed Mar. 28, 1966, Ser. No. 537,804

U.S. Cl. 29—447

Int. Cl. B23p 11/02; B23k 31/02

9 Claims



Method of forming pre-stressed laminated pressure vessel heads and the like by welding a plurality of curved

gores to a solid inner layer shaped to the configuration of at least a partial sphere, with sufficient weld metal being deposited to cause the gores to shrink and place the inner layer under compression when the weld cools. Pre-stressing may also be effected by heating each of the gores to a temperature which is substantially higher than the temperature of the inner layer.

3,423,821

METHOD OF PRODUCING THIN FILM INTEGRATED CIRCUITS

Takeo Nishimura, Tokyo, Japan, assignor to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan

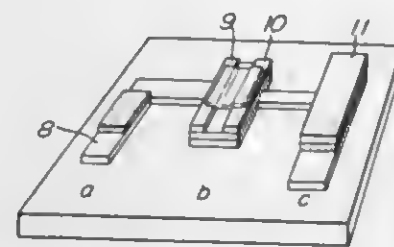
Filed Mar. 9, 1966, Ser. No. 533,015

Claims priority, application Japan, Mar. 18, 1965, 40/15,329

U.S. Cl. 29—571

Int. Cl. H01l 7/60; B01j 17/02

3 Claims



A method for producing thin film integrated circuits including passive circuit elements and at least one active circuit element, including the successive steps of depositing a first layer of an oxidizable metal on an insulator substrate, anodizing this first layer to form an oxide insulating film of a predetermined thickness on the surface of the first layer, depositing, by vapor deposition, and upper metal layer on the surface of the insulating film, removing portions of the first metal layer, insulating film and upper metal layer selectively, thus forming the desired passive circuit elements and the connections therebetween, and depositing, on a part of a group of the circuit elements thus formed, a semiconductor, thus forming an active circuit element.

3,423,822

METHOD OF MAKING LARGE SCALE INTEGRATED CIRCUIT

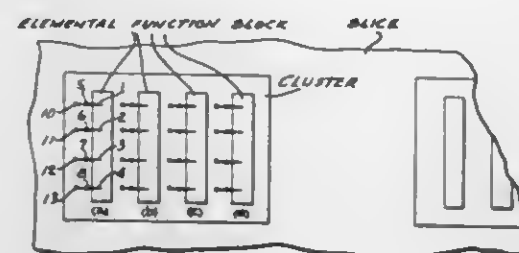
Ian A. Davidson and Gerald H. Hantusch, Ottawa, Ontario, and George A. May, Vancouver, British Columbia, Canada, assignors to Northern Electric Company Limited, Montreal, Quebec, Canada

Filed Feb. 27, 1967, Ser. No. 618,720

U.S. Cl. 29—574

Int. Cl. H01l 7/64, 19/00

7 Claims



A method of making large scale integrated circuitry is described in which a circuit is constructed of a number of elemental function blocks or EFB's. Each separate EFB is multiplied to form a plurality of clusters, each cluster, corresponding to one of the EFB's required in the completed circuit. The EFB's are tested to choose one in each cluster and to reject all others in that cluster.

3,423,823

METHOD FOR MAKING THIN DIAPHRAGMS

William G. Ansley, Mountain View, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California

Filed Oct. 18, 1965, Ser. No. 497,006

U.S. Cl. 29—578

Int. Cl. H01l 3/12, 7/00

8 Claims



Channels are formed in one side of a silicon slice in a pattern defining a plurality of chips or diaphragms to be formed from the slice. The channels have a depth in excess of the desired thickness of the chips or diaphragms. A first oxide layer is formed along the same side of the slice and along the walls of the channels. A support layer of polycrystalline silicon is formed on this first oxide layer. Silicon is then removed from the other side of the slice to form gaps in the first oxide layer at the bottoms of the channels and to make the combined thickness of the first oxide layer and the slice equal to the desired thickness of the chips or diaphragms. Circuit components are then formed on this other side of the slice in the chips or diaphragms. The layer of polycrystalline silicon may then be etched to the depth of the first oxide layer and through the gaps in the first oxide layer to form separate chips of the desired thickness. Alternatively, a second oxide layer may be formed on the layer of polycrystalline silicon and provided with a pattern of gaps so that diaphragms having the desired thickness and having peripheral support lips may be formed by etching. The first and second oxide layers may also include additional gaps aligned so that the diaphragms may be etched apart at the same time they are etched to the desired thickness.

2,423,824

METHOD FOR FIXING SUPERCONDUCTING MAGNETIC COILS

Louis Well, Isere, and Bernard Bonnin, Yvelines, France, assignors to Commissariat a l'Energie Atomique, Paris, France

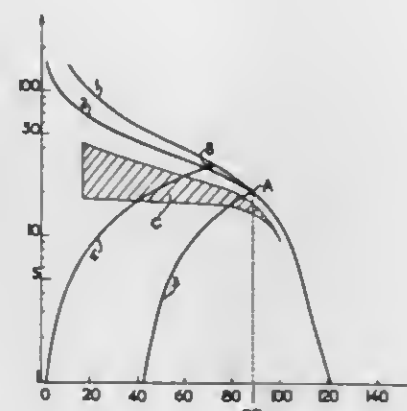
Filed Apr. 13, 1966, Ser. No. 542,322

Claims priority, application France, Apr. 21, 1965, 14,050

U.S. Cl. 29—599

Int. Cl. B23p 3/00, 25/00; F16h 11/00

4 Claims



1. A method for fixing superconducting magnetic coils comprising the step of introducing between the successive

turns of a wire in the process of being wound into a coil, a heterogeneous mixture of a high thermally conductive granulated non-metallic material having a Young's modulus of at least 11.5×10^6 lbs./sq. in. (8000 kg./mm.²) in suspension in a material which is viscous while said wire is being wound and is solid at very low temperatures, said granulated material providing maximum discharge condition for the heat generated during flux jumps within the coil and said material fixing the turns of the magnetic coil.

3,423,825

CAN OPENER

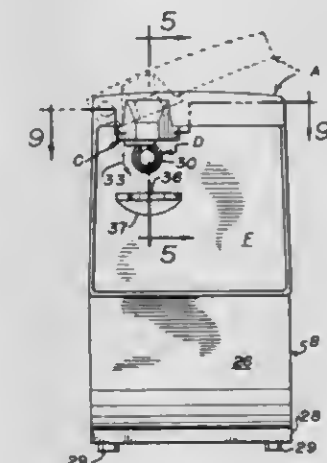
Richard H. Frost, 4900 Larkspur Blvd., and John Maguire, 6116 S. Longview, both of Littleton, Colo. 80120

Filed Jan. 30, 1967, Ser. No. 612,646

U.S. Cl. 30—4

Int. Cl. B67b 7/38, 7/34, 7/32

7 Claims



An improved can opener which includes a unitary body frame having a face plate mounted therein, which face plate carries the operative components. A driver head outstands from the face plate and includes a serrated roller adapted to grip the rim of a can and to turn the can as the head rotates. A lift arm pivotally secured to the face plate above the driver head carries a cutter head, having a reversible knife blade which pierces and cuts the can lid adjacent to the rim and alongside the roller, and a spacer, whose undersurface may press the can rim against the roller when the lift arm is lowered. The lift arm is removable without tools, to permit the cutter head to be cleaned. A circumferentially grooved guide wheel on the driver head adjacent to the roller is engaged by a guide plate on the cutter head when the arm is lowered to hold the knife alongside the roller. The driver head, mounted on a shaft, is connected, through a speed reducing gear train, to an electric motor carried within the shell. A magnet on the lift arm catches the severed lid. The motor is turned on by a switch carried by the face plate and having a finger contacted by the lift arm when it is depressed to a position where the cutter head and driver head are properly interengaged.

3,423,826

MOUNTING FOR TWO RECIPROCATABLE LOWER CUTTING ELEMENTS AND THE CUTTER FOIL OF A CUTTER HEAD FOR A DRY SHAVER

Erich Liska, Post Hitzendorf, Styria, Austria, assignor to Payer-Lux Eduard Payer

Filed Aug. 7, 1967, Ser. No. 658,823

Claims priority, application Austria, Aug. 5, 1966, A 7,510/66

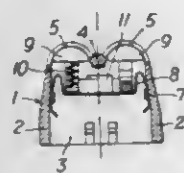
U.S. Cl. 30—43.92

Int. Cl. B26h 19/04

7 Claims

A cutter head for dry shavers in which two reciprocable lower cutting blades in contact with a stationary per-

forated cutter foil are mounted on a slide displaceably supported on a support frame which is releasably con-



nected to a cutter head housing having a central web and lateral walls. The cutter foil is retained rigidly on the central web and movably on the lateral walls.

3,423,827 DENTAL BRIDGE

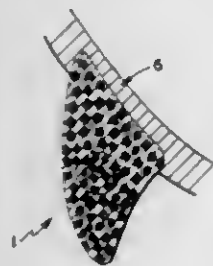
Glenn A. Bahm, Independence, and James A. Andrews, Amite, La., assignors to Hygienic Bridge, Incorporated, Amite, La., a corporation of Louisiana
Filed Nov. 10, 1965, Ser. No. 507,180
U.S. Cl. 32-5 1 Claim
Int. Cl. A61c 13/22



A dental bridge for positioning one or more pontics in the mouth, the bridge including a pair of spaced, parallel bars each completely spanning the distance between a pair of spaced abutment teeth and a sleeve having a pair of channels therein which are adapted to embrace the bars, the pontics being carried by the sleeve. The bars and the sleeve are of complementary, curvilinear configuration, the bars being rectangular in transverse cross section, the sleeve being W-shaped in transverse cross section whereby to present said pair of channels. At least one of each of the faces which are in engagement when the bars are embraced by the channels is provided with a plurality of serrations whereby the bars and the sleeve are retained in engagement.

3,423,828 PORCELAIN AND RESIN TOOTH WITH SILICON BONDING AGENT

Benjamin David Halpern, Jenkintown, and John O. Semmelman, York, Pa., assignors to The Dentists' Supply Company of New York, York, Pa., a corporation of New York
Filed Oct. 1, 1965, Ser. No. 492,019
U.S. Cl. 32-8 20 Claims
Int. Cl. A61c 13/08, 13/10; B32b 13/12

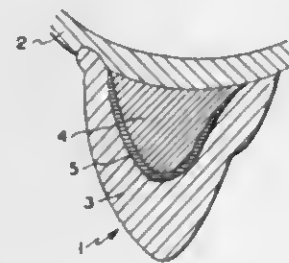


An artificial tooth capable of being strongly and chemically united to a synthetic resin denture base comprising

a major proportion of dental porcelain particles, the interstices between such particles being filled with a synthetic dental plastic. The dental plastic and dental porcelain particles are strongly and chemically united by a reactive organic silicon bonding agent present as a coating on the porcelain particles.

3,423,829 TOOTH STRUCTURE INCLUDING MEANS FOR CHEMICALLY BONDING DIVERSE MATERIALS TOGETHER

Benjamin David Halpern, Jenkintown, and John O. Semmelman, York, Pa., assignors to The Dentists' Supply Company of New York, York, Pa., a corporation of New York
Filed Aug. 20, 1965, Ser. No. 481,191
U.S. Cl. 32-8 25 Claims
Int. Cl. A61c 13/08, 13/10; C07f 7/02



An artificial tooth which comprises an outer shell of esthetic porcelain and an inner core selected from reinforcing strong porcelain, synthetic resin, and a combination of synthetic resin and reinforcing strong porcelain. The various portions of the artificial tooth are bonded to each other and the artificial tooth itself is bonded to a resinous denture base through a strong chemical union between the porcelain portions of the tooth and the resin portion of the tooth or denture base along their broad areas of contact by a polymerized organic silicon compound. The artificial tooth therefore combines the esthetic and mechanical characteristics of porcelain plus a means of readily bonding the artificial tooth to a resinous denture base.

3,423,830 PORCELAIN AND RESIN TOOTH WITH SILICON BONDING AGENT

Benjamin David Halpern, Jenkintown, and John O. Semmelman, York, Pa., assignors to The Dentists' Supply Company of New York, York, Pa., a corporation of New York
Filed Oct. 1, 1965, Ser. No. 492,070
U.S. Cl. 32-8 17 Claims
Int. Cl. A61c 13/08, 13/10; C03c 25/02



An artificial tooth capable of being strongly and chemically united to a synthetic resin denture base comprising a major proportion of a matrix of dental plastic containing a minor proportion of a dispersion of porcelain particles

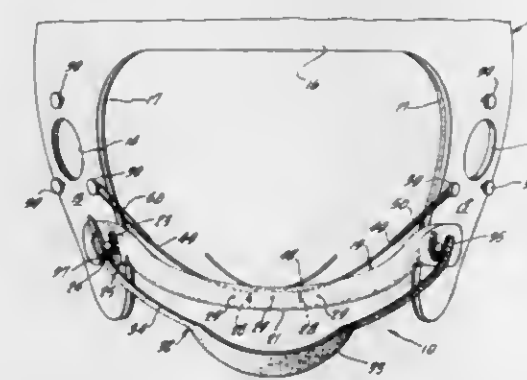
individually coated with a reactive organic silicon compound. The plastic matrix and porcelain particles are strongly and chemically united by such reactive organic silicon compounds.

3,423,831
COMPOSITE ARTIFICIAL TOOTH
John O. Semmelman, York, Pa., assignor to The Dentists' Supply Company of New York, York, Pa., a corporation of New York
Filed June 27, 1966, Ser. No. 560,541
U.S. Cl. 32-8 6 Claims
Int. Cl. A61c 13/08



A composite artificial tooth comprising in combination a dental ceramic portion and a synthetic resin portion, the synthetic resin portion comprising at least a portion of the ridge lap surface of the tooth and extending longitudinally therefrom at least one-half of the mesial and distal surfaces and alternatively, additionally, at least one-half of the exposed lingual surface. The synthetic resin portion and dental ceramic portion are chemically united at their interface by a silane bonding agent.

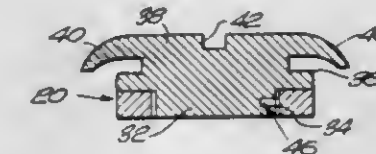
3,423,832
ORTHODONTIC HEADGEAR
Frank O. Nelson, 15728 1/2 Gale Ave.,
Hacienda Heights, Calif. 91745
Filed Feb. 6, 1967, Ser. No. 614,351
U.S. Cl. 32-14 8 Claims
Int. Cl. A61c 7/00



An orthodontic headgear or helmet having an arch member positioned to extend in front of a patient's mouth. An orthodontic appliance is secured to the arch member and to a malpositioned tooth or to several teeth. Anterior-pull force is applied to the tooth by the appliance and headgear.

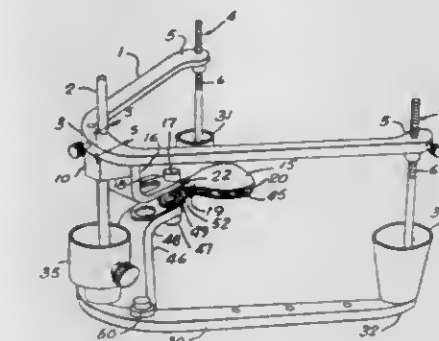
3,423,833
ADJUSTABLE ORTHODONTIC DEVICE
Lawrence Pearlman, 231 East St., Sharon, Mass. 02067
Filed Aug. 15, 1967, Ser. No. 660,770
U.S. Cl. 32-14 9 Claims
Int. Cl. A61c 7/00

An adjustable bracket support for uprighting and rotation brackets with a fixed member having a circular array



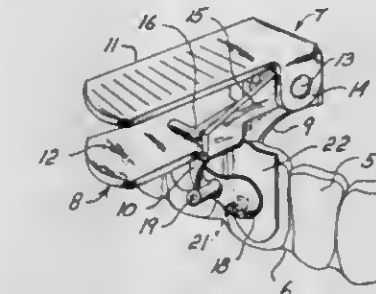
vary the angular position of the bracket with respect to the base and the tooth on which it is mounted.

3,423,834
DUPLEX-FUNCTIONAL ARTICULATOR
Edwin F. Irish, Richmond, Va., assignor to the United States of America as represented by the Administrator of Veterans Affairs and/or the Secretary of the Army
Filed July 19, 1966, Ser. No. 566,398
U.S. Cl. 32-20 4 Claims
Int. Cl. A61c 9/00, 11/00



This invention is an instrument that serves as both a maxillomandibular function recorder and a three dimensional tripod type articulator. The instrument uses an adjustable inclined plane incisal guide to accommodate posterior teeth with cusps and vertical overlap of anterior teeth, cold curing acrylic resin, and a hydraulic bearing device to make permanent, three dimensional registrations of mandibular movements. These registrations then serve, without transfer to a second device, as recordings in a tripod dental articulator.

3,423,835
DENTAL MATRIX CLAMP
Paul D. Mattern, Hathboro, Pa., assignor to M.S.V., Inc., Hathboro, Pa., a corporation of Pennsylvania
Filed Oct. 12, 1966, Ser. No. 586,241
U.S. Cl. 32-63 2 Claims
Int. Cl. A61c 5/12



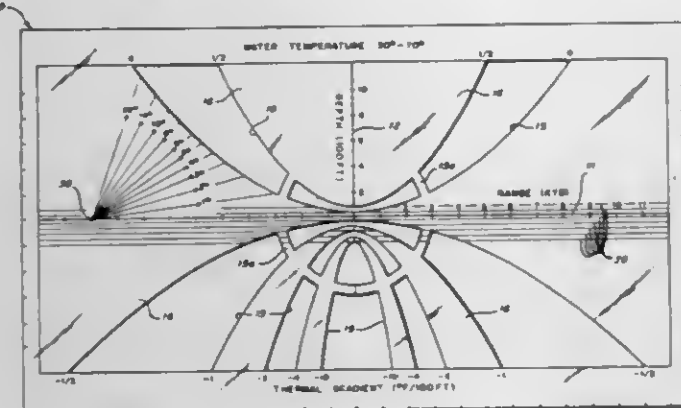
A dental matrix clamp comprising a pair of clamping jaws one of which has a relatively narrow gripping surface adapted to seat in the space between two adjacent teeth and the other of which is provided with an elongated gripping element pivotally mounted on the jaw about an axis positioned so that the end portions of the elongated gripping element may swing to different posi-

tions overlying portions of the adjacent teeth either close to the gum line or removed from the gum line.

3,423,836

SONAR RAY PLOTTER

Daniel Barron, Philadelphia, Pa.
(6223 Springhill Court, Apt. 202, Greenbelt, Md. 20770)
Filed Oct. 23, 1965, Ser. No. 502,862
U.S. Cl. 33—1 3 Claims
Int. Cl. C06g 1/10; G01s 3/00; G01c 21/20; G01v 1/30

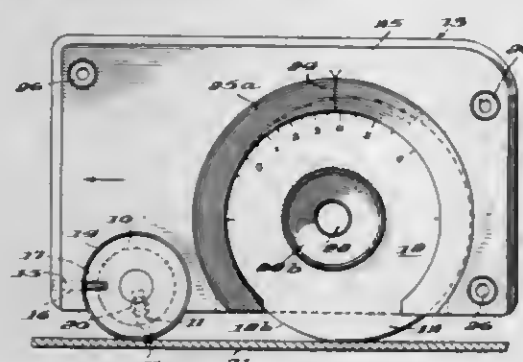


A template for plotting the paths of acoustic rays in a body of water in which a template having curved slots formed therein representative of the path of an acoustic ray in a body of water for a particular rate of change in the temperature of the body of water per unit of depth is used as a guide in the plotting of the ray path.

3,423,837

DRY COATING THICKNESS GAGE

Maynard R. Euverard, 305 Desota Drive,
Richmond, Va. 23229
Filed May 23, 1966, 552,293
U.S. Cl. 33—169 6 Claims
Int. Cl. G01b 3/28, 5/06



Between spaced supports designed to be slid over the surface of a solid flat coating is fixed a cutter adapted to penetrate the coating as a gauge of coating thickness. The protrusion of the cutter below the plane of the supporting surface is established by the setting of one of the supports, which is formed as an eccentric cam rotatable about a supporting and clamping bolt and provided with a peripheral scale calibrated in amount of cutter protrusion.

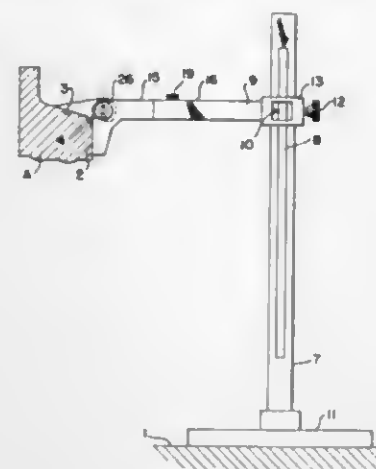
3,423,838

APPARATUS FOR MEASURING DISTANCES BETWEEN THEORETICAL POINTS OF INTERSECTION OF SURFACES

John J. Hostal, 21974 Cottonwood Drive,
Rocky River, Ohio 44116
Filed Aug. 24, 1967, Ser. No. 663,022
U.S. Cl. 33—169 5 Claims
Int. Cl. G01b 3/20

A device for use in the inspection of castings and the like by measuring distances between theoretical points of intersection of pairs of angularly disposed planar sur-

faces. The device has a slider movable along a scale which is fixed to a support that is movable laterally on a bed-plate and which is adapted to define positions of a given point on said slider relative to said scale. The slider has a pair of jaws which are pivotable about an axis perpendicular to said scale. One of said jaws has a surface al-

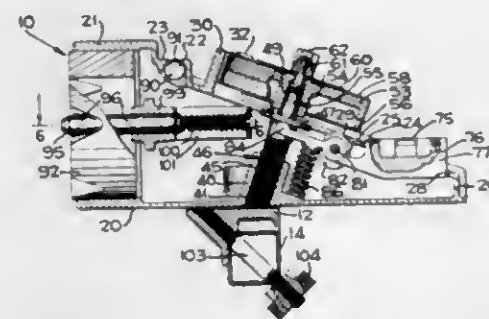


ways parallel to said scale and the other jaw is moveable both angularly and parallel with respect to said surface, and means for locking said jaws in position when bearing flatly against portions of angularly disposed planar surfaces with the intersection of planar surfaces of said jaws at a definite point on said slider.

3,423,839

APPARATUS FOR CHECKING WHEEL ALIGNMENT CHARACTERISTICS

George W. Liskey, Okemos, Mich., assignor to FMC Corporation, a corporation of Delaware
Filed Oct. 19, 1964, Ser. No. 404,657
U.S. Cl. 33—203.18 12 Claims
Int. Cl. G01b 5/24, 7/30



The alignment gauge provides a magnetically coupled extension of the wheel spindle hub and has concentric, independently rotatable and coaxially arranged top-reading caster and camber dials for universal application, and replaceable, specially calibrated dial templates which can be mounted over and individually replace the universal dials so that only one dial is required to measure the critical caster and camber alignment factors for a particular make or type of vehicle. The latter operation (for camber) cooperatively includes the use of the universal camber dial by means of a window in the template to align the template with the universal camber dial.

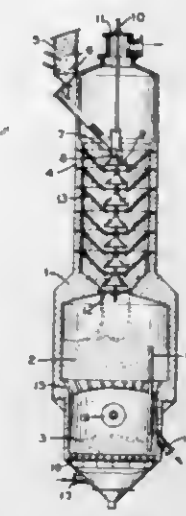
3,423,840

CONE TRAY HEAT EXCHANGER

David William Beeken, Croydon, England, assignor to Dorr-Oliver Incorporated, Stamford, Conn., a corporation of Delaware
Filed Oct. 20, 1966, Ser. No. 588,124
Claims priority, application Great Britain, Oct. 21, 1965, 44,686/65
U.S. Cl. 34—10 9 Claims
Int. Cl. F26b 3/08, 17/14, 3/16

Process and apparatus for countercurrent treatment of solid material with gases, said apparatus provided with

a plurality of upwardly facing cones and downwardly facing trays arranged so that the solid material passes



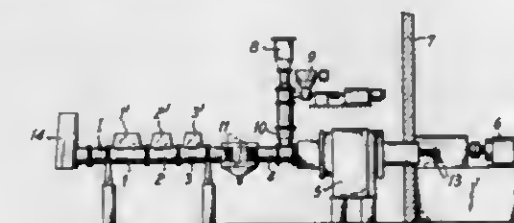
downwards in cascade over the inclined surfaces and means for adjusting the position of the cones relative to the trays.

3,423,841

PROCESS AND DEVICE FOR PRODUCING SOLID EXPLOSIVES AND PROPELLANTS FROM HUMID INITIAL MIXTURES

Herbert Wilhelm Gustav Ocker, Leonberg, Germany, assignor to Werner & Pfleiderer, Stuttgart-Feuerbach, Baden-Württemberg, Germany, a corporation of Germany
Filed Jan. 17, 1967, Ser. No. 609,925
Claims priority, application Germany, Jan. 25, 1966, W 40,794

U.S. Cl. 34—14 10 Claims
Int. Cl. F26b 5/04; F42b 33/00



A process and device for producing solid explosives and propellants from humid initial mixtures which are conveyed continuously through several drying chambers until they reach a predetermined degree of space located above each drying chamber corresponds to the desired degree of humidity of the material in the particular drying chamber concerned.

3,423,842

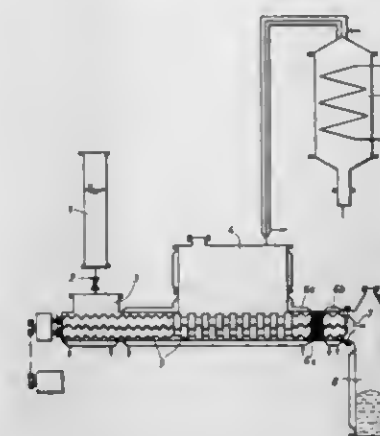
PROCESS FOR CONCENTRATING BY EVAPORATION MIXTURES OF SILICON DUST OR RESIDUE AND ALKYL OR ARYL CHLOROSILANES

Engelbert Walaschewski, Cologne-Stammheim, Hans-Horst Steibach, Schildgen, Walter Oetke, Leverkusen, Rudolf Erdmenger, Bergisch Gladbach, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
Filed Apr. 26, 1967, Ser. No. 633,814

U.S. Cl. 34—14 2 Claims
Int. Cl. F26b 1/00, 5/14

Process for evaporating mixtures of silicon dust or residue and alkyl or aryl chlorosilanes using evaporator screws comprising conveying such a mixture through an evaporation chamber in two separate circuits which contact one another in the middle or center of the shaft of the evaporator chamber by providing in the evaporation chamber a four-shaft screw consisting of two parallel

pairs of screws, which pairs rotate in opposite directions to one another. There is also provided immediately adjacent the evaporation chamber (in the direction of flow) a heating zone in which the mixture is heated to about 230° C., and thereafter a cooling zone wherein the mixture is cooled to about 100° C. Intermediate the heating

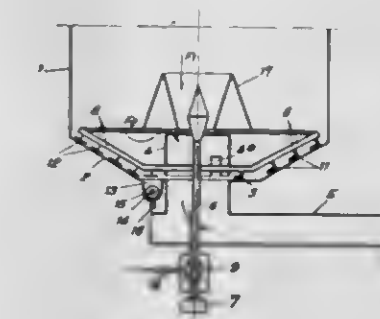


3,423,843

EQUIPMENT FOR DRYING BY SPRAY ATOMIZATION

Pierre Robert Laguilharre, 6 rue Robin, Enghien-les-Bains, Val-d'Oise, France
Filed Apr. 10, 1967, Ser. No. 629,542
Claims priority, application France, Apr. 21, 1966, 58,453

U.S. Cl. 34—57 18 Claims
Int. Cl. F41g 17/18, 17/34



A spray atomization drying device having a tower-like chamber with a bottom wall on which is deposited powder. The bottom wall of the chamber contains a first outlet for the powder and a separate independent outlet for the drying air. Rotating scrapers mounted within the chamber supply the powder to the first outlet. Shell means, a portion of which is movable, permits the device to be converted whereby the powder deposited on the base is removed from the chamber with the drying air.

3,423,844

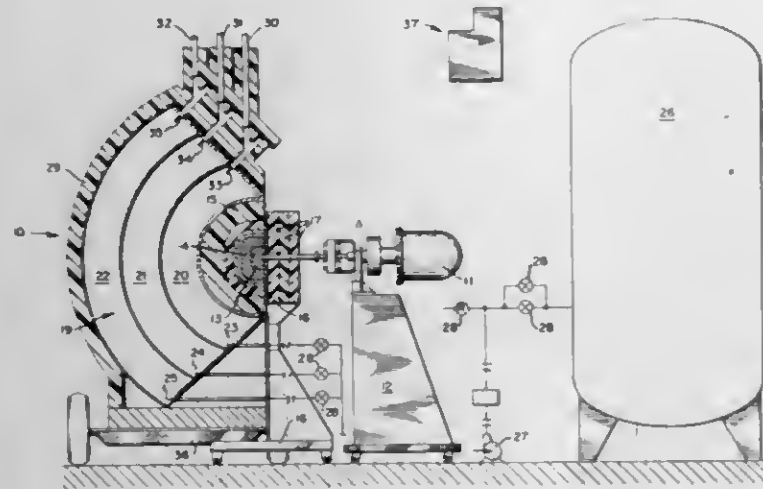
SIMULATION OF NUCLEAR WEAPONS RADIATION

Phillip S. Mittelman, Armonk, N.Y., assignor to United Nuclear Corporation, White Plains, N.Y., a corporation of Delaware
Filed Apr. 12, 1966, Ser. No. 542,152

U.S. Cl. 35—1 15 Claims
Int. Cl. G09b 23/00; G21g 1/00

An artificially generated radiation environment which simulates the radiation spectrum produced by a detonated

nuclear weapon is provided by directing a beam of hydrogen ions to a target plate containing a material adapted to react with the impinging ions to produce neutrons having an energy level of approximately 14-mev. The target plate is at least partially surrounded with multiple suc-

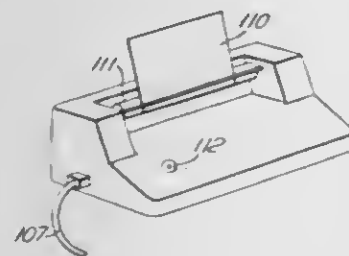


cessive layers of spectrum conditioning materials of which the first layer is capable of undergoing fission and nuclear reactions to provide a degraded spectrum of both neutrons and gammas and subsequent layers capable of moderating the resultant leakage radiation thereby simulating the nuclear weapon spectrum.

3,423,845

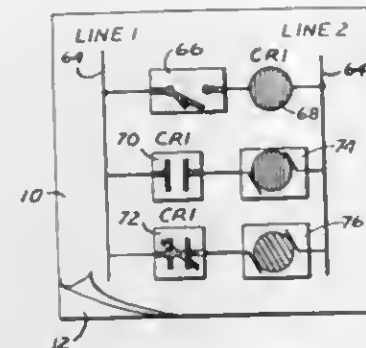
TYPEWRITER TRAINER

Gordon Malcolm Edge, Haslingfield, Timothy March Beaupre Eiloart, Cambridge, Ivan S. Horabin, Barrington, and Peter Joho Wynn Rayner, Cambridge, England, assignors, by mesne assignments, to Kee, Incorporated, Baltimore, Md., a corporation of Maryland
Filed Nov. 22, 1965, Ser. No. 509,108
Claims priority, application Great Britain, Nov. 27, 1964, 48,413/64; Mar. 8, 1965, 9,808/65
U. S. Cl. 35—6
Int. Cl. G09b 13/02



An apparatus for use in learning keyboard skills including a keyboard, a comparator, a source containing elements of information representing characters stored in a predetermined manner, and a permanent display of the characters stored in the source, in which when a key on the keyboard is operated signals are sent from both the source and the keyboard to the comparator and when a key is operated in accordance with the sequence of characters appearing in the graphic display, an output is obtained from the comparator giving a first indication, while when a key is operated not in accordance with the said sequence an output is obtained from the comparator giving a different indication which is delayed in time in accordance to the rate at which keys have been operated in the correct sequence.

3,423,846
CIRCUIT ANALYSIS SYSTEM
Donald P. Arend, 3877 Kirkwood St.,
Jackson, Mich. 49203
Filed Dec. 23, 1966, Ser. No. 604,268
U.S. Cl. 35—19
Int. Cl. G09b 23/06; G09f 9/02

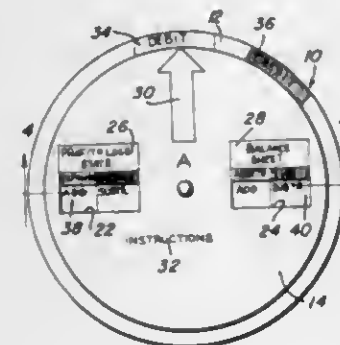


The invention concerns a circuit layout and analysis system used in the design, teaching and analysis of circuits, such as electrical, fluid and air circuits, utilizing circuit component symbol indicators having obverse and reverse faces upon which the component symbol appears. The faces of the indicator are color coded to indicate different conditions of the represented component, and, preferably, the indicators are formed of a magnet material used in conjunction with a layout sheet associated with a magnetic material wherein magnetic attraction maintains the indicator upon the layout sheet.

3,423,847

BOOKKEEPING AID

Walter E. Barbee, P.O. Box 912,
Grenada, Miss. 38901
Filed May 11, 1967, Ser. No. 637,835
U.S. Cl. 35—24
Int. Cl. G09b 19/18

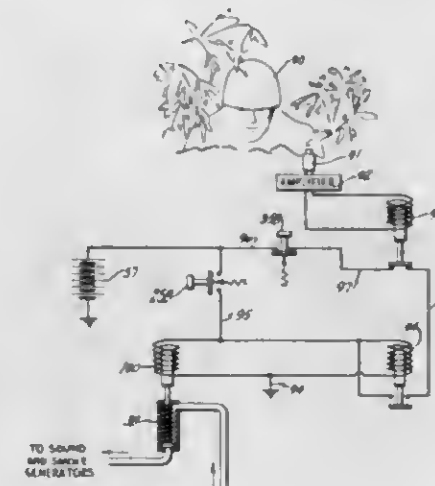


A circular or any shaped board or disk having rotatably mounted thereon a rotating board or disk against both surfaces of the first mentioned board or disk thus forming a center disk and two rotatable disks of smaller diameter for use in aiding in various aspects of bookkeeping and especially when instructing students in various bookkeeping techniques and procedures. The structural components of the bookkeeping aid employ a coloring plan in which all income and liability columns are printed in "RED." The "RED" color here indicates that this is a credit or liability and thus the credit for income as well as the credit for liability indicates a minus figure, being a liability of the company to the owners of the company. Likewise a debit is printed in "BLACK" on a white background. The bookkeeping aid also includes instructions relating to proper closing entries at the end of a fiscal period.

3,423,848

WEAPON COUNTERFIRE SIMULATOR

John Alex Ingvar Ohlund, Huskvarna, Sweden, assignor to Saab Aktiebolag, Linköping, Sweden, a corporation of Sweden
Original application Sept. 4, 1963, Ser. No. 306,578, now Patent No. 3,238,642, dated Mar. 8, 1966. Divided and this application June 9, 1965, Ser. No. 462,556
U.S. Cl. 35—25
Int. Cl. F41g 3/26

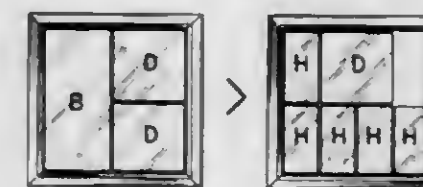


A source of pressure gas is connected, through an electromagnetically actuated valve, with a pneumatic sound generator that simulates counterfire from a target, a smoke generator that provides visual simulation of counterfire, and a pneumatic actuator for a target element. The valve responds to an impulse signal from an impact responsive transducer on the target element to cut off the supply of pressure gas to the sound and smoke generators, thereby terminating simulated counterfire, and simultaneously to depressurize the pneumatic target actuator so as to let the target element swing down under bias from an upright to a concealed position.

3,423,849

EDUCATIONAL APPARATUS

Alfred H. Jordan and Ruth E. Fiske, Wilton, Conn., assignors to Eastview Corporation, a corporation of New York
Filed June 30, 1966, Ser. No. 561,798
U.S. Cl. 35—30
Int. Cl. G09b 23/02, 1/06

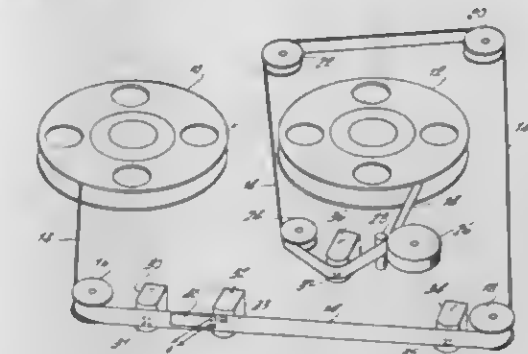


An educational device for teaching algebraic concepts to young children consisting of a set of N identical trays and N groups of indicia elements, the number of indicia elements being at least $N(N+1)/2$. Each group comprises a unique number of indicia elements and each element in the group has a surface area equal to the area of the tray divided by the number of elements in the group. An identification symbol unique to each group is affixed to all of the elements of the group.

3,423,850

AUTOMATED TEACHING APPARATUS

Rene C. Sneyvangers, Croton-on-Hudson, N.Y.; Hannah K. Sneyvangers, administratrix of said Rene Sneyvangers, deceased
Filed Oct. 17, 1966, Ser. No. 587,302
U.S. Cl. 35—35
Int. Cl. G09b 5/04



A tape recorder system is provided in which a recording tape having a plurality of tracks, on one of which is permanently recorded the music or voice rendition of the teacher, the other track being erasable by an erasing head provided as part of the system and capable of carrying the recorded voice of the pupil. The change over from play back mode to drill sequence is automatically operated by a switch actuated by a pressure sensitive conductor on the non-magnetically coated side of the tape. A synchronized motor driven timing mechanism provided with cams on a solenoid actuated rotating shaft controls the timing cycle of the drill.

3,423,851

HANDWRITING TRAINING DEVICE

Edouard Olalainy, Rue F. de St-Jayme 64,
St.-Palais, France
Filed Oct. 24, 1966, Ser. No. 588,872
Claims priority, application France, Oct. 29, 1965, 36,618
U.S. Cl. 35—37
Int. Cl. G09b 11/04



The invention relates to a device for teaching handwriting and for the rehabilitation of slightly disturbed motor activity of the upper limbs. This device essentially consists of a set of plates on which different graphic signs are imprinted under the form of hollow tracks and of a set of plastic styles with graded flexural rigidities adapted to be grasped by a test subject for tracing the tracks.

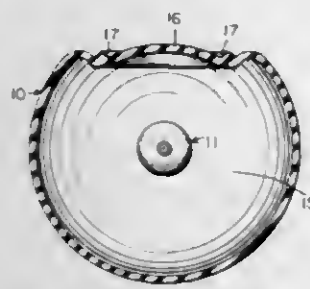
3,423,852

INFLATED ELASTIC FOOTWEAR

Willfred F. Smith, 2053 Hudson Ave.,
Richland, Wash. 99352
Filed May 15, 1967, Ser. No. 638,373
U.S. Cl. 36—7.5
Int. Cl. A43b 3/12, 7/10

A resiliently deformable and resilient footwear having an elastically deformable outer shell defining an inflatable, pressurized chamber with externally communicating valve structure for inflation and strap means to maintain the structure on the under portion of the foot. The footwear

supports a person wearing it above the surface supporting the footwear and creates an elastic reaction upon im-



part by the wearer to allow a bouncing motion relative to a rigid surface supporting the footwear.

3,423,853

SINGLE PIVOT ELEVATOR MOUNTING FOR SELF-LOADING SCRAPERS

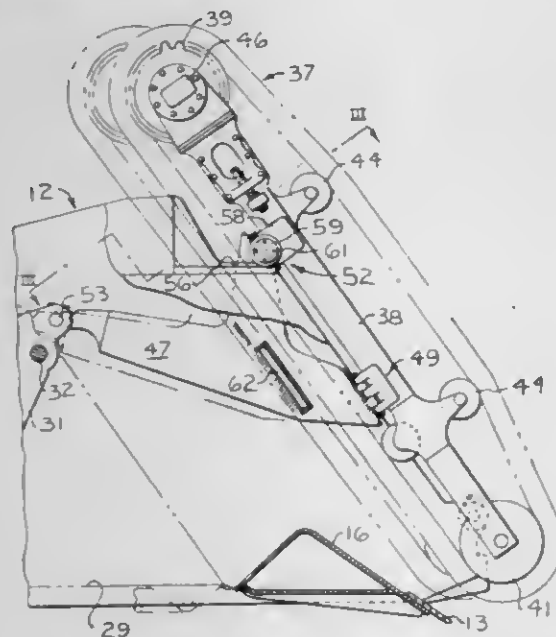
Larry G. Eftefeld, Richard K. Liess, Lawrence J. Miller, and Ernest W. Wagner, Joliet, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

Filed Aug. 1, 1966, Ser. No. 569,122

U.S. Cl. 37—8

Int. Cl. E02f 3/76

5 Claims



The elevator of a simplified self-loading scraper is coupled to the scraper body by a single pair of pivot arms whereby the elevator may adjust to varying depth of cut by pivoting about a single horizontal axis. The forward ends of the arms connect to the elevator through hinge joints which are rigid with respect to pivoting in a vertical plane while providing lateral flexibility. Downward movement of the elevator is limited by horizontal tracks on the bowl sidewalls which are contacted by rollers on the sides of the elevator. The rearward ends of the arms couple to the scraper ejector mechanism through ball and socket joints whereby the elevator is shifted forward by operation of the ejector.

3,423,854

METHOD AND ARTICLE OF SHOE MANUFACTURE

Henry R. Snow, Rockland, Mass., assignor to Batchelder Rubico, Inc., Boston, Mass., a corporation of Massachusetts

Filed Mar. 21, 1966, Ser. No. 535,988

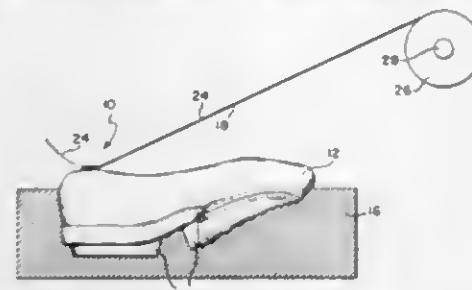
U.S. Cl. 36—11

Int. Cl. A43b 3/14; A43d 9/00

12 Claims

A lasted shoe and process for manufacturing the same in which a double-faced adhesive sheet element is used to temporarily maintain a lasted shoe element and a sole

element in registration during completion of the shoe. The adhesive sheet element is positioned between a lasted



sole element and an underlying sole element and remains in the finished shoe and forms a part thereof.

3,423,855

SPIKE FOR SHOES

Yoshiaki Kosono, 30 Asakusa-Shoten-cho, Taito-ku, Tokyo, Japan

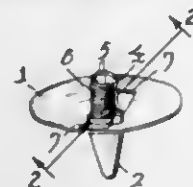
Filed Mar. 18, 1966, Ser. No. 535,574

Claims priority, application Japan, Mar. 22, 1965, 40/16,594

U.S. Cl. 36—67

Int. Cl. A44b 21/00; A43c 15/16

5 Claims



A spike for golf shoes comprising a metal plate shaped with a centrally downwardly extending pin and an upper flange integrally joined to the top of the pin. An axis member integral with the flange extends upwardly coaxially to the pin and is joined integrally at the bottom of the axis member to the pin at the top of the pin. The axis member comprises a portion cut out from the flange and the axis member defines a substantially hollow member which has a screw thread on the outer surface thereof.

ERRATUM

For Class 37—8 see:
Patent No. 3,423,853

3,423,856

TRACTION DEVICE FOR SNOW VEHICLES

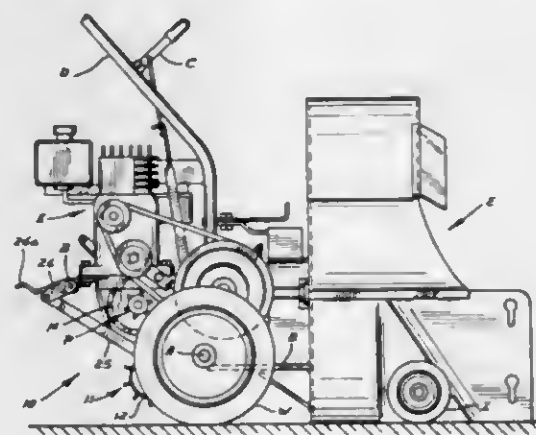
Chester G. Fiske, Minneapolis, Minn., assignor to Jarl Corporation, Minneapolis, Minn., a corporation of Minnesota

Filed Oct. 14, 1965, Ser. No. 495,995

U.S. Cl. 37—43

Int. Cl. E01h 5/04; B60k 23/08

5 Claims



This invention relates to a positionable drive mechanism for vehicles designed to travel over ice and snow and which will probably find its greatest use in connec-

tion with snow blowing equipment when the snow blower is operated on hard packed snow or ice. The invention includes a toothed cylinder member arranged in shiftable position with respect to the rear axle of the vehicle to which the unit is attached to permit shifting thereof downwardly into snow or ice-contacting position to lift the rear wheels of the unit and thereby carry the major portion of the weight of the unit with drive means connected thereto for driving the toothed cylinder when in such lowered position. The positioning unit includes an overcenter relationship such that the traction toothed cylinder will be essentially locked in either of its available positions.

3,423,857

SNOW BLOWER ROTOR

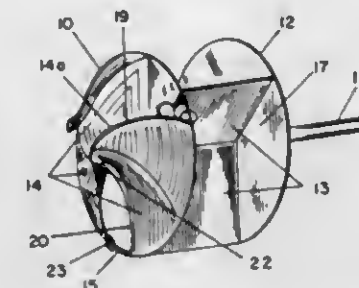
Alvin C. Ibisich, 347 Middleton Road, Columbus, Wis. 53925

Filed Dec. 9, 1966, Ser. No. 600,639

U.S. Cl. 37—43

Int. Cl. E01h 5/09

1 Claim



A snow blower rotor having a plurality of cutting blades extending forwardly at the rotational axis of the rotor and curving backwardly therefrom for drawing snow into rearward rotor pockets formed between impeller paddles for discharge from the blower. The blades each have a reverse curved portion forming a cutting edge and a substantially flat portion. The flat portion of each of the cutting blades extends perpendicular to the impeller paddles and is fixedly attached to the front edge of the paddles to prevent snow from escaping forwardly of the blower.

3,423,858

AUTOMATIC CONTROL SYSTEM FOR RAILWAY WORK APPARATUS

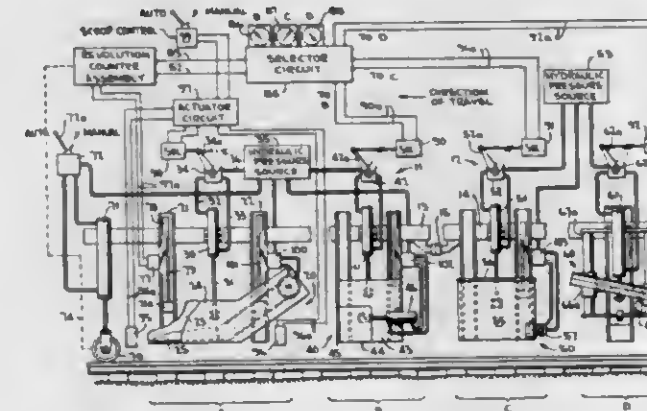
Martin J. Speno, Syracuse, N.Y., assignor to Frank Speno Railroad Ballast Cleaning Co., Inc., Ithaca, N.Y., a corporation of New York

Filed Jan. 10, 1967, Ser. No. 608,424

U.S. Cl. 37—106

Int. Cl. E02f 5/00; E01b 27/00

9 Claims



A railroad car or train of cars has a series of work stations spaced longitudinally apart to successively perform predetermined work operations on the train track or bed as the train moves along the track. A metering wheel

carried by the train in engagement with the railway is connected to means for measuring the distance traveled by the train, from a reference point at which the first work operation commenced at the first work station and selector means for actuating each of the remaining work stations after the train has traveled a distance substantially equal to the distance between it and the first work station.

3,423,859

ROAD CONSTRUCTION METHODS AND APPARATUS

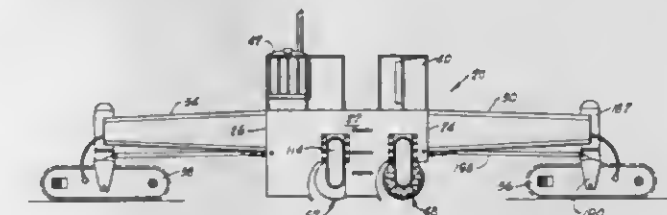
George W. Swisher, Jr., Gordon L. Spivey, and Adolph R. Petersik, Oklahoma City, Okla., assignors to Construction Machinery, Inc., Oklahoma City, Okla., a corporation of Oklahoma

Filed Apr. 7, 1965, Ser. No. 446,239

U.S. Cl. 37—108

Int. Cl. E02f 5/02, 3/06, 3/24

27 Claims



Self-propelling road construction apparatus for cutting and leveling road way subgrades, the apparatus consisting of a central frame carrying vertically adjustable cutting and dirt-moving implements and being propelled by a suitable power source acting through spaced traction elements. The apparatus embodies further novel facets as to interconnection and control of the major elements in a manner which enables rapid adjustment and disassembly for highway transport by such as conventional truck bed carriers.

3,423,860

PRICE RAIL MARKER

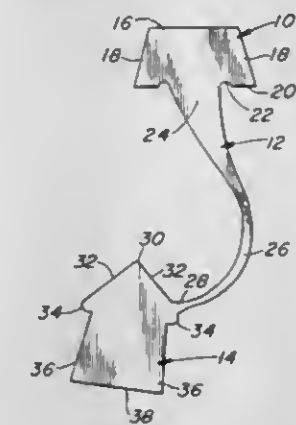
Thomas L. Berry, Jr., Deerfield, Vernon A. Mock, Glenview, and Richard S. Olson, Glen Ellyn, Ill., assignors to Litho-Print Poster Company, Chicago, Ill., a corporation of Delaware

Filed June 26, 1967, Ser. No. 648,820

U.S. Cl. 40—10

Int. Cl. G09f 1/00, 7/18, 19/02

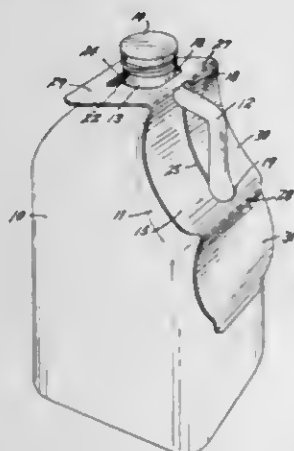
11 Claims



The disclosure describes a price rail marker having a base tab, for attachment to the price rail of a commodity shelf, with an advertising display or tag suspended therefrom on a flexible support in spacial attention-getting relationship before the commodity. As an illustrative embodiment the advertising piece is suspended from an elongated, tapered, flat, resilient member affixed to a base for engagement with the price rail and the spacial relationship of the advertising display with the commodity can be changed depending on the longitudinal configuration of the suspending member and the point of attachment of the resilient member with the display piece. The

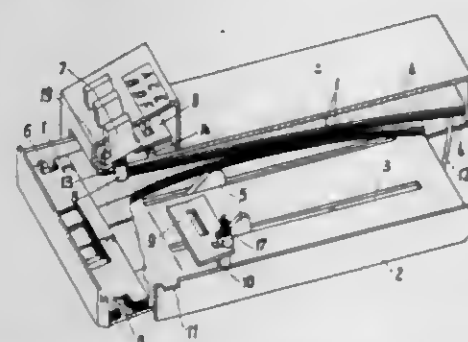
advertising display is animated in a manner imparting unusual attention-getting oscillations thereto by air movements occurring in its environment. Other embodiments are disclosed.

3,423,861
SELF-RETAINING LABEL CARDS FOR JUGS
Harold G. Forsyth, 230 Yuma St., Denver, Colo. 80223
Filed Apr. 14, 1967, Ser. No. 631,024
U.S. Cl. 40—20 9 Claims
Int. Cl. G09f 3/04



A display card for jugs having aperture means to fit over the neck of a jug and slit means to snap behind the handle when the card is secured to the jug.

3,423,862
CARD INDEX WITH SELECTING MEANS
Walter Koller, 9 Hagenbeckstrasse, Hamburg, Germany
Filed Mar. 18, 1966, Ser. No. 535,507
Claims priority, application Germany, Apr. 1, 1965, K 55,698
U.S. Cl. 40—65 6 Claims
Int. Cl. G09f 19/00

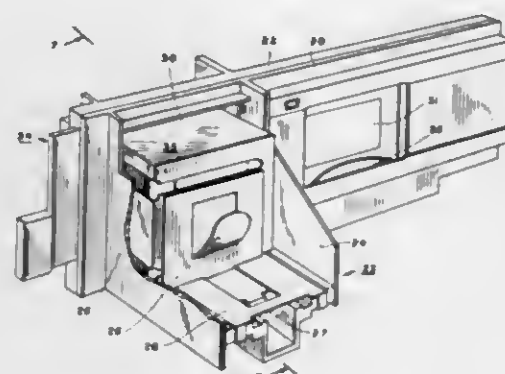


A card index having a plurality of flexible superimposed index cards mounted in a drawer movable in a case. The cards have entrainment recesses which are in register and selector recess which are different in width for successive cards. A plurality of selector means are mounted on the case which, when depressed, bend the card, and cards beneath it, to a position wherein it is engaged on an entrainment member and the drawer is released to withdraw from the case carrying the selected card in the uppermost position.

3,423,863
SLIDE CHANGER AND SLIDE CARTON
PASSABLE THERE THROUGH
Raymond A. Heisler, 657 Dakota Trail,
Franklin Lakes, N.J. 07417
Filed Dec. 8, 1966, Ser. No. 600,169
U.S. Cl. 40—79 18 Claims
Int. Cl. G09f 11/30

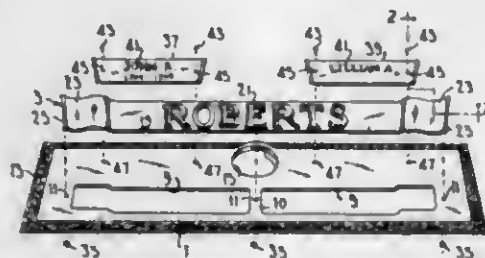
A slide changer and carton for use with a slide projector. The changer is provided with a pair of deflector fingers positioned to pass through aligned slots in three

of five sides of one-half of a carton. The carton has an internal spring urging the slides to one side of the carton and to accommodate the pusher bar of the changer. The



slides are packaged and stored in the carton and while stored in the inner one-half of the carton are movable through the changer where the slides, one at a time, are sequentially moved from the carton to a viewing position.

3,423,864
GRAVE MARKER
Charles L. Wilson, Birmingham, Ala., assignor, by mesne assignments, to Judsonia Bronze Memorials, Inc., Judsonia, Ark., a corporation of Arkansas
Filed Mar. 8, 1966, Ser. No. 532,745
U.S. Cl. 40—124.5 6 Claims
Int. Cl. G09f 19/22

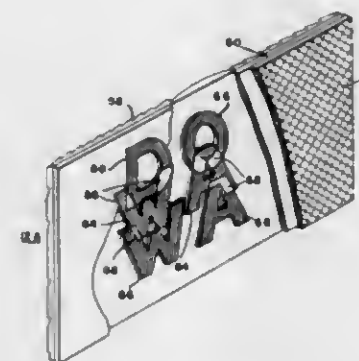


The grave marker disclosed herein employs a metal base which may be decorated but which is devoid of name and date indicia. A separate metal plate carrying name indicia is attached, by hidden fastening means, over an opening in the base. The opening has a length and breadth which are slightly smaller than the length and breadth respectively of the name plate so that the name plate overlaps the entire periphery of the opening. Thus, the division between the name plate and the base is substantially hidden and no debris collecting recesses are formed. The completed marker gives the desired appearance of being integrally formed.

3,423,865
MULTIPLE IMAGE AND LEGEND DISPLAY MEANS
George K. C. Hardesty, Box 156, Mayo, Md. 21106,
and Thomas K. C. Hardesty, 1304 Millgrove Place,
Silver Spring, Md. 20904
Filed Oct. 22, 1965, Ser. No. 502,134
U.S. Cl. 40—130 17 Claims
Int. Cl. G06f 13/14

A changeable exhibitor for displaying multiple images of high intrinsic brightness on a common area of an opaque background is provided. The opaque viewing area is comprised of a multi-layered screen having sets of optical apertures in the respective layers representing different alpha-numeric legends and the like, the respec-

tive layers having respectively different optical transmittance characteristics and the sets of optical apertures being substantially out of alignment and having neutral wide-band spectral transmittance characteristics in areas where they overlap. The screen is mounted in an opaque housing containing a light source of high intrinsic bright-



ness with selectively variable optical transmittance filters between the source and the screen. Alternatively, separate light sources of selectively different transmittance characteristics are used. The interaction of the transmittance characteristics transmitted from the source with the multiple transmittance characteristics of the screen provides selective display of the alpha-numeric legends and the like.

3,423,866
FRAME FOR LICENSE PLATE OR THE LIKE
John A. Bott, 931 Lake Shore Drive,
Grosse Pointe Shores, Mich. 48236
Filed June 6, 1966, Ser. No. 560,974
U.S. Cl. 40—209 7 Claims
Int. Cl. G09f 7/18

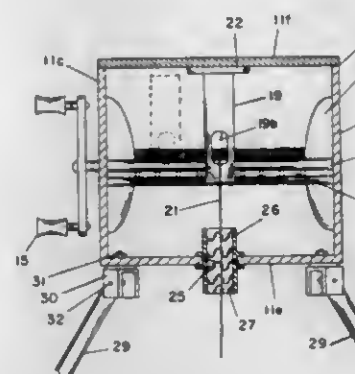


A license plate frame which may be conveniently made from a single section of extruded aluminum or the like. The extrusion is notched, bent at the notches to rectangular shape, and welded into a one-piece rigid construction. The frame is held on the plate by a plurality of spring clips which are snap-fitted into a channel on the rear side of the frame. The configuration permits assembling of the clips to the frame first and then the snapping of the frame onto the clips without adjusting any portion of the frame per se.

3,423,867
ICE-FISHING RIG
John E. Bartlett, Antigo, Wls., assignor of
one-half to Glenn R. Risdon
Filed June 15, 1967, Ser. No. 646,305
U.S. Cl. 43—17 5 Claims
Int. Cl. A01k 97/12

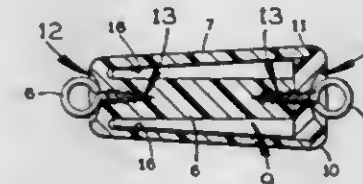
Apparatus for ice-fishing comprising a reel enclosed within a housing and having foldable legs for supporting the housing over a hole in the ice. A magnet in the lid co-operates with the movable line guide of the reel to maintain the hinged lid in its horizontal closed position. When

a fish is hooked and begins to unwind the fish line from the reel, the double acting worm gear moves the line



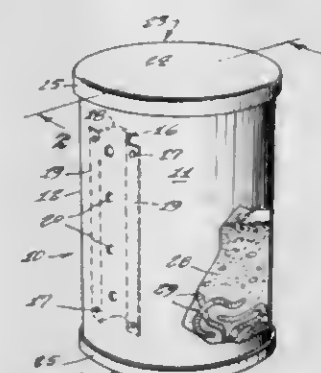
guide laterally and releases the lid which is swung into an upright position by a spring.

3,423,868
TAIL ASSEMBLY FOR ARTIFICIAL FISHING LURE
Harold A. Le Master, 701 N. Greenwood Ave.,
Clearwater, Fla. 33515
Filed Apr. 26, 1967, Ser. No. 633,796
U.S. Cl. 43—42.33 1 Claim
Int. Cl. A01k 85/00



A tail portion for the main body of a fishing lure of the "floater" type having a hollow plastic molded body with a closure cap sealed on the open end thereof including articulate means for attaching same to the main body of the lure.

3,423,869
BAIT CONTAINER
Fred D. Duerst, Rte. 1, Box 84-E, Bonnie Lane,
Madison, Wls. 53704
Filed Sept. 2, 1966, Ser. No. 576,996
U.S. Cl. 43—55 1 Claim
Int. Cl. A01k 97/04



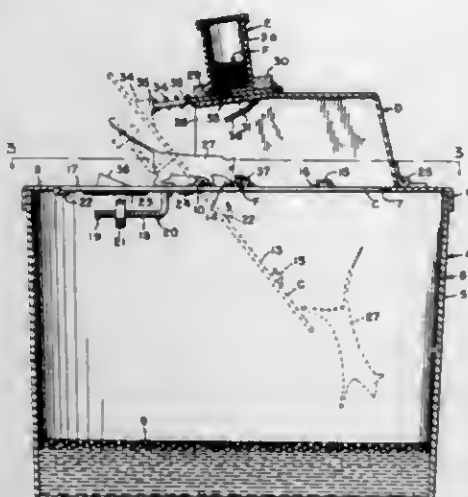
A can for a bait worm including a cylindrical side wall with a removable lid at each opposite end, a straight length of U-shaped rib secured to the inner side of the side wall in alignment with openings provided in the side wall, the rib being shorter in length than the length of the side wall so to form a recess between the rib ends and each lid.

3,423,870

AUTOMATIC MOUSE TRAPS

John C. Kost, Lemsford, Saskatchewan, Canada
 Filed Aug. 19, 1965, Ser. No. 480,858
 U.S. Cl. 43-69
 Int. Cl. A01m 23/04

6 Claims



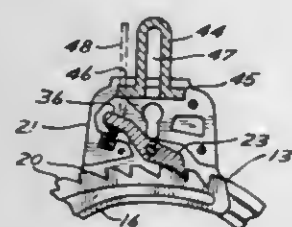
The rodent trap comprises a drowning container over which a platform providing a rodent path of travel is mounted for swinging between a horizontal position and an inclined position in which a rodent chute into the container is formed. A rodent reception booth is mounted over the platform and has an open side entrance for rodent travel along said path. A bait dispenser is mounted on the booth and is actuable by each swinging of the platform into its inclined position to deposit a measured amount of primary bait adjacent a baffle on the platform at the beginning of said path, and means holding secondary bait on the platform within the booth toward the end of the path of travel.

3,423,871

SECRET RELEASE HANDCUFFS

Charles F. Foley, 3312 Yosemite Ave. S.,
 St. Louis Park, Minn. 55416
 Filed Mar. 3, 1966, Ser. No. 531,470
 U.S. Cl. 46-1
 Int. Cl. E05b 75/00

2 Claims



Secret release toy handcuffs utilizing a ratchet type latch mechanism which can be opened with a key through a normal key hole, and can be secretly opened by depressing a latching dog through a small opening with a slender rod, without the use of a key. A swivel member is positioned adjacent the aperture such that one position of the swivel member conceals the aperture while another position permits access through the aperture.

3,423,872

TRANSPARENT SPHERE WITH ROTATING BALLS THEREIN

Ashford B. Dodson, 4 Brook St.,
 Nelson, New Zealand
 Filed Sept. 14, 1964, Ser. No. 396,077
 Claims priority, application New Zealand, Nov. 15, 1963,
 136,561

U.S. Cl. 46-43

Int. Cl. A63h 33/00; G09b 27/08

5 Claims

1. A device comprising a hollow body of transparent plastics material and of substantially oblate spheroidal

formation, said hollow body having a hollow handle protruding outwardly from one polar region thereof, at least one ball within said hollow body, a passage between the



interior of the hollow handle and the interior of the hollow body, and means in said passage for passing a ball only in a direction from said hollow body into said hollow handle.

3,423,873

ROLLING CAROUSEL

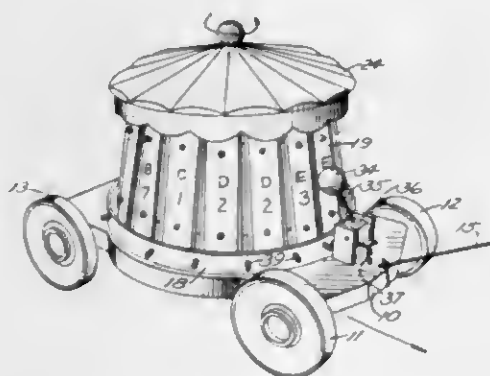
Robert I. Genin, Scarsdale, N.Y., assignor to Child Guidance Toys Inc., Bronx, N.Y., a corporation of New York

Filed Jan. 5, 1967, Ser. No. 607,500

U.S. Cl. 46-114

Int. Cl. A63h 5/00

4 Claims



A rolling toy carousel in which a turntable supported on a wagon is arranged to rotate as the wagon is pulled. Mounted above the turntable is a circular array of xylophone bars which are struck in sequence by a hammer operatively linked to the turntable, the hammer being caused to rock back and forth as the turntable rotates.

3,423,874

MAGNETICALLY CONTROLLABLE DOLL'S EYE MECHANISM

Joseph L. Bonanno and Dorland L. Crosman, Glen Ridge, N.J., assignors, by mesne assignments, to De Luxe Topper Corporation, a corporation of Delaware
 Filed Sept. 9, 1966, Ser. No. 578,310

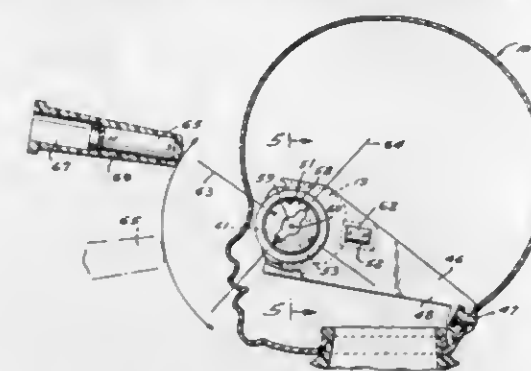
U.S. Cl. 46-238

Int. Cl. A63h 33/26, 3/40

11 Claims

Pivotable doll eye assembly provided with a slave magnet fixed to and pivotable with assembly. Pivotable master magnet spaced from eye assembly may be pivoted by separate control magnet. Magnetic field strengths of mas-

ter and slave magnets sufficient to cause slave magnet and hence eye assembly to pivot when master magnet pivots.



Additional means, such as a magnet, maintains master magnet in either of two extreme positions of movement.

3,423,875

PROTECTION OF WOODY PERENNIALS

Gordon Bowker, P.O. Box 194,
 Charleston, Tenn. 37310

No Drawing, Filed Sept. 29, 1965, Ser. No. 491,430

U.S. Cl. 47-2

Int. Cl. A01g 13/02

4 Claims

Extremes of temperature, sun scorch, frost, abrasions and similar damage often result in injury wounds and cavities in the phloem and xylem of stems, trunks and roots of trees and shrubs requiring treatment or protection. Many coatings have been applied to trees in such instances. By the use of papermaking pulp compositions the film thickness and life of the coating can be regulated.

3,423,876

WINDOW REGULATOR MECHANISM

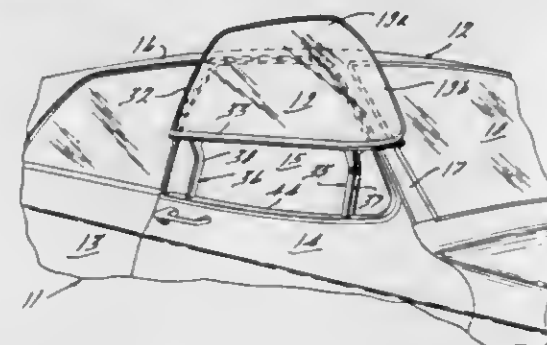
Raymond P. Smith, Southfield, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Nov. 8, 1967, Ser. No. 681,466

U.S. Cl. 49-227

Int. Cl. E05f 11/52, 15/08, 15/16

6 Claims



A window regulator mechanism for bodily shifting, with combined lateral and vertical movement, a window panel into or out of a window opening in a structure, such as a vehicle body structure comprising a door or body panel.

3,423,877

QUICK ACTING HATCH COVER

Stanley H. Merry, Duxbury, Mass., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

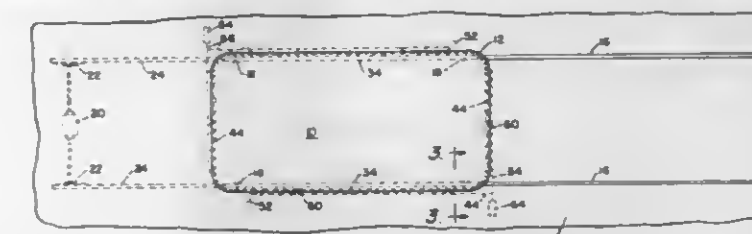
Filed Nov. 16, 1966, Ser. No. 595,321

U.S. Cl. 49-211

Int. Cl. E05d 15/10

8 Claims

A quick acting mechanically operated hatch cover which when closed is flush with the deck of the ship and having a support structure to raise the hatch cover above deck level for subsequent removal by pushing the hatch cover out of alignment with the hatch by the use of unidirectional bending link chain means; thus providing a one-piece hatch cover which is mounted flush with the



presents negligible stowage and safety problems when opened.

3,423,878

DOOR STRUCTURE

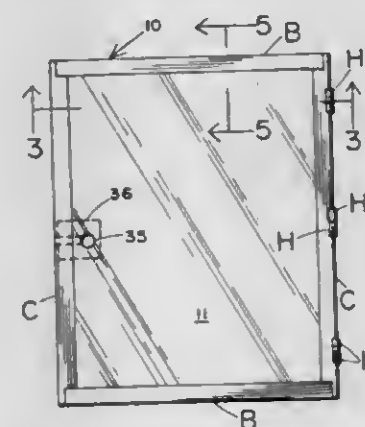
Irvine Kimmel, 1231 Stillwater Drive,
 Miami Beach, Fla. 33141

Filed Nov. 24, 1967, Ser. No. 685,406

U.S. Cl. 49-501

Int. Cl. E06b 3/24, 3/70; E05d 5/04

2 Claims



A laminated door structure having a plurality of pairs of panel members bonded to each other and to a honey comb extending between the pairs of panels, channel members bonded along edge portions and to the outer surfaces of the panel members, and a pair of vertically disposed channel members bonded along edge portions and to the inner surfaces of the panel members in spaced relation to the first named channel members, hinges mounted on the outer surface of one of the first named channel members, a plurality of screws fastening the hinges to the channel members and extending into the vertically disposed channel members for securing the hinges to the door.

3,423,879

GEAR GRINDING MACHINE

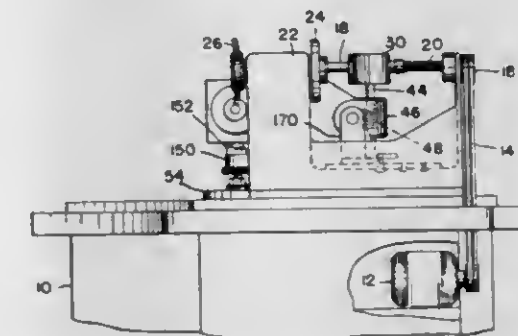
Alfred W. Klomp, Detroit, Mich., assignor of twenty-five percent to Norman L. Goddard, Birmingham, Mich., and twenty-five percent to James K. Fulks, Detroit, Mich.

Filed Sept. 2, 1965, Ser. No. 484,603

U.S. Cl. 51-5

Int. Cl. B24b 7/00, 9/00, 5/00

20 Claims

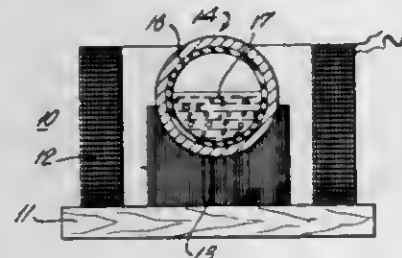


A gear grinder comprising a grinding wheel in the form of a worm, a diamond type abrasive trimmer including

individual trimming elements mounted for rotation about the axis of the work spindle and in helical alignment with teeth thereof to provide for a consecutive trimming and grinding operation on movement of the work spindle in a single direction.

3,423,880
SURFACE-TREATING DEVICE
Abe Hersbler, 138-10 Franklin Ave.,
Flushing, N.Y. 11355

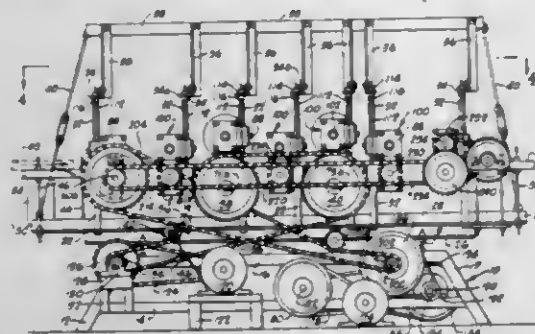
Filed Oct. 24, 1965, Ser. No. 504,495
U.S. Cl. 51-7
Int. Cl. B24b 19/00, 1/00; B24c 1/00



The abrasion, grinding or polishing of a work piece or material is accomplished by exposing the work piece or material to a particulate abrasive and a plurality of permanent magnet elements exceeding 50 oersteds located in a fluid and subjected to a magnetic field varying in direction with time to effect the mutual spacing of and impart motion to the magnet elements. The motions of the magnet elements are rotational and translational and effect the individual movements of the abrasive particles against the work piece or material.

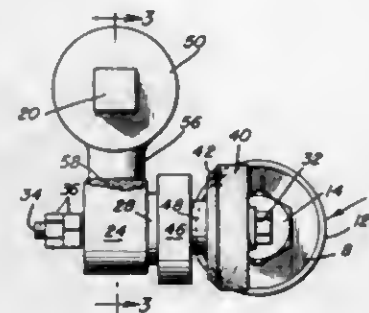
3,423,881
SANDING APPARATUS
Hubert L. Ward, 2326 C Court,
Enid, Okla. 73701

Filed June 10, 1965, Ser. No. 462,824
U.S. Cl. 51-87
Int. Cl. B24b 7/00, 9/00



An abrading apparatus including a framework, pairs of feed rollers mounted on the framework, pairs of sanding rollers mounted on the framework for receiving a panel from the feed rollers and for abrading the opposite sides of the panel, and chain drive structure for driving the rollers in each pair of feed rollers in opposite directions, and for driving the rollers in each pair of sanding rollers independently of each other and in a direction tending to move toward the feed rollers, a panel passed between, and in contact with, the sanding rollers. For the purpose of adjusting the spacing between the rollers in each pair of rollers, vertically extending support rods are secured to opposite sides of the framework and bearing blocks are slidably mounted on each of said support rods and journal the opposite ends of the rollers. Structure is provided for independently adjusting the vertical position of each of the bearing blocks on its respective support rod.

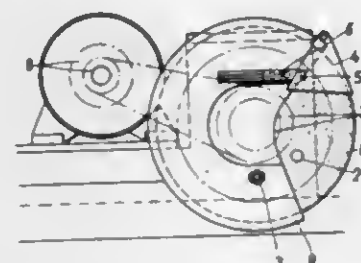
3,423,882
CYLINDRICAL CUP-KNIFE SHARPENING DEVICE
Walter M. Tucker, 1322 Avenue G, and W D Lewellen,
2818 Avenue B, both of Scottsbluff, Nebr. 69361
Filed Nov. 16, 1965, Ser. No. 508,098
U.S. Cl. 51-105
Int. Cl. B24b 5/10



A cylindrical cupped knife is operatively mounted atop a power shaft. A complementary stationary supporting shaft is located adjacent and parallel to said driven shaft. An adapter bracket is detachably adjustably mounted on the upper end of the supporting shaft and carries a bearing constituting a component part of novel knife sharpening means. This means comprises a turntable spindle or shaft supporting an abradant grinding wheel or stone and a companion hardened steel back-up wheel. As the grinding wheel revolves, it hones the knife to a fine edge. The back-up wheel stations the stone properly and keeps the wire-edge pushed in so that the stone hones it off.

3,423,883
SAFETY DEVICE FOR CONTROLLING THE CIRCUMFERENTIAL SPEED OF GRINDING WHEELS

Karl Storck, Offenbach am Main, Germany, assignor to MSO Maschinen- und Schleifmittelwerke A.G., Offenbach am Main, Germany
Filed Mar. 10, 1966, Ser. No. 533,151
Claims priority, application Germany, Mar. 22, 1965, M 64,601
U.S. Cl. 51-134.5
Int. Cl. B24b 5/00, 49/00, 51/00



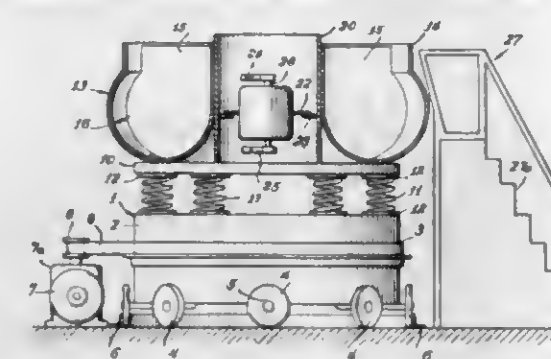
A safety device for supervising the rotational speed of a rotary grinding disk in which control means stop the drive means of the disk when the diameter thereof decreases due to wear, below a predetermined value and also when the rotational speed of the disk exceeds a selected maximum speed.

3,423,884
FINISHING APPARATUS HAVING A PLURALITY OF COMPARTMENTS
Gunter W. Balz, Kalamazoo, Mich., assignor to Roto-Finish Company, Kalamazoo, Mich., a corporation of Michigan

Filed Jan. 12, 1966, Ser. No. 536,255
U.S. Cl. 51-163
Int. Cl. B24b 31/00; B02c 17/08

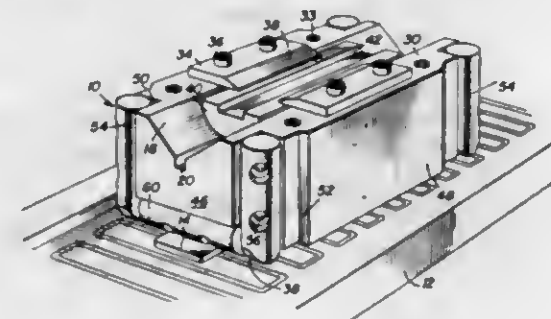
A finishing machine for finishing the surface of parts comprising a substantially curvilinear chamber, as for example in the form of an annular trough, having means

dividing the chamber into a plurality of compartments adapted to retain the parts during operation of the machine, vibratory means provided for subjecting a mixture



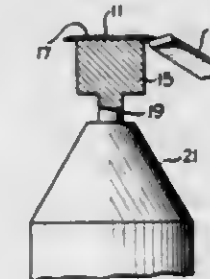
comprising parts and finishing material to vibration to cause the mixture to undergo orbital motion and the parts to be finished, and in an improved embodiment, having means for rotating the chamber.

3,423,885
SINE V-BLOCK
Herbert D. Crandall, Main St., Rushford, N.Y. 14777
Filed Mar. 16, 1966, Ser. No. 534,820
U.S. Cl. 51-217
Int. Cl. B24b 41/06, 19/00; B23q 3/00



A workpiece holder in the form of a sine V-block for use during the machine operation with the block having precision surfaces thereon and a recess in each vertical corner and the bottom end corners thereof. Each recess includes a cylindrical sine which has a precision peripheral surface to enable gauging blocks to be disposed between the sine and a precision supporting table surface. The block has a V-shaped notch in the top surface thereof with a groove in the bottom of the notch to facilitate cleaning and means associated with the notch for holding the workpiece therein.

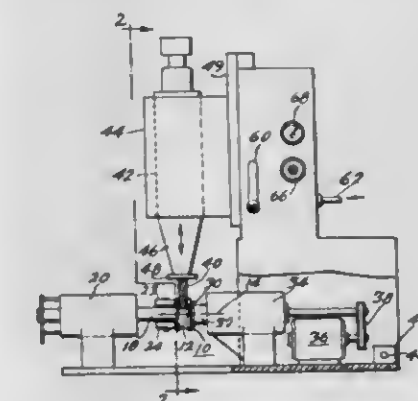
3,423,886
METHOD OF MACHINING NON-RIGID CONTACT LENSES
Fred Schpak, Skokie, and Joseph L. Breger and Robert H. Warner, Highland Park, Ill., assignors to Mueller Welt Contact Lenses, Inc., Chicago, Ill., a corporation of Illinois
Filed July 29, 1965, Ser. No. 475,727
U.S. Cl. 51-281
Int. Cl. B24b 9/14



A method of shaping the edge of a contact lens formed of a non-rigid material incident to contact between the

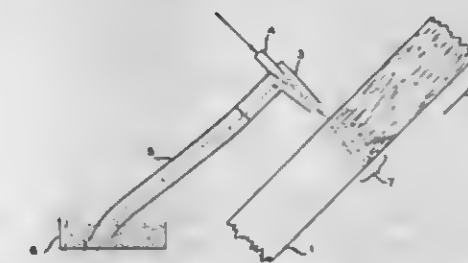
lens and a forming element, comprising rotating the lens at a sufficiently high angular velocity that the centrifugal force produced within the peripheral edge portion of the lens creates within such portion internal stresses effective to neutralize stresses tending to be induced within such portion by the engagement of the peripheral edge portion by a forming element during the machining operation.

3,423,887
HONING METHOD
Bertil Strom, Lutherville, and Norbert V. Radtke, Timonium, Md., assignors to SKF Industries, Inc., King of Prussia, Pa., a corporation of Delaware
Filed Jan. 14, 1966, Ser. No. 520,578
U.S. Cl. 51-289
Int. Cl. B24b 1/00, 7/00, 9/00



A method for honing a surface of a body which is a figure of revolution about an axis of revolution, for example an annular groove for ball bearings where often curvature across the groove differs from the curvature around the axis of revolution, to minimize waviness in the surface, comprising spinning the body about said axis while urging against a portion of its surface an abrasive stone shaped to fit the desired contour of the surface along and across the direction of spinning of said surface, and simultaneously vibrating the abrasive stone along the direction in which it is being urged. Preferably the stone extends over a substantial fraction of the circumference of the surface (for example, one third of the circumference), and is vibrated in the 5,000 to 30,000 vibrations per second range; preferably also, a liquid material is applied to the surface passing under the stone so that cavitation of the liquid material occurs to prevent "load-up" of the stone.

3,423,888
FIBRILLATION
Claude V. Brown, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Mar. 7, 1966, Ser. No. 532,389
U.S. Cl. 51-319
Int. Cl. B24b 1/00; B24c 1/00, 3/00



Plastic film is oriented sufficiently to be fibrillatable and then fibrillated without special support of the film by impinging a plurality of particles thereagainst with sufficient force to cause fibrillation thereof.

3,423,889

PITCHED WALL AND ROOF SEAL

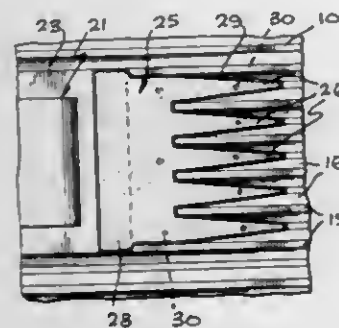
William B. Elconin, Sherman Oaks, Calif., assignor to Award Metals Company, South El Monte, Calif., a partnership

Filed July 26, 1966, Ser. No. 567,992

U.S. Cl. 52-58

10 Claims

Int. Cl. E04d 13/14, 1/36, 3/24



A molded seal is provided for side walls or roofs having a corrugated exterior surface when it is required to provide a water-tight seal between the corrugated surface and a flat or planar flange on a ventilator base, roof flashing, roof hatch, or any other object having a flat flange located adjacent an opening in a side wall or roof. In such cases, the flange is located at the top or outside surface of the ridges in the corrugated surface. The seal has tapered fillers that fill and close the depressions between the ridges, not only to prevent entry of water but, in the case of a sloping roof, to eliminate low places where water can collect by diverting and draining the water away from the area.

3,423,890

BOOM STRUCTURE

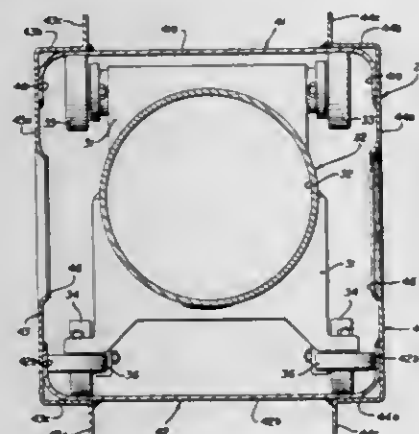
Bertram J. Leigh, Redwood City, Calif., assignor to Telsta Corporation, San Carlos, Calif., a corporation of California

Filed Apr. 17, 1967, Ser. No. 631,206

U.S. Cl. 52-118

8 Claims

Int. Cl. E04h 12/18



Boom construction having an outer boom in which an inner boom is telescopically mounted and in which the outer boom is generally rectangular in cross-section and is formed of a plurality of overlapping metal sections which are provided with outwardly extending reinforcing flanges.

3,423,891

BUILDING STRUCTURE WITH THE MEANS BETWEEN SPACED PANELS

Donald D. Burris, Wayne, Pa., assignor to Certain-Teed Products Corporation, Ardmore, Pa., a corporation of Maryland

Filed Aug. 25, 1965, Ser. No. 482,350

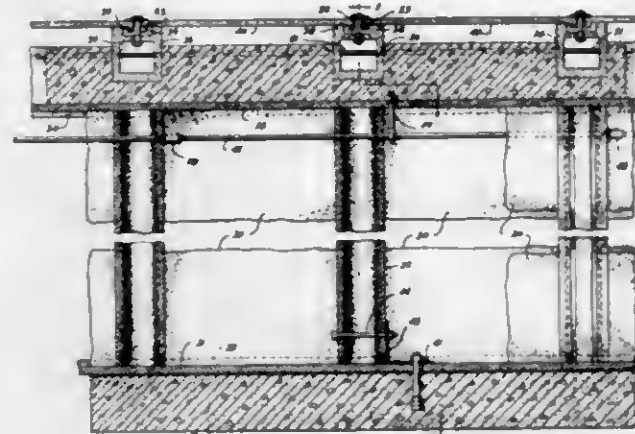
U.S. Cl. 52-241

13 Claims

Int. Cl. E04b 1/02; E04b 2/66, 5/04

Building structure made of components especially adapted for fabrication as asbestos-cement extrusions,

and including specially formed vertical posts adapted for universal use at either corner or intermediate locations of either outside or inside walls or partitions, whether or not load bearing, the posts being configured to co-



operate with either single or double wall or partition boards. The structure also includes specially formed cap rails for use at the top edge of walls and partitions for support of a roof structure and also to provide a chase for wiring or piping.

3,423,892

PARTITION ASSEMBLY

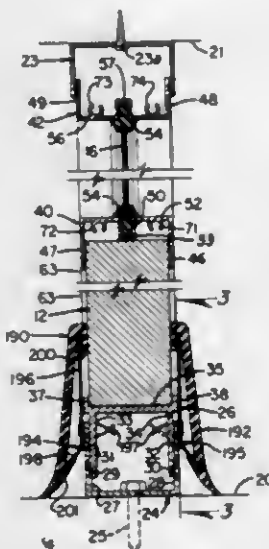
John Kenneth Rimington, Edmonton, Alberta, Canada, assignor to Stramit Corporation, Ltd., Edmonton, Alberta, Canada, a firm of Canada

Filed Aug. 17, 1966, Ser. No. 573,103

U.S. Cl. 52-241

15 Claims

Int. Cl. E04h 1/06; E04b 2/82; E04f 19/06



A partition assembly including base therefor, a supporting structure incorporated therein, and means for supporting a panel member along an edge thereof, said member having any one of several predetermined thicknesses. The base for the partition includes a plurality of first and second base channel members, one of said base channel members being vertically adjustable relative to the other of said channel members for supporting at a predetermined elevation the lower surface of a partition member, a baseboard backer plate disposed on each side of the assembly of said first and second base channel members, and fastening means securing each baseboard backer plate to the assembled base channel members. The baseboard assembly also includes a longitudinally extending flexible non-metallic baseboard member connected to and carried by each baseboard backer plate. The partition assembly includes a supporting structure

comprising a channel-shaped post having a U-shaped cross sectional configuration defined by a web and a pair of generally parallel flanges, a channel-shaped backer plate having a web disposed adjacent the web of said post, and means for securing together said post and said backer plate.

3,423,893

WOODEN STUD WALL OR PARTITION AND SUPPORT THEREFOR

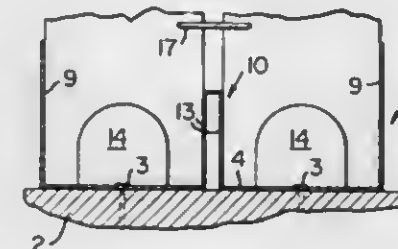
Marx Hyatt, Woodside, Calif., assignor to J. H. Baxter & Co., San Francisco, Calif., a corporation of California

Filed Dec. 16, 1966, Ser. No. 602,373

U.S. Cl. 52-241

2 Claims

Int. Cl. E04b 2/32



A row of studs uniformly spaced apart longitudinally of the row in which each stud is a pair of vertically, parallel stud members in side-by-side relation uniformly spaced apart transversely of the row with said stud members held at their ends independently of each other against relative movement transversely of and out of said row and against twisting about their vertical axes to provide coplanar surfaces at opposite sides of said row for securement of wall panels thereto, with the spaces between the stud members reducing transmission of sound across the partition.

3,423,894

PANEL WALL SYSTEM

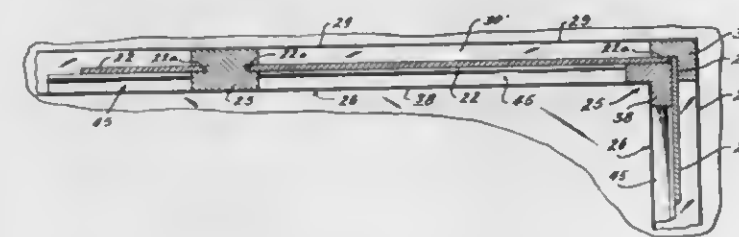
Cletus Richardson, 3419 A. Winnebago, St. Louis, Mo. 63118

Filed Dec. 4, 1967, Ser. No. 687,709

U.S. Cl. 52-241

7 Claims

Int. Cl. E04b 2/72, 1/38



A panel system in which supporting members at the floor and ceiling location provide the anchorage for slide or lift in panels and panel stiffening members, and also wherein a few simple form pieces adapt the system to a wide variety of installations.

3,423,895

ROOF STRUCTURE

Frederick E. Hawkins, Ambler, Pa., assignor to Certain-Teed Products Corporation, Ardmore, Pa., a corporation of Maryland

Filed Aug. 25, 1965, Ser. No. 482,479

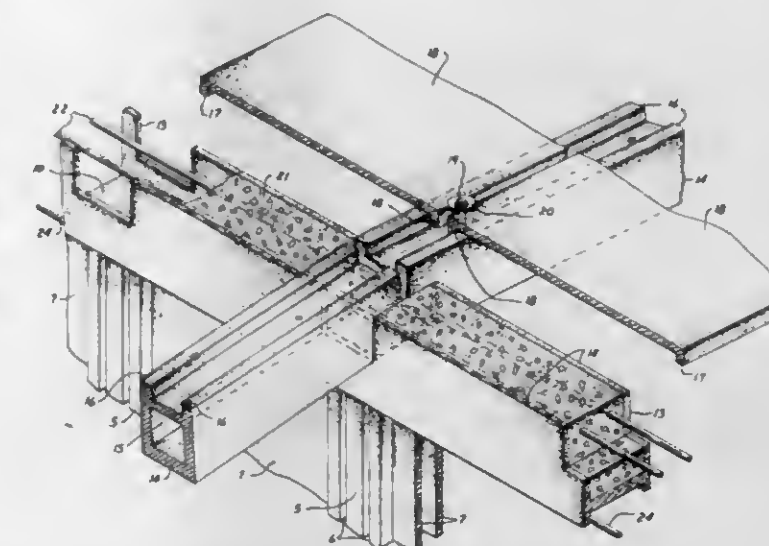
U.S. Cl. 52-303

3 Claims

Int. Cl. E04d 13/04; E04b 7/00, 5/04

Roof construction incorporating rafters each having an internal hollow and an upwardly open channel extended

throughout the length of the rafter, and elongated roof panels extended lengthwise of the rafters and having



flanges received in the upwardly open rafter channels, and panel fastening means secured to the rafters within their channels.

3,423,896

FIRE- AND PRESSURE-PROOF ASSEMBLY OF BUILDING ELEMENTS

Lennart Widerby, Jonkoping, Sweden, assignor to Aktiebolaget Svenska Flaktfabriken, Stockholm, Sweden

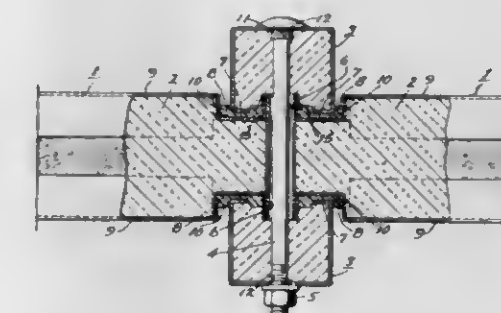
Filed Nov. 25, 1966, Ser. No. 596,921

Claims priority, application Sweden, Nov. 25, 1965, 15,239/65

U.S. Cl. 52-395

5 Claims

Int. Cl. E04b 1/66, 2/58, 2/00



Insulated building panels having interior and exterior surfaces with marginal grooves therein are joined together end-to-end by insulated U-shaped channel members having legs engaging sealing elements provided in the grooves of adjacent panels. The channel members are drawn together by a threaded fastener to provide a sealed joint which permits limited displacement between the panels but which prevents excessive displacement tending to open the sealed joint.

3,423,897

FRAME ASSEMBLIES

Herbert L. Blum, Jr., Pleasant Valley, Titusville, N.J. 08560

Filed Mar. 18, 1966, Ser. No. 535,489

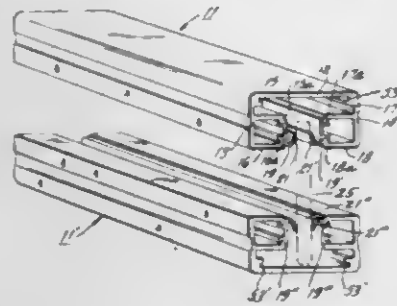
U.S. Cl. 52-502

8 Claims

Int. Cl. E06b 5/00

Frame members preferably formed by an extrusion process for forming door and window assemblies. The window assembly includes rigid extruded frame members having slidably engaged deformable resilient members engaging the marginal edges of a window pane. The door

frame assembly includes a rigid channel which embraces a stud or supporting member; said channel having a double undercut groove therein for receiving a door stop,



filler or resilient strips; and batten strips embracing the margins of the channel for securing the channel to said stud or supporting member.

3,423,898

ROOF FRAMING SYSTEM

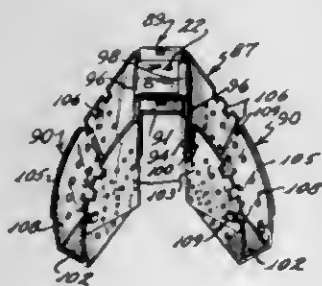
Charles W. Tracy and Wayne H. Coloney, Tallahassee, Fla., assignors to International Enterprises, Inc., Tallahassee, Fla.

Continuation-in-part of application Ser. No. 472,944, July 19, 1965. This application July 28, 1966, Ser. No. 568,686

U.S. Cl. 52-713

Int. Cl. E04b 1/48, 7/06

5 Claims



Apparatus including a bracket used in the construction of the roof of a building with such bracket being mountable on a ridge beam and having relatively adjustable portions with overlapping tabs. Each of the tabs has a plurality of openings some of which will be in alignment with each other. A rafter is connected to the ridge beam at any desired angle by such bracket.

3,423,899

CONCEALED HANGING SYSTEM

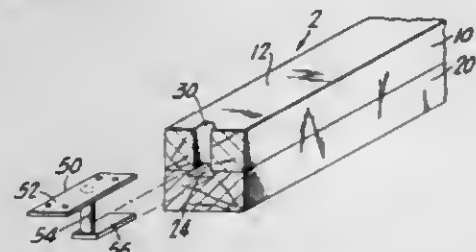
Harlan J. Demers, Menominee, Mich., assignor to Koppers Company, Inc., a corporation of Delaware

Filed Oct. 18, 1966, Ser. No. 587,614

U.S. Cl. 52-721

Int. Cl. E04c 3/12

9 Claims



A laminated wood beam concealably hung from a support by mounting a bracket into the end of the wood beam which has been manufactured with a concealed longitudinal groove therein. A transverse bore positioned to correspond to the desired final length of the beam is

drilled through the beam to intersect the groove. The beam is then sawn at this point and the bracket mounted into the bore and groove enabling the beam to be fitted flush to a support member from which it is hung by an upper portion of the bracket which rests on the support member.

3,423,900

COLLATING-INSERTING MACHINE

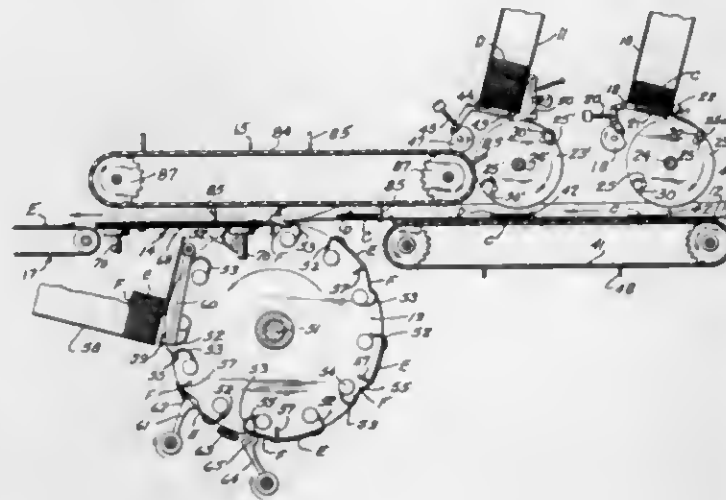
Winston A. Orsinger, Easton, Pa., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois

Filed Jan. 18, 1965, Ser. No. 426,229

U.S. Cl. 53-29

13 Claims

Int. Cl. B65b 43/02, 43/44, 43/26



Inserts from one or more magazines are deposited on a track and advanced by a pusher toward an envelope drum which presents a succession of envelopes into the path of movement of the inserts, and the envelopes are entered by pick-off and guiding fingers on a synchronized conveyor. As the inserts reach the end of the track, respective lugs of an overhead overrunning conveyor drive the inserts into the envelopes and then strip the filled envelopes from the pick-off conveyor.

3,423,901

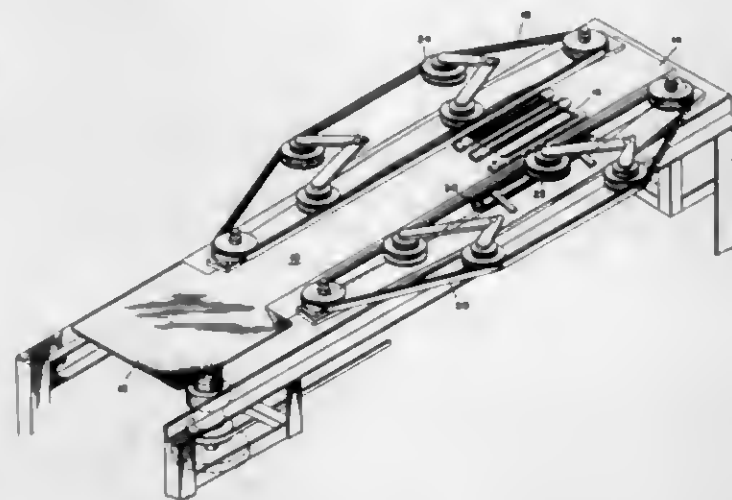
SHRINK CAPPING METHOD AND APPARATUS
William S. Pepler, Chappaqua, N.Y., assignor to Diamond International Corporation, New York, N.Y., a corporation of Delaware

Filed July 6, 1965, Ser. No. 469,693

U.S. Cl. 53-42

15 Claims

Int. Cl. B65b 53/02, 11/54



The present disclosure relates to a method and apparatus for applying a shrink cover to a container, an over-

sized sheet of heat shrinkable transparent plastic film is placed over the open end of the container with the film edges draping over the sides. The container is passed between two vertical belts which press the opposite vertical side walls of the container and grasp the loose film therebetween. In the meantime, heat is applied from below the belts to heat shrink the film edges about the container sides. The belts serve as a shield to prevent the heat from reaching the upper portions of the film. As the package is conveyed further by the vertical belts it then passes to a zone where heat is applied from beneath to shrink the leading and trailing edges of the package.

3,423,902

PRODUCTION AND FILLING OF PLASTIC CONTAINERS

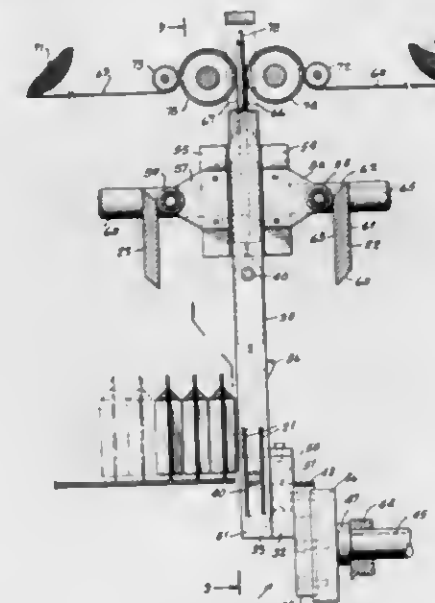
John H. Stroop, New York, N.Y., assignor to Total Packaging Inc., New York, N.Y., a corporation of New York

Filed Dec. 17, 1965, Ser. No. 514,595

U.S. Cl. 53-112

8 Claims

Int. Cl. B65b 1/16, 31/04



A machine for continuously forming, filling, sealing, and separating a sequence of plastic containers, including a bank of vertically reciprocating cam-following die-sets, which close on a down-stroke about downwardly fed dual layers of hot plastic sheeting, gas pressure supply means for supplying gas under pressure into the closed die-sets between the dual layers, thereby forming the sheeting to the interior contour of the dies, and product supply means for filling the formed container with a product. At the bottom of the down-stroke, the die-sets are opened by cam-action to release the containers and remaining open, move through an upstroke to complete a cycle. On the next cycle, the die-sets close again to seal the top of the previous containers and separate them with a hot pressure-cut knife from the bottom of the next successive containers being formed, thereby producing the continuous series of separate filled plastic containers.

3,423,903

BAG POSITIONING APPARATUS

Frank H. Miller, Jr., Louisville, Ky., assignor to Miller Engineering Corporation, Louisville, Ky., a corporation of Kentucky

Continuation-in-part of application Ser. No. 310,071, Sept. 19, 1963. This application Nov. 28, 1966, Ser. No. 597,320

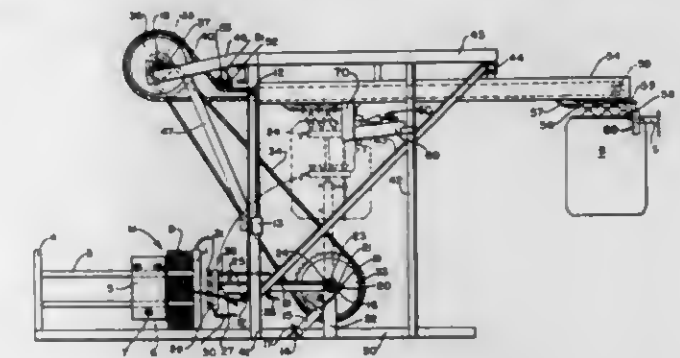
U.S. Cl. 53-188

10 Claims

Int. Cl. B65b 1/02, 1/08, 3/08

An apparatus is disclosed for automatically dispensing

and transporting valve bags to the spout of an automatic filling machine wherein the valve is positively opened



prior to the bag being fitted over the filling machine spout.

3,423,904

SAFETY STIRRUP

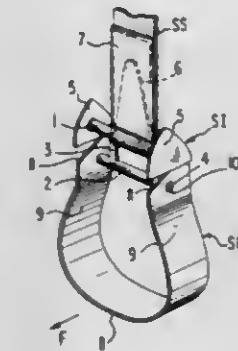
Maurice Stubblefield, Clancy, Mont. 59601

Filed Feb. 27, 1967, Ser. No. 618,853

U.S. Cl. 54-49

7 Claims

Int. Cl. B68c 3/00



A safety stirrup includes a support interponent component suspendable from a stirrup strap, and a stirrup proper component normally latched in connection with the support interponent component, but being completely detachable from the interponent component in response to pivotal movement of the stirrup proper component which causes unlatching of the latter from the interponent component and resilient urging of parts of one component out of connection with parts of the other component, whereby the two components are separated.

3,423,905

SPIRAL AIR FILTER

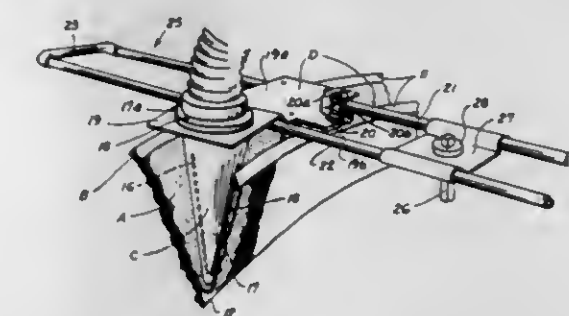
John E. Chambers, 323 Parkins Mill Road, Greenville, S.C. 29607

Filed Jan. 3, 1967, Ser. No. 606,658

U.S. Cl. 55-294

4 Claims

Int. Cl. B01d 35/16

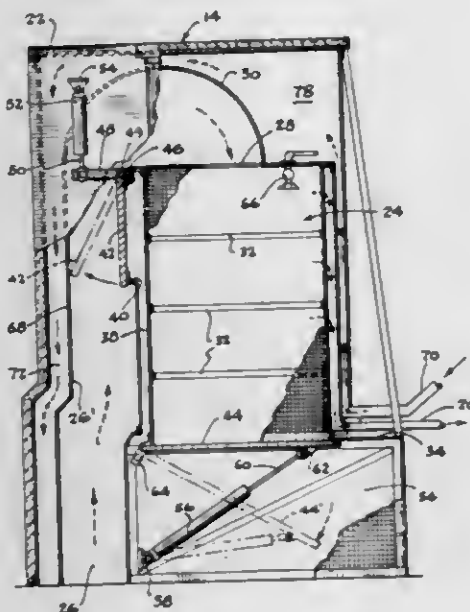


A trough shaped spiral air filter including a support means to maintain a filter medium in the trough shape and a movable suction nozzle for cleaning the filter, the nozzle being supported in the trough and guided to follow the spiral configuration of the filter.

3,423,906 APPARATUS FOR REMOVING PARTICLES FROM AIR

Robert A. Fried, Northbrook, Ill., assignor to F. W. Means & Co., Chicago, Ill., a corporation of Illinois
Filed Jan. 26, 1968, Ser. No. 700,777
U.S. Cl. 55—302
Int. Cl. B01d 46/04

5 Claims



An apparatus for filtering lint particles from air including a duct conveying air from a dryer to a filter screen; a storage chamber at one end of the filter screen to store lint trapped by the filter; and means to reverse air flow through the filter to release the lint particles trapped on the filter and transport them to the storage chamber, said apparatus having an air intake duct for the dryer passing along the air exit duct from the dryer to pre-heat the air introduced to the dryer.

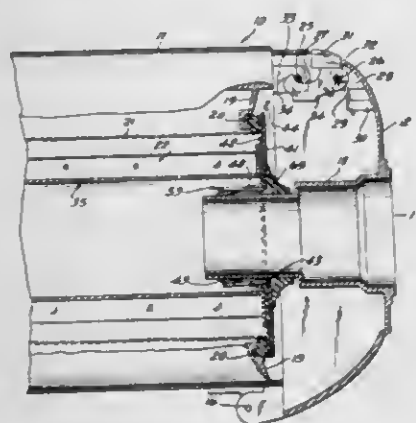
3,423,907 END CLOSURE FOR DISPOSABLE DUST BAG

George Leslie Hughes, Biddenham, Bedford, England, assignor to Aktiebolaget Electrolux, Stockholm, Sweden, a corporation of Sweden

Filed Aug. 27, 1965, Ser. No. 483,183
Claims priority, application Sweden, Sept. 8, 1964, 10,791/64

U.S. Cl. 55—367
Int. Cl. B65d 31/14; B01d 29/10

6 Claims



An end closure for a dust bag formed by super-imposed outer and inner flexible sheets, the outer sheet having a single hole coplanar therewith and through which dust-laden air is introduced into the dust bag, the inner sheet having a plurality of cuts therethrough and a plurality of

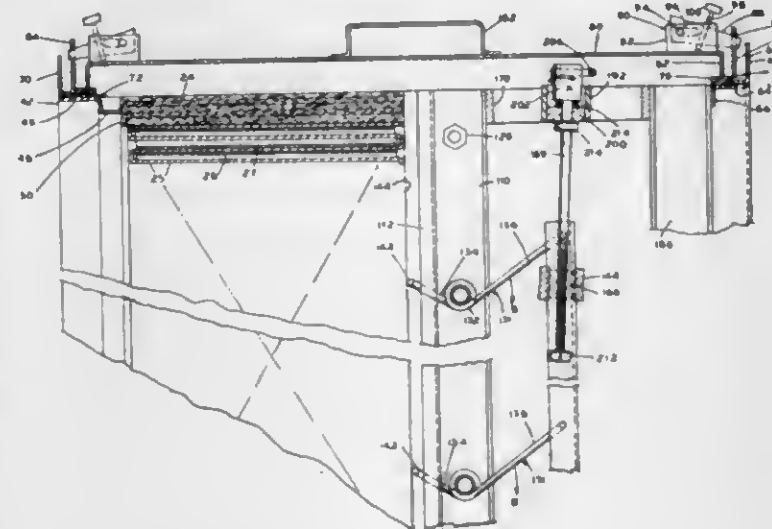
scorings therein defining two flaps which are integral therewith and coplanar with the inner sheet and partially severed therefrom, both flaps when coplanar with the inner sheet extending in opposite directions toward one another with their outer free edges in abutting relation and with both flaps covering the single hole in the outer sheet and also overlying regions of the inner face of the outer sheet about the hole, and the unsevered scorings in the inner sheet being located at opposite sides of the hole in the outer sheet and serving as hinges about which the flaps swing into the dust bag, both flaps swinging into the dust bag when force is applied thereto to form a single aperture in the inner sheet which is coplanar therewith and at least as large as the single hole in the outer sheet and in registry therewith.

3,423,908 SIDE-LOADING FILTER HOUSING

Charles G. Hart, Syracuse, N.Y., assignor to Cambridge Filter Corporation, Syracuse, N.Y., a corporation of New York

Filed June 16, 1966, Ser. No. 557,987
U.S. Cl. 55—481
Int. Cl. B01d 29/06, 46/42

7 Claims



Housing for space filter units comprising spaced parallel horizontal trackways for downstream filter units and upstream pre-filter units, with access doors on either side large enough to permit sliding replacement filter units into position and sliding spent units laterally out of the housing, the housing acting as a part of a duct, and having at its downstream end vertical sealing frames for engaging continuous edge seals on each of the downstream units, and pressure applying means acting through resilient arms of independent coil springs bearing against the upstream edges of the units to hold the edge seals continuously against the sealing frames for each downstream unit.

3,423,909 AIR CLEANER WITH IMPROVED FILTER ELEMENT ASSEMBLY

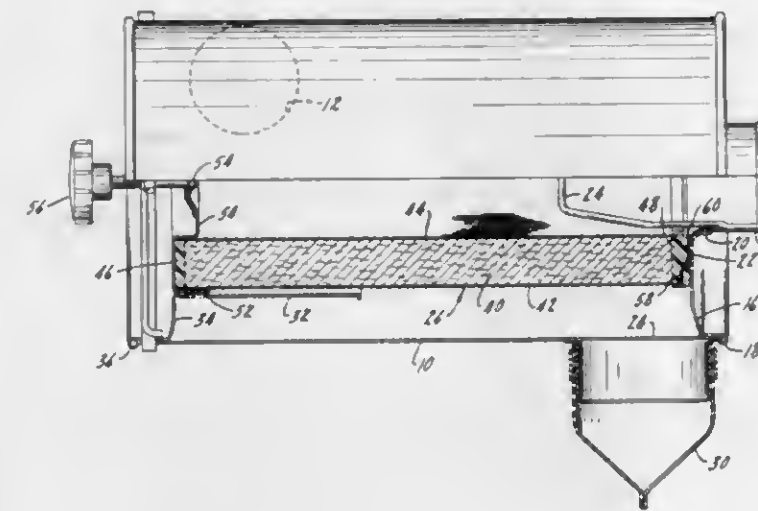
Raymond G. Bennett, Olympia Fields, and Willis H. Risse, Flossmoor, Ill., assignors to Novo Industrial Corporation—United Air Cleaner Division, New York, N.Y., a corporation of New York

Filed Sept. 28, 1967, Ser. No. 671,428
U.S. Cl. 55—498
Int. Cl. B01d 46/10

4 Claims

An air cleaner of the dry type, said cleaner comprising a housing, an air inlet, a clean air outlet, an opening for dust removal and a filter element for removing the remaining dirt from the air to be filtered. The air to be

filtered is directed from the inlet inwardly through the filter element to the clean air outlet without any air es-



caping before it is filtered due to an improved filter element assembly.

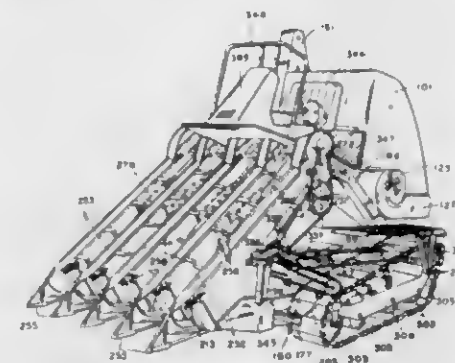
3,423,910 HARVESTER COMBINE

Takatsugu Shimamoto, Osaka, Shota Hiyamuda, Sakai, Shigeru Fujita, Shimo-ito, Akihiko Nozoe, Sakai, Hiromi Yamaguchi, Izumisano, and Jutaro Eguchi, Sakai, Japan, assignors to Kubota Tekko Kabushiki Kaisha, Osaka, Japan, a company of Japan

Filed June 30, 1965, Ser. No. 468,452
Claims priority, application Japan, Nov. 11, 1964, 39/64,185

U.S. Cl. 56—20
Int. Cl. A01d 41/02, 45/30; A01f 12/20

31 Claims



A combine for grain in which the harvested stalks are delivered in an upright position onto an inclined guide surface, and fed across this surface transversely to the direction of travel to a further conveying means which holds the stalks while feeding the heads thereof through a threshing assembly. The threshing assembly includes a threshing drum, a separating drum, a beater located between the two drums and a separating chamber and grain sieve located below the separating drum and acted upon by blowers for separating grain from trash material. Threshed stalks are conveyed to an auxiliary separating assembly where the stalks are spread, shaken, and finally discharged from the combine in a desired orientation relative to the path of travel.

3,423,911 WATER POWERED TRIMMING DEVICE

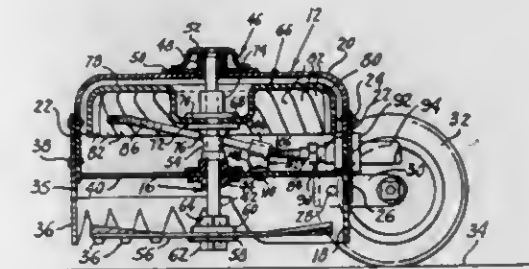
Oscar G. Woodruff, 404 N. Oro St., Stockton, Calif. 95205

Filed Aug. 8, 1966, Ser. No. 571,040
U.S. Cl. 56—25.4
Int. Cl. A01d 35/26

8 Claims

1. A water powered grass cutter comprising: a mobile frame;

a shaft mounted on the frame for rotary movement; a blade, fixed to one end of the shaft, exposed to the underlying surface for cutting grass thereon; an inverted cup-shaped turbine concentrically affixed to the shaft adjacent the other end thereof having a



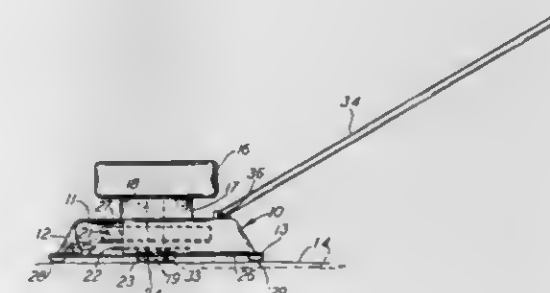
cylindrical wall extending generally parallel to the axis of the shaft, the cylindrical wall being provided with a plurality of inwardly extending blades; and means for injecting pressurized water against the turbine blades for rotating the shaft and blade and cutting the grass on the underlying surface.

3,423,912 GROUND EFFECT LAWN MOWER

Sherman C. Heth, Racine, Wis., assignor to Jacobsen Manufacturing Company, Racine, Wis., a corporation of Wisconsin

Continuation of application Ser. No. 469,743, July 6, 1965. This application Apr. 17, 1968, Ser. No. 722,134
U.S. Cl. 56—25.4
Int. Cl. A01d 35/26; B60v 1/02

8 Claims



A mower housing with handle attached thereto and a cutter and fan rotatably mounted within the housing. The lower edge of the housing has feet or pads attached for keeping the edge and the remainder of the housing spaced from the ground even when the mower is not being supported by the air generated by the fan.

3,423,913 COTTON PICKER SPINDLE MOISTENER ASSEMBLY

Charles D. Mecklin, Memphis, Tenn., assignor to International Harvester Company, a corporation of Delaware

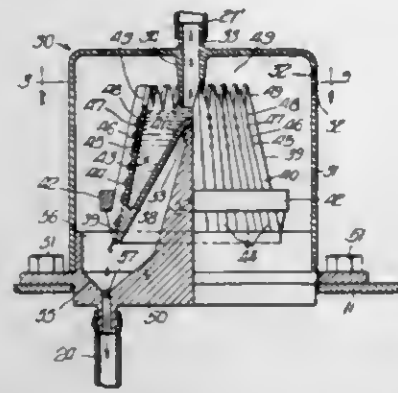
Filed Jan. 27, 1966, Ser. No. 523,425
U.S. Cl. 56—41
Int. Cl. A01d 45/18

18 Claims

A fluid distributor for the spindles of a cotton harvester comprising a distributor head, a balance supporting the head to maintain it in vertical position regardless of the disposition of the harvester, the distributor head mounted

in a well filled with fluid to a predetermined level and the head having outlet ports at a common level, each

tion of the opening, rather than have the crop move into the opening at the near edge of the trough with respect to the movement of the crop along the trough.

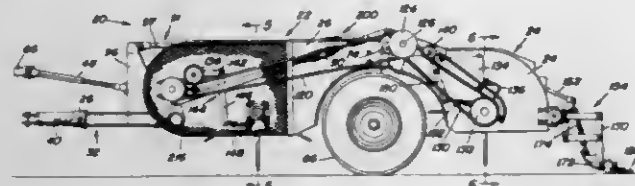


port connected to a separate channel element which feeds its separate moistener pad.

3,423,914

MOBILE BEET CLEANING APPARATUS
Thomas T. Itami, Ontario, Oreg., assignor to Parma Water Lifter Company, a corporation of Idaho
Filed Sept. 1, 1965, Ser. No. 484,333

U.S. Cl. 56—121.46 9 Claims
Int. Cl. A01d 23/02, 55/18

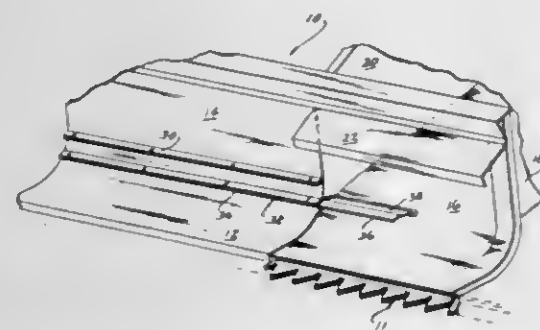


Foliage adjacent to and growing from beet tops is removed by flailing units supported by a mobile frame hitched to a towing vehicle. The mobile frame includes a wheeled frame section to which a trailing frame section is hooked on the rear side of a supporting wheel. One of the flailing units and a scalper carried by the trailing frame section held assembled cantilevered from the wheeled frame section in an adjusted position by turn-buckled links.

3,423,915

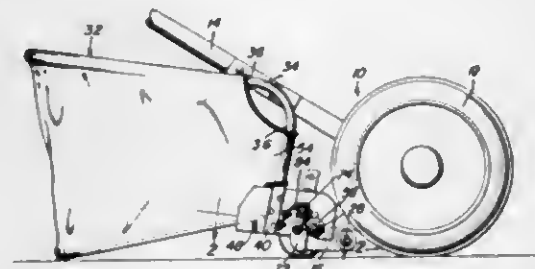
AUXILIARY STRIPPER FOR COMBINE
George R. Louthan, Davenport, Iowa, assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Filed Dec. 29, 1965, Ser. No. 517,325

U.S. Cl. 56—158 3 Claims
Int. Cl. A01d 43/06; B65g 33/08



A harvester trough with an auger rotatably mounted therein and with an opening extending in the trough. Crop strippers are disposed along the trough for preventing the crop from rotating around with the auger, and a stripper has an extension extending into the trough opening for having the crop moved into the central por-

3,423,916
GRASS CATCHER ATTACHMENT FOR LAWN MOWERS
John W. Teal, Goleta, Calif.
(P.O. Box 984, Santa Barbara, Calif. 93102)
Filed June 22, 1965, Ser. No. 465,847
U.S. Cl. 56—199 3 Claims
Int. Cl. A01d 43/06

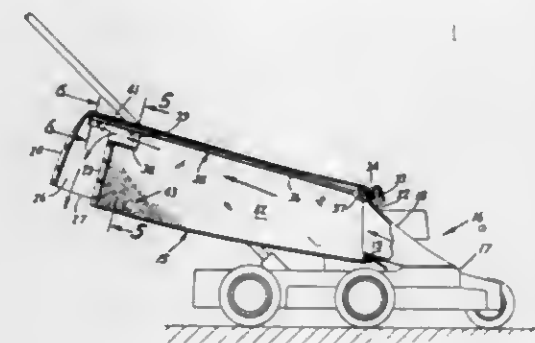


A lawn mower with an attached grass catcher removable from engagement with the lawn mower upon forward and upward movement of the front end of the grass catcher relative to the lawn mower and engageable with the lawn mower upon forward and subsequent downward shifting of the forward end of the grass catcher relative to the lawn mower after initial positioning of the grass catcher immediately to the rear of the lawn mower.

3,423,917

GRASS CATCHER BAG
Victor Leader, 2339 Sheridan Ave. N., Minneapolis, Minn. 55411
Filed Oct. 10, 1966, Ser. No. 585,588

U.S. Cl. 56—202 10 Claims
Int. Cl. A01d 35/22



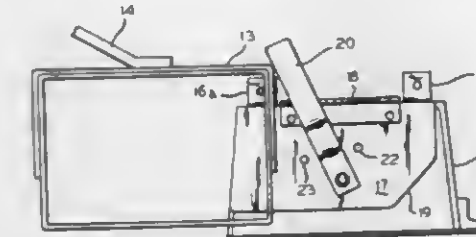
1. A grass catcher bag for rotary mowers comprising an elongated tubular member of heat sealable material, said member having an inlet opening at the forward end, a first transverse heat sealed seam spaced from the rear end of the member, said heat sealed seam having an upper end spaced from the top of the member to form a discharge opening, and a second transverse heat sealed seam closing the rear end of the member and forming an upright passageway connecting the discharge opening with atmosphere.

3,423,918

GUARD AND DEFLECTOR PLATE FOR ROTARY LAWN MOWERS
Stanley Z. Siwek, Chicago, Ill., assignor to Pioneer Gen-E-Motor Corporation, a corporation of Delaware
Filed Jan. 19, 1966, Ser. No. 521,623

U.S. Cl. 56—202 4 Claims
Int. Cl. A01d 53/08
A guard and deflecting plate for the discharge openings of rotary lawn mowers. A latch lever locks the plate in

a closed position guarding the opening when a receptacle is removed from the opening. The plate is pivotally

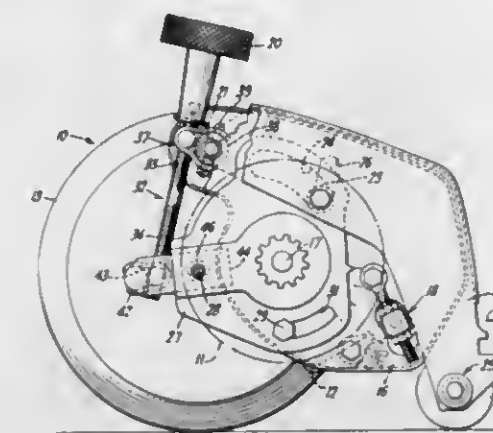


mounted on the mower so as to be movable to a full open position or a partially open position.

3,423,919

LAWN MOWER
Harold De Poy Cook, Des Moines, Iowa, assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed Aug. 31, 1966, Ser. No. 576,272

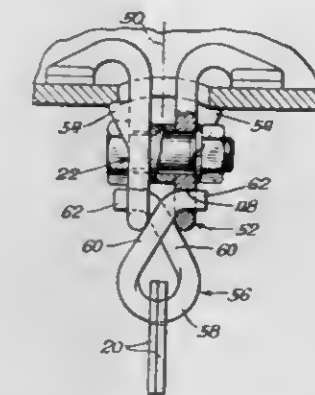
U.S. Cl. 56—249 8 Claims
Int. Cl. A01d 55/20



1. In a lawn mower having a reel and cutter bar assembly, a height adjustment device comprising: a frame portion at each end of the mower having the reel and cutter bar assembly mounted therebetween, a pair of wheels coupled to the reel for supporting and driving said reel, a separate roller arm connected to each of said frame portions and having a cam member extending laterally therefrom, a roller mounted at one end of the roller arms and extending therebetween, a cam plate positioned intermediate each frame portion and the corresponding roller arm, said plate being pivotal about the wheel axis and pivotal about the reel axis, the plate including a cam slot which engages the cam member on the roller arm to move said arm and roller in a predetermined manner, means coupling the roller arm and the frame portion at each end, means coupling the corresponding cam plates about the wheel axis, and means for simultaneously moving the means coupling the roller arm and the frame portion at each end and the means coupling the cam plates to change the position of the wheel centerline and roller centerline relative to the reel axis and thereby adjust the height of said reel and cutter bar assembly above the ground.

3,423,920

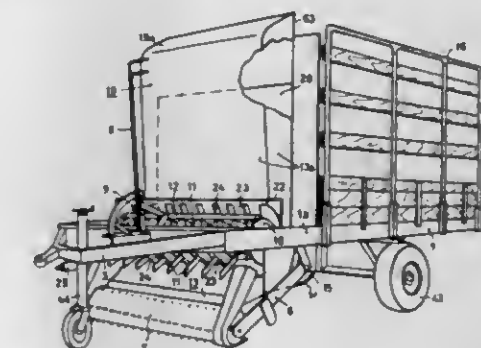
FLAIL KNIFE MOUNTING
Robert W. Woodring, La Grange, John J. Kowalik, Glenview, and Bruno J. Panek, Chicago, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Dec. 20, 1965, Ser. No. 514,831
U.S. Cl. 56—294 3 Claims
Int. Cl. A01d 55/20, 55/22



A flail knife mounting encompassing a holder having a pair of releasably connected portions providing seats therebetween, a knife-mounting ring interposed between said portions and mounted on the seats for swinging movement thereon.

3,423,921

AGRICULTURAL VEHICLE FOR LOADING, TRANSPORTING AND UNLOADING OF BULK MATERIALS
Ernst Weichel, Bahnhofstrasse 1, 7326 Heiningen, Germany
Continuation-in-part of application Ser. No. 115,208, June 6, 1961. This application Oct. 22, 1965, Ser. No. 501,107
U.S. Cl. 56—345 38 Claims
Int. Cl. A01d 43/02, 87/04



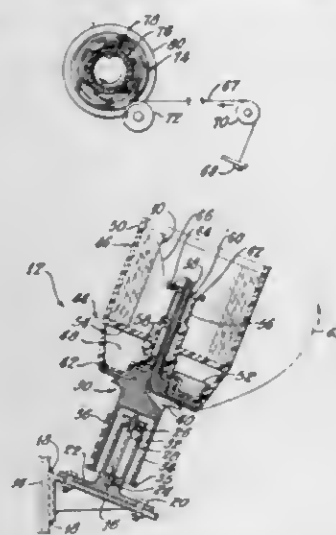
A self-loading vehicle for loading, transporting and unloading bulk agricultural materials, particularly in the form of blades, stalks and the like, including a receiver drum, an adjoining conveyor duct housing conveyor elements for the material to be handled, the outlet opening of the conveyor duct being disposed approximately at the same vertical level as the loading area, and a roller or scraper floor adapted to be driven simultaneously with the receiver drum and the conveyor elements.

3,423,922

TWISTING FIBROUS STRANDS
Roy E. Smith, Toledo, Ohio, assignor to Owens-Corning Fiberglass Corporation, a corporation of Delaware
Continuation-in-part of application Ser. No. 427,051, Jan. 21, 1965. This application June 19, 1967, Ser. No. 651,092
U.S. Cl. 57—35 12 Claims
Int. Cl. D01h 1/10, 13/30

A method and apparatus producing a twisted textile material that gives two twists to the material for every revolution of the rotating portion of the apparatus. The material is withdrawn from the inside of a stationarily held package and is first twisted along a given path and

then reversed to a zone beyond the zone of withdrawal of the material. In the reverse path, the material is rotated



about the zone of material withdrawal to impart the second twist.

3,423,923

CRIMPED MULTIFILAMENT YARN

Harold F. Hume, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Oct. 29, 1965, Ser. No. 505,758
U.S. Cl. 57-140 4 Claims
Int. Cl. D02g 3/02; D04h 17/00; D05c 15/00

A yarn composed of multiple crimped filaments of at least two longitudinally extending adherent components, the crimp elongation of the yarn increasing by at least 10% of the original value when the yarn is wet and dried. This yarn is produced by simultaneously extruding at least two fiber-forming synthetic components to form a plurality of composite filaments, gathering and drawing the filaments to form a yarn, subjecting the yarn to heat treatment under low tension to partially shrink the yarn and cooling the yarn to avoid removing the resulting crimp.

3,423,924

METHOD OF FALSE-TWISTING THERMO-PLASTIC YARN

Marvin H. Comer and Bobby Ray Faio, Burlington, N.C., assignors to Alamance Industries, Inc., Burlington, N.C., a corporation of North Carolina
Filed Nov. 20, 1967, Ser. No. 684,271
U.S. Cl. 57-157 11 Claims
Int. Cl. D02g 3/02; D01h 13/26, 7/46



Thermoplastic yarn is threaded about the exit pin of a false-twist spindle in a novel manner whereby the yarn

runs across and about itself to impart latent torsional stresses and torque to the yarn, and to provide an effective twist trap, thereby preventing twist from passing from one side to the other of the exit pin. When pairs of joined together thermoplastic yarns are simultaneously false-twisted and threaded about the exit pin in this manner, the individual yarns have sufficient torque characteristics and latent stresses imparted thereto that a fabric knit of this yarn, such as ladies' sheer hosiery, has a high degree of stretchability and a very uniformly crimped appearance when relaxed.

**3,423,925
METHOD OF SPINNING FIBERS FROM
A FLUID SUSPENSION**

Thomas W. George, Berkeley Heights, and Richard N. Rulison, Gillette, N.J., assignors to Celanese Corporation of America, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 27, 1964, Ser. No. 406,923
U.S. Cl. 57-164 15 Claims
Int. Cl. D02g 3/36, 3/02; D01h 7/02

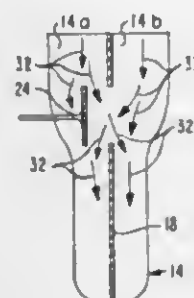
A method for spinning fibers comprising providing a fluid body containing fibrous materials suspended therein such as wood pulp or cellulose acetate, rotating the body of fluid relative to an axis while maintaining the body substantially stationary with respect to the length of the axis, whereupon a coherent strand containing aligned and twisted fibers is formed.

3,423,926

TURBOCHARGER CONTROL ARRANGEMENT

James H. Nancarrow, Torrance, and Glen H. Holzhausen, Redondo Beach, Calif., assignors to The Garrett Corporation, a corporation of California

Filed Aug. 31, 1966, Ser. No. 576,387
U.S. Cl. 60-13 9 Claims
Int. Cl. F02b 41/10; F01k 23/14



Turbocharger apparatus for a pulse exhaust system including a turbine having a divided housing with structure being provided for controlling the flow of engine exhaust gases in accordance with a selected parameter so as to provide a controlled transition between divided and undivided operation of the turbocharger.

**3,423,927
INSTALLATION FOR THE OPERATION OF A
DIESEL ENGINE WITH EXHAUST GAS
TURBO-CHARGER**

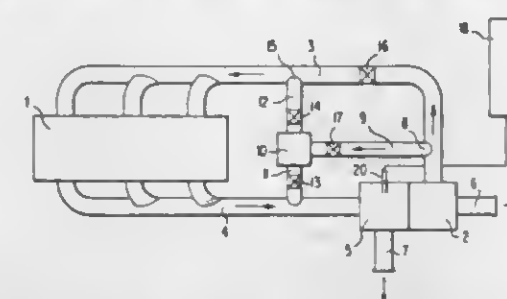
Hans O. Scherenberg, Stuttgart-Heumaden, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany

Filed Oct. 27, 1966, Ser. No. 589,998
Claims priority, application Germany, Oct. 28, 1965, D 48,536

U.S. Cl. 60-13 2 Claims
Int. Cl. F02b 41/10

A diesel engine provided with an exhaust gas turbine driving a supercharger compressor for the inlet air is provided with an auxiliary combustion chamber receiving fresh inlet air directly from the compressor through a regulating valve to be burned with a fuel and selectively

delivered to the engine inlet line downstream of the inlet throttle valve and/or to the exhaust gas line leading to



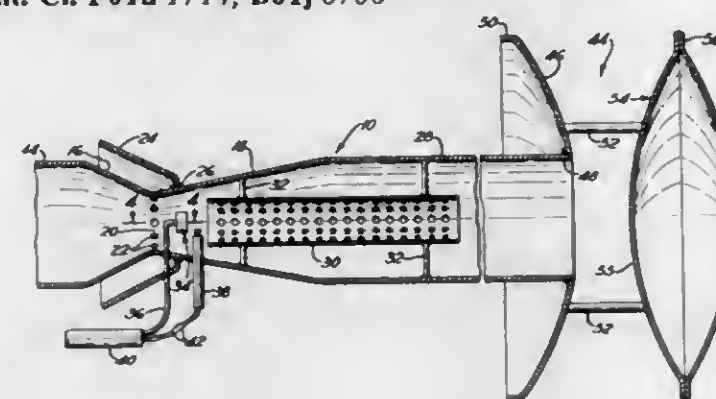
the turbine by means of valved conduits. Compressed air may also be independently supplied to the turbine.

3,423,928

AFTERBURNER

Bruce R. Walsh, Wilkesburg, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

Filed May 26, 1967, Ser. No. 641,600
U.S. Cl. 60-30 13 Claims
Int. Cl. F01n 1/14; B01j 6/00



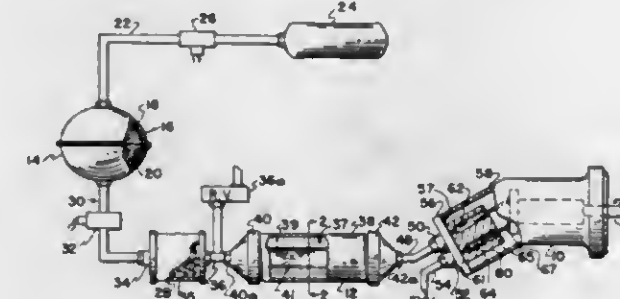
A flame type afterburner comprising a perforated venturi throat to draw air into the stream of exhaust and a fuel nozzle positioned downstream from the venturi throat. The nozzle is of the fuel aspirating type, i.e., the passage of gases therethrough draws fuel into the nozzle. The invention includes vent means at the outlet of the afterburner adapted to utilize random air currents to create a reduced pressure zone at the outlet to aid drawing in both fresh air at the throat and fuel into the nozzle.

3,423,929

**POWER TRANSMISSION HOT GAS ENGINE
WITH ABLATIVE LUBRICANT MEANS**

Hugh B. Matthews, Birmingham, Mich., assignor to Sperry Rand Corporation, Troy, Mich., a corporation of Delaware

Filed June 28, 1967, Ser. No. 649,691
U.S. Cl. 60-39.02 16 Claims
Int. Cl. F02c 7/06; F01m 9/12; C10m 9/00



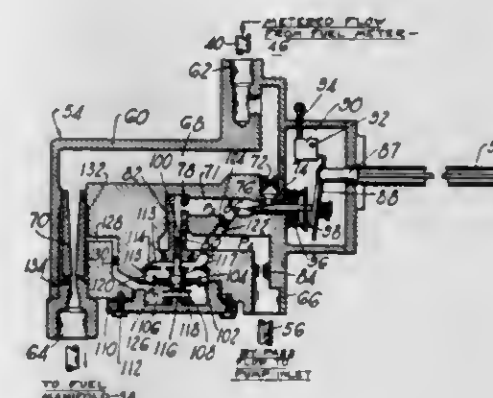
A power supply system having a source of hot gas for driving a fluid motor, the output shaft of which is adaptable for operating a load device. Interposed in the hot gas flow stream between the hot gas source and the motor is a hot gas lubricator comprising an ablative lubricant for lubricating the motor during operation.

3,423,930

FUEL CONTROL APPARATUS INCLUDING PUT-AND-TAKE FUEL BYPASS VALVE MEANS FOR WITHDRAWING CONTROLLED PERCENTAGE OF METERED FUEL

Robert G. Moore, Jr., South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware

Filed June 19, 1967, Ser. No. 646,862
U.S. Cl. 60-39.28 9 Claims
Int. Cl. F02c 9/10



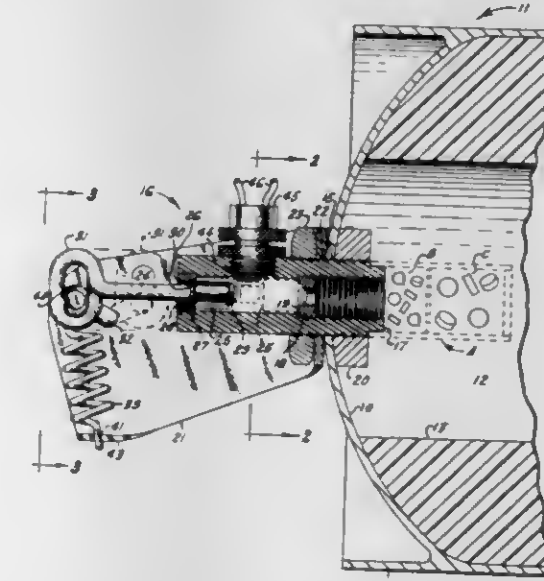
Fuel control apparatus having a fuel conduit connected to supply metered fuel from a main fuel meter to a combustion engine. A fuel bypass valve connected to withdraw a predetermined constant percentage of the metered flow from the conduit upstream from a flow measuring device connected to control the bypass valve in response to the metered flow through the conduit. A valve member in series flow with the bypass valve is responsive to a variable condition of engine operation and adapted to modify the predetermined percentage of metered flow bypassed by the bypass valve as a function of the variable condition of engine operation.

3,423,931

**SAFE-ARM DEVICE FOR SOLID PROPELLANT
ROCKET MOTORS**

William W. Schwarz, Huntsville, and Jack W. Shepard, Madison, Ala., assignors to Thlokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

Filed July 27, 1967, Ser. No. 656,565
U.S. Cl. 60-39.47 10 Claims
Int. Cl. F02c 3/26, 7/26; F02k 9/04



A safe-arm device including a tubular type body having a double-ended piston therein, which functions as a seal

at either end of the body, thus, preventing accidental or inadvertent ignition yet permitting ignition of a solid propellant rocket motor or other propulsive or explosive devices.

3,423,932 WATER HEATING

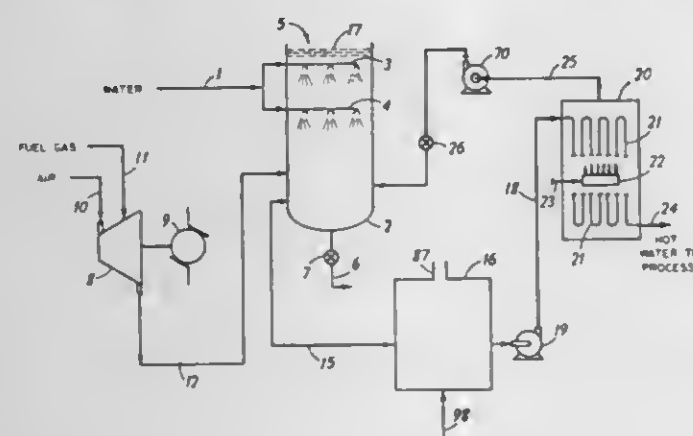
John A. Sutherland, Houston, Tex., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed Aug. 1, 1967, Ser. No. 657,648

U.S. Cl. 60—39.56

Int. Cl. F02c 7/00; F24b 1/34

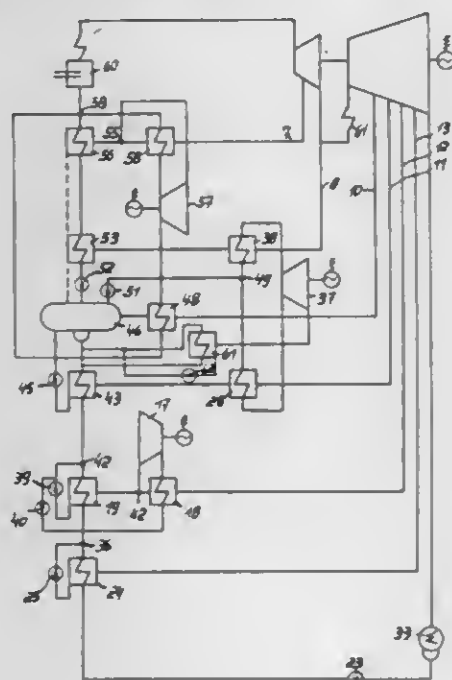
16 Claims



A method of heating water to a temperature above 212° F. which includes the steps of heating the water as a result of heat exchange with turbine exhaust gas at atmospheric pressure.

**3,423,933
CYCLIC PROCESS FOR STEAM POWER PLANTS**
Klaus Koizia, Gummersbach, Germany, assignor to L. & C. Steinmuller G.m.b.H., Gummersbach, Germany
Filed Feb. 28, 1966, Ser. No. 530,653
Claims priority, application Germany, Mar. 1, 1965, St 23,435; Mar. 4, 1965, St 23,453
U.S. Cl. 60—67
Int. Cl. F02b 41/10; F22d 5/00

6 Claims

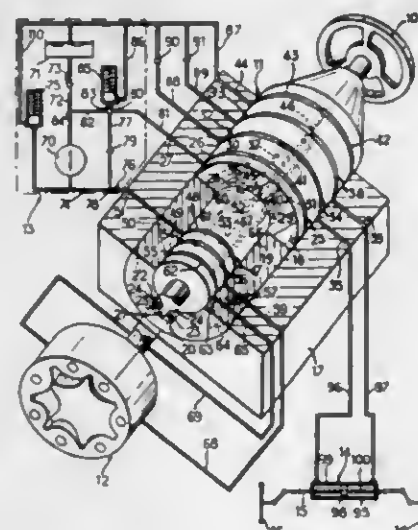


Steam power installation and method of operating in which feedwater is passed through a feedwater line, having preheater means therein, to a primary steam circuit

and wherein the primary circuit supplies superheated steam to a primary turbine. Superheated steam is withdrawn from the turbine and is passed through steam producer means and then to the preheater means and then to the feedwater line. Water branched off from the feedwater line is supplied to the steam producer means where it is connected into steam and is then passed to a place of expansion and is expanded and then returned to the feedwater line.

**3,423,934
HYDRAULIC CONTROL EQUIPMENT**
Jean Mercier, 501 Bloomfield Ave., Caldwell, N.J. 07006
Filed Nov. 17, 1966, Ser. No. 595,085
Claims priority, application France, Nov. 30, 1965, 40,239; Mar. 21, 1966, 54,248
U.S. Cl. 60—52
Int. Cl. F15b 15/18, 9/10; B62d 5/00

22 Claims



The present invention relates to a device for controlling a hydraulic motor, such as a servo or other motor, for positioning or operating a member of any type and which includes a valve of the rotary type, that comprises an operating member that is adapted to drive a bidirectional reversible volumetric pump through the intermediary of a connection having limited angular play which is formed between two concentric rotary parts of the rotary valve. The relative position of the said parts is determined by the torque of the operating member; by the torque of the volumetric pump and by resilient means for restoration to an intermediate neutral position in which the motor ceases to be fed. While in or in the vicinity of each of the extreme relative positions of the two parts of the valve, the said parts have intercommunicating passages for fluid such that the motor is brought into operation and has a return path which feeds the suction side of the volumetric pump through the intermediary of the valve.

**3,423,935
HYDRAULIC CONTROL SYSTEM FOR TRACTOR DRAWN IMPLEMENT**
Tadeusz Budzich, Moreland Hills, Ohio, assignor to The Weatherhead Company, Cleveland, Ohio, a corporation of Ohio

Filed Dec. 30, 1966, Ser. No. 606,367

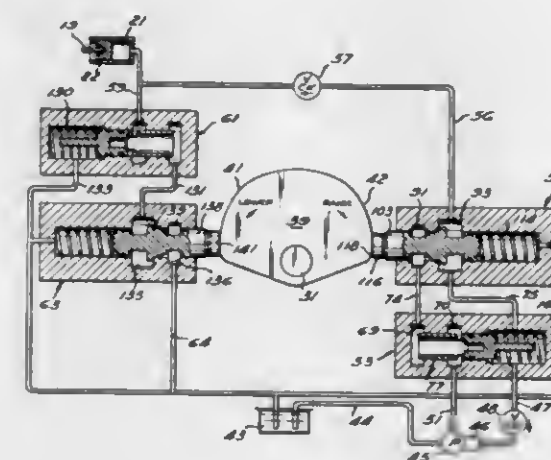
U.S. Cl. 60—52

Int. Cl. F15b 13/04, 15/18; A01b 3/36

15 Claims

A hydraulic draft control system for a single acting draft cylinder having separate flow circuits for fluid supply to and from the cylinder. Each circuit has a balanced poppet control valve and a differential pressure regulator, and a linkage operated shaft has separate cam surfaces for actuating the control valves with one control valve

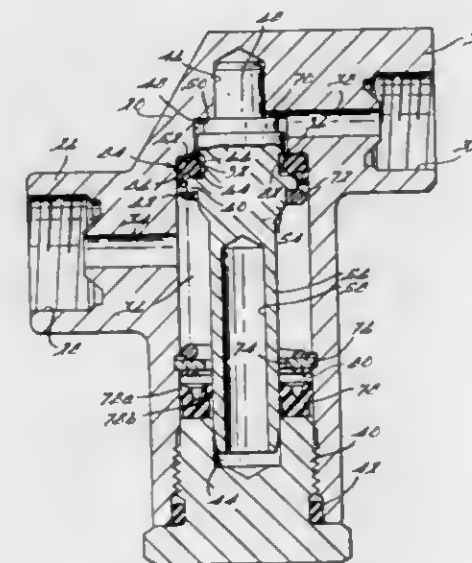
arranged to provide a feedback signal for controlling a variable displacement pump. One cam surface may have



a movable member thereon to vary the cam surface profile depending upon the direction of cam movement.

**3,423,936
PRESSURE PROPORTIONING VALVE**
William Stelzer, Bloomfield Hills, Mich., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware
Filed Mar. 7, 1966, Ser. No. 532,471
U.S. Cl. 60—54.5
Int. Cl. F15b 7/06; F16k 31/363

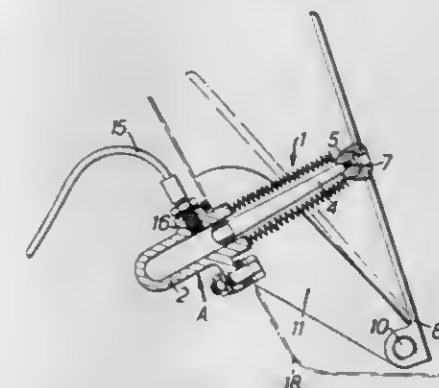
10 Claims



A pressure proportioning valve adapted to be interposed between the master cylinder and the rear wheel brake cylinders of an automobile for the purpose of limiting pressurization of the rear brakes relative to the front brakes during higher ranges of applied master cylinder pressure. An annular rubber valve seat member surrounds a piston-like valve element and is proportioned to permit a valve head portion of the valve element to slide within it during a reduction in brake pressure from a high level to maintain the same relative pressurization of the brakes as occurred upon the increase in brake pressure. Various spaced projections are formed on the valve seat member to permit the desired flow of fluid in the operation of the brakes at lowered pressures. The valve element is also arranged to return brake fluid to the system in the event of any leakage past the seal for the valve element.

**3,423,937
HYDRAULIC CONTROL SYSTEM**
Aubrey Hubert Wagstaffe, Lillingston, Leamington Spa, England, assignor to Haines and Sherman Limited
Filed Oct. 17, 1966, Ser. No. 587,209
Claims priority, application Great Britain, Oct. 20, 1965, 44,515/65
U.S. Cl. 60—54.5
Int. Cl. F15b 15/18, 1/06; F16j 3/00

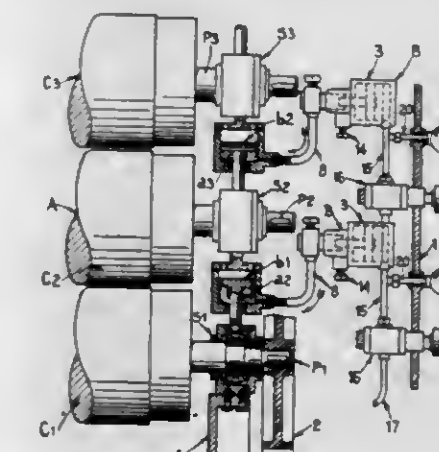
6 Claims



Hydraulic control systems comprising a first variable capacity chamber constituting a transmitter, a second variable capacity chamber constituting a receiver, a conduit interconnecting the two chambers, and liquid filling the chambers and conduit, so that a force applied to the transmitter causes liquid to be displaced through the conduit to produce a movement at the receiver. Each chamber comprises a bellows at one end and a rod axially disposed within said bellows which occupies a major portion of said chamber.

**3,423,938
HYDROPNEUMATIC DRIVE AND HYDRAULIC PRESSURE CONTROL DEVICE FOR THE JOURNALS OF ROLLS' NECKS IN CHOCOLATE MILLING AND REFINING MACHINES**
Emilio Cavalieri, Via Neera 39, Milan, Italy
Filed Jan. 19, 1967, Ser. No. 610,449
U.S. Cl. 60—54.5
Int. Cl. F15b 7/00; F16c 29/02

4 Claims



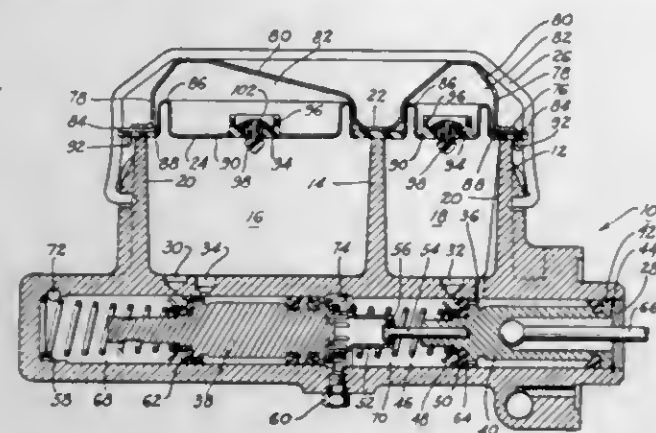
A refining machine having a plurality of rollers arranged in parallel relationship and provided with end journals received within related bearings, there being hydraulic means connected to said bearings for effecting adjust of the spacing between said rollers, and a hydro-pneumatic control device associated with said hydraulic means for regulating the pressure therein.

**3,423,939
MASTER CYLINDER VENT VALVE**
Richard L. Lewis, William E. Ferrell, and Paul B. Shutt, St. Joseph, Mich., assignors to The Bendix Corporation, a corporation of Delaware
Filed June 6, 1967, Ser. No. 643,921
U.S. Cl. 60—54.6
Int. Cl. F15b 17/06; F01b 19/02; B65d 55/16

15 Claims

A master cylinder diaphragm pressure relief valve for venting the master cylinder reservoir for the purpose of

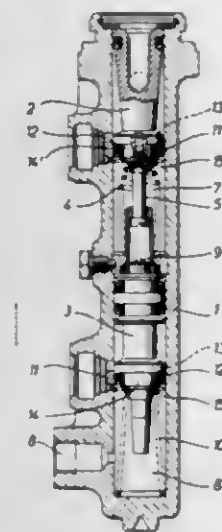
relieving any pressure in excess of approximately 1 p.s.i. in the reservoir, which vent valve prevents entrance of



air, water, or dirt into the brake system from the outside atmospheric environment.

3,423,940
MAIN PRESSURE CYLINDER FOR HYDRAULIC POWER TRANSMISSION SYSTEMS
 Karl Brand, Ebern, Germany, assignor to Kugelfischer Georg Schafer & Co., Schweinfurt, Germany
 Filed July 24, 1967, Ser. No. 655,395
 Claims priority, application Germany, Dec. 21, 1966, K 60,979
 U.S. Cl. 60—54.6
 Int. Cl. F15b 7/06; F01b 31/00

5 Claims



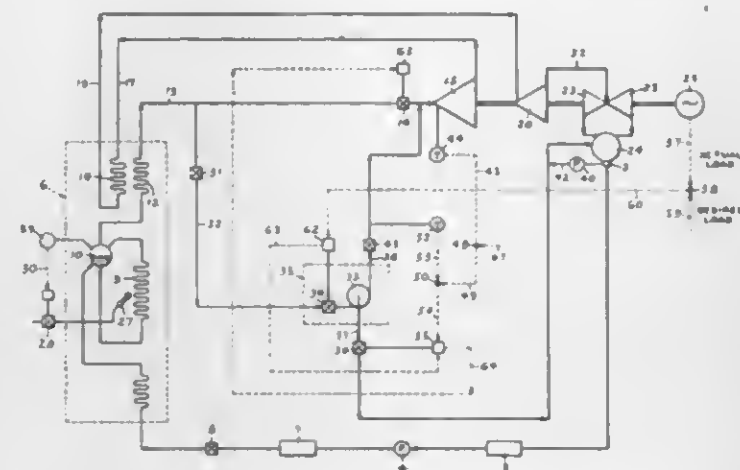
In a main pressure cylinder for hydraulic power transmission and particularly for hydraulic brake systems in automotive vehicles having a single piston or twin piston system, each piston of which has an annular piston packing which serves as a valve, an improved packing having an inner lip held against the piston by a supporting plate resting firmly against a shoulder of the piston and extending through the packing into the cylinder, and the supporting plate provided with recesses distributed on its periphery extending from its outer edge to the region against which the inner lip lies and having ribs spaced from the outer lip of the packing.

3,423,941
TEMPERATURE AND FLOW REGULATING APPARATUS
 Frederick P. Evans, West Hartford, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
 Filed Dec. 20, 1965, Ser. No. 514,773
 U.S. Cl. 60—105
 Int. Cl. F01k 13/02; F22b 33/02; F22d 7/12

16 Claims

A power generating system having a vortex tube or chamber in the path of movement of a gaseous high temperature and high pressure medium from a source for

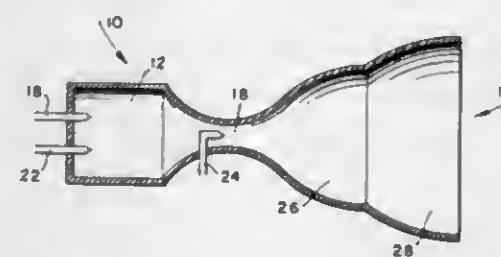
developing such medium to a turbine to be driven thereby, said vortex tube or chamber being arranged to divide said gaseous medium into a hot component and a cold component, the hot component being delivered to the turbine for driving the same. Said vortex tube or chamber has directly associated therewith a valve member which determines the quantity of the high pressure and high temperature gaseous medium which is delivered tangentially into the vortex tube or chamber. Various temperature sensing and determining means are provided in the



system for controlling the adjustment of the valve member of the vortex chamber to insure the delivery of the gaseous medium to the turbine at a temperature closely related to that of the metallic members of the turbine so as to avoid any undue shock and harm being done to such members. The operation of and control of the vortex chamber is such that the temperature of the component of the gaseous medium that is delivered to the turbine may be higher than that of the gaseous medium delivered to the vortex chamber.

3,423,942
STANDING DETONATION WAVE ROCKET ENGINE
 Clinton L. Spindler, Chula Lake, Calif., assignor to the United States of America as represented by the Secretary of the Navy
 Filed Sept. 20, 1963, Ser. No. 311,612
 U.S. Cl. 60—207
 Int. Cl. F23r 1/06

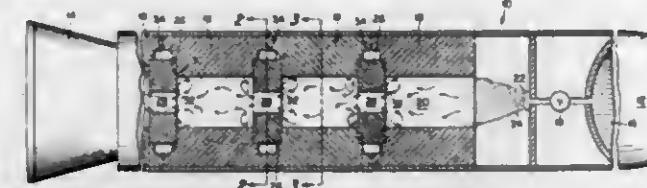
8 Claims



1. A method of rocket propulsion comprising the steps of:
 - (a) reacting a nonstoichiometric ratio mixture of a plurality of chemically reactive ingredients;
 - (b) passing the reacted nonstoichiometric mixture through a sonic throat portion and thereat simultaneously adding the ingredient necessary to bring the over-all mixture ratio up to stoichiometric;
 - (c) expanding the stoichiometric mixture in a first diverging nozzle portion;
 - (d) passing the expanded stoichiometric mixture through a detonation zone and thereby causing ignition and reaction of the unreacted ingredients; and
 - (e) expanding the reacted stoichiometric mixture in a second diverging nozzle portion.

3,423,943
HYBRID ROCKET MOTOR
 Marvin W. Stark, San Jose, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
 Filed Feb. 27, 1967, Ser. No. 619,543
 U.S. Cl. 60—251
 Int. Cl. F02k 9/06; F42b 9/14, 5/16

2 Claims



A hybrid rocket motor in which high impulse efficiency is achieved by causing a complete intermixing of liquid oxidizer and solid fuel in the rocket combustion chamber. This is brought about by forming a plurality of orifices, or port restrictions, which interrupt what would otherwise be a steady gas flow through the motor core and produce a turbulence which breaks down the boundary layer adjacent to the surface of the solid propellant and brings the oxidizer into intimate contact with the burning surface of the fuel. In a preferred embodiment of the invention, these orifices or port restrictions are themselves composed of the same material as that constituting the solid fuel, so that they not only increase the performance of the rocket but bring about this improvement without imposing a weight penalty which, when present, detracts from the range and/or maneuverability of the projectile.

3,423,944
METHOD FOR FORMING END BEARING CONCRETE PILES
 Willard B. Goodman, Sherman Oaks, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
 Filed Aug. 28, 1967, Ser. No. 663,756
 U.S. Cl. 61—53.6
 Int. Cl. E02d 5/44

4 Claims



An elongated borehole forming tubular member, having a check valve intermediate its ends, is sonically driven into an earth formation to a predetermined depth to form a borehole, then withdrawn a short distance from the bottom of the hole as a slurry of concrete or cement is pumped through the tubular member and through the check valve into the hole. The tubular member is again sonically driven downward with the valve closed forcing the cement outward into an enlarged bulbular shape in

the formation. The tubular member is then withdrawn from the hole as it is being sonically vibrated and cement is pumped through the tubular member into the hole to form the body of the pile.

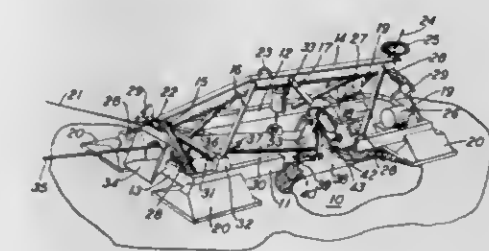
3,423,945
METHOD OF FORMING AN UNDERWATER TRENCH
 Jack O. Hill and James L. Harding, Morgan City, La., assignors, by mesne assignments, to Hycalog, Inc., a corporation of California
 No Drawing. Continuation-in-part of application Ser. No. 448,281, Apr. 15, 1965. This application July 3, 1967, Ser. No. 650,665
 U.S. Cl. 61—72.4
 Int. Cl. B63b 35/02, 35/04; E02d 3/12

24 Claims

A method is described for forming a trench to unconsolidated clayey sedimentary deposits under brackish or saline water. According to the method, strong mineral acid, such as sulfuric or phosphoric, is injected into or formed in the clayey sedimentary deposits along the line the trench is to take. The acid reacts with ions, such as carbonate ions and the bicarbonate ions, in the interstitial brackish or saline water trapped between the clay particles of the sediment. It also reacts with any organic material that may be present, and which may be binding the clay particles together to destroy or reduce their binding effect. These reactions produce gas, such as CO₂ and H₂S. The gases produced expand, force the particles apart, and carry the particles upward where they are dispersed in the water. The method can be used to form a trench or ditch in several ways. If a relatively shallow trench is to be formed, the method can be used economically to remove all of the clay to leave a clean trench. If a trench relatively large in cross-section is desired, the method can be used to break-up the material to be removed into clods or clumps of a size that can be readily removed by conventional underwater trenching methods. When forming the acid in place a gas that will combine with water to form the desired acid is injected. For example, SO₂ or H₂S can be injected into the sedimentary deposits to react with the interstitial water and form sulfuric acid in place with the resultant reactions described above.

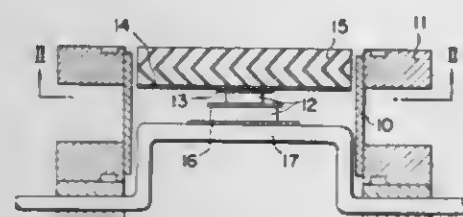
3,423,946
UNDERSEA REPEATER BURYING PLOWSHARE
 John C. MaClay, Basking Ridge, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
 Filed June 7, 1967, Ser. No. 644,222
 U.S. Cl. 61—72.4
 Int. Cl. B63b 35/04, 35/00

7 Claims



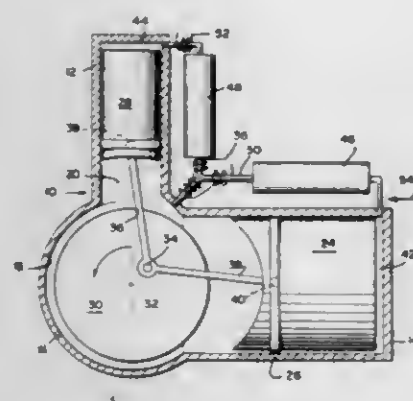
A cable burying plow especially adapted for burying submarine cable comprises a sled with cable tube and plowshare attached to the tube rear. The plowshare includes a cable guide groove along its top surface and a tailgate which maintains the cable in the groove during burying. Repeaters are passed by raising the tailgate. This motion also lowers secondary plow vanes which dig a trench for the repeater.

3,423,947
VACUUM TRAPS UTILIZING ELECTRONIC REFRIGERATING ELEMENTS
 Yosimaro Moriya 15-23, 4-chome, Omori-kita, Ota-ku, Tokyo-to, Japan
 Filed July 17, 1967, Ser. No. 653,715
 U.S. Cl. 62-3
 Int. Cl. F25b 21/02; B01d 5/00



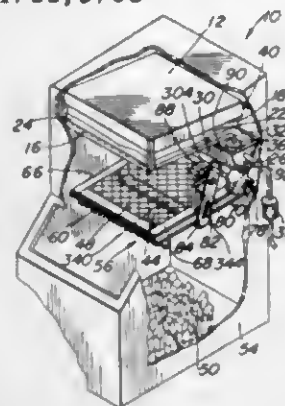
A cooling baffle acting as a vacuum trap and an electronic refrigerating element to cool the baffle are contained in an evacuation pipe in spaced relationship therefrom and are supported by the wall of the evacuation pipe by means of a cooling pipe extending through the wall. A second cooling baffle may be provided on the vacuum pump side and arranged to be supported and cooled by the cooling pipe, said second cooling baffle serving to condense the operating vapour of a vapour diffusion pump and to return the condensate back to a boiler of the pump.

3,423,948
CRYOGENIC REFRIGERATOR ADAPTED TO MINIATURIZATION
 Kenneth W. Cowans, Los Angeles, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
 Filed Apr. 3, 1967, Ser. No. 627,984
 U.S. Cl. 62-6
 Int. Cl. F25b 9/00, 31/00



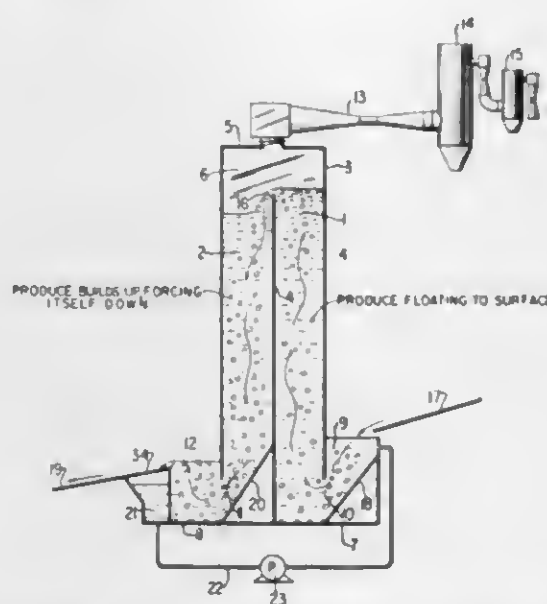
The structure is a cryogenic refrigerator producing a low-level temperature by closed cycle circulation of a cryogenic fluid. A totally sealed housing is provided which defines a hot cylinder, cold cylinder, and crankcase chamber, the latter having a crankshaft rotatably mounted therein and directly connected to displacers in the cold and hot cylinders. The crankcase chamber which communicates directly with the cold and hot cylinders serves as a reservoir through which the cryogenic fluid is cycled during refrigerator operation. The direct rod connections, crankshaft to displacers, eliminate the need for cylinder-defining walls and the related seals and bearing guide arrangements. Motive power is provided by stator windings externally of the sealed housing which cooperatively cooperate with a rotor journaled internally of the housing and associated with the crankshaft.

3,423,949
AUTOMATIC ICE CUBE MAKER
 Meldon Gerald Leeson, Berwyn, and Harold H. Esser, Chicago, Ill., assignors to Schneider Metal Manufacturing Co., Chicago, Ill., a corporation of Illinois
 Filed Apr. 28, 1967, Ser. No. 634,606
 U.S. Cl. 62-73
 Int. Cl. F25c 1/12, 1/22, 5/08



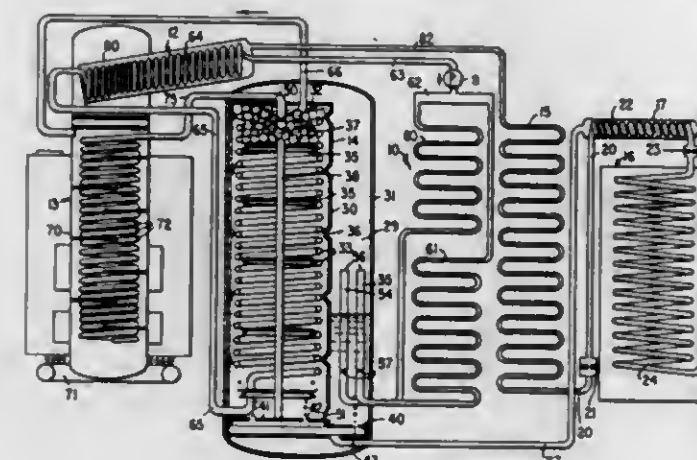
An automatic ice cube maker having a grid for dissecting a slab of ice to form ice cubes, the grid consisting of a substantially monoplanar lattice of heated wires defining closed meshes so that the slab is cut through simultaneously along intersecting planes; a control system for timing and recycling ice production, the control system having an ice harvesting timing mechanism and a temperature sensor to override the timing mechanism when the full allotted time is not required for ice harvesting operations; and sensor means to terminate further production of ice cubes when ice cubes accumulated in a storage bin exceed a predetermined level.

3,423,950
VACUUM COOLING APPARATUS
 James T. Reynolds, Scotch Plains, N.J., assignor to Crott-Reynolds Company, Inc., Westfield, N.J., a corporation of the United States of America
 Filed Dec. 28, 1966, Ser. No. 605,429
 U.S. Cl. 62-100
 Int. Cl. F25b 19/00, 13/06, 17/02



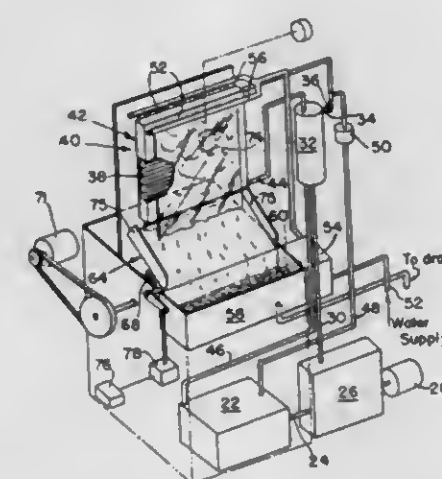
Apparatus for cooling material which comprises a vacuum chamber and two legs adapted to form a liquid seal to the vacuum chamber. One of said legs acts as an entrance to the vacuum chamber and the other acts as an exit therefrom. A liquid is continuously flowed up one leg, through the vacuum chamber and down the other leg, said liquid being exposed to the vacuum while traveling through said vacuum chamber and being cooled by evaporation. Material to be cooled is passed along the path of the flowing liquid. The method of cooling by the apparatus is also disclosed.

3,423,951
ABSORPTION REFRIGERATION SYSTEMS HAVING SOLUTION-COOLED ABSORBERS
 Keith V. Eisberg, Indianapolis, Ind., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
 Filed July 17, 1967, Ser. No. 653,954
 U.S. Cl. 62-101
 Int. Cl. F25b 15/00, 15/12, 37/00



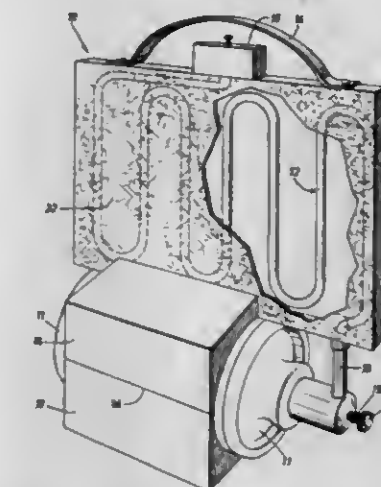
An absorption refrigeration system having a primary absorber, a solution-cooled absorber, a generator, a condenser, a rectifier, an analyzer, an evaporator, and a liquid-suction heat exchanger connected in a refrigerant circuit wherein the solution-cooled absorber is flooded with absorbent solution and refrigerant vapor from the evaporator is split into two portions, one of which is supplied to a solution-cooling chamber of a solution-cooled heat absorber, and the other of which bypasses the solution-cooling chamber, and passes directly to the primary absorber through a second solution chamber.

3,423,952
ICE MAKING APPARATUS
 Lloyd R. Pugh, 2702 Ridgecrest Drive, Goldsboro, N.C. 27530
 Filed Mar. 10, 1967, Ser. No. 622,313
 U.S. Cl. 62-138
 Int. Cl. F25c 1/12, 5/18, 1/18



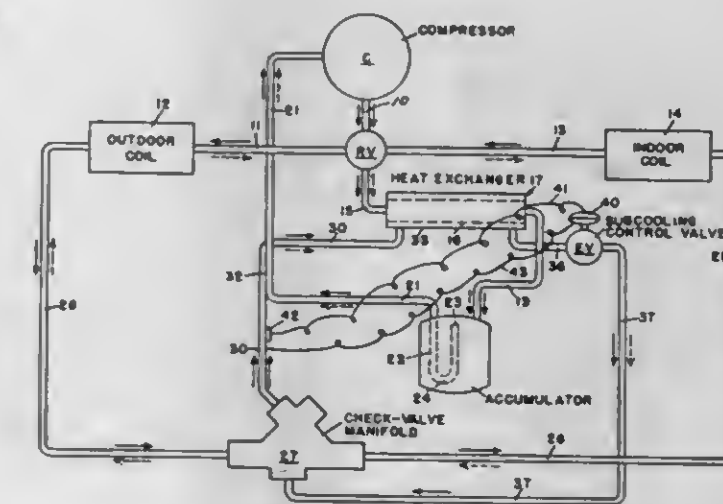
An automatic ice making machine designed to produce ice in substantially large sheets which includes a vacuum-sealed freezer plate having dual ice making surfaces and cooperative control instrumentalities as well as crushing means associated therewith.

3,423,953
REFRIGERATION SYSTEM INCLUDING A THERMOSTATICALLY CONTROLLED VALVE
 Aldan Edward Spiller, 60 Wakefield Place, London, Ontario, Canada
 Filed Apr. 10, 1967, Ser. No. 629,745
 U.S. Cl. 62-217
 Int. Cl. F25b 41/04, 19/00



An open-ended refrigeration system which employs compressed gas as the refrigerant; and which gas, when expanding, creates a cooling effect. The expanded gas is exhausted and is not recovered. A thermostatically controlled valve reacts to the temperature of the ambient being refrigerated to control release and expansion of the refrigerant gas. The gas expands within a heat-conducting member having an outside surface exposed to the ambient.

3,423,954
REFRIGERATION SYSTEMS WITH ACCUMULATOR MEANS
 James R. Harnish, Adrian, Mich., and Byron L. Lessley, Staunton, Va., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
 Filed Nov. 13, 1967, Ser. No. 682,149
 U.S. Cl. 62-222
 Int. Cl. F25b 17/00, 13/00, 41/00



A refrigeration system has a compressor, a condenser, a liquid tube, a subcooling control valve operating as an expansion valve, an evaporator, a heat exchanger providing heat exchange between the liquid flowing through the liquid tube and the refrigerant flowing from the evaporator, an accumulator, and a suction gas tube connected in series in the order named. The liquid tube has a portion in heat exchange contact with a portion of the suction gas tube. The heat exchange between the high pressure liquid and the suction gas, between the high pressure liquid and the refrigerant flowing from the evaporator,

and the operation of the subcooling control valve provide a large amount of subcooling of the refrigerant liquid, greatly increasing its refrigerating effect so that the evaporator is overfed with refrigerant liquid flowing from it into the heat exchanger where it is evaporated by heat from the high pressure liquid.

3,423,955

FLEXIBLE COLD FINGER FOR COOLING SAMPLES TO CRYOGENIC TEMPERATURES

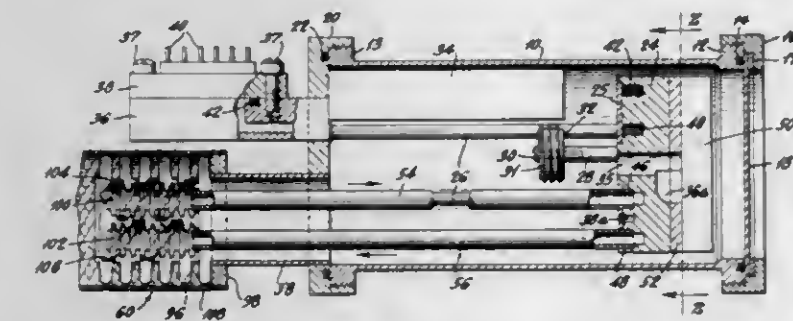
Robert C. Wright, Hingham, Mass., assignor to Andonian Associates, Inc., Waltham, Mass., a corporation of Massachusetts

Filed June 8, 1966, Ser. No. 556,135

U.S. Cl. 62—514

Int. Cl. F25b 19/00; F17c 1/14

16 Claims



An elongated flexible cold finger for use in radiation detection systems or the like including a housing at the free end thereof including a platform supported near the front housing window to support and cool a cryogenic element and having an auxiliary preamplifier support. An elongated flexible line couples the housing to a Dewar and includes a thin wall corrugated tube delivering cryogenic fluid from the Dewar to internal channels in the platform. Fluid delivery rate is controlled by a valve the setting of which regulates the escape of coolant from the platform. A bellows tube and protective stainless steel outer braiding surrounds the corrugated tube. In order to keep heat absorption to a minimum, the bellows tube is evacuated and a nonconductive spacer is provided along the length of the corrugated tube to prevent mutual contact between the bellows and tube.

3,423,956

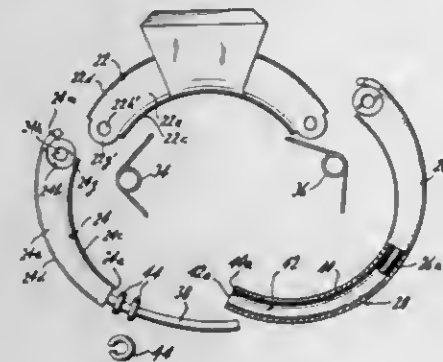
EXPANDIBLE RING WITH MEANS BIASING IT TO CONTRACTED POSITION

Moe Manne, 220 Central Ave., Lawrence, N.Y. 11559
Continuation-in-part of application Ser. No. 593,151, Nov. 9, 1966. This application June 2, 1967, Ser. No. 671,901

U.S. Cl. 63—15.45

Int. Cl. A44c 9/02

6 Claims



A finger ring having a head and, at opposite ends of the head, pivotally mounted shank sections which cooperate with each other at their confronting ends to increase the size of the ring by virtue of outward pivotal movement relative to each other and wherein said pivotal movement is against a spring bias which prevents this movement from inadvertently occurring. Small abutment members may be placed on the male telescoping portion to maintain a given size.

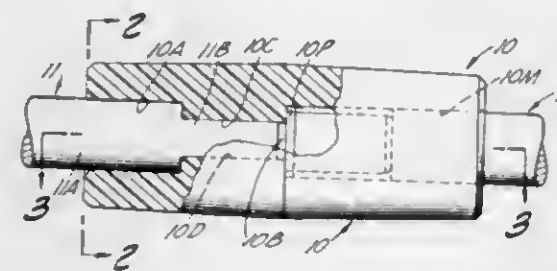
3,423,957
COUPLING

Norbert J. Palmer, Playa Del Rey, Calif., assignor to Monogram Industries, Inc., a corporation of California
Filed Sept. 30, 1966, Ser. No. 583,252

U.S. Cl. 64—6

Int. Cl. F16d 3/52, 7/00

3 Claims



A single one-piece sleeve-like coupler accommodates, at each of its ends, a shaft. Each shaft has a pair of parallel flats defining a tongue and a shoulder portion. These shoulder portions are engageable with a corresponding internal shoulder portion in the sleeve and these flats are separated by curved walls each of which conforms in shape with a corresponding internal arcuate wall of the coupler.

3,423,958

FLEXIBLE COUPLING ASSEMBLY AND COUPLINGS THEREFOR

Robert K. Koelling, 9430 Shoreview, Dallas, Tex. 75238
Filed Jan. 9, 1967, Ser. No. 607,943

U.S. Cl. 64—18

Int. Cl. F16d 3/42; F16c 33/58

7 Claims



A flexible coupling assembly for connecting a driving shaft to a driven shaft which is subject to displacement relative to the driving shaft, the coupling assembly including a pair of couplings connected by a connector shaft of variable length. A coupling including a pair of yokes connected to a torque transmitting ring for pivotal movement about mutually perpendicular intersecting axes, the yokes having base portions disposed outwardly of the sides of the ring and provided with keys receivable in slots of shafts to which they are connectable for transmitting torque between the shafts and the yokes.

3,423,959

FLEXIBLE AND TRANSPARENT LUBRICANT HOUSING FOR UNIVERSAL JOINT

Charles W. Tate, Sr., 3222 Georgia Ave. NW, Washington, D.C. 20010, and James F. Rooney, 1110 Offutt Drive, Falls Church, Va. 22046

Filed Aug. 30, 1967, Ser. No. 665,203

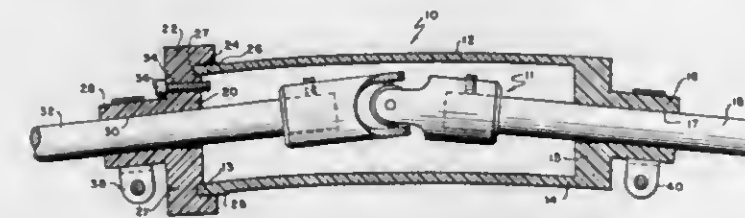
U.S. Cl. 64—32

Int. Cl. F16d 3/84

7 Claims

A flexible, resilient and transparent lubricant housing of high tensile strength for a universal joint provides protection from failure of the universal joint during high speed operation while permitting observation of the joint while in operation. Opposing terminal wall and stem

tion from failure of the universal joint during high speed operation while permitting observation of the joint while in operation. Opposing terminal wall and stem



means integral with the housing provide for taking up most of the stress resulting from the shafts of the universal joint being disposed at varying joint angles.

3,423,960

PATTERN CONTROL MEANS FOR KNITTING MACHINES

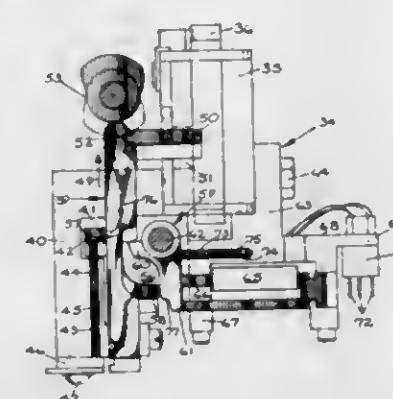
Frederick C. Wiesinger, Feasterville, Thomas C. Lyster, Philadelphia, and William C. Reisener, Jr., Exton, Pa., assignors, by direct and mesne assignments, to John Donald Marshall and Horace L. Bomar, trustees of The Carolina Patent Development Trust

Filed Apr. 29, 1966, Ser. No. 546,272

U.S. Cl. 66—25

Int. Cl. D04b 15/16, 9/38

15 Claims



A pattern control means for knitting machines having optical sensing elements cooperating with perforated pattern strips which through interconnected circuitry and co-operating mechanical components transmit the dictates of said pattern strip to independently slidable selector blades and causes the latter to be moved to positions to effect needle jacks individual thereto.

3,423,961

HOSIERY KNITTING WITH IMPROVED MAKE UP AND TRANSFER

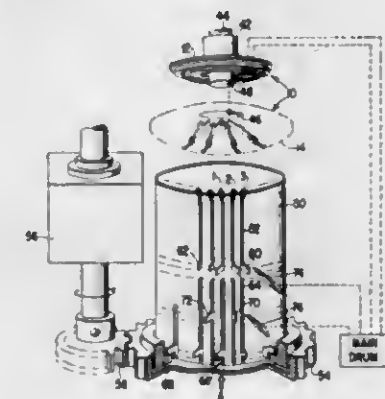
Kerwin R. Boyer, High Point, N.C., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey

Filed June 20, 1966, Ser. No. 558,980

U.S. Cl. 66—41

Int. Cl. D04b 9/54

2 Claims



Hosiery knitting machine apparatus is disclosed which provides a preferred form of double welt for stockings

having the makeup and transfer points thereof at differently disposed points peripherally of the stocking. In accordance with this invention one transfer bit is first initiated to begin makeup and a different transfer bit, which is angularly disposed from that which started makeup, is first initiated to begin transfer.

3,423,962

CIRCULAR KNITTING MACHINES

Roland Peberdy, Leicester, England, assignor to The Bentley Engineering Company Limited, Leicester, England

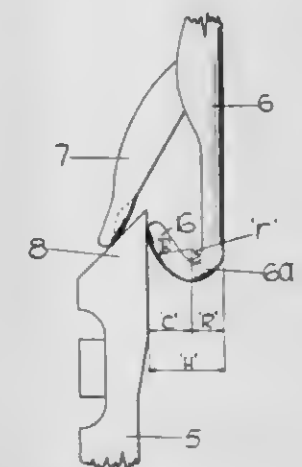
Filed Apr. 11, 1966, Ser. No. 541,608

Claims priority, application Great Britain, Apr. 14, 1965, 159,781/65

U.S. Cl. 66—121

Int. Cl. D04b 35/04, 9/10

3 Claims



A double-ended latch needle for use in a circular knitting machine of the opposed needle cylinder type, such needle having a stem and hooks at its opposite ends such hooks being curved with a small curvature of a radius substantially less than half the width of the hook and the hook ends continuing at an outward slant from the hooks and being engageable with latches at positions inwardly from their extremities so as to provide a lead for engagement by a chisel end of a slider such that when the slider engages the needles it will engage a closed latch with certainty and open the same on transfer of the needle to the slider.

3,423,963

THROAT PLATE

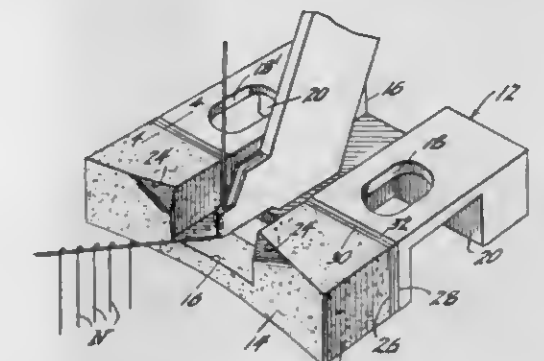
Gus T. Smith, Paducah, Ky., assignor to Ace Engineering Co., Paducah, Ky., a corporation of Kentucky

Continuation of application Ser. No. 465,019, June 18, 1965. This application Oct. 30, 1967, Ser. No. 679,266

U.S. Cl. 66—125

Int. Cl. D04b 15/38

3 Claims



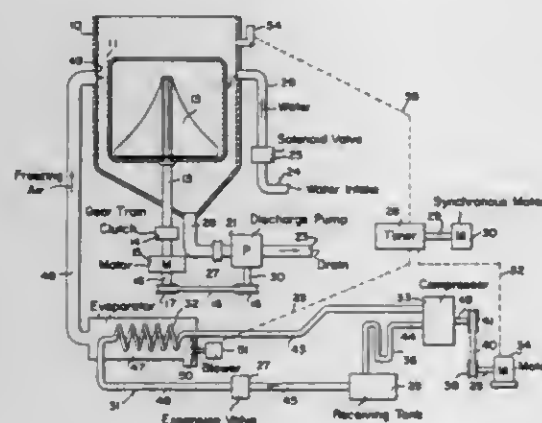
A throat plate for a circular knitting machine has a portion thereof including the point of maximum wear caused by the running yarn replaced by a pre-formed correspondingly shaped section of wear-resistant ceramic

material, the ceramic section being secured in place by means of a solder joint adhered to a metallized coating applied to the surface of the ceramic section adjacent the joint. Preferably, the solder is a silver solder and the ceramic has an alumina content of at least about 85% by weight.

3,423,964

WASHING MACHINE WITH FAST FREEZING CYCLE

Catherine Roslyn Rohwer, 2630 Rice St., Chicago, Ill. 60622, now by change of name Catherine R. Thomas
Filed May 17, 1966, Ser. No. 550,832
U.S. Cl. 68—12 10 Claims
Int. Cl. D06f 29/00; D06c 7/00; F25d 31/00

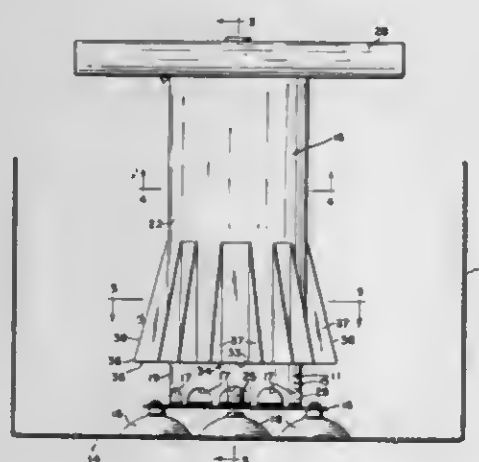


The invention contemplates a washing machine equipped with a fast freezing cycle. Soiled material is wetted, placed in the machine, the fast freezing cycle dialed, and the material is thereby frozen. The frozen material is then thawed in a cold liquid bath, drained, and then the regular washing cycle is started.

3,423,965

WASHING MACHINE

Richard Rhodes Walton, Boston, Mass., assignor to Colgate-Palmolive Company, a corporation of Delaware
Continuation-in-part of application Ser. No. 512,310, Dec. 8, 1965. This application July 6, 1966, Ser. No. 563,117
U.S. Cl. 68—38 26 Claims
Int. Cl. D06f 13/04, 15/00



A clothes washing machine comprises a cylinder unit having a detachable upright mounting in a body of wash water in a container where it is surrounded by clothes to be washed. The cylinder unit is laterally apertured for water intake and discharge at its lower end and an agitator unit is reciprocally mounted on the cylinder unit to provide movement of water into the cylinder unit during the upstroke and discharge of water forcibly outwardly

through said apertured portion during the downstroke, and a plurality of circumferentially spaced laterally outwardly extending inclined edge clothes engaging fins at lower end of said agitator unit combine with the water movement to subject the clothes to a related combination of mechanical and hydraulic forces during the washing action.

3,423,966

PORTABLE FABRIC STEAMER

Margaret S. Mitchell, 785 5th Ave., New York, N.Y. 10022
Filed Mar. 31, 1967, Ser. No. 627,386
U.S. Cl. 68—222 7 Claims
Int. Cl. D06c 1/00



A portable fabric steaming apparatus having a shell packed with a porous heat resistant material which is adapted to absorb and entrap a volume of water, an electrical heating element enclosed within the shell or in thermal contact with part of its surface and so arranged that heat from the element will produce steam which can then escape outwardly through a series of holes in the shell where it can be used for steaming a fabric material. The steamer has a handle which constitutes an extension of the shell or can be doubled back and parallel to the shell to reduce the overall length of the device.

3,423,967

SUPPLING MACHINE

Edward Jurken, 4807 W. Woodlawn Court, Milwaukee, Wis. 53208, and Paul J. Poulakos, 2609 W. Mangold Ave., Milwaukee, Wis. 53221
Filed Mar. 23, 1966, Ser. No. 536,775
U.S. Cl. 69—33 6 Claims
Int. Cl. C14b 1/40



A feed-through suppling machine in which pieces of hide are conveyed by a flat conveyor to two holding rolls which grip the hide at the drop-off end of the conveyor and feed the hide into the nip of a suppling roll which is provided with helically arranged knives which are in engagement with a resiliently covered backup roll. The holding rolls rotate in the peripheral direction of travel of the hide but at a smaller peripheral speed than the hide. A spreader brush is provided at the drop-off end of the conveyor.

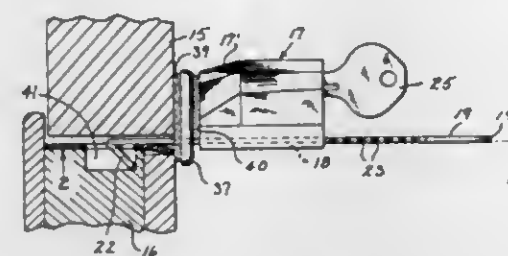
3,423,968

DETACHABLE LOCKING DEVICES

Daniel J. Foote, Wauwatosa, Wis., assignor to Master Lock Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Apr. 10, 1967, Ser. No. 629,706
U.S. Cl. 70—14 4 Claims
Int. Cl. E05b 65/08, 65/44

For protection against the unauthorized opening of room or closet doors, desk and cabinet drawers, sliding glass doors and windows, and the like, a detachable lock is

provided that can be easily transported from place to place and which can be readily attached to and be removed from

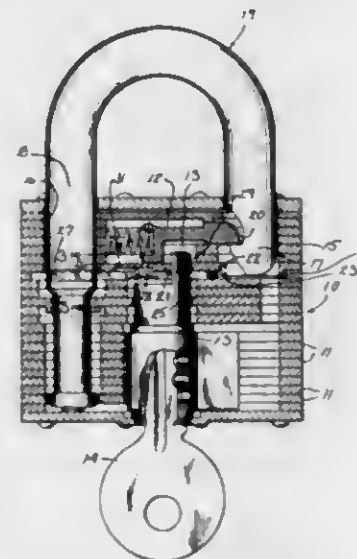


the closure devices concerning which anti-theft protection is desired.

3,423,969

AUXILIARY LOCKING SPRING EQUIPPED TAMPER-PROOF PADLOCK

Daniel J. Foote, Wauwatosa, Wis., assignor to Master Lock Company, Milwaukee, Wis., a corporation of Wisconsin
Filed June 22, 1967, Ser. No. 648,032
U.S. Cl. 70—38 6 Claims
Int. Cl. E05b 67/24



The spring-urged locking lever of a padlock normally projects into the shouldered recess in a shackle leg of the padlock to hold the shackle in its locked condition. To prevent the contingency of a tamperer unauthorizedly retracting the locking lever by forcing or jarring it inwardly by foreign pressures applied while the padlock is closed and locked, there is provided a separate and auxiliary locking spring, cam or wedge operated, which auxiliary locking spring is positioned below the regular locking lever and has a pair of legs which engage in shouldered recesses in the long leg of the padlock shackle to provide additional or auxiliary locking and holding strength between the locking lever and the engaged shackle. The mutilated inner end portion of the key-operated cylinder of the lock carries a wedge or cam which, when the cylinder is key operated to yieldingly withdraw the locking lever from the shackle leg notch for shackle-releasing purposes, spreads the legs of the auxiliary locking spring out of the shackle leg notches for shackle-releasing purposes.

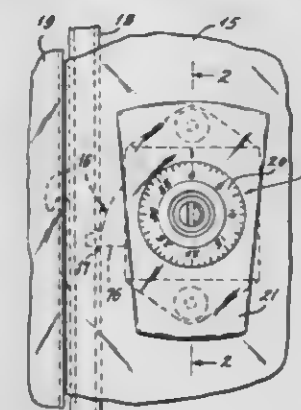
3,423,970

COMBINATION LOCK MECHANISM

Bob G. Harrell, St. Louis, Mo., assignor to Jackes-Evans Manufacturing Company, St. Louis, Mo., a corporation of Missouri
Filed Feb. 23, 1967, Ser. No. 617,920
U.S. Cl. 70—156 7 Claims
Int. Cl. E05b 63/00, 37/08

A combination lock mechanism having a plurality of rotary tumblers actuated by a dial from the exterior of the casing to align the gates in the tumblers so that a

reversibly movable pawl carried on the inner portion of a locking bolt may be forced by reversing driver means first in a direction to cause a fence on the pawl to move into the aligned gates. Entry of the fence into the gates will unlock the bolt and allow the pawl to move in a direction to by-pass a stop pin by means of a by-pass slot in the pawl. Upon reversal of the driver means the pawl is shifted to reverse the direction of movement away from the tumblers to withdraw the pawl projection from the gates. When the unlocking pressure is removed from the bolt a spring will return the bolt to locking position and

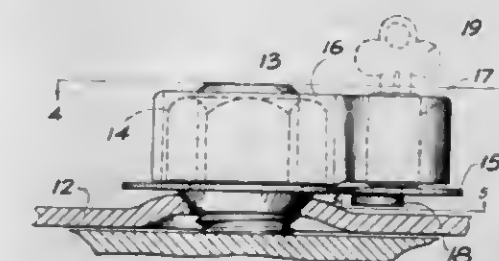


at the same time pull the pawl around the stop pin to its starting position ready to again strike the stop pin and prevent unlocking actuation of the bolt until the tumblers are again rotated to align the gates in the adjusted position where unlocking of the bolt may take place. During the pawl engagement in the aligned gates the tumblers are angularly displaced to a position removed from the initial position where the pawl fence first entered the gates so that reentry of the pawl fence is prevented after the pawl has passed around the stop pin on its movement to the starting position.

3,423,971

AUTOMOBILE WHEEL LOCK

Angelo J. Brunelli, 128 Phillips Ave., Niles, Ohio 44446
Filed June 2, 1967, Ser. No. 643,114
U.S. Cl. 70—231 2 Claims
Int. Cl. F16b 41/00; F16k 35/10; E05b 65/12



An automobile wheel lock for securing wheel lug nuts to a wheel to prevent the removal thereof, and including a sleeve encircling said wheel lug nut and an integral lock device.

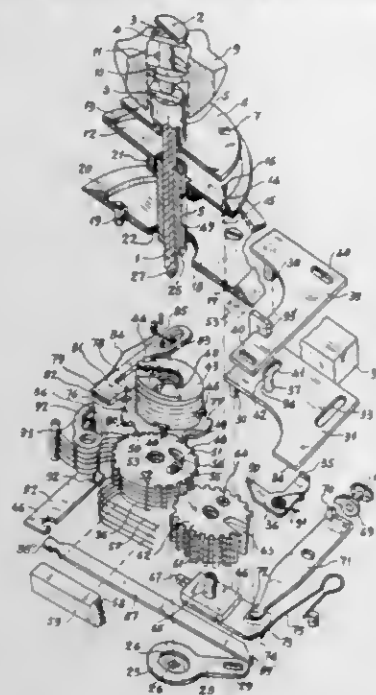
3,423,972

KEYLESS LATCH

Antonio Soler Marti, Juan Soler Marti, Jose Soler Marti, and Mario Soler Marti, all of Aldana 3, Barcelona, Spain
Filed Sept. 12, 1966, Ser. No. 578,585
Claims priority, application Spain, May 11, 1966, 326,594
U.S. Cl. 70—305 5 Claims
Int. Cl. E05b 37/02, 37/04

A keyless latch having single knob to operate a combination which includes a series of rotating and pivoting geared discs and wheels and parts therefor to ready a plate formed with the bolt for movement out of engagement with the keeper. However, before such can be ac-

completing, the knob must be further rotated to operate a series of levers to free a pivoting stop from en-



gagement with the plate and bring about the disengagement of the bolt.

3,423,973

VEHICLE SAFETY KEY

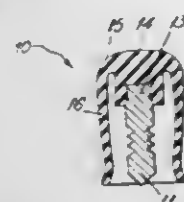
Walter A. Ancliff, Upminster, England, assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed May 10, 1967, Ser. No. 637,474

U.S. Cl. 70-408

2 Claims

Int. Cl. E05b 19/04



A key having an elongated blade, one end of which is embedded in a pad of resilient material. A skirt integral with the pad surrounds the blade and is formed from resilient material having sufficient yieldability to permit a portion of the blade to be inserted in a lock.

3,423,974

AUXILIARY DOOR LOCK

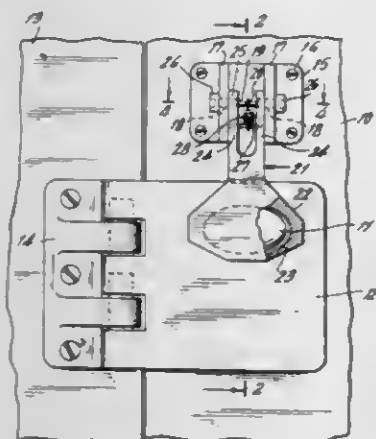
Cristina U. Bernsley, 72 E. 79th St., New York, N.Y. 10021

Filed July 13, 1966, Ser. No. 564,850

U.S. Cl. 70-416

2 Claims

Int. Cl. E05b 13/10



An auxiliary door lock is provided which can have an operative and an inoperative position, and when in an operative position, the main lock of a room or apartment door cannot be opened even by one having a key. The

auxiliary lock is essentially composed of a plate having upstanding lugs and a link-like member mounted pivotally on a shaft in said lugs and held in a desired position by a spring one end of which is looped around said shaft and the other end of which is looped around a second shaft between bifurcations of the link-like member which has at its distal end a non-circular cavity for the reception of a non-circular manual actuator for a regular door lock.

3,423,975

METHOD OF HOT-EXTRUDING METALS WHICH REQUIRE A LOW RATE OF DEFORMATION

André Collinet, Amlens, France, assignor to Compagnie du Filage des Metaux et des Joints Curty, Paris, France, a corporation of France

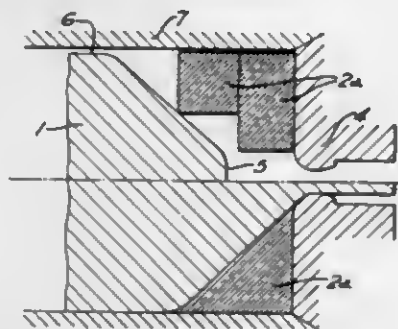
Filed Apr. 18, 1966, Ser. No. 543,426

Claims priority, application France, Apr. 22, 1965, 14,174

U.S. Cl. 72-42

5 Claims

Int. Cl. B21b 45/02; B21c 23/00



A method for hot-extruding metals and alloys that require a low rate of deformation in a flat-faced die and container by providing the billet to be extruded with a frustoconical leading portion and inserting prior to extrusion thereof, a solid deformable lubricant in an amount to substantially fill the annular space defined by the frustoconical portion of the billet, the face of the die and the container, and then extruding said billet.

3,423,976

BLADE PEENING APPARATUS WITH INDEXING CONTROL

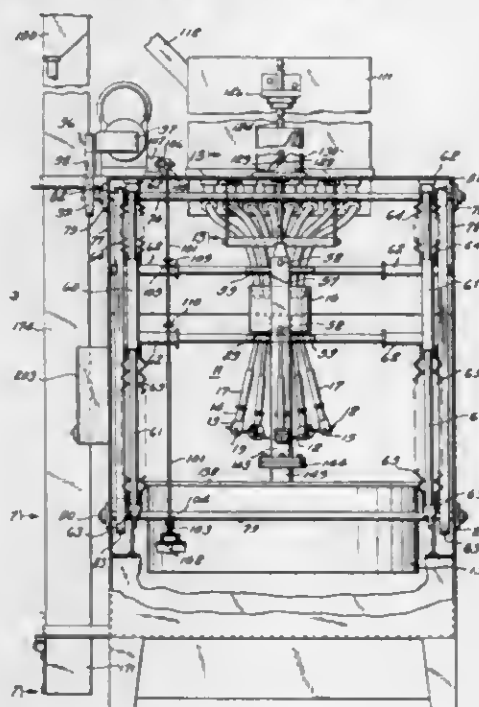
Harold W. Burney, Hackensack, and Walter J. Bissinger, Convent Station, N.J., and Fred K. Landecker, Los Angeles, Calif., assignors to Metal Improvement Company, Hackensack, N.J., a corporation of New York

Filed July 18, 1966, Ser. No. 566,117

U.S. Cl. 72-53

32 Claims

Int. Cl. B21d 31/06; B24b 1/00; B24c 3/12



A peening apparatus particularly adapted to transport work toward and away from a peening position. The

peening is carried on in a reciprocating fashion by a multiplicity of peening nozzles and appropriate indexing mechanisms are utilized for controlling the position of the work and its movement toward and away from the peening jets.

3,423,977

EXPLOSIVE FORMING METHOD AND MEANS

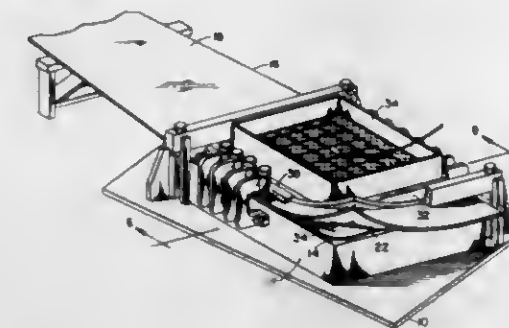
Joseph S. Corral, Costa Mesa, and Donald E. Krantz, Tustin, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware

Filed Sept. 30, 1966, Ser. No. 583,352

U.S. Cl. 72-56

9 Claims

Int. Cl. B21d 26/08



A process is disclosed for explosively deforming large metallic slabs over selected portions of their surface area without the use of large water pits. The workpiece is supported in open air with the area portion to be deformed clamped and sealed to a die. An expendable plywood box or plastic sheet enclosure containing water and explosive distributed over the area portion to be deformed is supported by the workpiece itself.

3,423,978

MAGNETIC FORMING APPARATUS

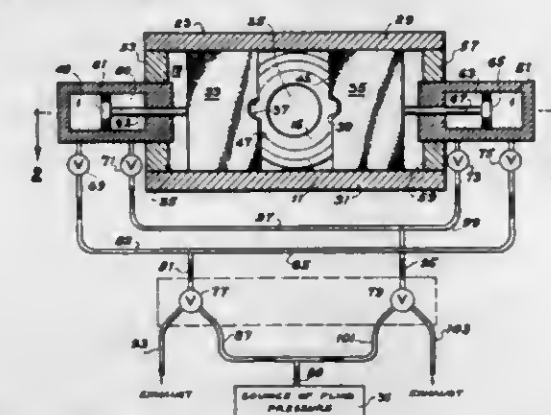
James A. Kline, San Diego, Calif., assignor, by mesne assignments, to Gulf General Atomic Incorporated, San Diego, Calif., a corporation of Delaware

Filed Apr. 4, 1967, Ser. No. 628,485

U.S. Cl. 72-56

6 Claims

Int. Cl. B21d 26/14



A magnetic forming apparatus having an electromagnetic forming coil assembly which incorporates separable field shaping members which are moved relative to each other by fluid operated actuators. The actuators are operable to hold the shaping members in adjacent position when the coil is energized and for limiting movement of the members when the coil is de-energized.

3,423,979

METHOD AND APPARATUS FOR ELECTRO-HYDRAULIC FORMING

Kenneth E. Smith and Richard K. May, Fort Worth, Tex., assignors, by mesne assignments, to Gulf General Atomic Incorporated, San Diego, Calif., a corporation of Delaware

Filed Aug. 25, 1966, Ser. No. 575,009

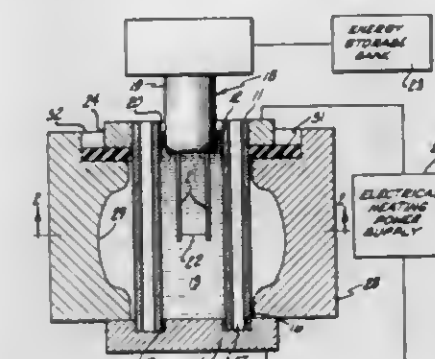
U.S. Cl. 72-56

8 Claims

Int. Cl. B21d 26/12, 37/16, 31/00

A method and apparatus for electro-hydraulic forming

is described wherein the workpiece is positioned a given distance from one side of a driver having a hydraulic



fluid on the other side. The workpiece is heated, such given distance being sufficient to prevent excessive transfer of heat from the workpiece to the driver.

3,423,980

SPRING WINDING MACHINE

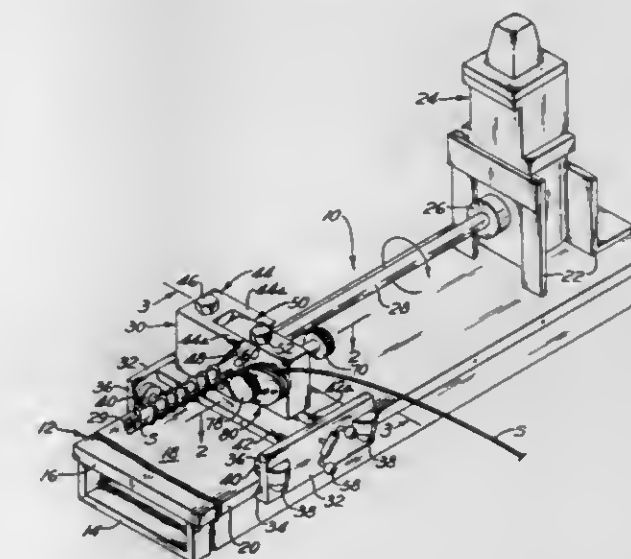
Robert L. Ludwig and George Roy Rusling, Port Arthur, Tex., assignors to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 15, 1966, Ser. No. 572,536

U.S. Cl. 72-142

6 Claims

Int. Cl. B21f 3/04, 3/10



A spring winder comprising a rotating mandrel and a free moving carriage, with jaw means on the carriage to support the mandrel and to impart an adjustable pitch to the spring. The spring, as it is being formed, causes the carriage to move axially of the mandrel while maintaining pitch.

3,423,981

BELT WRAPPER FOR A COILER FOR THE WINDING OF ROLLED STEEL STRIP

Gerhard Schreiber and Herman Kraus, Dahlbruch, Germany, assignors to Siegener Maschinenbau G.m.b.H., a corporation of Germany

Filed Sept. 20, 1966, Ser. No. 580,692

Claims priority, application Germany, Sept. 23, 1965, S 99,594

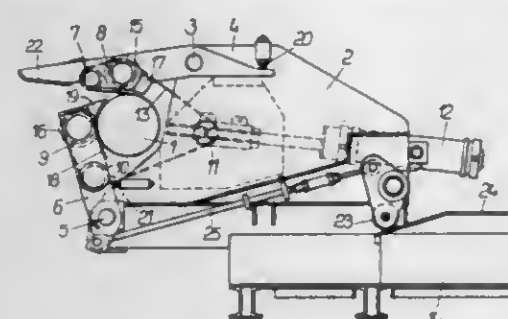
U.S. Cl. 72-148

9 Claims

Int. Cl. B21c 47/10; B21d 5/14

This disclosure relates to a belt wrapper of the type employed for winding metallic strip on a reel, such as found in a plant for producing coils of strip. The belt wrapper disclosed comprises a frame which carries several belt guiding rollers. At least two of these rollers are carried by shafts which, in turn, are carried by pivotal arms. The shafts also carry pinch rolls, one of which is

located to directly engage the strip at a point where the strip's leading end initially contacts the reel. Immediately behind this pinch roll is a crescent-shaped guiding mem-



ber which, in combination with the positive driving effect of the pinch roll, prebends and drives the strip around the reel.

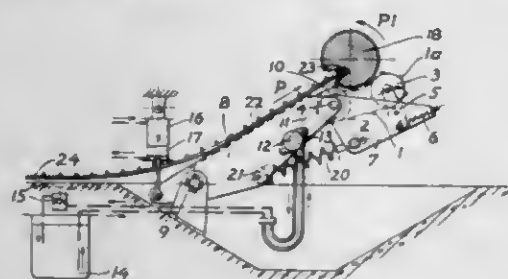
3,423,982

COILING MACHINE FOR COILING WIRE MESH
Alois Sackl, Liezen, Styria, Austria, assignor to EVG Entwicklungs- und Verwertungsgesellschaft m.b.H., Graz, Austria, a corporation of Austria
Filed Nov. 15, 1966, Ser. No. 594,529
Claims priority, application Austria, Nov. 19, 1965, A 10,452

U.S. Cl. 72-148

Int. Cl. B21c 47/12; B65b 23/08

11 Claims



A coiling machine for wire mesh has a mandrel, and a gripper carrying applicator that includes a braking device; during coiling, the applicator presses the mesh towards the mandrel, and the grippers are moved by the coiling wire mesh; when the braking device retards the movement of the grippers, they will tension the wire mesh.

3,423,983

FEED MECHANISM FOR A HYDROSTATIC EXTRUSION SYSTEM

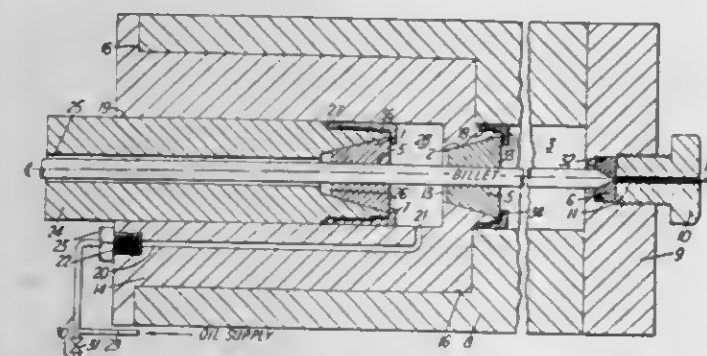
John Lees and Duncan Alexander Gunn, London, England, assignors to International Standard Electrical Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 29, 1966, Ser. No. 597,663
Claims priority, application Great Britain, Nov. 30, 1965, 50,743/65; Apr. 7, 1966, 15,562/66

U.S. Cl. 72-270

Int. Cl. B21c 33/00; B21d 24/14

15 Claims



1. A feed mechanism for a high-pressure extrusion system, said mechanism comprising:
(a) first means defining a first chamber;

- (b) an extrusion die adjacent one end of said first chamber;
- (c) a first seal unit adjacent the other end of said first chamber;
- (d) second means defining a second chamber having a first end adjacent said first seal unit and incorporating said first seal unit into a common wall of said second means between said second chamber and said first chamber, said second means further including a piston reciprocable with respect to said first seal unit;
- (e) a second seal unit at the end of said second chamber opposite said first seal unit and carried by said piston, said first and said second seal units having respective openings therethrough for accommodating material which is to be extruded;
- (f) means for supplying fluid under pressure to said second chamber; and
- (g) means for causing reciprocation of said piston.

3,423,984

TAKE-OFF TOOL

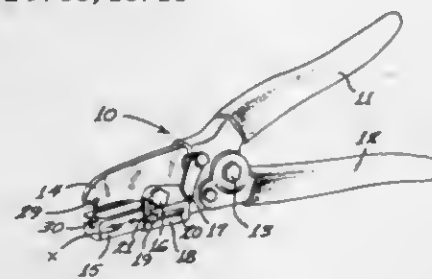
Mark W. Keymer, Hopkins, Minn., assignor to Malco Products, Inc., Minneapolis, Minn., a corporation of Minnesota

Filed Jan. 24, 1966, Ser. No. 522,458

U.S. Cl. 72-337

Int. Cl. B21d 9/08, 28/26

8 Claims



A tool for notching and forming a metal duct to be connected to a second duct has a pair of pivotal cutting jaws provided with cooperating, cutting edges extending longitudinally and transversely thereof, and a bead forming projection on the forward end of the upper jaw. A mating socket on the lower jaw receives the projection on the upper jaw as the two jaws are pivoted towards each other, thereby simultaneously cutting a notch and forming a bead or dimple in a duct workpiece.

3,423,985

STRIPPER AND PRE-DRAW RING FOR WALL-IRONING CAN BODIES

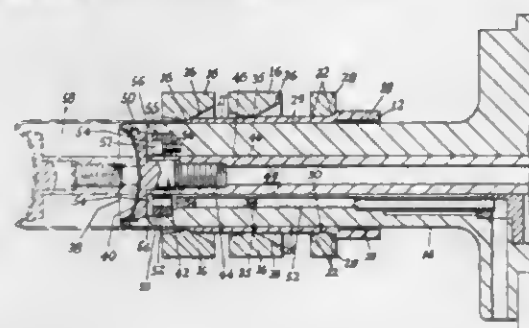
Ralph J. Stolle, Lebanon, and Elton G. Kaminski, Sidney, Ohio, assignors to The Stolle Corporation, Sidney, Ohio, a corporation of Ohio

Filed Feb. 4, 1966, Ser. No. 525,098

U.S. Cl. 72-348

Int. Cl. B21d 22/22, 45/00, 51/10

3 Claims



A stripper and pre-draw ring for use in a can treating apparatus for wall ironing the side walls of over-size cups, each cup having an integral end, into can bodies,

said stripper being associated with an ironing punch for removing can bodies therefrom, and said pre-draw ring being disposed intermediate said ironing punch and an ironing ring to hold said over-sized cup concentric with said ironing punch and to initially form the side wall of said over-sized cup contiguous with said ironing punch prior to wall ironing thereof when said ironing punch moves through said ironing ring and said side wall of said cup is drawn so as to form a can body having a desired length.

3,423,986

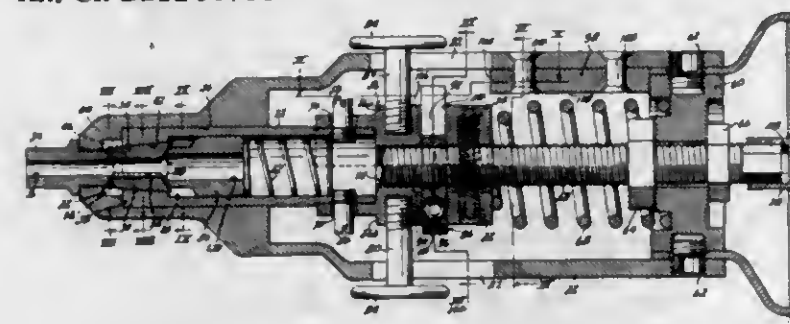
RIVET GUN FOR BLIND RIVETS

Dale L. Young, Denver, Colo., assignor to Rivetmaster, Inc., Denver, Colo., a corporation of Colorado
Filed Mar. 11, 1966, Ser. No. 533,499

U.S. Cl. 72-391

Int. Cl. B21d 31/00

2 Claims



A rivet gun for setting blind rivets by tensioning the mandrels thereof to the point of rupture, comprising a body member adapted to receive a mandrel therein. A chuck is movable in the body member parallel to the mandrel and is operable to grip the mandrel when retracted, and to release the mandrel when advanced. Power means is provided for moving the chuck. The power means comprises a screw rotatably driven in one direction only. A nut is releasably connected to the screw and to which the chuck is attached, whereby rotation of the screw retracts the nut and chuck. Manual means is provided for engaging the nut on the screw. Latch means is operable to secure the nut in engagement with the screw. Release means is operable to release the latch when the nut has been retracted to a predetermined degree, and resilient means is provided for advancing the nut and chuck whenever the nut is released from the screw.

3,423,987

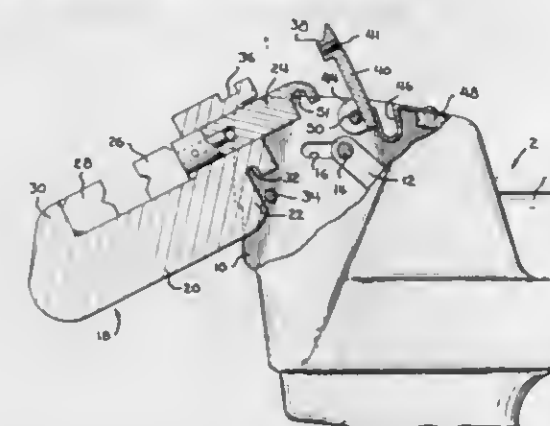
HAND TOOL FOR INTERCHANGEABLE HEADS

Martin Luther Klingler, Hershey, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Mar. 7, 1966, Ser. No. 532,393

U.S. Cl. 72-444

Int. Cl. B25f 1/02; B21j 7/46, 13/04

4 Claims



Hand tool has interchangeable head comprising frame and reciprocable ram. Notches are provided in the head frame and the ram and face in a common direction.

Tool has reciprocable actuating member having a pin mounted thereon which is received in the notch in the ram. Additional pin is fixed in tool and is received in the notch in the head frame. A latch member mounted adjacent to head frame locks the head to the tool so that the head may be removed by disengaging the latch and moving tool head laterally.

3,423,988

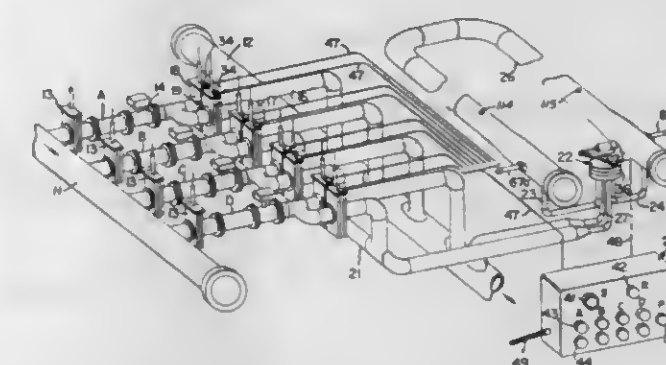
METER PROVER APPARATUS

Marvin H. Grove, Piedmont, Calif., and Lyle R. Van Arsdale, Houston, Tex., assignors to M & J Valve Company, Houston, Tex., a corporation of Delaware
Filed Aug. 1, 1966, Ser. No. 569,362

U.S. Cl. 73-3

Int. Cl. G01f 25/00

11 Claims



Meter proving apparatus of the type using a metering pipe which receives a flow propelled sphere or plug and which has a valve controlled flow connection between the ends of the metering pipe. Leak detecting means is incorporated with the apparatus so that if valve leakage occurs, such as would interfere with metering accuracy, it is immediately detected.

3,423,989

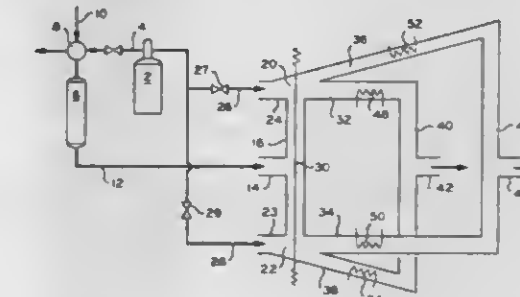
DENSITY BALANCE

Russell A. Primrose, Rolla, Mo., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Dec. 29, 1966, Ser. No. 605,776

U.S. Cl. 73-30

Int. Cl. G01n 31/00

10 Claims



1. A density balance comprising a vertical conduit, means in the central portion of said vertical conduit to pass a fluid to be measured into said vertical conduit, outlet means at the top and bottom of said vertical conduit, first horizontal conduit connected to an outlet at the upper end of said vertical conduit to supply fluid pressure at about 90° to said upper outlet means of said vertical conduit, second horizontal conduit connected to a bottom outlet means of said vertical conduit to supply fluid pressure at about 90° to said lower outlet of said vertical conduit,

means to supply fluid at equal pressures to each of said first and second horizontal conduits at a time when no sample is in said vertical conduit, detection means to sense a change in the flow of fluid in said top and bottom outlet means, said detection means comprising at least one pneumatic amplifier at the outlet of at least one of said top and bottom outlet means, and means to detect changes in the flow of fluid through said one pneumatic amplifier.

5. A density balance according to claim 1 wherein there is provided in said vertical conduit a means to establish a thermal gradient throughout the cross-section of said vertical conduit to increase the tendency of heavy components to separate from light components and pass into the lower portion of said vertical conduit and the tendency of said lighter components to flow upwardly in said first vertical conduit.

3,423,990

APPARATUS AND METHOD FOR DETECTING LEAKY CANS

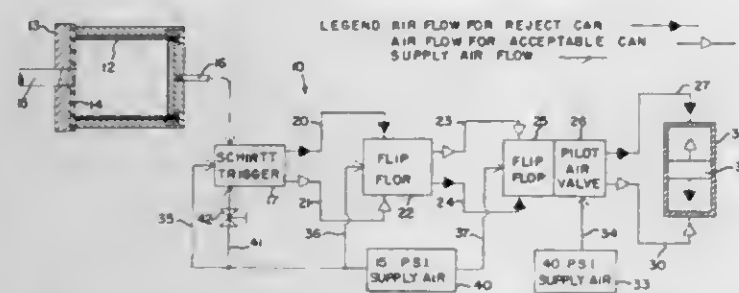
Ralph E. Martin, Oak Lawn, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed July 25, 1967, Ser. No. 655,946

U.S. Cl. 73-45.1

3 Claims

Int. Cl. G01m 3/04



An apparatus for detecting leaky cans which includes a test chamber into which a can is placed. The can interior is filled with air under pressure. If the can has a leak, air will leak out into the chamber to increase the pressure in the chamber. A tube is connected to the chamber through which the leakage air flows from the chamber. The tube is connected to the control port of a fluidic amplifier to provide a signal to the amplifier in the form of the leakage air stream. The fluid signal is amplified by the fluidic amplifier and the amplified fluid signal is used to operate a reject device to reject the leaky can.

The method includes the steps of forming a signal stream of the air leaking from the can; directing the signal stream against a signal amplifying stream of air to cause a change in the amplifying stream and employing the change in the amplifying stream as a signal to operate the reject device.

3,423,991

ULTRASONIC INSPECTION OF PLYWOOD PANEL

Jack T. Collins, Boulder, Colo., assignor to Automation Industries, Inc., El Segundo, Calif., a corporation of California

Filed May 21, 1965, Ser. No. 457,600

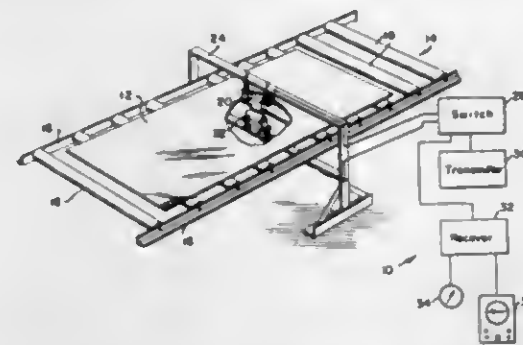
U.S. Cl. 73-67.5

11 Claims

Int. Cl. G01m 9/24

An ultrasonic inspection apparatus is disclosed herein for identifying those areas in plywood panels where the laminations are not properly bonded together. The inspection apparatus is adapted to be incorporated into a grade line for individually inspecting each panel at the same rate as the panels are being produced. This is accomplished by transmitting ultrasonic energy into one side of

the panel and receiving the energy on the opposite side. A rugged search unit having a cylindrical transducer is provided for rolling along a surface of the panel for trans-



3,423,992

ULTRASONIC APPARATUS FOR MEASURING THICKNESS OR DISTANCES

Jacques Dory, Paris, France, assignor to Realisations Ultrasoniques, Villenoy-Meaux, Seine-et-Marne, France, a limited company

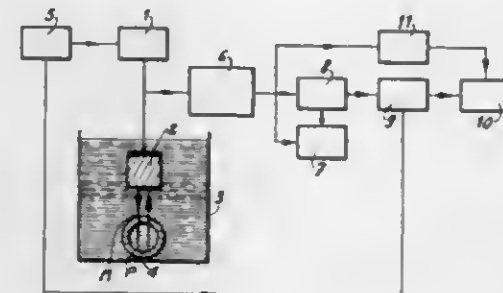
Filed Nov. 17, 1965, Ser. No. 508,348

Claims priority, application France, Nov. 25, 1964, 996,258

U.S. Cl. 73-67.9

Int. Cl. G01n 9/24

2 Claims



The invention is broadly concerned with thickness or distance measurement through the ultrasonic pulse echo method. The instant invention provides means whereby the display or recording of the measuring signals is temporarily inhibited each time the propagation of the ultrasonic pulses is disturbed, thus avoiding errors in the measurement.

3,423,993

ROLLING ULTRASONIC TRANSDUCER

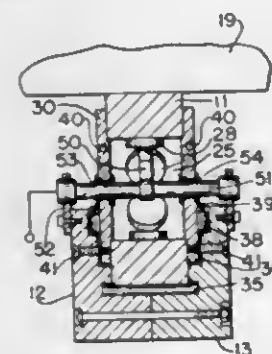
Lawrence C. Lynnworth, Waltham, Mass., assignor to Parametrics, Inc., Waltham, Mass., a corporation of Massachusetts

Filed July 20, 1966, Ser. No. 566,605

U.S. Cl. 73-71.5

12 Claims

Int. Cl. G01n 29/00



An ultrasonic inspection transducer for testing elongated bodies at high temperatures. A roller element of heat

resistant material has a central opening in which are mounted a plurality of transducers sequentially energized as the element rolls on the test object.

3,423,994

TESTING APPARATUS

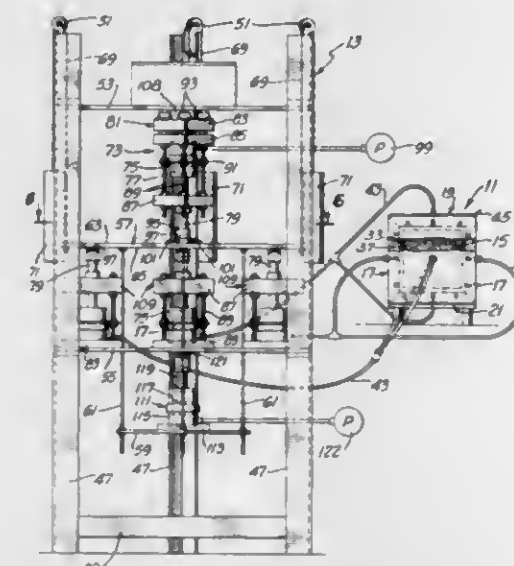
Ronald F. Scott, Altadena, Hon Yim Ko., Pasadena, and Boris Auksmann, San Gabriel, Calif., assignors to California Institute Research Foundation, Pasadena, Calif., a corporation of California

Filed Apr. 18, 1966, Ser. No. 543,297

U.S. Cl. 73-94

15 Claims

Int. Cl. B30b 7/04; G01n 3/10



Apparatus for producing three forces for use with a three axis compression test chamber or the like. A force distribution system for producing three forces of variable magnitude and variable relative magnitude, with a single input force applied at a single location. Means for varying the magnitude of and point of application of the input force. Use of the apparatus as an analog computer.

3,423,995

TESTING CONTAINER

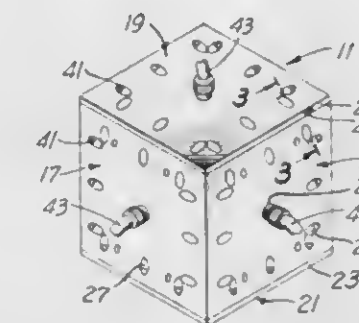
Ronald F. Scott, Altadena, and Hon-Yim Ko, Pasadena, Calif., assignors to California Institute Research Foundation, Pasadena, Calif., a corporation of California

Filed Apr. 18, 1966, Ser. No. 543,373

U.S. Cl. 73-94

7 Claims

Int. Cl. G01n 3/10; B30b 5/02



A container for applying compression forces to samples, such as soil. A box having side plates and interior diaphragms, with the diaphragm edges clamped between the plate edges. Means for introducing fluid under pressure into the chamber between each side plate and adjacent diaphragm, permitting application of the same or different forces along each of three axes.

3,423,996

COMBINED CROPPING AND UPSET TESTING MACHINE

Harry Stevenson, Sheffield, England, assignor, by mesne assignments, to John Shaw & Sons (Salford) Ltd., Salford, Lancashire, England

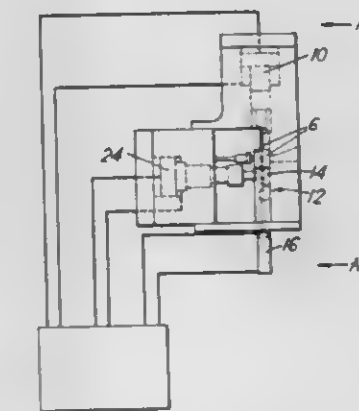
Filed June 27, 1966, Ser. No. 560,458

Claims priority, application Great Britain, June 28, 1965, 27,319/65

U.S. Cl. 73-94

9 Claims

Int. Cl. G01n 1/04, 3/10



An upset-testing machine for bar stock, comprising at least one shearing die with a through-hole for receiving an end of the test bar, a member guided with reference to said die for cropping a sample length from said bar, a first fluid-pressure ram for actuating said cropping member, an anvil disposed in the line of movement of said cropping member, a member for locating said sample during transference thereof from said die to said anvil, a second fluid-pressure ram acting on said locating means in opposition to said first ram, and a third fluid-pressure ram movable perpendicularly to said anvil to upset said sample while in contact therewith.

3,423,997

TESTING DEVICE FOR HOSE CLAMPS

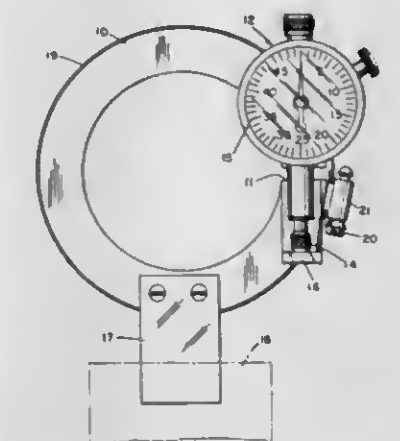
Charles K. Mauer, Baltimore County, Md., assignor to Murray Corporation, Baltimore County, Md., a corporation of Maine

Filed Dec. 30, 1966, Ser. No. 606,207

U.S. Cl. 73-95

3 Claims

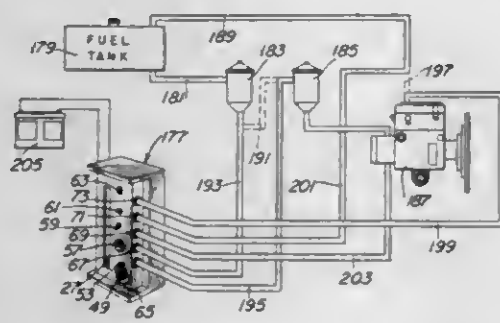
Int. Cl. G01n 3/08



A gauge for measuring the tensile strength of hose clamps consisting of a split ring of resilient material having a gap at one side and a force measuring instrument mounted on the ring adjacent the gap, the hose clamp to be tested surrounding the split ring and contracting the same as the hose clamp is tightened, the force measuring instrument indicating the tensile strength to which the hose clamp is subjected in contracting the split ring.

3,423,998
FUEL CONSUMPTION RATE MEASUREMENT FOR DIESEL ENGINES
 Oscar C. Blomgren, Jr., Lake Bluff, Ill., assignor to Tuxco Corporation, North Chicago, Ill., a corporation of Illinois
 Continuation-in-part of application Ser. No. 540,062, Apr. 4, 1966. This application Feb. 16, 1967, Ser. No. 643,751
 U.S. Cl. 73-113
 Int. Cl. G01 3/26

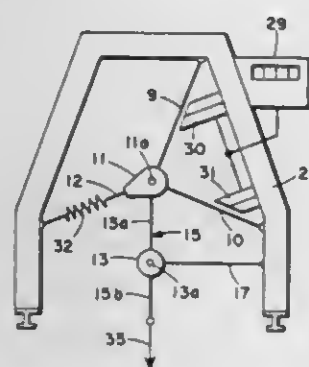
14 Claims



Fuel consumption rate measuring apparatus utilizing a specially constructed and calibrated auxiliary fuel container and solenoid operated valves to substitute fuel input from the auxiliary container to a diesel engine for fuel input from a conventional fuel tank, thus providing for measurement of the time required for the diesel engine to consume a metered amount of fuel in the auxiliary fuel container without disrupting normal operation of the engine. A cover and housing assembly for the apparatus may be converted into a mounting support for the apparatus when it is used to measure the fuel consumption rate of diesel powered tractors and others vehicles.

3,423,999
COMBINED ELECTRONIC MASS AND FORCE METER
 Armin Wirth, Johannes Wirth, and Mario Gallo, Zurich, Switzerland, assignors to Wirth, Gallo & Co., Zurich, Switzerland
 Filed Oct. 20, 1965, Ser. No. 498,251
 Claims priority, application Switzerland, Nov. 27, 1964, 15,393
 U.S. Cl. 73-141
 Int. Cl. G01 5/22

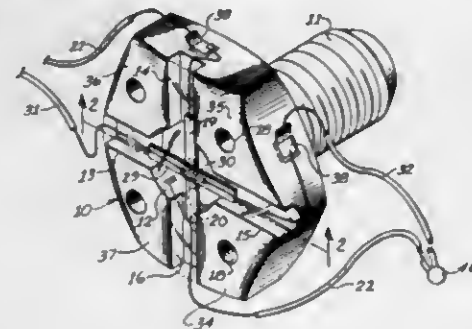
13 Claims



An instrument for measuring masses and forces in which the load that is to be measured acts indirectly on the tension of two electronically excited, transversely vibrating, pre-tensioned strings. The resultant frequency change in these strings is used in an evaluating device to calculate and indicate the magnitude of the measured load. Two transmission elements apply to the respective strings a pre-tensioning force and a force depending on the load to be measured. The transmission elements and strings are connected to radiate from a central point in the form of a star so that the distribution of the forces between the two strings is at least approximately determined by their directions.

3,424,000
SEMICONDUCTOR FLOWMETER
 Herbert Chelner, Reseda, and William L. Bubel, Simi, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware
 Filed July 29, 1966, Ser. No. 568,880
 U.S. Cl. 73-228
 Int. Cl. G01 1/06

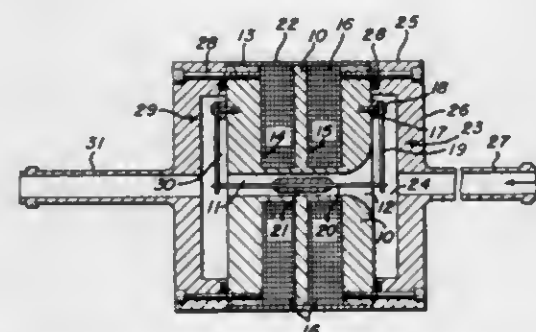
2 Claims



A flowmeter capable of being inserted in a fluid line characterized by a housing and strain gages mounted on at least one semiconductor strip disposed partially or completely across an opening formed in the housing so as to be aligned in the fluid path. In one embodiment a single strip is mounted in cantilevered relationship to the housing. In another embodiment two strips are attached at their opposite ends to the housing and perpendicularly intersect one another. The strain gages are wired in a bridge circuit that converts sensed electrical resistance changes into flow velocities.

3,424,001
FLOW METER
 Don W. Young, 1601 Merillio Ave., Dayton, Ohio 45410
 Filed Aug. 2, 1966, Ser. No. 570,145
 U.S. Cl. 73-228
 Int. Cl. G01 1/06

14 Claims



A flow meter including means defining therein a flow passage, there being an aerodynamic drag means positioned in and arranged in a sense axially of the flow passage. The drag means is mounted by longitudinally spaced flexure elements, in an established position corresponding to zero flow, and the drag means is exposed per se to flow and has means in operative relation thereto which accurately transmits a signal corresponding to its movement which reflects the existing rate of flow through the passage.

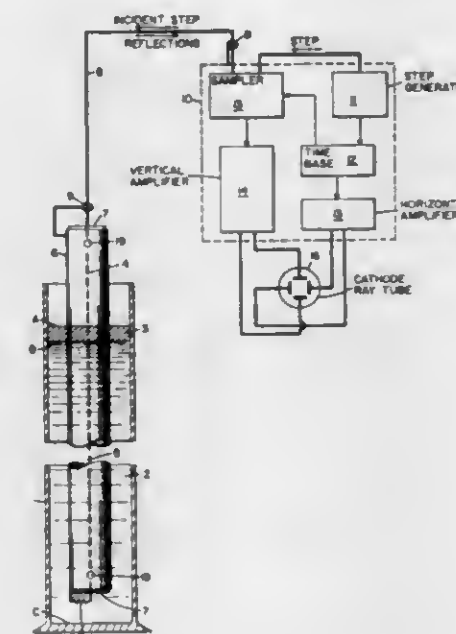
3,424,002
APPARATUS FOR THE DETERMINATION OF LOCATION OF INTERFACES BETWEEN DIFFERENT MATERIALS
 Irvin D. Johnson, Littleton, Colo., assignor to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio
 Filed June 1, 1965, Ser. No. 460,057
 U.S. Cl. 73-290
 Int. Cl. G01 23/26

17 Claims

The present invention comprises processes and methods for determining the position of interfaces between different materials comprising a combination of at least one trans-

mission line passing through said interface, means for generating a fast-rise voltage step which is partially reflected back by any point at which the impedance of said

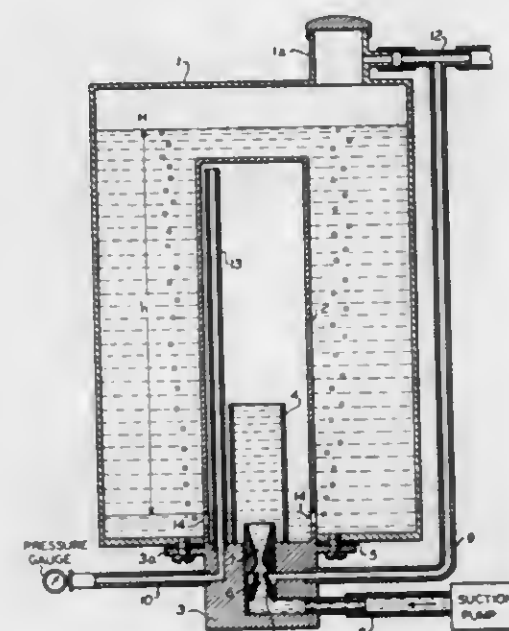
with simultaneous entraining of air is returned to the container liquid in the air chamber. A closing member is provided for the container opening. Means for securing the air chamber to said closing member are arranged and a connecting conduit extends through the closing member. A discharge nozzle is disposed in the closing member for build-up of pressure in the air chamber corresponding with the level of the liquid in the container. A tube branch is sealingly connected with the closing member and receives one end of the discharge nozzle and a liquid conduit connects the suction means with the discharge nozzle, and the liquid conduit and the air-conduit lead separately to the discharge nozzle.



transmission line changes and means for measuring the time interval between generation of a given voltage step and return of its reflection.

3,424,003
APPARATUS FOR MEASURING THE LIQUID LEVEL IN A CONTAINER
 Konrad Rausch, Hanau am Main, Germany, assignor to VDO Tachometer Werke Adolf Schindling GmbH., Frankfurt am Main, Germany, a corporation of Germany
 Filed Nov. 28, 1966, Ser. No. 597,267
 Claims priority, application Germany, Dec. 2, 1965, V 29,837; Apr. 1, 1966, V 30,775
 U.S. Cl. 73-302
 Int. Cl. G01 23/16

7 Claims



An apparatus for measuring the liquid level in a container which comprises a container having an opening and a bottom wall as well as additional walls and defining a tubular air chamber therein. A pressure gauge is operatively connected with the air chamber. The latter is in communication with the liquid in the vicinity of the bottom of the container. Suction means including a suction conduit are provided for withdrawing the liquid from the container. An air conduit communicates with the suction conduit, so that a part of the removed liquid

There is disclosed a liquid level indicator assembled with a tank or container. The indicator is constructed from a transparent material and has an upper light receiving edge and light reflective edge surface means depending therefrom and comprising a plurality of V-shaped vertically spaced surfaces in the form of steps comprising pairs of surfaces disposed at 90° with respect to each other.

3,424,005
ISOMETRIC EXERCISING DEVICE WITH INDICATOR

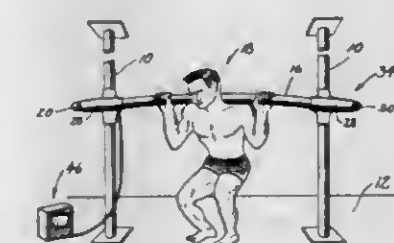
George M. Brown, R.F.D. 2, Box 144, Canterbury, Conn. 06331

Filed Jan. 6, 1966, Ser. No. 519,102

U.S. Cl. 73-379

Int. Cl. G01 5/06; A63b 21/20

9 Claims



A resilient bar is pivotally mounted to a stationary support adjacent one end, and its opposite end is similarly restrained so that one can flex the bar laterally in performing various isometric exercises. An electromechanical de-

vice at one pivoted end of the bar senses angular displacement thereof and provides a signal for operating a visual indicating means to give the user a quantitative frame of reference for evaluating his efforts.

3,424,006

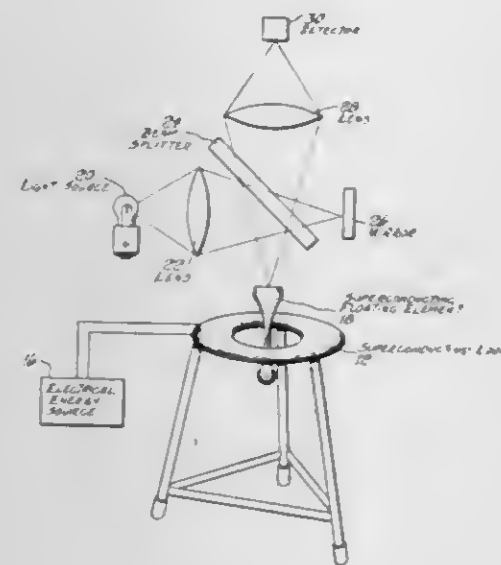
SUPERCONDUCTING GRAVIMETER

Robert H. Dicke, Princeton, N.J., and Barry Block, Seat Pleasant, and Joseph Weber, Chevy Chase, Md.; said Dicke and said Block assignors to the United States of America

Filed July 30, 1965, Ser. No. 475,990

U.S. Cl. 73-382
Int. Cl. G01m 1/12

4 Claims



- Apparatus for measuring gravitational or acceleration forces comprising, in combination:
 - a loop made of a material which becomes superconducting when its temperature is below a critical level, said loop being orientated so that it is in a horizontal plane and its axis is vertical;
 - a sensing element made of a material which becomes superconducting when its temperature is below a critical level;
 - said loop and said sensing element being cooled to a temperature below their critical levels whereby both said loop and said sensing element are in a superconducting state;
 - means for establishing a circulating current of constant amplitude around said loop when said loop is in said superconducting state, whereby a substantially constant magnetic field is produced in the vicinity of said loop;
 - said sensing element when in said superconducting state acting as a diamagnet so that, when disposed within the magnetic field produced by said loop, said sensing element remains suspended at an initial reference position; and
 - means for detecting subsequent changes in the position of said sensing element thereafter brought about by acceleration or gravitational forces acting on it.

3,424,007

PRESSURE AND DEPTH DETECTOR

Michael Paskak, 17408 Astoria Lane 20904, and Donald W. Ernst, 8709 Carroll Ave. 20903, both of Silver Spring, Md.

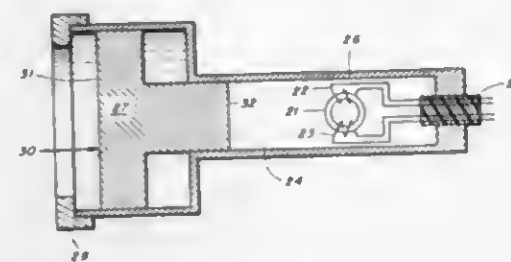
Filed Apr. 27, 1967, Ser. No. 635,330

U.S. Cl. 73-398
Int. Cl. G01n 1/16

1 Claim

A hydrostatic pressure detector having a ferrimagnetic toroid core sensing element directly sensitive to changes in hydrostatic pressure. A primary winding on the core

biases the sensor into a desired detecting range and a secondary winding detects changes in inductive reactance



corresponding to changes in the surrounding hydrostatic pressure.

3,424,008

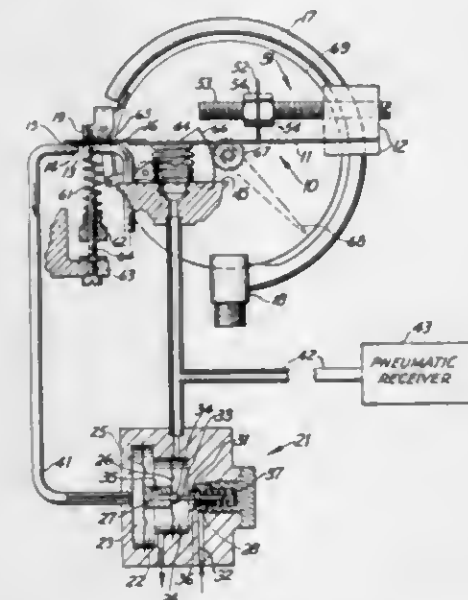
PNEUMATIC TRANSMITTER APPARATUS

William A. Heske, Fairfield, Conn., assignor to Dresser Industries, Inc., Stratford, Conn., a corporation of Delaware

Filed Sept. 26, 1966, Ser. No. 581,797

U.S. Cl. 73-411
Int. Cl. G01l 7/04

18 Claims



A pneumatic transmitter operative in response to changes in a variable condition to provide a remotely utilized correlated pneumatic signal. The transmitter includes a movement producing condition responsive member on which a vane is movably supported interposed in an air stream between axially aligned nozzles. The nozzles are movable by a pneumatic signal in a force balance system in response to pressure changes incurred by movement of the vane.

3,424,009

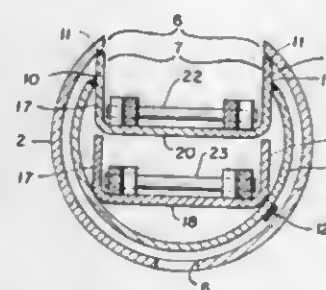
AUTOMATIC SAMPLE COLLECTORS

Wilfred R. Reichenstein, Marion, Ohio, assignor to The Fairfield Engineering Company, a corporation of Ohio

Filed Dec. 8, 1966, Ser. No. 600,171

U.S. Cl. 73-424
Int. Cl. G01n 1/00

10 Claims



An apparatus for automatically extracting samples of convenient bulk from a body of solid particulate material,

which has at least one tubular member with a receiving opening, and has at least one substantially rigid member with a shearing edge and at least one inner closure member within each tubular member. To obtain a sample, a tubular member and rigid member are imparted with a relative rotational motion thereby cutting off the ingress of the material through the receiving opening by their coaction, and an inner closure member is positioned to substantially block the ingress of the material through the receiving opening thereafter.

3,424,010

ROTATING GYROSCOPE REFERENCE SYSTEM

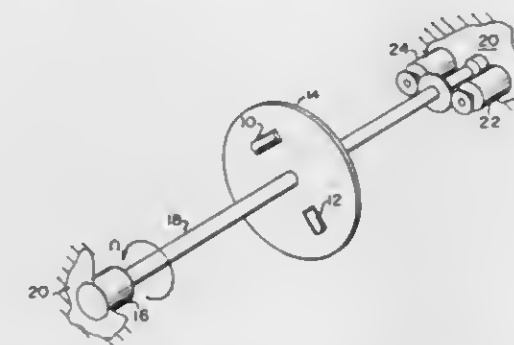
Howard Merrill Pollack, Teaneck, N.J., assignor to General Precision Systems Inc., a corporation of Delaware

Filed Dec. 8, 1966, Ser. No. 600,162

U.S. Cl. 74-534

Int. Cl. G01c 19/28; G01p 9/02; B64c 17/06

5 Claims



This invention provides for sensing the angular rate of a vehicle by the use of two gyroscopes mounted on a rotating wheel in such a manner that the input axes of these gyroscopes are nominally in the plane of rotation of the wheel which causes the sensed rates to be modulated at the angular velocity of the rotating wheel. The use of such instrumentation would substantially eliminate errors such as those caused by acceleration, drifts and misalignments.

3,424,011

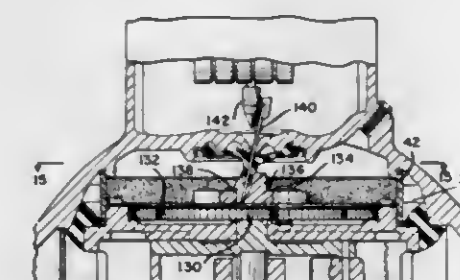
POWER TRANSMISSION DEVICE PARTICULARLY FOR FLUID APPLICATIONS

William Grant Pontis, 303 Wendy Lane, Waverly, Ohio 45690

Continuation-in-part of application Ser. No. 564,457, May 25, 1966. This application Sept. 26, 1967, Ser. No. 677,491

U.S. Cl. 74-18.1
Int. Cl. F16j 15/50

11 Claims



This invention discloses power transmission devices incorporating a sealed partition through which power is transmitted without interrupting the seal of the partition while providing a substantial speed reduction between the driving and driven devices that are interconnected by the power transmission. The device is constructed to avoid slippage and to reduce to a minimum any power losses between the metering and registering mechanism.

3,424,012

FRICTION GEAR

Georg Hirmann, Zurich, Switzerland, assignor, by mesne assignments, to Polyprodukte AG, Zurich, Switzerland

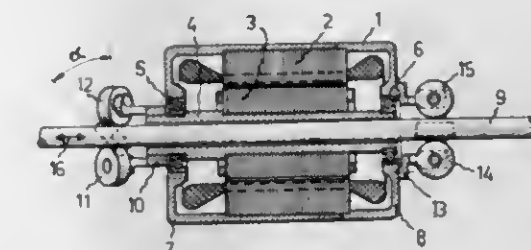
Filed Nov. 7, 1966, Ser. No. 592,460

Claims priority, application Switzerland, Nov. 19, 1965, 16,008/65

U.S. Cl. 74-25

Int. Cl. F16h 21/16; H02k 7/06

5 Claims



Friction gear for converting rotary motion to axial or helical motion, comprising a motor with a stationary and a rotary component, a pair of roller systems one connected to the stationary component, the other to the rotary component, and a driven member frictionally engaged by the rollers.

3,424,013

TORCH CARRIAGE DRIVING ARRANGEMENT

Anton Josef Richard Bechtle, Niederhochstadt, and Georg Roder, Frankfurt am Main-Fechenheim, Germany, assignors to Messer Griesheim, G.m.b.H., Frankfurt am Main, Germany, a corporation of Germany

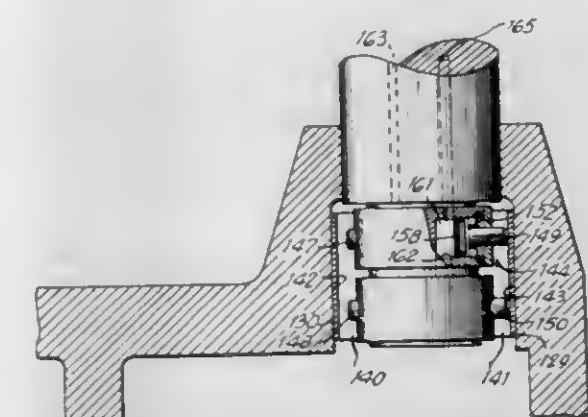
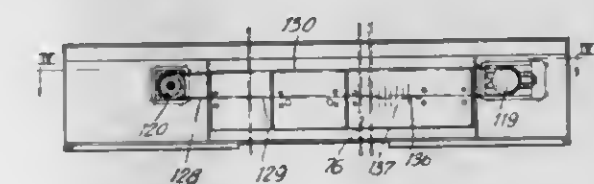
Filed Sept. 22, 1966, Ser. No. 581,268

Claims priority, application Germany, Sept. 24, 1965, M 66,759

U.S. Cl. 74-37

Int. Cl. F16h 19/06

10 Claims



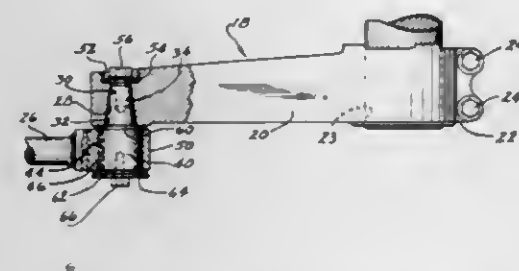
A torch carriage is selectively driven by a driving arrangement which includes a driven perforated band having a pair of reaches which extend through downwardly opening slits in the torch carriage. The carriage includes coupling means for selectively coupling the carriage with one of the reaches so that carriage can be moved in accordance with the band.

3,424,014

CRANK ARM ASSEMBLY

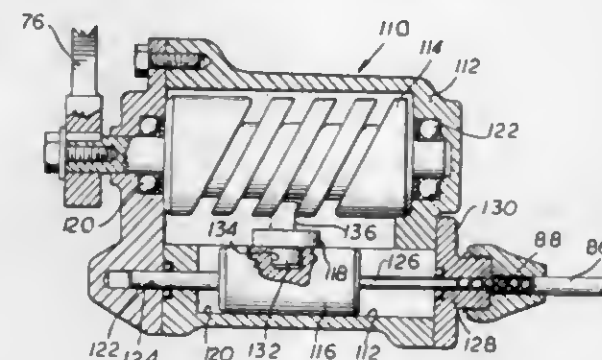
Boliver T. Harris, Bettendorf, Iowa, assignor to J. I. Case Co., Racine, Wis., a corporation of Wisconsin
 Filed Mar. 24, 1967, Ser. No. 625,643
 U.S. Cl. 74-44
 Int. Cl. F16h 21/18

3 Claims



A crank arm assembly having an arm with a tapered opening for receiving a tapered pin, and a roller bearing journaled on the pin. The tapered pin and bearing are positioned to drivingly connect the arm and a plunger pitman for a baler.

member mounted on a resiliently mounted power plant and a flexible motion transmitting means extending between and operatively interconnecting the control and actuating members which flexible motion transmitting means includes a flexible tube having a plurality of roller



means disposed therein arranged in a side-by-side relation.

3,424,017

MECHANISM FOR THE TRANSFORMATION OF A ROTARY MOVEMENT INTO A TRANSLATIONAL MOVEMENT ALONG A CLOSED CURVE

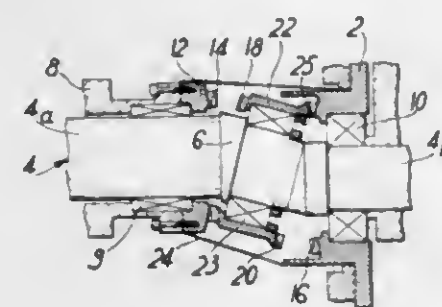
Jean Hasquenoph, Lagny, and Claude Legendre, Chevilly-Larue, France, assignors to Commissariat a l'Energie Atomique, Paris, France

Filed Mar. 20, 1967, Ser. No. 624,470
 Claims priority, application France, Mar. 29, 1966, 55,541

U.S. Cl. 74-60

5 Claims

Int. Cl. F16h 33/00; F16j 15/50



A mechanism for transforming a movement of rotation into a movement of translation along a closed curve wherein the driven component is rotationally locked and permitted to perform only a translational displacement by virtue of an oscillating collar provided at each extremity with a bevel pinion in mesh with identical pinions fixed one on a stationary bearing and the other on the driven component.

3,424,018

VARIABLE TRANSMISSION

Richard E. Alsch, Lacon, Wis., assignor to Graham Transmissions, Inc., Menomonie Falls, Wis., a corporation of Delaware

Filed Aug. 17, 1966, Ser. No. 573,011

U.S. Cl. 74-198

24 Claims

Int. Cl. F16h 15/26

A variable transmission is disclosed having symmetrical discs each with oppositely facing planar faces and held in engagement with transmission balls by face-to-face engagement with input and output members. A holding force is exerted on the drive elements in a pure axial sense and axial thrust bearings provide the medium through which

3,424,016

CLUTCH CONTROL DEVICE

Russell G. McMillen, Fort Wayne, Ind., assignor to International Harvester Company, a corporation of Delaware

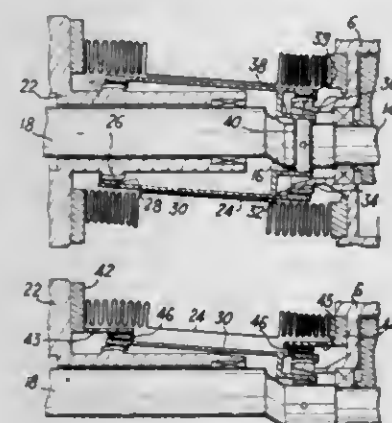
Filed Oct. 25, 1966, Ser. No. 589,319

U.S. Cl. 74-57

6 Claims

Int. Cl. F16h 25/20, 27/02, 29/20

A clutch control device including a control member mounted on the vehicle chassis frame and an actuating



A mechanism for transforming a driving movement of rotation into a movement of translation along a closed curve wherein the driven component is rotationally locked and permitted to perform only a translational displacement by virtue of an annular member which is freely mounted to perform a rotational movement about a cranked drive shaft but which is always locked rotationally both with a stationary bearing and with the driven component.

3,424,020

POWER STEERING APPARATUS

John W. Hanna, P.O. Box 696, Gallatin, Tenn. 37066
 Filed July 3, 1967, Ser. No. 650,812

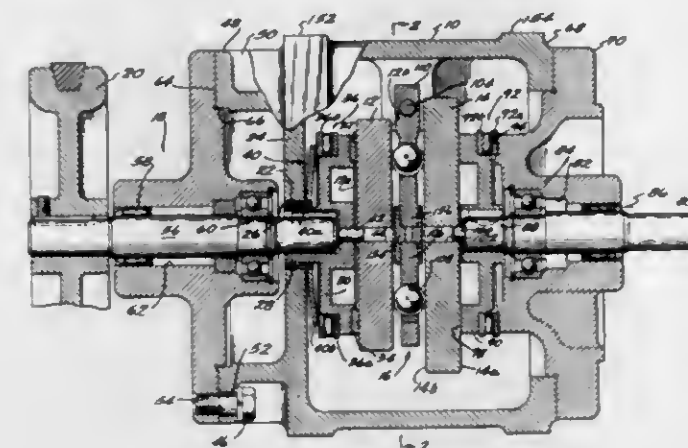
U.S. Cl. 74-388

4 Claims

Int. Cl. F16h 35/04

that force is applied with the biasing spring directly engaging the thrust bearing. Friction material provides the drive connection to the input disc and the drive member for the input disc extends through a clearance opening in the housing for connection to an external drive. The ball assembly is supported for pivotal movement about a horizontal axis and the balls provide both the medium of transmission between the discs and the bearing between the cage and its saddle. The bearing surfaces of the

Mechanical power steering apparatus for a motor vehicle having a steering post including an externally threaded sleeve adapted to be detachably secured to the steering post, a pair of bevel gears freely rotatably mounted and spaced apart on the sleeve, an internally threaded clutch mounted on and in threaded engagement with the sleeve between the gears for alternate driving en-



ball assembly are coated with a material having a low coefficient of friction.

3,424,019

MEANS FOR FITTING ENDLESS FLAT BELTS ON DRIVES AT FIXED DISTANCES APART

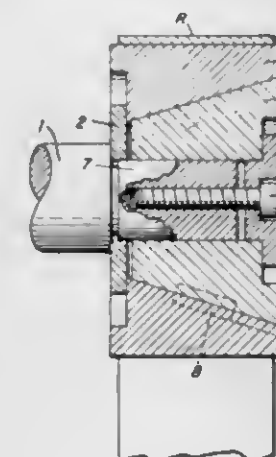
Karl-Heinz Wolfram, Eibelstadt, near Wurzburg, Germany, assignor of one-half to Schnellpressenfabrik Koenig & Bauer Aktiengesellschaft, Wurzburg, Germany

Filed Apr. 3, 1967, Ser. No. 628,137

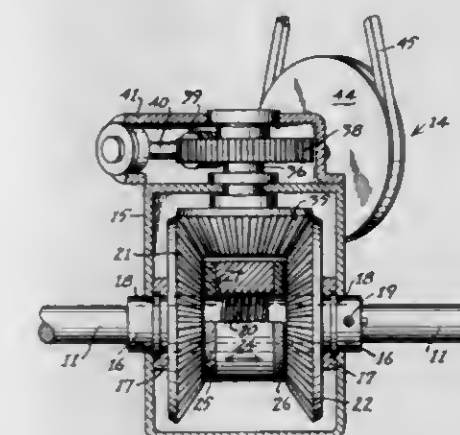
U.S. Cl. 74-230.4

6 Claims

Int. Cl. F16h 55/38, 55/56



A belt drive member is provided with an internal cone into which a displaceable sleeve mounted on a shaft stub and provided with an outer cone which runs concentrically with the shaft stub, is drawn into the belt drive member by a central screw in the shaft stub. The shaft stub is formed on the end of a shaft as a reduced diameter portion so that a shoulder is provided between the shaft and its shaft stub. Axial displacement of the belt drive member is prevented by an annular retaining or stop place received on the shaft stub at the shoulder. When the force resulting from the power output to be transmitted exceeds the peripheral force acting between the belt drive member and the displaceable sleeve, a make-up key or keys symmetrically placed therebetween may be utilized.



agement with each gear, a pinion gear engaging both bevel gears for rotating the bevel gears in opposite directions, and means for driving the pinion gear.

3,424,021

INTERMITTENT MOTION MECHANISM EMPLOYING NON-CIRCULAR GEARS

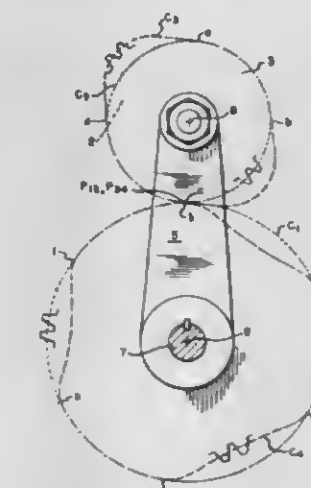
Ferdinand Freudenstein, 3720 Independence Ave., Bronx, N.Y. 10463

Filed May 23, 1967, Ser. No. 640,567

U.S. Cl. 74-394

4 Claims

Int. Cl. F16h 35/02, 55/04, 27/08



There is disclosed an intermittent motion mechanism comprising an epicyclic gear train including two pairs of coaxial gears, the gears of one pair functioning as planet gears. The planet gears are fast to each other and are supported on and for rotation with respect to an arm rotating about the axis of the other gears. Each planet gear meshes with a separate one of the other gears and at least one of the pairs of meshing gears includes on each gear thereof one or more circular portions as to which the pitch axis coincides with the pitch axis of the other pair of meshing gears, and one or more non-circular por-

tions along which the pitch axis is displaced from the pitch axis of the other pair of meshing gears.

3,424,022

HYDROSTATIC GEARING

Myron L. Greenberg, Union Lake, and Gordon H. Porath, Detroit, Mich., assignors to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey

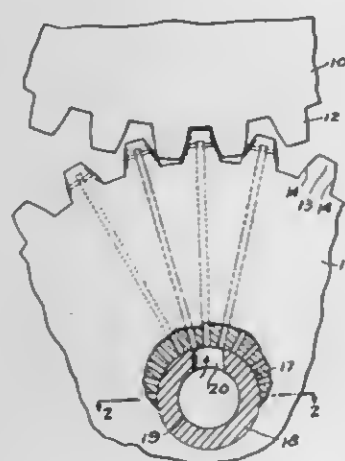
Filed Jan. 23, 1967, Ser. No. 610,853

U.S. Cl. 74-409

8 Claims

Int. Cl. F16h 57/04, 57/00

The apparatus disclosed herein comprises gears with intermeshing teeth, the interengaging surfaces of at least one gear being formed with a plurality of pressure pads or recesses to which fluid under pressure is supplied through a restrictor. In one form, valving is provided to supply the fluid only to the interengaging surfaces. In another form, a plurality of pressure pads are provided



on each surface. In another form, pressure pads are provided on the interengaging surfaces of both teeth. In a further form, pressure pads are provided only on one side surface of the teeth.

3,424,023

STEERING CONTROL SYSTEM

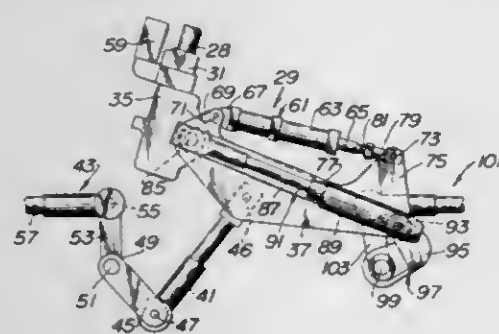
Lyle V. Mustered, Streator, Ill., and George D. Simonds, Clintonville, Wis., assignors to Anthony Company, Streator, Ill., a corporation of Illinois

Filed Apr. 27, 1966, Ser. No. 545,667

U.S. Cl. 74-471

10 Claims

Int. Cl. G05g 9/00, 13/00



A steering means for wheeled vehicles having mechanisms for selective steering control of both the front and rear vehicular wheels from a front wheel steering control member whereby steering torque can be transferred to such front and rear wheels to turn them simultaneously through equal angles in the same and opposite directions to effect crab and cramp steering.

3,424,024

CONTROL TRANSMISSION

Wolfgang Derbuss, Munich, Germany, assignor to M.A.N. Turbo GmbH, Munich-Allach, Germany

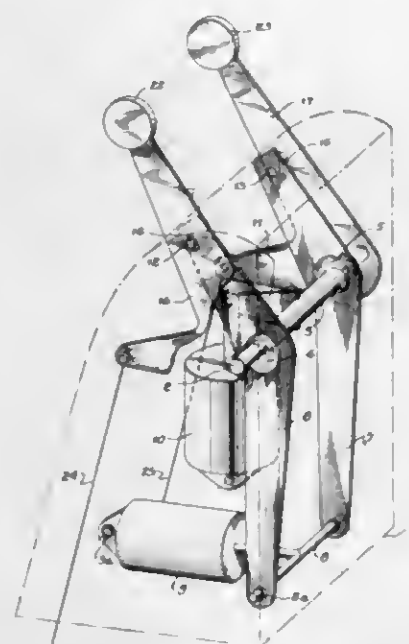
Filed Dec. 12, 1966, Ser. No. 600,797

Claims priority, application Germany, Dec. 21, 1965, M 67,714; July 28, 1966, M 70,380

U.S. Cl. 74-480

10 Claims

Int. Cl. G05g 9/00, 11/00



The throttles for two or more engines are inter-connected by cam actuated levers for movement of the controls in either the same direction or in counter rotation direction.

3,424,025

ADJUSTABLE STEERING COLUMN

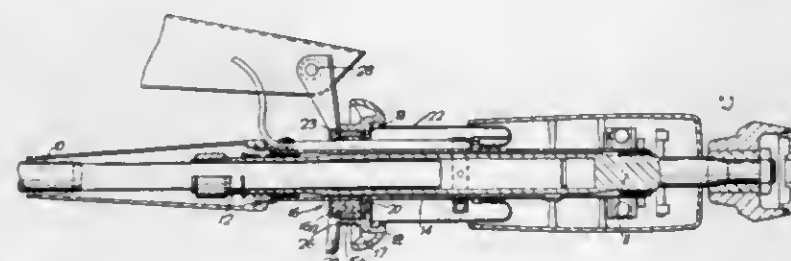
Stephen James Harper, Stoke, England, assignor to Humber Limited, Stoke, England, a British company

Filed Aug. 14, 1967, Ser. No. 660,385

U.S. Cl. 74-493

4 Claims

Int. Cl. B62d 1/18



Means for clamping a rod, tube, or other elongated member in different positions of lengthwise and transverse adjustment, comprising a cup around the elongated member, resiliently deformable ring (or parts of such a ring) within the cup and surrounding the member, guide means supporting the cup against movement along the member while permitting movement of the cup in at least one transverse direction and screw means operable both to deform the ring into gripping engagement with the member, and also to clamp the ring to the guide means.

3,424,026

TORQUE AMPLIFIER

Owen Vaughn, P.O. Box 533, Chickasha, Okla. 73018

Filed July 7, 1966, Ser. No. 563,533

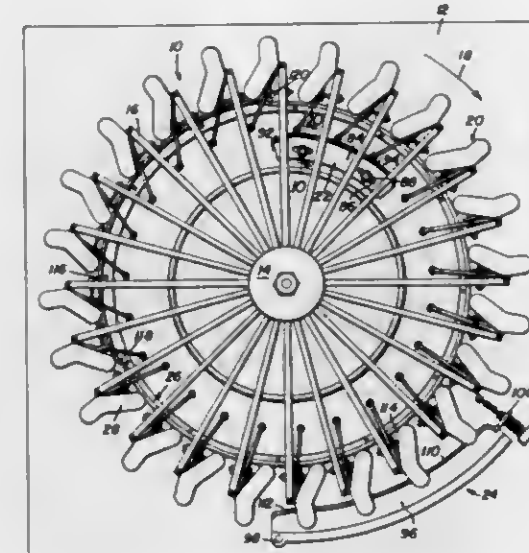
U.S. Cl. 74-572

10 Claims

Int. Cl. G05g 1/08, 3/00

A flywheel assembly through which mechanical power is transmitted in such a manner as to produce instantaneous increases in torque by cyclically changing the center of mass of a rotor during its rotation. Shiftable inertia

weights are slidably and pivotally mounted on the rotor relative to the crank handle wherefore through clutch means that are reversible by sliding of the core shaft the impelling of the feed screw can be transferred back and



by centrifugal forces and control cams rendered operative in response to rotation of the rotor.

3,424,027

REMOTE CONTROL ASSEMBLY

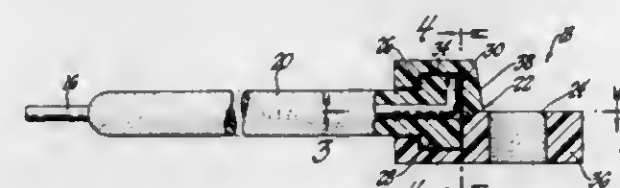
August E. Tschanz, Birmingham, and William L. Frank, Dearborn, Mich., assignors to Teleflex Incorporated, North Wales, Pa., a corporation of Delaware

Filed Apr. 24, 1967, Ser. No. 633,298

U.S. Cl. 74-502

14 Claims

Int. Cl. F16c 1/10, 11/04; B21d 39/02



A motion transmitting remote control assembly including a fitting adapted for attachment to a support structure and secured to a flexible conduit. A motion transmitting core element movably supported in the fitting and the conduit. At least one end of the core element being adapted for attachment to a control element and comprising an elongated first member of organic polymeric material disposed in mechanical interlocking engagement with the core element and a second member of organic polymeric material disposed about the first member so as to allow relative rotation therebetween so that the second member may rotate relative to the core element. The second member has a hole therethrough for attachment to a control element.

3,424,028

SAFETY HANDLE FOR FEED SCREW OPERATING MECHANISM

William M. Hoddinott, Milford, Conn., assignor, by mesne assignments, to Textron Inc., Providence, R.I., a corporation of Delaware

Filed Mar. 4, 1966, Ser. No. 531,811

U.S. Cl. 74-625

6 Claims

Int. Cl. F16h 35/00; B23b 9/00

Mechanism including a hollow shaft and a core shaft slidable lengthwise thereof whereby the feed screw of a movable work support in a milling machine can be rotated optionally by a crank handle or by a source of power. Thrust means prevent axial movement of the core shaft



forth between the crank handle and the source of power by axially shifting the crank handle that can rotate the feed screw.

3,424,029

POWER TRANSMISSION

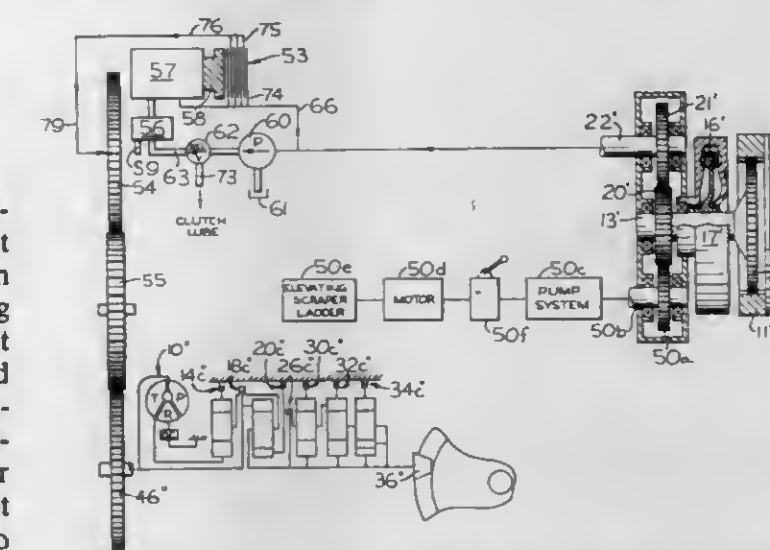
Joachim Horsch, Washington, and Lowell E. Johnson and Shairyl I. Pearce, East Peoria, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

Filed Aug. 1, 1966, Ser. No. 569,331

U.S. Cl. 74-664

17 Claims

Int. Cl. F16h 37/06; F16d 23/10



A vehicle has a power transmission dividing its engine's power between a primary power train having a slipping clutch and a secondary power train adapted to drive an auxiliary implement of the vehicle. Control means are operatively associated with the slipping clutch to infinitely apportion engine power between the two power trains during vehicle operation.

3,424,030

DIFFERENTIAL TIMER

Joseph L. Mennitt, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio

Filed July 6, 1966, Ser. No. 563,110

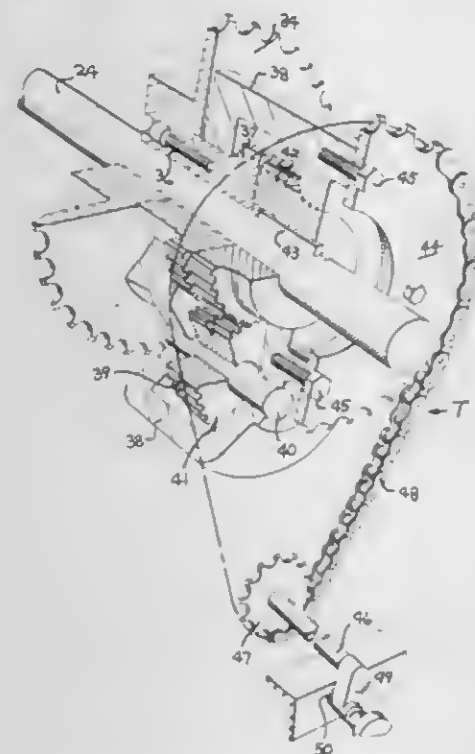
U.S. Cl. 74-675

5 Claims

Int. Cl. F16h 37/06

Apparatus for altering the time relationship of an article-engaging, pusher mechanism with respect to a mov-

ing continuous tandem supply of articles in which the apparatus for driving the pusher mechanism includes a shaft, interacting sun gears and planetary gears rotating the shaft, with means for selectively adjusting the angular



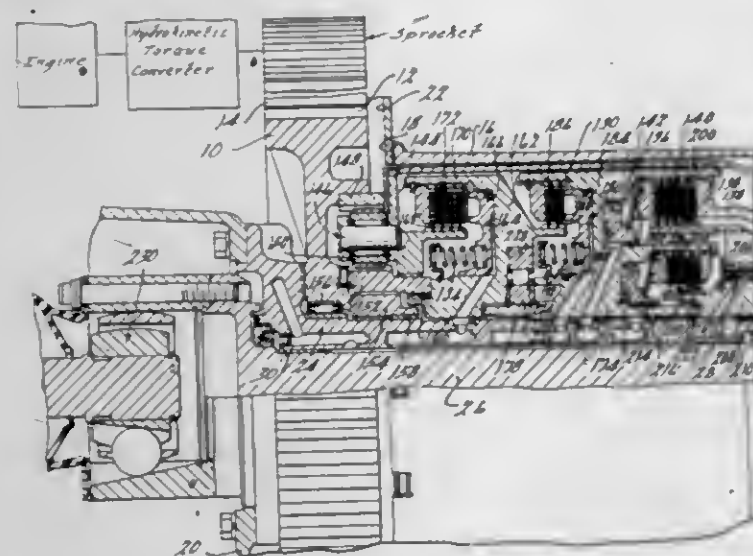
relationship of the planetary gears with respect to the sun gears such that during the interval of adjustment, the rotational speed of the shaft is altered but subsequent to the adjustment is identical to the antecedent shaft speed.

3,424,031 MULTIPLE SPEED RATIO POWER TRANSMISSION MECHANISM WITH A MINIMUM DEFLECTION CHAIN DRIVE

Thomas R. Stockton, Ann Arbor, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed July 5, 1967, Ser. No. 651,318
U.S. Cl. 74-695
Int. Cl. F16h 37/08

8 Claims



This specification describes a driveline arrangement for a wheeled vehicle having an internal combustion engine with its crankshaft situated in spaced relationship with respect to the axis of the axle shafts for the traction wheels. The driveline includes a hydrokinetic torque converter situated for rotation about the axis of the crankshaft and a planetary gear arrangement with its axis situated concentrically with respect to the axis of the output shafts. The turbine of the converter and the power input gear element of the planetary gearing are connected by

means of a chain and sprocket drive so that torque can be distributed from one axis to the other. The power input sprocket element for the planetary gear arrangement is mounted rotatably on a cantilever sleeve shaft. The extended end of the sleeve shaft pilots one of the two output shafts, which are end supported with the bearing loads thereon distributed to each of the axially displaced walls of the casing for the planetary gearing. The sleeve shaft serves also as a torque reaction shaft for accommodating reaction torque of the gearing during torque delivery.

3,424,032 DRIVE PARTICULARLY FOR GARDEN TRACTORS OR LIKE VEHICLES

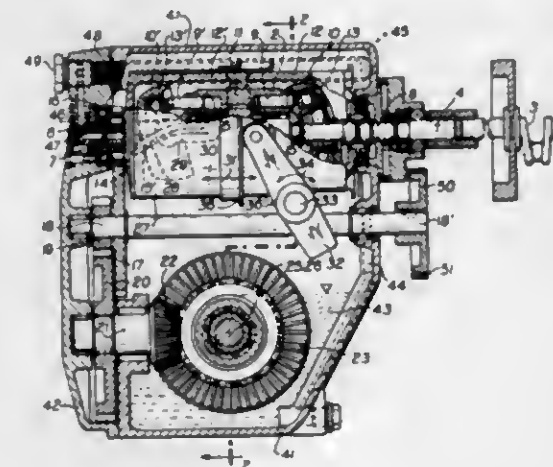
Kaspar Ritter, Kirchheim, Teck, Germany, assignor to Kopat Gesellschaft für Konstruktion, Entwicklung und Patentverwertung m.b.H. & Co. K.G., Boll, Kreis Goppingen, Germany, a corporation of Germany

Filed Oct. 20, 1966, Ser. No. 588,068

Claims priority, application Germany, Jan. 18, 1966, K 58,168

U.S. Cl. 74-730
Int. Cl. F16h 47/06

8 Claims



A drive, particularly for garden tractors having a low motor-output and travelling speed comprising a housing, a hydraulic torque converter having an output side and an endless controllable hydrostatic drive having a pump part and a motor part, each of the parts incorporating a swinging body, and a driving motor including an input shaft operatively connected with the pump part. A multi-step mechanical reduction gear is disposed between the output side and a driven shaft. Control means for varying the transmission ratio include a sliding sleeve with control grooves for the swinging bodies. A fork member cooperates to adjust the sliding sleeve and is pivotally mounted in the housing. The housing encloses the hydrostatic drive and at least the first steps of the mechanical reduction gear and constitutes an oil storage container. A filling pump forms part of the input shaft accessible from the outside of the drive; conduits connect the sump with the filling pump and to the torque converter, the channels being formed in the housing; and an oil filter is disposed in the channels between the filling pump and the torque converter and easily accessible from the outside.

3,424,033 MULTIPLE RATIO POWER SHIFT TRANSMISSION MECHANISM

Howard L. Croswhite, Livonia, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

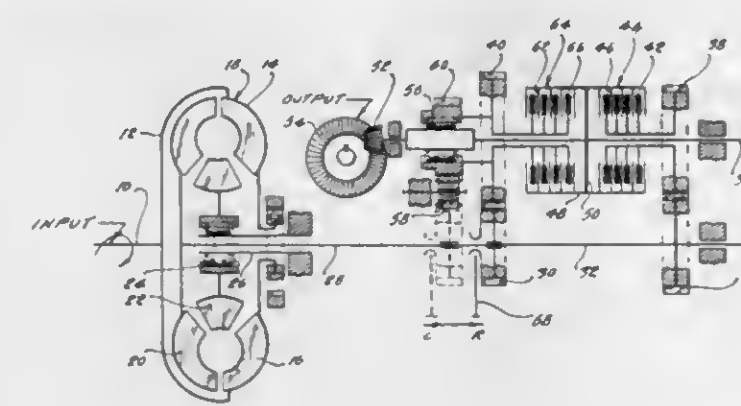
Filed July 27, 1967, Ser. No. 656,391

U.S. Cl. 74-730
Int. Cl. F16h 47/02

11 Claims

This specification describes a multiple-ratio, automotive vehicle power transmission mechanism. The mecha-

nism has two speed ratios and is for use in the driveline of automotive vehicles wherein ratio changes can be ob-



tained without the use of reaction brakes while torque is being delivered through the driveline without interruption.

3,424,034 EPICYCLIC CHANGE-SPEED GEARING

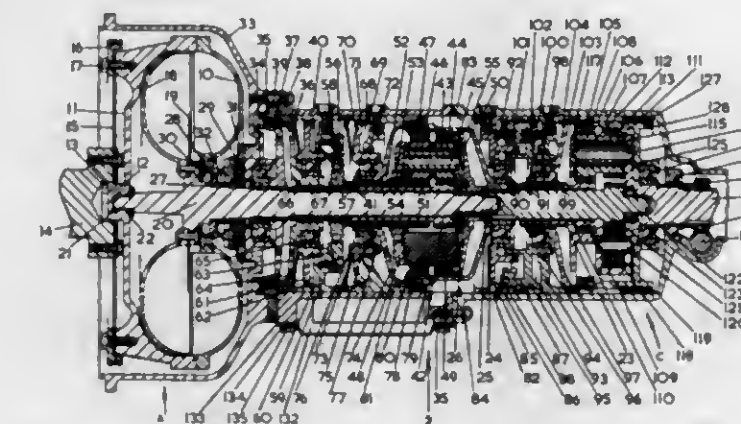
Axel Charles Wickman, 69 S. Washington Drive, St. Armands Key, Sarasota, Fla.
Filed June 16, 1967, Ser. No. 646,721

Claims priority, application Great Britain, July 29, 1966, 34,062/66

U.S. Cl. 74-761

Int. Cl. F16h 57/10

10 Claims



An epicyclic change-speed gearing has a power input sun gear meshing with a first planet gear set which meshes with a second planet gear set, each gear of which is coaxially connected to a gear of a third planet gear set. The planet gears are carried by a power output planet carrier. The third planet gears mesh with a reaction sun gear which is connectable to a casing for a reduction ratio or to a reaction annulus meshing with the second or third planets for direct drive. A brake band grips the reaction annulus for reverse drive.

3,424,035 SPUR GEAR TYPE PLANETARY GEARINGS

Gunther Heldrich, Munich, Germany, assignor to Alexander W. Stoeckicht, Munich-Solln, Germany

Filed Dec. 30, 1966, Ser. No. 606,059

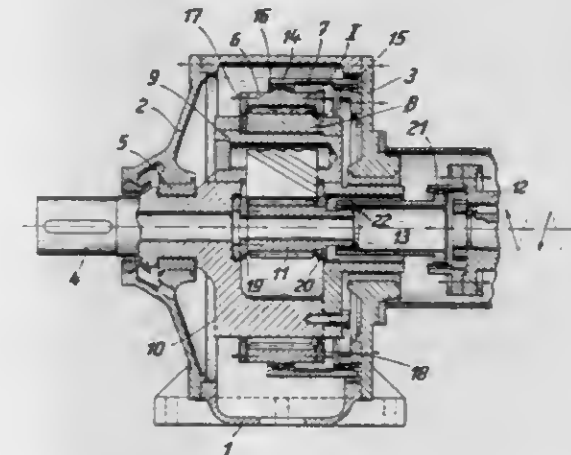
Claims priority, application Germany, June 11, 1966, Z 12,265

U.S. Cl. 74-801

Int. Cl. F16h 1/28, 57/08

6 Claims

A planetary gearing unit which may utilize either straight or single helical spur gear planetary gearing wherein both the internal and external gears are self-adjusting with respect to their associated supporting members, and guiding pressure rings are mounted adjacent



gears is axially guided a self-alignment between the internal, planetary and external gearing is produced.

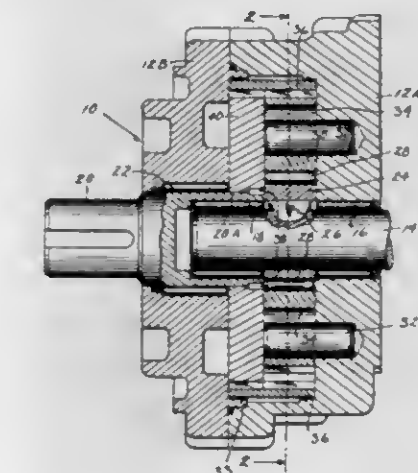
3,424,036 SPEED CHANGING DEVICE

William L. Colgan, West Allis, Wis., assignor to Rex Chainbelt Inc., Milwaukee, Wis., a corporation of Wisconsin

Filed Jan. 17, 1967, Ser. No. 609,895

U.S. Cl. 74-805
Int. Cl. F16h 1/28

7 Claims



In the speed reducer, an externally toothed input gear is mounted for orbital rotational movement within the reducer housing, so that the outermost teeth of the input gear are successively engageable with the internal teeth of a floating ring gear. Lateral movement of the ring gear relative to the housing is limited, and the ring gear is yieldingly connected with a journaled output shaft so that the lateral components of off-set moment forces set up due to the orbiting input gear are absorbed in the housing and are not transferred to the output shaft bearing.

3,424,037 MULTIPLE DRIVE RANGE CONTROL VALVE SYSTEM FOR AN AUTOMATIC TRANSMISSION

John J. Searles, Northville, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Original application Oct. 5, 1964, Ser. No. 401,356, now Patent No. 3,344,681, dated Oct. 3, 1967. Divided and this application Oct. 2, 1967, Ser. No. 672,240

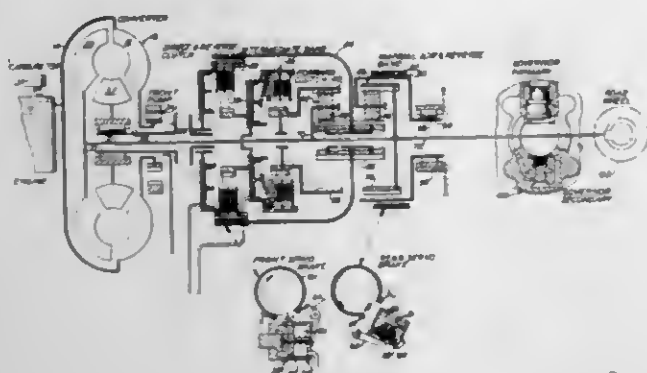
U.S. Cl. 74-869

Int. Cl. G05b 13/00; F16f 3/74

6 Claims

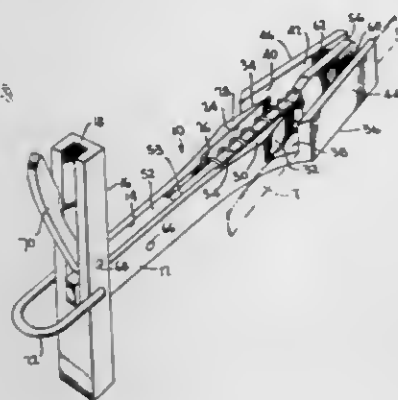
This specification describes a valve system that is adapted to control ratio changes in a geared power trans-

mission mechanism for use in an automotive vehicle driveline. It includes a driver-operated ratio selector valve in fluid communication with fluid pressure distributor valves which control pressure distribution to ratio controlling servos. The valve system may be conditioned for continuous, single-ratio operation when the manual selector valve assumes one operating position, or for single-



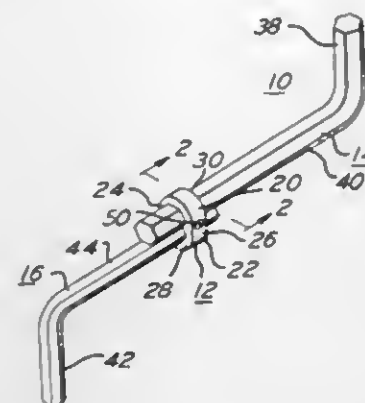
ratio operation in a different underdrive ratio when the manual selector valve assumes a second operating position, or for operation with automatic ratio changes when the selector valve is moved to a third operating position. Ratio changes are accomplished in response to changes in operating pressure signals that are proportional in magnitude to vehicle speed and driving torque.

3,424,038
TAPE GRIP AND HANDLE
Julius H. Smith, Rte. 2, Molena, Ga. 30258
Filed Apr. 5, 1967, Ser. No. 628,621
U.S. Cl. 81-3
Int. Cl. B25b 25/00 7 Claims



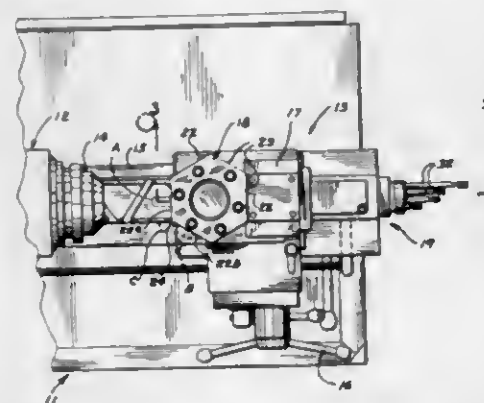
A hand tool for manually drawing a surveyor's chain or measuring tape and the like taut in which the tool has a channel-like body having a transverse handle at one end in which handle a trigger element is pivotally supported for pivoting into and out of the plane of the handle and is operatively connected to a force transmitting bar reciprocally supported in said body; in which the body opens at the end opposite the handle and trigger element and the bar captivates, for movement therewith a clutch element cooperating with the channel-like body to gripingly engage a chain or tape that can be readily and manually inserted into the open end of the body and a lateral opening therein; and in which the bar is limited in reciprocable movement, and a spring is operatively connected to the bar and trigger element urging the clutch element toward gripping engagement and pivots the trigger element out of the plane of the handle.

3,424,039
ADJUSTABLE INSERTED WRENCH COMBINATION TOOL INCLUDING LINK MEANS HAVING PLURAL OPENINGS
Joseph J. Scott, Philadelphia, Pa., assignor to American Air & Power Company, Philadelphia, Pa., a partnership
Filed Mar. 16, 1967, Ser. No. 623,771
U.S. Cl. 81-177
Int. Cl. B25b 13/50 6 Claims



The combination tool means comprises a unitary link unit having first and second openings therethrough each providing a wrench socket for receiving a bolt head or nut for tightening or loosening, and first and second tool elements for being selectively and removably receivable by said link unit through the first and second openings for securing together said unit with at least one of said elements in selected relative positions for forming a composite tool. The link unit has a substantially figure 8 configuration with the first and second openings providing the sockets extending parallel to each other through the unit, the first and second tool elements each comprising an Allen type wrench being selectively receivable by a respective opening of said unit.

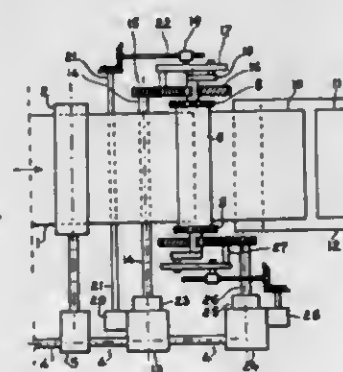
3,424,040
MACHINE TOOL
Rudolf August Vetsch, Walton Hills, Ohio, assignor to The Warner & Swasey Company, Cleveland, Ohio, a corporation of Ohio
Filed Sept. 22, 1966, Ser. No. 581,322
U.S. Cl. 82-21
Int. Cl. B23b 21/00, 39/20, 7/04 23 Claims



1. A machine tool including a work supporting member and a tool supporting member, one of said members being an indexible turret member supported for feeding movement toward and away from said other member and including a plurality of support portions thereon sequentially indexible into a working position, said turret member being indexible from a first position wherein one support portion is in its working position to a second position wherein another support portion is in its working position, stop means including a plurality of stops each corresponding to one of said support portions and each

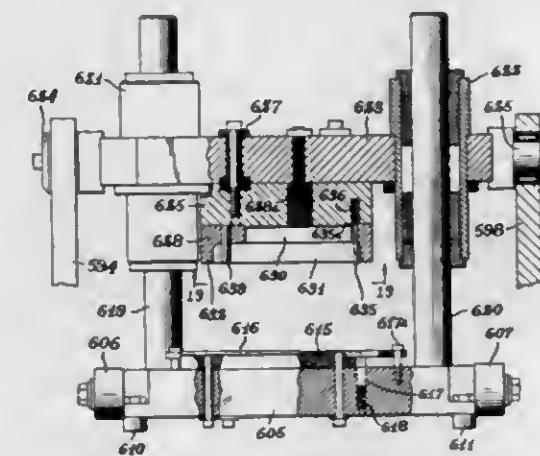
effective to limit feeding of said turret when its corresponding support portion is in its working position, first means drivingly connecting said turret member and said stop means and operable upon indexing of said turret to render a stop effective to limit feeding movement of said turret member, and second means for rendering one of said stops effective to limit feeding movement of said turret member at an indexed turret position intermediate said first and second positions.

3,424,041
SHEARING MACHINES FOR STRIP PRODUCTS PARTICULARLY TO THOSE USED IN THE CORRUGATED BOARD INDUSTRY
Robert Louis Giraud, Mont-Salot-Auguan, France, assignor to Parsons & Whittemore, Paris, France, a company of France
Filed Aug. 19, 1965, Ser. No. 480,988
Claims priority, application France, Aug. 21, 1964, 7,061
U.S. Cl. 83-76
Int. Cl. B26d 5/20; B23d 25/16, 25/02 5 Claims



A power-driven cutting machine, particularly for cutting sheets from corrugated board in continuous operation containing devices on the machine for rapidly changing the cut-off length without stopping the machine and with a minimum of waste of product.

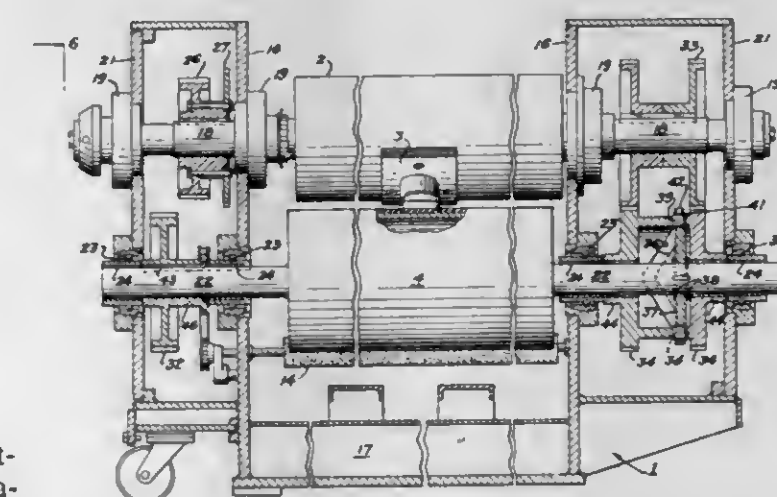
3,424,042
PACKAGE TRIMMER FOR CONTINUOUS PACKAGE FORMING APPARATUS
Hans A. Jensen and Augustus H. Eberman, Madison, Wis., assignors to Oscar Mayer & Co., Inc., Chicago, Ill., a corporation of Illinois
Original application Nov. 4, 1964, Ser. No. 408,842, now Patent No. 3,349,540, dated Oct. 31, 1967. Divided and this application Mar. 27, 1967, Ser. No. 651,070
U.S. Cl. 83-108
Int. Cl. B26d 7/06 4 Claims



The package trimmer includes a bead which moves in timed relation with the advancing packages and which is

cammed downwardly for shearing the sealed together films thereby to separate completed packages from the films. The trimmer also includes a base member moving in timed relation with films, which base member includes a stripper plate. After the actual trimming operation, the stripper plate serves to lift the sealed together films upwardly relative to the severed package thereby to bring the trailing edge of the opening formed in the films (by the trimming operation) into engagement with the package. By this engagement, continued movement of the films downstream of the package forming machine serves to continue advancement of the packages even though the latter have actually been severed or trimmed from the films.

3,424,043
ROTARY DIE CUTTER
Merrill D. Martin, 2 Mall Court, Oakland, Calif. 94611
Filed Dec. 7, 1965, Ser. No. 521,232
U.S. Cl. 83-168
Int. Cl. B26d 1/56, 5/08, 7/08 6 Claims



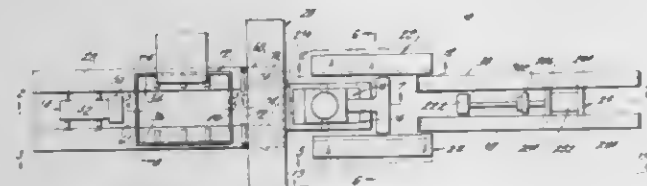
A rotary die cutter wherein the die cutting wear is distributed and spread over the periphery of an anvil roll in such manner that a very large number of impressions are made by the die cutters before an impression is repeated in the same place on the periphery of the anvil roll; this spreading of the cutting impressions is accomplished by shifting the anvil roll axially relatively to the cutter roll in a predetermined ratio relatively to the rotation of said rolls, and further spreading by a connecting gearing of non-reducible ratio between the cutting roll shaft and the anvil roll shaft, thereby prolonging the life of the anvil roll.

3,424,044
CONTINUOUS THREE-KNIFE TRIMMER
Carl Thumlin, Chicago, Nicholas Herman, Palatine, and James Des Jardins, Chicago, Ill., assignors to Miehle-Goss-Dexter, Incorporated, Chicago, Ill., a corporation of Delaware
Filed Mar. 10, 1966, Ser. No. 533,328
U.S. Cl. 83-255
Int. Cl. B26d 5/20, 7/20; B23d 31/00 23 Claims

1. In combination:
a work surface upon which a quantity of material which is to be moved to a second position may be deposited at a first position;
transport means movable on said work surface from a starting position to a finishing position for moving said material from said first to said second position;
transport driving means for moving said transport means between its starting and finishing position at a predetermined rate of speed;

a material receiving table reciprocal between a first position which is a predetermined distance from said work surface to establish a predetermined space therebetween and a second position which is further from said work surface than said first position of said work table, said first position of said table corresponding to the second position of said material;

a front knife assembly positioned above said predetermined space for cutting a first edge of said material when said material is moved to its second position on said table in its first position by said transport means;



a side knife assembly positioned a predetermined distance from said front knife assembly for cutting a second edge of said material which is transverse to said first edge when said table is in its second position; and

table operating means for moving said table at said predetermined rate of speed from its first to its second position after said front knife assembly has cut said first edge.

3,424,045

SHEARING MACHINE FOR PLATES

Emile Breetvelt, 17 Queen's Road, Parktown, Johannesburg, Transvaal, Republic of South Africa

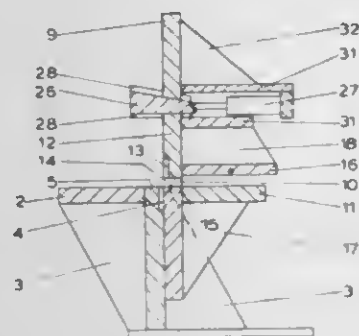
Filed Apr. 13, 1967, Ser. No. 630,660

Claims priority, application Republic of South Africa, Apr. 19, 1966, 66/2,252

U.S. Cl. 83—373

Int. Cl. B26d 5/08, 1/08

5 Claims



The invention relates to plate shearing machines whereby a minimum deformation of the cut plate occurs. This is effected by the moving blade being positioned in the upper edge of a slot of adjustable width in a robust beam such that the cut edge of the sheet must always be supported against bending.

3,424,046

MANUALLY OPERATED SHEARING APPARATUS

Herbert L. Trautmann, 873A W. 15th St., Newport Beach, Calif. 92660

Filed Aug. 25, 1966, Ser. No. 575,144

U.S. Cl. 83—545

Int. Cl. B26d 5/10; B23d 15/08

6 Claims

A manually operated shearing apparatus having a stationary cutting element with a pair of flat side members

and an end member interconnecting the side members to form a U-shaped cutting edge. A pivotally mounted cutter



element cooperates with the stationary blade to sever a workpiece.

3,424,047

TUNING PIN FOR STRINGED INSTRUMENTS

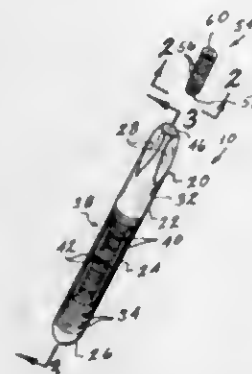
John M. Whited, 2550 Ardmore Ave., Hermosa Beach, Calif. 90254

Filed Aug. 29, 1966, Ser. No. 575,585

U.S. Cl. 84—202

Int. Cl. G10c 3/10

6 Claims



A tuning pin for a piano is provided with a central axial, internally threaded bore and radial slots dividing the mid-portion of the pin, between its ends, into segments to permit radial expansion. A threaded slug in the bore serves to expand the pin to lock it securely in its pin block after a tuning adjustment.

3,424,048

GUITAR KIT

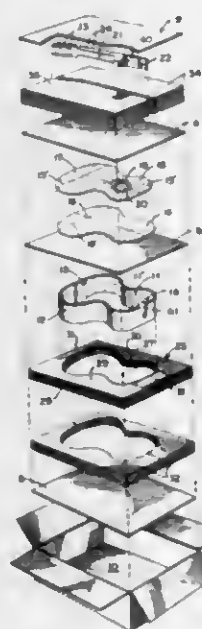
Donald Mack, New York, and Vincent B. di Serlo, Brooklyn, N.Y., assignors to Macaldo Guitars, Inc., New York, N.Y., a corporation of New York

Filed Oct. 12, 1967, Ser. No. 674,950

U.S. Cl. 84—290

Int. Cl. G10d 3/00

11 Claims



Disclosed hereinafter are the details of a guitar-making kit including a disposable, lightweight guitar mold or form

which is used for the formation and preservation of the general shape of thin hardwood guitar side walls in the manufacture and assembly of a high quality, acoustic guitar. More specifically, the mold is fabricated from laminated corrugated container board, expanded plastic foam, or a like inexpensive, lightweight, disposable packaging material.

3,424,049

COMBINED BRIDGE, TAILPIECE AND MANUAL VIBRATO FOR GUITARS

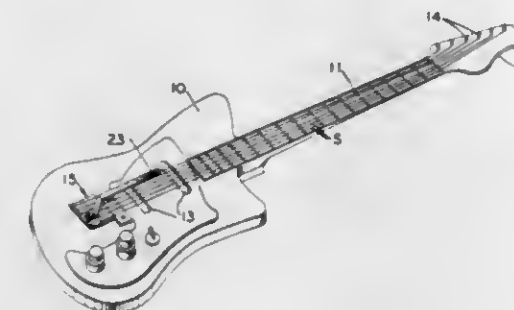
Nathan I. Daniel, Deal, N.J., assignor, by mesne assignments, to The Danelectro Corporation, Neptune City, N.J., a corporation of New York

Filed Aug. 9, 1967, Ser. No. 659,369

U.S. Cl. 84—313

Int. Cl. G10d 3/04, 3/12

4 Claims



A guitar attachment having manual vibrato comprising a bridge section for a connection to the guitar surface and combined with an integral tailpiece connected to the bridge. The tailpiece is not connected to the guitar surface but is cantilevered and is therefore free for substantially vertical movement. A handhold bar is connected to one end of the tailpiece so that manual vibration of the handhold bar actuates the tailpiece and thus effectively lengthens and shortens the strings to produce frequency vibrato by manual actuation of the bar.

3,424,050

HYDRAULIC CLAMP

William G. Burrow, T.A.P., % Arabian Oil Co., Ras-Al-Khaffi, Neutral Zone, Kuwait, and O Lewis Smith, Jr., 3616 Regent Drive, Dallas, Tex. 75229

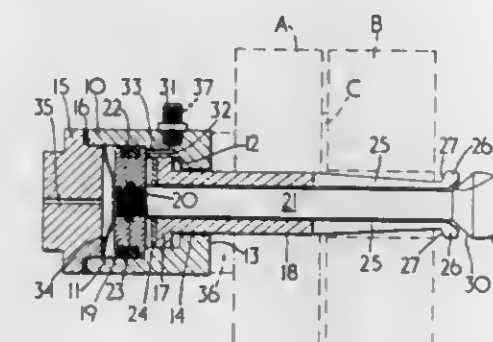
Filed Oct. 2, 1967, Ser. No. 672,142

Claims priority, application Great Britain, Dec. 29, 1966, 58,102/66

U.S. Cl. 85—77

Int. Cl. F16b 2/24

5 Claims



Adjacent sides of two flat members are held abutted by clamping means having a hollow stem extending from a clamping face and through aligned bores in the members. The free end of the stem is formed with collet fingers having abutment faces, and the collet actuator extends through the stem. The stem and actuator are connected to pistons of different diameters so that when a working fluid is fed between them they will first expand the collet and then clamp the members together.

3,424,051

HOLLOW FASTENER AND PLUG ASSEMBLY

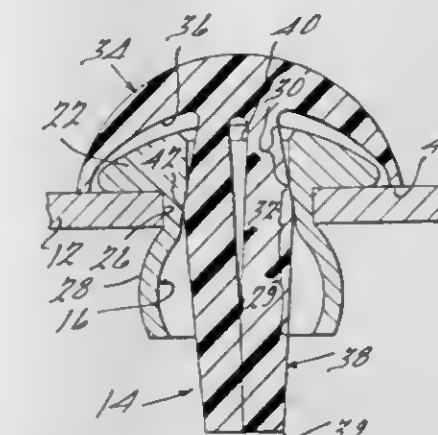
Charles W. Baugh, St. Clair Shores, Mich., assignor to Huck Manufacturing Company, Detroit, Mich., a corporation of Michigan

Filed Mar. 20, 1967, Ser. No. 624,578

U.S. Cl. 85—77

Int. Cl. F16b 13/04, 19/00; A44b 17/00

7 Claims



A resilient plug for filling the opening in a hollow rivet with the plug including a cap for covering one end of the rivet and having a stem cooperating with the cap and the hollow rivet for resiliently retaining the plug and rivet together.

3,424,052

MOUNT FOR LIGHT GUNS

Walter Ruf, Landhaus am See, Thurgau, Switzerland

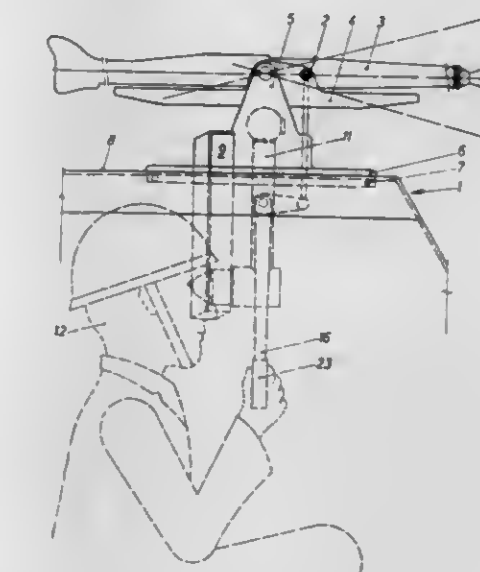
Filed Apr. 7, 1967, Ser. No. 629,223

Claims priority, application Germany, July 21, 1966, R 43,744

U.S. Cl. 89—37

Int. Cl. F41d 11/24; F41p 23/08

9 Claims



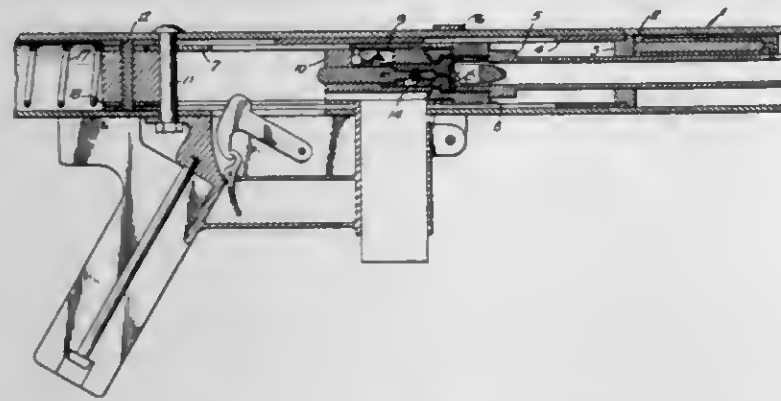
An apparatus for mounting a light gun on a housing, including a mount for the gun tiltably mounted to a disc rotatably mounted in the top of said housing, control means being provided inside said housing for rotating said disc and tilting said mount, means for firing said gun extending through an opening in said disc into said housing, a periscopic sighting tube and at least one wide angle viewing device extending from inside said housing through openings in said disc and terminating outside said housing, and passage means extending from an ammunition container inside said housing through an opening in said disc, and to said gun.

3,424,053

AUTOMATIC FIREARM

Ross A. Close, 3831 Glenbrook Road, Fairfax, Va. 22030
 Filed Aug. 18, 1967, Ser. No. 661,692
 U.S. Cl. 89—185
 Int. Cl. F41d 3/00

1 Claim



The present firearm action consists of cylindrical parts thus lending itself to economical manufacturing processes. The principal parts such as actuating sleeve, receiver, frame and breechblock are made from cylindrical extruded metal tubing and metal rods. The combination of a cylindrical actuating sleeve, breechblock, frame, receiver and other incidental parts are used to form a new action for automatic firearms.

3,424,054

METHOD OF MACHINING METALS AND APPARATUS THEREFOR

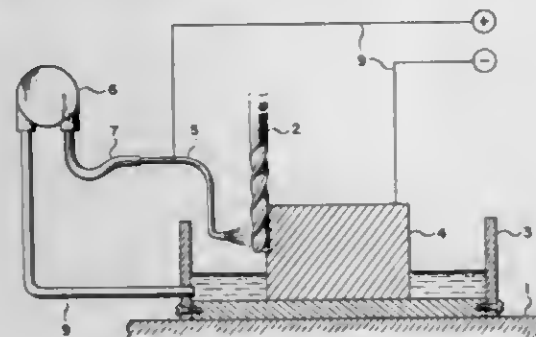
Nathan H. Cook, Concord, Mass., and Robert L. Vaughn, Granada Hills, Calif., assignors to Lockheed Aircraft Corporation, Los Angeles, Calif., a corporation of California

Filed June 14, 1965, Ser. No. 463,689

U.S. Cl. 90—11

2 Claims

Int. Cl. B23c 7/00; C23b 5/00, 9/00



A method and apparatus for machining metal bodies such as titanium. During machining an electrolyte containing a dissolved salt of a soft metal is sprayed against a cutting tool and the metal body being machined. Electrical connections are made such that the spray flows from an anode to the metal body connected as cathode. The soft metal electrodeposits upon the tool and metal body thus acting as a lubricant.

3,424,055

TIGHTENING DEVICE OF A TOOL IN A SPINDLE

Germain Rollat, Geneva, Switzerland, assignor to Société Genevoise, d'Instruments de Physique, Geneva, Switzerland, a corporation of Switzerland

Filed Nov. 12, 1965, Ser. No. 507,810

Claims priority, application Switzerland, Dec. 4, 1964, 15,739/64

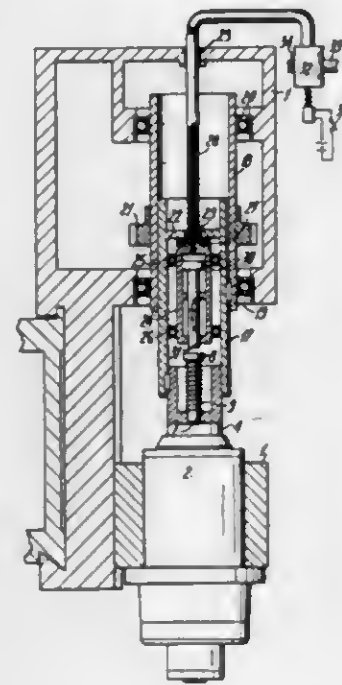
U.S. Cl. 90—11

1 Claim

Int. Cl. B23c 7/00; B23b 31/10, 31/26

A rotary tool holder for tools having conical shank portions is adaptable either to the large American A.S.A. cone or the slender Morse cone, by means of an adaptor

whose outer contour is that of the American A.S.A. cone and that has an inner socket to receive a Morse cone. A rod extends through the spindle and is urged away from the cone by a spring whose force varies inversely as the distance of the rod end from the cone. A large cone is



attached to the rod end by a short extension which compresses the spring to exert relatively large force on the rod; while alternatively a slender cone is attached to the rod end by a longer extension so that the spring force is reduced upon the slender cone.

3,424,056

KEY DUPLICATING MACHINE

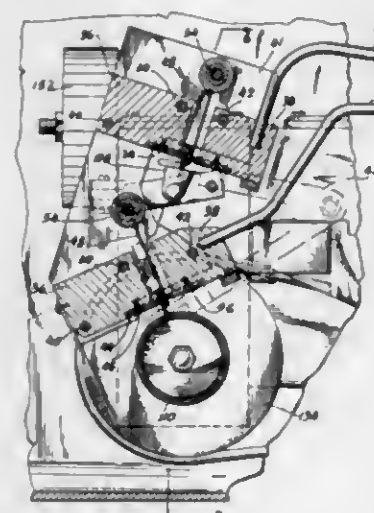
Martin Stolove, 129 S. Virginia St., Atlantic City, N.J. 08401, and Samuel J. Stoll, 216—19 Sawyer Ave., Queens Village, N.Y. 11427

Filed Aug. 1, 1966, Ser. No. 569,383

U.S. Cl. 90—13.05

10 Claims

Int. Cl. B23c 1/16, 1/18



A key duplicating machine having key clamping jaws which may be provided with tapered facing edges engageable with the longitudinal grooves in a key, a key supporting plate mounted between said jaws and clamping means adapted to clamp the jaws against the plate and on a key mounted between the plate and one of the jaws. A carriage bearing both a key follower and a key

cutter moves lengthwise of the key master and the key blank, both master and blank being clamped as aforesaid.

3,424,057

HYDRAULIC PRESSURE CONTROL SYSTEM

Otto Schelzer, Stuttgart-Munster, Baden-Wurtemberg, Germany, assignor to Werner & Pfleiderer, Stuttgart-Feuerbach, Germany

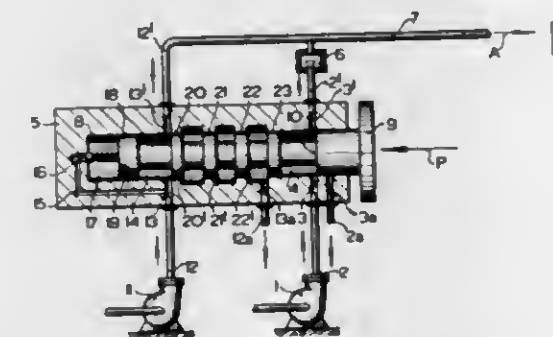
Filed Apr. 19, 1966, Ser. No. 543,731

Claims priority, application Germany, Apr. 21, 1965, W 39,008

U.S. Cl. 91—29

6 Claims

Int. Cl. F15b 13/042; F16h 41/02; G05d 11/00



A four-way spool valve for automatically operating a hydraulic device from a low-pressure source of liquid and a high-pressure source of liquid having throttling and damping means for controlling movements of the spool.

3,424,058

TORQUE RESPONSIVE LINEAR ACTUATOR

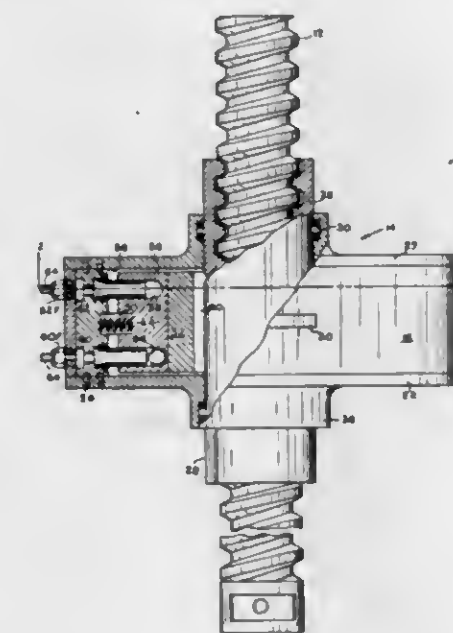
Baron C. Wolfe, 24 W. Grant St., Eureka, Calif. 95501

Filed Mar. 21, 1966, Ser. No. 535,844

U.S. Cl. 91—105

2 Claims

Int. Cl. F01c 1/00; F16h 29/20



An actuator for moving and positioning a load along a linear path. A screw supported parallel to the path and a hydraulic power unit coupled to the screw so that when hydraulic power unit is driven rotatably in response to application of hydraulic fluid pressure, the screw is rotated and moved linearly with respect to the hydraulic power unit. The power unit can be driven in either direction so as to effect linear movement in either direction. The power unit can be locked against rotation by application of equal and opposite fluid pressure input thereto.

3,424,059

LINEAR HYDRAULIC MOTORS

Charles Irvine Conner, Penicuik, Midlothian, Bernard Victor Howard, Currie, Midlothian, Donald Ferguson Walker, Barnton, Edinburgh, and Godfrey Allen Wood, Eskbank, Dalkeith, Scotland, assignors to Ferranti, Limited, Hollinwood, Lancashire, England, a company of Great Britain and Northern Ireland

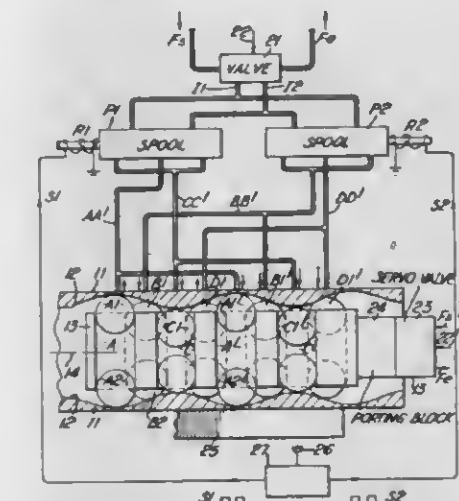
Filed Apr. 11, 1967, Ser. No. 630,016

Claims priority, application Great Britain, Apr. 12, 1966, 15,838/66

U.S. Cl. 91—176

6 Claims

Int. Cl. F01b 15/00; F01i 15/08



A linear hydraulic motor for motion along a straight axis including a stator having a cyclic edge profile which extends in the direction of the axis, and a translator having cylinders transverse to the axis. Each cylinder contains a steel ball which is urged by the actuating fluid in the cylinder into continuous engagement with the stator profile, the relative pressures of the fluid in the cylinders being controlled by porting spools (hydraulic valves) so as to maintain the translator in motion along the axis in a forward or backward sense as required by a command signal.

3,424,060

POWER AMPLIFICATION CLAMP STRUCTURE

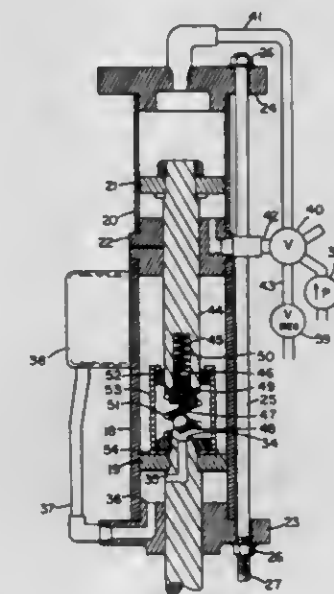
Arthur W. Schueler, Cincinnati, Ohio, assignor to Precision Welder and Flexopress Corporation, Cincinnati, Ohio, a corporation of Ohio

Filed Mar. 2, 1964, Ser. No. 348,354

U.S. Cl. 92—10

15 Claims

Int. Cl. F15b 15/22



Power amplifying means for use in clamping workpieces, having a pair of axially aligned cylinders. A power

piston in one cylinder has a rod extending into the second or pressure cylinder, and is movable relative to a pressure piston therein. A lost motion coupling interconnects the power piston rod to the pressure piston so that the pressure piston can follow motion of the power piston. Escape of pressure fluid from the space in the pressure cylinder surrounding the end of the power piston rod therein is prevented by a valve resiliently closing a port in the pressure piston as the rod approaches the pressure piston, thereby intensifying the force acting on the pressure piston.

3,424,061

HYDRAULIC CONTROL CYLINDER AND AIR PISTON ASSEMBLY

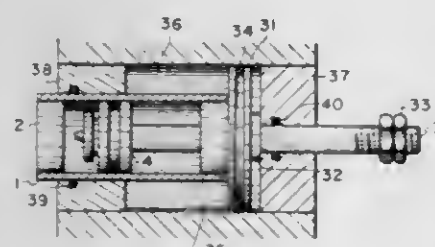
Alan C. Brooks, 633 Nye Ave., Irvington, N.J. 00711

Continuation-in-part of application Ser. No. 414,917, Nov. 30, 1964. This application Aug. 26, 1965, Ser. No. 489,459

U.S. Cl. 92-12

Int. Cl. F15b 15/22

3 Claims



An hydraulic cylinder and air piston assembly including an air cylinder, and an hydraulic cylinder coaxial with and axially moveable within the air cylinder. The air piston serves as an end cap of a cylinder filled with hydraulic fluid within which is an hydraulic piston. Hydraulic control means are provided for controlling the flow of hydraulic fluid from one side of the head of the hydraulic piston to the other side. A limit stop is provided to limit the axial travel of the hydraulic piston. The air piston is adapted to be placed within an air cylinder and has its movement controlled in any well known manner. The air piston assembly exhaust allows air in the air cylinder to expand as it is exhausted to cool the hydraulic cylinder surface and thus maintain the hydraulic fluid inside of the hydraulic cylinder at a constant temperature. The hydraulic control means for the hydraulic piston is a poppet valve which allows hydraulic fluid to pass through the hydraulic piston head in a given direction only after the completion of travel of the hydraulic piston and poppet valve assembly. The poppet valve has a variable orifice controlled by rotation of the hydraulic piston rod to vary the poppet valve orifice and thus vary the flow of hydraulic fluid from one side of the hydraulic piston head to the other side thereof.

3,424,062

BRAKE ACTUATING MECHANISM

Allen L. Gummer and George P. Mathews, Cloverdale, Calif., assignors to MGM Brakes, Inc., Cloverdale, Calif., a corporation of California

Filed Nov. 30, 1966, Ser. No. 597,940

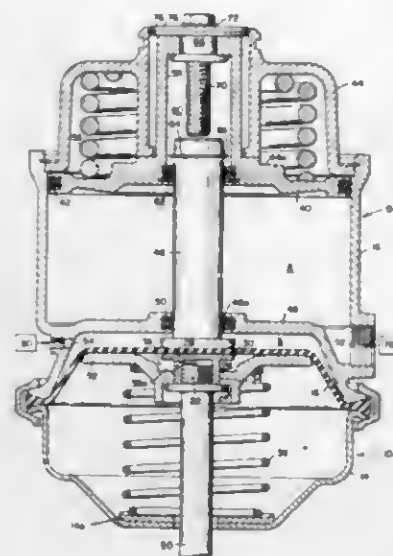
U.S. Cl. 92-63

Int. Cl. F01b 7/00, 19/02; F16j 1/10

8 Claims

Disclosed herein is a vehicle-braking apparatus which provides means for moving a brake-actuating rod to a point past the limit of travel obtained when the apparatus

is used in the normal braking manner, thus increasing the effective stroke of the apparatus. The means is effective upon reaching the normal limit of travel of the service brake.



3,424,063

APPARATUS USING DIAPHRAGM-TYPE FLUID-CONTROLLED LOGIC DEVICES AND METHOD OF MAKING SAME

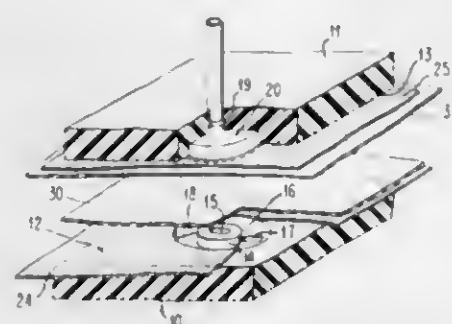
Richard E. Norwood, Endicott, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Nov. 19, 1964, Ser. No. 412,405

U.S. Cl. 92-98

Int. Cl. F01b 19/02; F16j 3/00; F16k 7/12

2 Claims



High density, miniature fluid-controlled logic apparatus with abutting double-thickness diaphragms each adhered to a respective flat surface of one of two assembled housing members in surrounding relation to a plurality of closely spaced chamber-defining recesses and pressure-sealing ridges, to prevent leakage of pressure fluid between the closely spaced recesses, and provide a plurality of separate independently flexible diaphragms for each chamber, and enable disassembly of the apparatus without rupture of the diaphragms.

3,424,064

CLAMP TYPE ROTOCAMBER

Harry M. Valentine, Elyria, Ohio, assignor to Bendix-Westinghouse Automotive Air Brake Company, Elyria, Ohio, a corporation of Delaware

Filed Mar. 14, 1966, Ser. No. 534,212

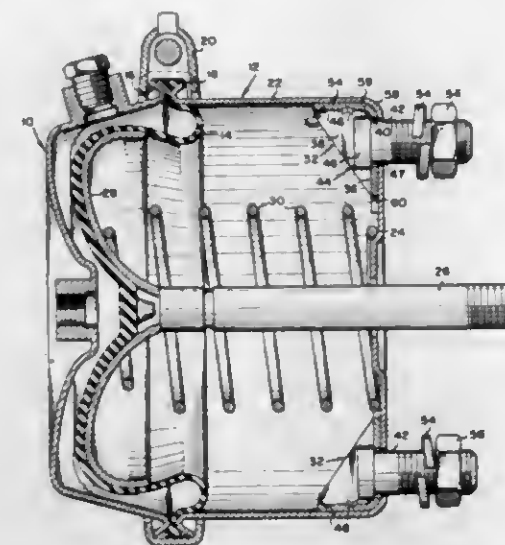
U.S. Cl. 92-101

Int. Cl. F01b 19/00; F16b 39/28, 1/00

1 Claim

Mounting means for a thin walled non-pressure plate of an expansible chamber motor of the type having a

cylindrical side wall and a flat end wall, said walls being right-angularly related, the mounting means comprising a pair of diametrically disposed clip members each having right angularly-related side and end wall portions conforming to the shape of the side and end walls of the plate and respectively engaging the latter, the side edges



of the side and end walls of the clip member being interconnected by webs and with the side wall of the clip member being welded to said cylindrical side wall, together with bolt means having a head part welded to the end wall of the clip member and extending outwardly of the plate for securing the motor to a support.

3,424,065

BEARING

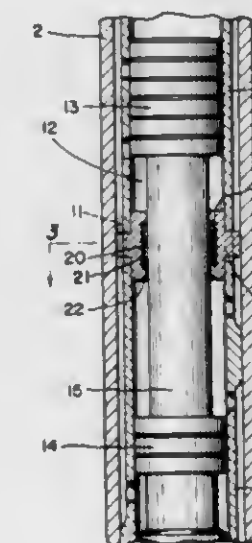
Ewald H. Kurt, Phillipsburg, Edward F. Wickens, Stewartsville, and Samuel P. Lewis, Washington, N.J., assignors to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey

Filed Jan. 30, 1967, Ser. No. 612,683

U.S. Cl. 92-167

Int. Cl. F16j 15/18

1 Claim



A percussive rock drill containing a reciprocating piston sliding in a bearing which includes a plurality of arcuate bearing segments mounted in end-to-end abutment and grasped in a continuous circular resilient band. Both the bearing segments and the resilient band are cradled in an outer bearing support member allowing the bearing segments to move slightly in their mounting.

3,424,066

FREE PISTON TYPE PLUNGER

Earl K. Moore, Jr., P.O. Box 2486, Odessa, Tex. 79760

Original application Feb. 28, 1966, Ser. No. 530,514, now Patent No. 3,351,021, dated Nov. 7, 1967. Divided and this application Aug. 7, 1967, Ser. No. 667,022

U.S. Cl. 92-193

Int. Cl. F04b 47/12; F16j 1/06

6 Claims



A free piston type plunger having an impact responsive packer section about a mid-portion thereof which is actuated to the closed or opened configuration, respectively, as the plunger is decelerated by a lower or upper stop means, respectively, of a gas lift well. The plunger includes an upper body portion and a lower body portion. A mandrel is slidably received within the lower body portion and is attached to the upper body portion. The packer section is circumferentially disposed about the lower body portion and mounted for limited movement in a manner whereby the packer is expanded radially away from the mandrel when the plunger assumes the closed configuration, and wherein the packer is retracted radially towards the mandrel when it assumes the opened configuration.

3,424,067

HANDLE FORMING MACHINE

John Blair, Higherford, Lancashire, England, assignor to Coloroll Limited, London, England, a British company

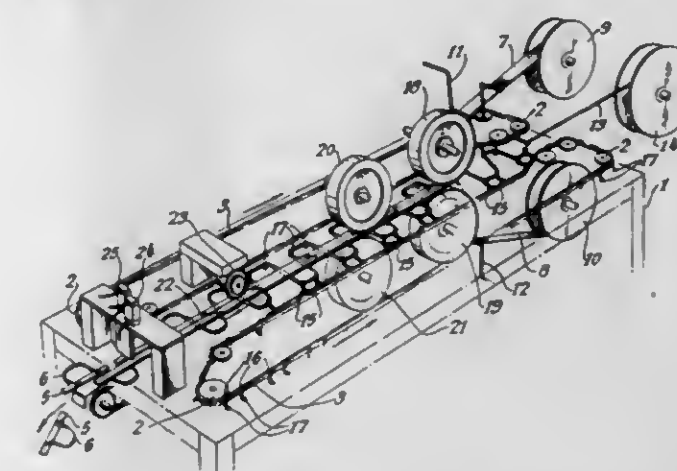
Filed June 10, 1966, Ser. No. 556,752

Claims priority, application Great Britain, June 23, 1965, 26,504/65

U.S. Cl. 93-1

Int. Cl. B31d 1/06

11 Claims



A machine for producing a composite patch and loop-shaped carrying handle for attachment to a bag including means to feed the handle and patch forming material,

means to shape the handle material into a sinuous shape, and means to apply the patch material to the sinuous-shaped handle material and secure it thereto. The patch material is applied to at least one side of the handle material and is substantially centrally located with respect to the sinuous shape. Heat and pressure means are applied as necessary and the composite strip is cut both longitudinally and laterally to separate the individual handles.

3,424,068

CARTON FORMING BLOCK

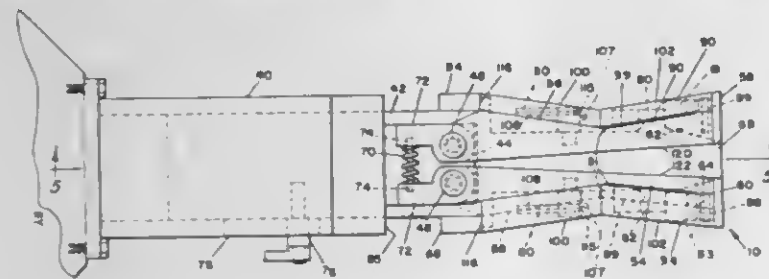
John W. Scully, Raynham, Mass., assignor to Pneumatic Scale Corporation, Quincy, Mass., a corporation of Massachusetts

Filed July 26, 1967, Ser. No. 656,250

U.S. Cl. 93-59

12 Claims

Int. Cl. B31b 1/28; B23b 31/42



2. An elongated collapsible forming block about which a carton blank may be wrapped to produce a carton having non-parallel side walls such as to preclude longitudinal withdrawal of the carton from the block when the block is in its expanded condition, said forming block having elongated shaping arms defining the longitudinal corners of the block, said shaping arms having non-parallel outer surfaces, and means for mounting said shaping arms to move inwardly in two different planes at right angles to each other to contract the forming block and permit longitudinal withdrawal of the carton.

3,424,069

APPARATUS AND METHOD FOR FORMING CYLINDRICAL CONTAINERS

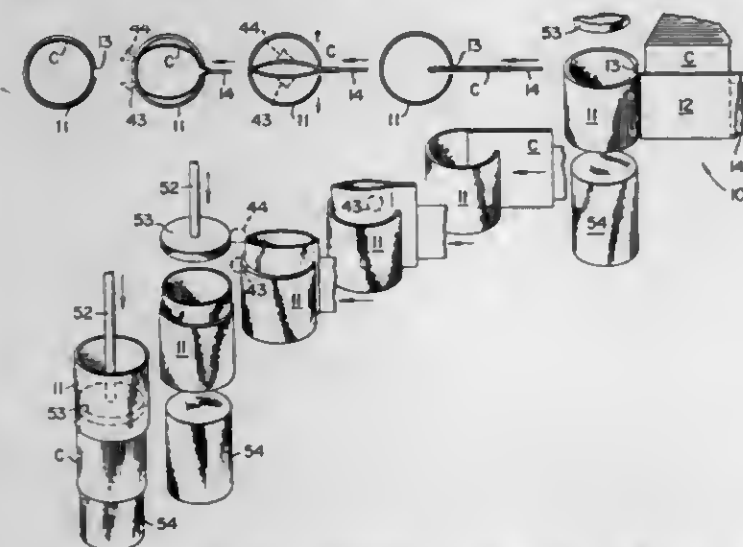
William Geisler, San Francisco, Calif., assignor to Fibre-board Corporation, San Francisco, Calif., a corporation of Delaware

Filed May 4, 1967, Ser. No. 636,149

U.S. Cl. 93-77

4 Claims

Int. Cl. B31c 1/06; B31b 5/02



Flattened, tubular container blanks are stacked in a magazine and individually fed into a cylindrical forming chamber by a reciprocal blade member. Suction cups grasp opposed panels of the blank to partially open same in the chamber. A plunger then pushes the blank onto a cylindrical mandrel after the suction cups have been released therefrom.

3,424,070

CAMERA APPARATUS

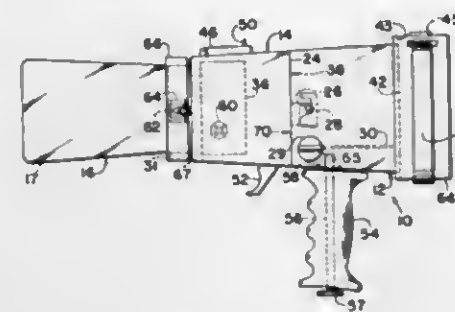
William F. Nyman, Suffolk County, N.Y., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Continuation of application Ser. No. 422,276, Dec. 30, 1964. This application Nov. 10, 1966, Ser. No. 593,560

U.S. Cl. 95-11

14 Claims

Int. Cl. G03b 19/04



An apparatus for use in "close-up" photography. The camera is composed of a plurality of interchangeable sections for obtaining various size or magnification relationships. Each section having mutually-engageable latching mechanisms and movable baffles for protecting photosensitive materials positioned for exposure. An interlock device connects each latching mechanism and associated baffle whereby the photosensitive material is protected against inadvertent exposure during disassembly of the camera sections.

3,424,071

PHOTOGRAPHIC CAMERA WITH SELECTIVELY ATTACHABLE FLASH UNITS

Josef Schwabo, Stuttgart, Germany, assignor to Zells-Ikon Aktiengesellschaft, Stuttgart, Germany, a corporation of Germany

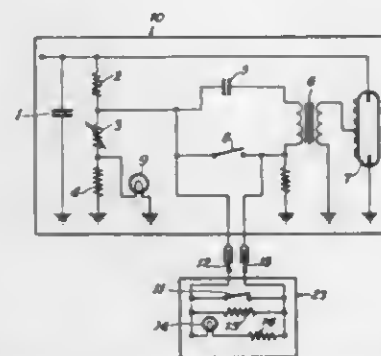
Filed Mar. 9, 1966, Ser. No. 532,986

Claims priority, application Germany, Mar. 12, 1965, Z 11,402

U.S. Cl. 95-11.5

3 Claims

Int. Cl. G03b 9/70



A photographic camera having shutter operated synchronous contacts is detachably connectable either with an electronic flash unit or with a flash bulb unit. A test lamp—indicating whether the flash unit is operative—is arranged in parallel to the shutter operated synchronous contacts and to the electrical connectors on the camera which are detachably connectable with matching electrical connectors on the selectively employable flash units.

3,424,072

PHOTOGRAPHIC APPARATUS ON A CAMERA FOR PRODUCING TRANSFER PRINTS

R. W. Hodgson, Los Angeles, Calif. (Box R, Sherman Oaks, Calif. 91413), and William Cairns, 629 S. Burlington Ave., Los Angeles, Calif. 90057

Filed Aug. 19, 1966, Ser. No. 573,671

U.S. Cl. 95-13

17 Claims

Int. Cl. G03b 17/50

The specification discloses transfer printing apparatus associated with a camera (such as within the camera, or in

an auxiliary unit coupled to the camera, either permanently or temporarily), said camera functioning to expose photosensitive image-recording sheet material in response to operation of the camera, with the transfer printing apparatus being adapted to produce (and, in one preferred form, to also dispense) transfer prints on corresponding

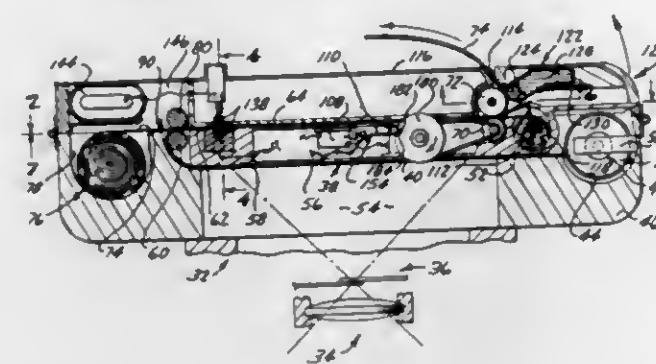


image-receptive transfer print sheet material by transfer printing same from each such exposed portion of said photosensitive image-recording sheet material, and to do so without requiring any attention on the part of an operator of the camera as has been required in the past with transfer printing cameras.

3,424,073

CAMERA PRETIMER MECHANISM

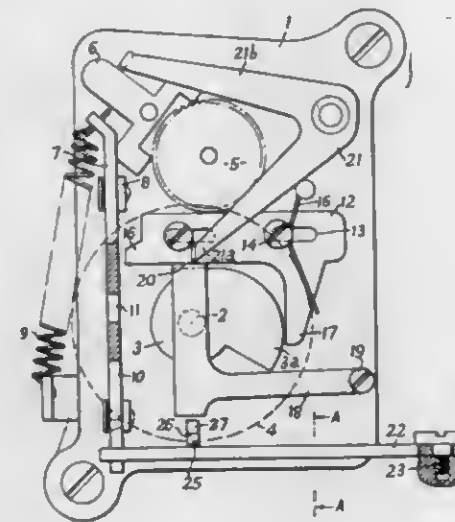
Günter Hausmann, Dresden, Germany, assignor to VEB Pentacon Dresden Kamera- und Kinowerke, Dresden, Germany

Filed Feb. 11, 1966, Ser. No. 526,873

U.S. Cl. 95-53.3

5 Claims

Int. Cl. G03b 9/64



A pretimer is provided which by the utilization of two springs, only one of which operates against the escapement, supplies relatively high release pressure without necessitating increased weight or size of the escapement.

3,424,074

SEALING MEANS FOR PHOTOGRAPHIC PROCESSING APPARATUS

Richard J. Chen, Winchester, and Nicholas Gold, Arlington, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed Nov. 2, 1966, Ser. No. 591,456

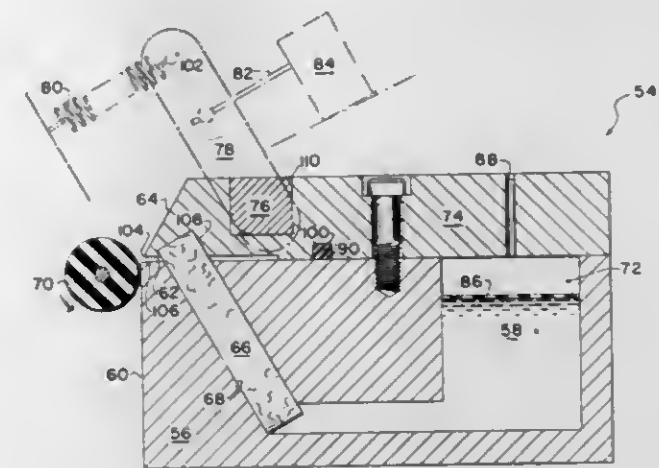
U.S. Cl. 95-89

8 Claims

Int. Cl. G03d 3/00

An applicator including a container having a supply of a nonviscous liquid therein and a cover, said liquid being subject to deterioration due to evaporation and contact

with the atmosphere. Surfaces of the container and the cover cooperate to define a capillary slot through which the liquid flows by capillary action for subsequent application to a sheet of material. The cover is provided



with a member for distorting a portion of the cover to close the capillary slot when the applicator is not in use thereby protecting the liquid from the adverse effects of the atmosphere.

3,424,075

BREWING APPARATUS

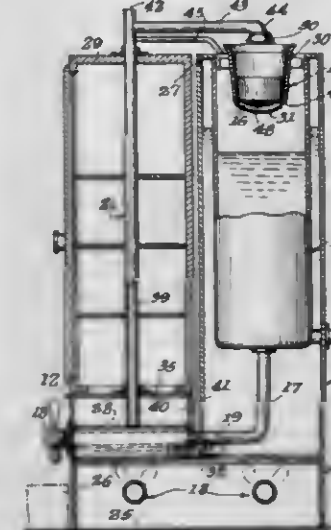
Donald W. Blackmore, 3702 La Colmena Way, Los Alamitos, Calif. 90720

Filed Apr. 10, 1967, Ser. No. 634,407

U.S. Cl. 99-298

7 Claims

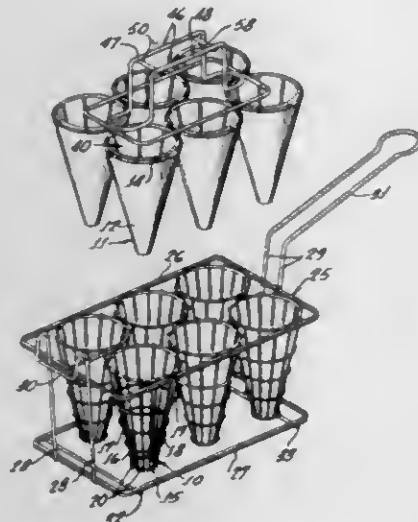
Int. Cl. A47j 31/04



Coffee-brewing apparatus having a water reservoir with two urns therein and a hopper above each urn to hold an opened can of ground coffee in position for hot water to pass therethrough, the resultant liquid coffee entering the urn with a coffee can thereabove. A heating container, with venting valves at each end, having a standpipe extending upwardly from the middle thereof to conduct hot water from said container, when said container is full of water, to said hopper when, due to applied heat, the pressure builds up therein to force water into the standpipe. Upon a predetermined low level being reached in the container, steam vents through the standpipe, lowering pressure and causing vent valves to open, then the reservoir, by gravity and through a connection with a check valve, refills the container. The standpipe may be moved to supply water to one or the other of said urns, as desired, or to return the hot water to the reservoir in a recirculating manner.

3,424,076 APPARATUS FOR MAKING A TORTILLA PRODUCT

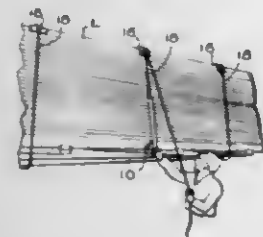
Thomas H. Bernatz, 18322 Peralta Hills Drive, Anaheim, Calif. 92806, and Gerald A. Brady, 1247 St. James, Orange, Calif. 92667
Filed Nov. 21, 1966, Ser. No. 595,768
U.S. Cl. 99-416 16 Claims
Int. Cl. A47j 37/12; 36/22; A21b 5/02



This invention relates to an apparatus for forming a novel tortilla product and particularly to a crisp, stiff shell having a pair of sides which overlap to form a conically-shaped edible container in which additional food-stuffs may be confined.

3,424,077 METHOD FOR SETTING CORNER IRONS

Alvie L. De Haan, 10841 SW. 63rd St., Portland, Oreg. 97219
Filed June 12, 1967, Ser. No. 645,449
U.S. Cl. 100-2 2 Claims
Int. Cl. A47f 13/06; B65b 13/02

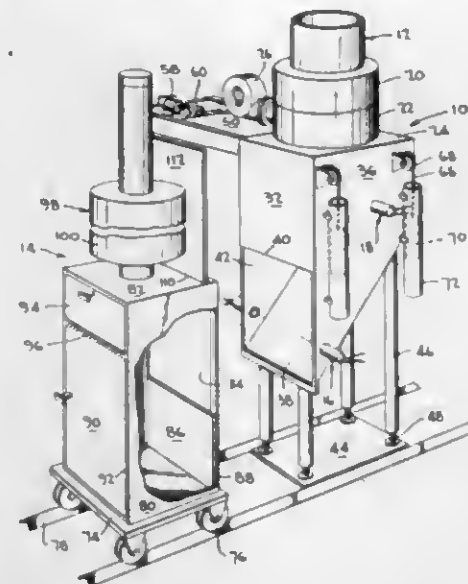


A method of installing corner irons on the edge of a load of lumber or plywood using a tool comprising an extensible handle and a slotted holder mounted on one end thereof, the holder having a longitudinal axis disposed at an angle to the longitudinal axis of the handle. A corner iron inserted in the slotted holder is raised from the ground to a position in which its horizontal leg can rest on top of the edge of the load and is maintained in position underneath the transversely-extending restraining cable used to hold the load in place until the cable is tightened, thereby to maintain the corner iron protectively in place on the edge of the load.

3,424,078
TRASH HANDLING AND BALING SYSTEM
John A. Boyd and Donald E. Boyd, Fairfax, Va., assignors to Boyd Package Trash Systems, Inc., Falls Church, Va., a corporation of the District of Columbia
Filed Jan. 18, 1967, Ser. No. 610,182
U.S. Cl. 100-49 12 Claims
Int. Cl. B30b 15/14, 15/16; B65b 63/02

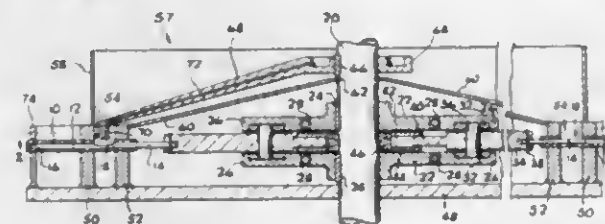
A trash handling and baling system connected at the base of a vertically extending trash chute in a multistory

building. The trash chute is coupled to a trash directing means having a sloped base therein. The sloped base directs the trash out of the trash directing means and into a baling means having a vertically movable compacting ram which compresses the trash into a bale. First and second time-delayed photocell control means are provided in the trash directing means and are operated when



the light beams are broken by the presence of trash. The first control means operates the compacting ram and blocks off communication between the trash directing means and the baling means while the second control means blocks off communication between the trash chute and the trash directing means and signals when the bale has reached proper size.

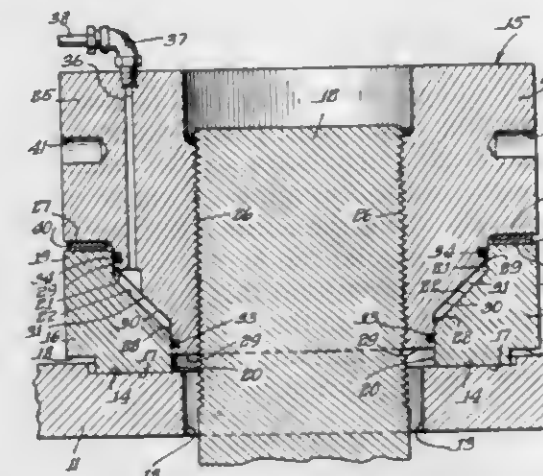
3,424,079
PELLETING MACHINE
Charles Francois Botha, 38 Hill St., Malmesbury, Republic of South Africa
Filed Nov. 29, 1965, Ser. No. 510,237
Claims priority, application Republic of South Africa, Dec. 7, 1964, 64/5,833; Nov. 19, 1965, 65/6,246, July 14, 1965, 65/3,734
U.S. Cl. 100-186 6 Claims
Int. Cl. B30b 1/00, 15/14, 15/16



The disclosed device involves a pelleting machine for use in the pelleting of cellulosic feed material for livestock. The pelleting machine comprises a plurality of plunger and die assemblies spaced circumferentially about a plunger displacement means for displacing the plungers cyclically and reciprocatingly relative to the dies. Each die comprises a barrel of resilient material having an inlet port leading transversely into the die.

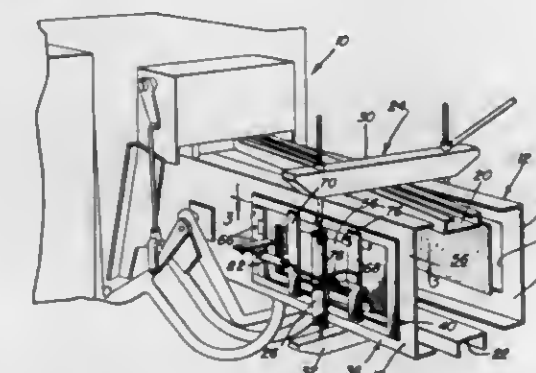
3,424,080
HYDRAULIC TIE ROD NUT
Lambros A. Pappas, 6049 N. Richmond, Chicago, Ill. 60645
Filed Aug. 23, 1967, Ser. No. 662,798
U.S. Cl. 100-214 11 Claims
Int. Cl. B30b 15/00; F16b 37/00
A unitary hydraulic tie rod nut is provided for tensioning the tie rods of a power press, it having a pair of axially relatively movable members with one member only engageable with the frame of the press and the other

threaded on the tie rod. It includes an expansible chamber supplied with hydraulic fluid pressure for moving the members apart to tension the tie rod, and shims are inserted between the two members for maintaining the tension in the tie rod when the hydraulic fluid pressure is released.



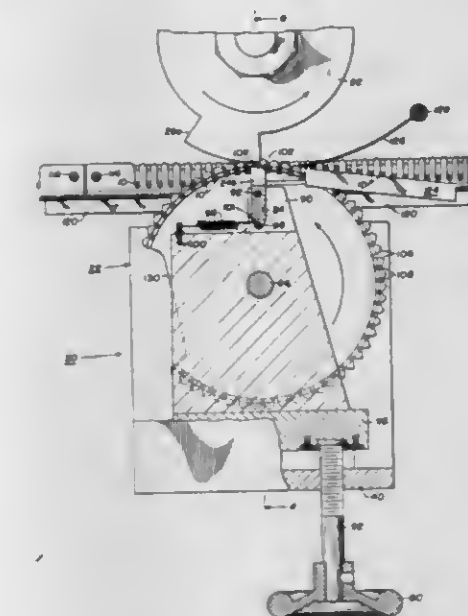
inserted between the two members for maintaining the tension in the tie rod when the hydraulic fluid pressure is released.

3,424,081
BALE COMPACTING ATTACHMENT FOR BALERS
Earl M. Hoke, Plevna, Mont. 59344
Filed Jan. 10, 1966, Ser. No. 519,619
U.S. Cl. 100-192 4 Claims
Int. Cl. B30b 1/00



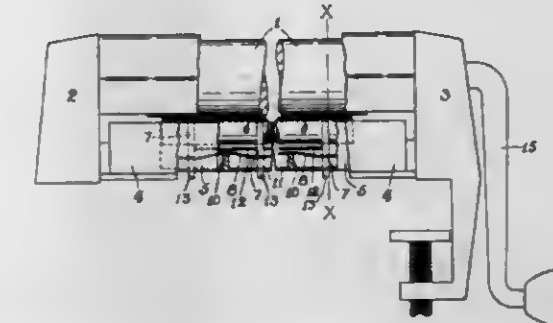
A pair of flap members mounted in elongated openings formed in opposite side walls of the bale discharge chute of a baler including longitudinally extending wall portions of the discharge chute supported at their ends adjacent the inlet end of the chute for swinging movement of their ends adjacent the discharged end of the chute toward and away from each other and provided with means for yieldingly urging the free swinging ends toward each other, the flap members extending generally between opposite side marginal portions of the elongated wall portions adjacent the free swinging ends of the elongated wall portions and having their ends adjacent the inlet end of the chute pivotally supported from the chute for movement of the free ends of the flap members adjacent the outlet end of the chute toward and away from each other, separate means being provided for each of the flap members for yieldingly urging the free ends of the latter inwardly of the corresponding wall portion of the chute.

3,424,082
HIGH SPEED TRANSFER PRINTER
Lee Gray, Jr., Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed July 6, 1966, Ser. No. 563,151
U.S. Cl. 101-40 10 Claims
Int. Cl. B41f 17/08; B05c 1/02
A transfer printing device is disclosed for imprinting information on the body of electrical components which



are caused to move along a path generally tangential to a rotating transfer path in a particular timed sequence. Each component is arranged to traverse a very short portion of a path which is outwardly displaced from the remainder of its path such that each component is sequentially positioned in the path of the transfer pad to permit information to be imprinted on the body of the component.

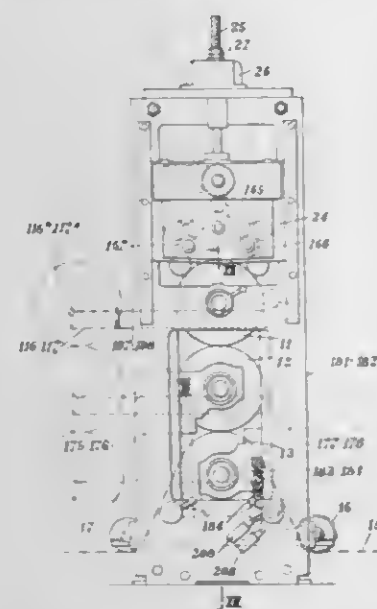
3,424,083
ROLLER SUPPORTING MEANS FOR DUPLICATORS
Edward Victor Byers, Nottingham, England, assignor to Zephon Limited, Nottingham, England
Filed June 15, 1965, Ser. No. 464,001
U.S. Cl. 101-132 11 Claims
Int. Cl. B41f 11/08; B30b 3/04



A duplicating machine is provided, utilizing two spaced rollers, one of the rollers being bearing mounted, and the other being mounted in a trough by spaced pressing members, the pressing members also serving as bearings for the lower roller. The spaced members are spring urged against the smaller or lower roller, and stop means are provided, limiting upward movement of the lower roller, to prevent contact of the rollers, but to maintain a minimum clearance therebetween.

3,424,084
WET-OFFSET ROTARY PRESSES
Louis Jean Chambon, Paris, France, assignor to Societe d'Etudes de Machines Speciales Societe Anonyme, Paris, France
Filed June 10, 1966, Ser. No. 556,628
Claims priority, application France, June 18, 1965, 21,380; May 26, 1966, 63,046
U.S. Cl. 101-219 29 Claims
Int. Cl. B41f 5/04, 31/02, 33/08
1. Printing unit of a wet-offset, variables-size rotary press, comprising two vertical spaced frame structures,

three horizontal superposed cylinders constituting a top plate cylinder, an intermediate blanket cylinder and a bottom impression cylinder, said cylinders being rotatably mounted between said vertical spaced frame structures and tangent to each other during the operation of the printing unit, the position of said top plate cylinder being fixed on said frame structures of the printing unit, a pair of first supports adapted to slide vertically on said vertical frame structures and to carry for rotation thereon said intermediate blanket cylinder, another pair of second supports mounted for vertical sliding movement on said vertical frame structures of the unit and rotatably sup-



porting said bottom impression cylinder, whereby the positions of said blanket cylinder and said impression cylinder underlying the former are adjustable in a vertical direction as a function of size, a pair of first vertical screws controlling the vertical displacement of said first pair of supports respectively, a first electromotor operable in either direction for rotatably driving said first pair of vertical screws, a pair of second vertical screws controlling the vertical displacement of said second pair of supports respectively, and a second electromotor also operable in either direction for rotatably driving said second pair of vertical screws.

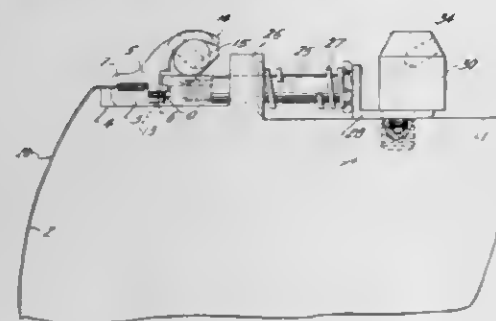
3,424,085
STRUCTURE FOR CLAMPING PRINTING PLATES TO A PRINTING CYLINDER OF A ROTARY PRINTING PRESS

Hermann Beisel, Wiesloch, near Heidelberg, Germany, assignor to Heidelberger Druckmaschinen Aktiengesellschaft, Heidelberg, Germany, a corporation of Germany

Filed Mar. 4, 1966, Ser. No. 531,704
Claims priority, application Germany, Mar. 20, 1965, Sch 36,741

U.S. Cl. 101—415.1
Int. Cl. B41f 29/06

8 Claims



Device for releasably clamping a printing plate to a rotary printing cylinder of a printing press includes an

inner clamping rail and an outer clamping rail extending along the inner clamping rail, bearing means connected in part with one of said rails and in part with the other of said rails for connecting the outer rail to the inner rail for movement relative thereto about and radially with respect to an axis extending longitudinally of the rails between a clamping position and a release position, the bearing means extending substantially continuously along the entire length of the outer rail, spring means engaging the outer rail and urging the latter to the release position thereof, and cam means engaging the outer rail substantially continuously along the entire length of the bearing means for moving the outer rail in opposition to the spring means to the clamping position thereof and for distributing the clamping force when the outer rail is in the clamping position thereof substantially uniformly along the entire length of the bearing means.

3,424,086
MISSILE WITH FIRING CARTRIDGE
Chandley W. Lambert, Box 56,
Lake Dallas, Tex. 75065

Filed Mar. 20, 1968, Ser. No. 722,517
U.S. Cl. 102—38
Int. Cl. F42b 9/02, 5/02

3 Claims

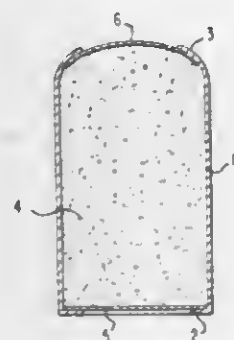


A rocket propelled missile having a tapered pointed head containing explosive or propellant is disclosed. Spinal vanes are disposed along the body of the missile to impart a rotary motion. A short cartridge case is secured to the missile to ignite the propellant.

3,424,087
BLACK POWDER CHARGE
Woldemar Hintze, Adolzfurt, Germany, assignor to Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany
Filed Mar. 3, 1967, Ser. No. 620,461
Claims priority, application Germany, Mar. 5, 1966, D 32,940

U.S. Cl. 102—39
Int. Cl. F42b 5/20

7 Claims

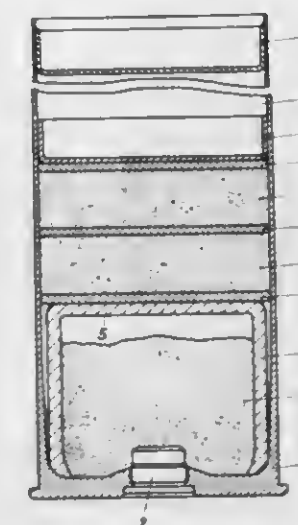


A black powder charge for muzzle loader weapons which consists of an essentially cylindrical case of metal, preferably aluminum, which is provided at each end with an aperture formed by the rims of inwardly bent portions of the base; the metal case contains on the inside thereof black powder, and the two apertures are closed off by closure disks of readily destructible material whereby the closure disks are held in position by the inwardly projecting rims of the casing.

3,424,088
BLANK ROUNDS OF AMMUNITION
Walter Gähle, Unterluss-Hohenrieth, Germany, assignor to Firma Rheinmetall G.m.b.H., Dusseldorf, Germany
Filed May 2, 1967, Ser. No. 635,520
Claims priority application Germany, May 27, 1966, R 43,357

U.S. Cl. 102—39
Int. Cl. F42b 5/20, 9/18

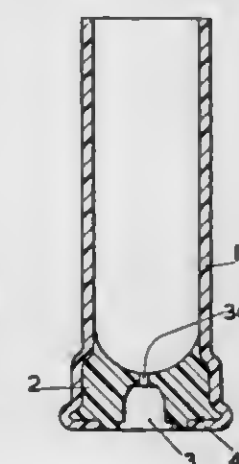
9 Claims



A blank round of ammunition having a powder charge comprises a sleeve-like body defining at its bottom a chamber to receive a powder charge. Means are provided which are secured to the sleeve-like body and seal off the chamber. A tamping is disposed in the sleeve-like body and comprises a loose mixture of materials which consist of carcass meal, rubber meal or rubber elastic material with an addition of pulverulent material which has lubricating properties. Finally, a disc is secured to the sleeve-like body and seals off the tamping at the top.

3,424,089
CARTRIDGE CASES
Donald Humpherson, Great Barr, Birmingham, England, assignor to Imperial Metal Industries (Kynoch) Limited, Witton, Birmingham, England, a corporation of Great Britain
Filed June 20, 1966, Ser. No. 558,745
Claims priority, application Great Britain, July 8, 1965, 29,008/65; Feb. 3, 1966, 4,805/66
U.S. Cl. 102—43
Int. Cl. F42b 7/06

3 Claims



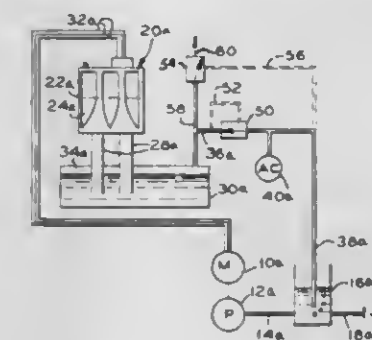
A plastics cartridge case is made by fitting an extruded length of plastics tube into a mold and injection molding

a plastics head portion onto one end of the tube. The end of the tube may be first rolled inwardly to form a lip so that a mechanical connection is formed between the tube and the head.

The molding apparatus includes an annular cavity for receiving the plastics tube, means for injecting plastic into one end of the tube and sealing means for preventing the injected plastic from filling the tube.

3,424,090
PNEUMATIC CONTROL SYSTEM AND VENT VALVE THEREFOR
Paul E. Hyde, Corvallis, Oreg., assignor to Flomatcher Co., Inc., Corvallis, Oreg., a corporation of Oregon
Filed June 26, 1967, Ser. No. 648,801
U.S. Cl. 103—35
Int. Cl. F04b 39/00; F16k 31/165

10 Claims



This application discloses a pneumatic control system for controlling the speed of an electric motor. In the illustrated embodiments the motor drives a pump in a fluid system including a sump. The control system itself includes a liquid rheostat which is electrically connected to the motor and in which the electrolyte level is determined by air pressure acting on the electrolyte. This air pressure is directly proportional to the static head of liquid in the sump. The liquid head is sensed by a bubbler tube which extends into the liquid into the sump and through which air generated by an air compressor is bubbled into the liquid. An air line transmits the air pressure in the bubbler tube, which is directly proportional to the liquid head in the sump, to the rheostat. Thus the depth to which the electrodes in the rheostat are immersed is directly proportional to the liquid head in the sump, and the speed of the motor varies with such head.

There is also a normally open positive purge valve in the air line which senses the air pressure at the rheostat and closes the air line to bubbler tube pressure when rheostat air pressure reaches a predetermined upper limit, so as to prevent the electrolyte from overflowing the rheostat. Any increase in bubbler tube pressure beyond this upper limit is thus isolated from the rheostat. A normally closed pneumatic vent valve is connected to rheostat air pressure in parallel with the purge valve. The vent valve is sensitive to bubbler tube pressure and opens when the bubbler tube pressure drops below rheostat air pressure so as to vent rheostat pressure to atmosphere. When rheostat pressure and bubbler tube pressure are again equalized, the purge valve reopens and the rheostat is once more responsive to bubbler tube pressure.

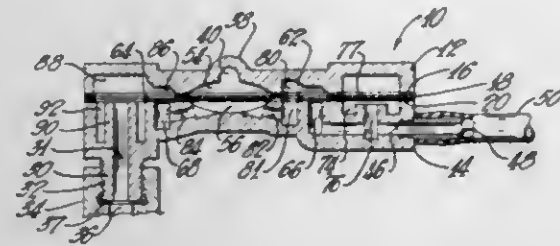
3,424,091
FUEL PUMP FOR CHARGE FORMING APPARATUS
Robert K. Turner, Toledo, Ohio, assignor to The Tillotson Manufacturing Company, Toledo, Ohio, a corporation of Ohio

Filed Oct. 3, 1966, Ser. No. 583,584
U.S. Cl. 103—44
Int. Cl. F04b 9/12, 43/06, 21/02

12 Claims

The disclosure embraces a diaphragm fuel pump for use with two cycle engines wherein the flexible pumping

diaphragm is actuated by varying fluid pressures in the crankcase of the engine, the pump including a flexible member contiguous with the pumping diaphragm, the

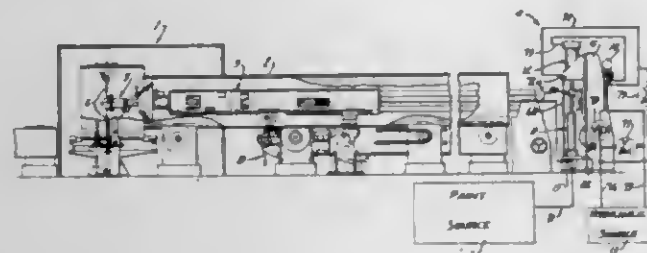


flexible members having inlet and outlet valves integral therewith for controlling flow of liquid fuel through inlet and outlet ports of the pump.

3,424,092

PAINT PUMPING SYSTEM

Douglas R. Hortvet, Houston, and Norman C. Bennett, Pasadena, Tex., assignors to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed Oct. 28, 1966, Ser. No. 590,310
U.S. Cl. 103—50 13 Claims
Int. Cl. F04b 17/00; F01l 15/02; B67d 5/22



The present disclosure relates to a high pressure piston pump delivering paint to a spray nozzle at a uniform and constant pressure. A single stroke hydraulic piston pressure intensifier has its piston connected to the piston of the piston pump. A releasable interconnection permits ready disassembly of the piston and creates a self-centering feature within the cylinder to compensate for any misalignment characteristics and to maintain equalized wearing of the packing. The piston pump cylinder includes an inlet and discharge in the head. A mechanically actuated microswitch is adjustably mounted adjacent the shaft between the pistons and connected to control a four-way valve for actuating intensifiers. A protrusion on the connection shaft actuates the microswitch.

3,424,093

PNEUMATICALLY DRIVEN PLUNGER CONSTRUCTION

Earl K. Moore, Jr., P.O. Box 2486, Odessa, Tex. 79760
Filed June 19, 1967, Ser. No. 646,971
U.S. Cl. 103—52 4 Claims
Int. Cl. F04b 17/00, 47/12

A plunger which includes a central packer section comprised of a matrix of circumferentially disposed parts which includes a multiplicity of spring loaded packer segments held caged between upper and lower skirt members, with each packer segment being interlocked with a multiplicity of upper and lower spring loaded expander

bodies, with each expander having curved arms which extend circumferentially about the inside peripheral wall

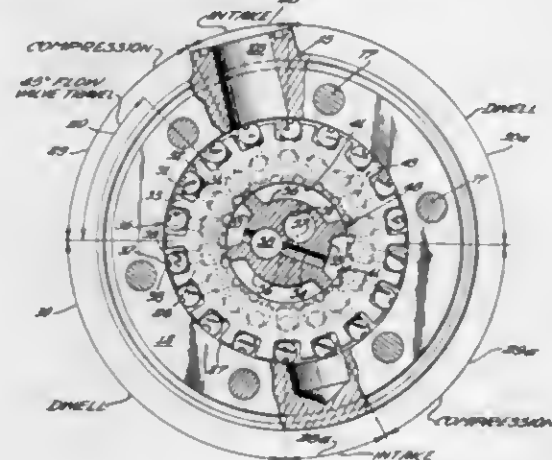


surface of each packer segment, while the body of the expander depends outwardly from the packer section.

3,424,094

VARIABLE DELIVERY PUMP OR COMPRESSOR

Hubert M. Clark and Gilbert H. Drutchas, Birmingham, Mich., assignors to TRW Inc., Cleveland, Ohio, a corporation of Ohio
Filed Dec. 23, 1966, Ser. No. 604,403
U.S. Cl. 103—120 5 Claims
Int. Cl. F04c 15/04; F04b 1/10, 49/00



This invention relates generally to pumps and more particularly relates to a slipper-type pump particularly characterized by a commutator pintle situated inwardly of a ring-shaped rotor whereby peripheral channels in the pintle may be presented as alternate port positions upon angular adjustment of the pintle to correspondingly vary the pumping delivery of the slippers as such slippers rock angularly and move radially in following the contour of an adjoining pumping chamber wall.

3,424,095

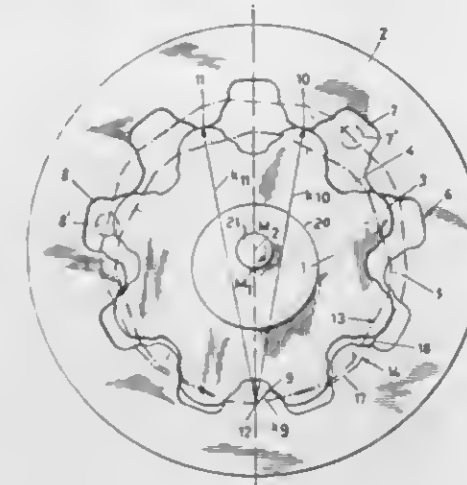
GEAR PUMPS AND GEAR POWER UNITS

Gunnar Lyshøj Hansen, Nordborg, Denmark, assignor to Danfoss A/S, Nordborg, Denmark, a company of Denmark
Filed Mar. 3, 1966, Ser. No. 531,607
Claims priority, application Germany, Mar. 4, 1965, D 46,674

U.S. Cl. 103—126 8 Claims
Int. Cl. F04c 1/04, 1/06

A rotary machine for use as a pump or a power unit has a housing comprising an internally toothed gear and an

orbitally movable rotor comprising an externally toothed gear. Each of the gears has a polygonal pitch curve defined by the intersections of lines normal to points of sealing interengagement between the gears, the relation between the normals being that they are of unequal length and the

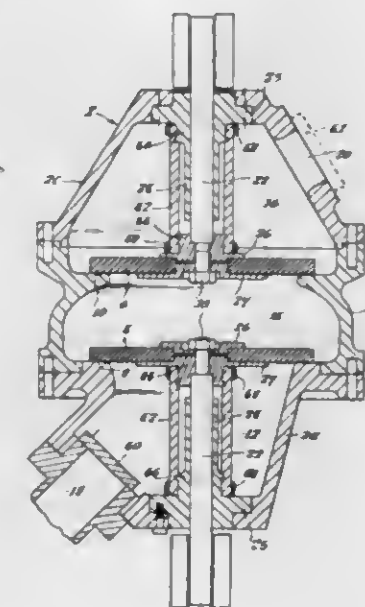


square of the longer normal minus the square of the shorter normal is equal to a constant so that there is a constant relation between the angular movement of the rotor and the fluid displacement of the machine. This provides a constant delivery in case of a pump and constant angular movement in case of a power unit.

3,424,096
PUMPS

Cecil Hughes, Frampton Cotterell, England, assignor to Orbital Engineering Limited, Somerset, England, a company of Great Britain and Northern Ireland
Filed June 2, 1966, Ser. No. 554,821
Claims priority, application Great Britain, Aug. 26, 1965, 36,644/65

U.S. Cl. 103—151 4 Claims
Int. Cl. F04b 43/02



A pump construction in which a casing is divided into three chambers in series by a pair of impulsion members in the form of flexible diaphragms clamped at their centres to drive rods. The rods project from the pump casing at mutually remote ends thereof and are reciprocable towards and away from each other to move the diaphragms in opposition. The sliding bearing of each rod in the casing is protected by a flexible sleeve surrounding the rod and clamped between the rod and the casing. The chambers defined by the diaphragms have similar mean volumes but the casing has tapering ends so that the end chambers to which the drive rods extend

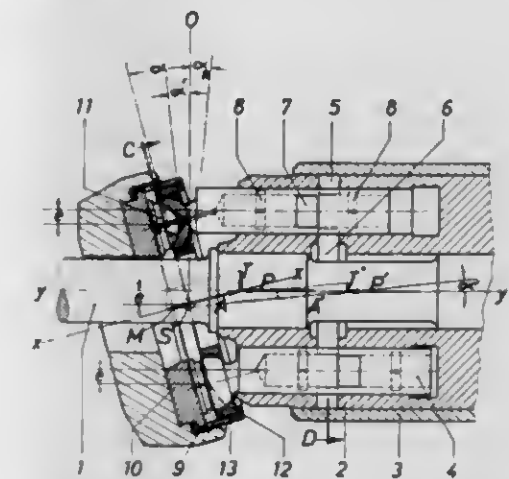
are longer than the intermediate chambers. Supporting plates prevent undue flexure of each diaphragm during a delivery stroke.

3,424,097

HYDROSTATIC AXIAL PISTON UNIT OF THE SLIPPING SHOE DESIGN

Hans Molly, Dr.-Eugen-Essig-Strasse 48, Malsch, Kreis Karlsruhe, Germany
Filed Aug. 1, 1966, Ser. No. 569,256
Claims priority, application Germany, Aug. 7, 1965, M 66,261

U.S. Cl. 103—162 5 Claims
Int. Cl. F04b 1/20

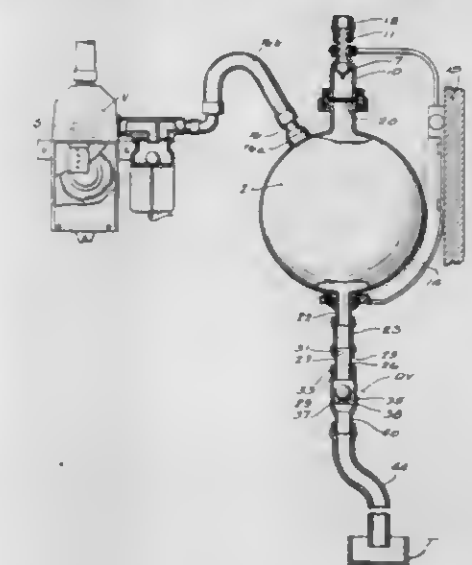


In a hydraulic pump or motor having piston members in a cylinder block which are operated by a swash plate member inclined towards one side of the cylinder block. The operative connection between the piston members and the inclined swash plate member is formed by a semi-spherical head on one member and a mating semi-spherical socket on the other member, the head and socket are formed about a center which is offset from the axis of the respective piston in the direction of a line between the unit axis and said side of the cylinder block.

3,424,098

DUMP VALVE FOR FLUID CONVEYING APPARATUS

Lloyd F. Bender, Hayward, Wis. 54843
Filed Jan. 12, 1967, Ser. No. 608,892
U.S. Cl. 103—228 4 Claims
Int. Cl. F04b 21/02; F04f 3/00; F16k 15/04



Fluid handling equipment of the clean-in-place type used in the dairy industry, including a fluid releaser having a dump valve. The valve has a removable capacity ring for varying the throw of the valve check ball to thereby accommodate liquid releasers of different vacuum capacities.

3,424,099

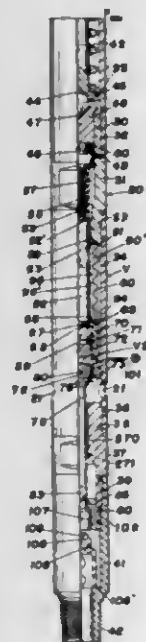
SPRING LOADED INTERMITTENT AND CONTINUOUS FLOW GAS LIFT VALVE AND SYSTEMClifford M. Peters, 16 Rockwall Drive,
Longview, Tex. 75601

Filed Feb. 21, 1967, Ser. No. 617,690

U.S. Cl. 103—233

Int. Cl. F04b 39/00; F04f 1/08

9 Claims



A gas lift valve and system that is universal, that is, one that may be used in a well to either constant flow the well or intermittently flow the well, depending upon the well conditions, and which is spring loaded and includes a liquid filled bellows arrangement that is protected against pressure differential thereacross, even though it is exposed to the operating pressure which actuates the valve.

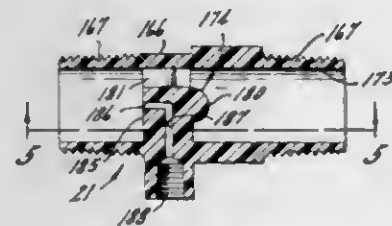
3,424,100

INJECTOR ASSEMBLYThomas J. Schoenecker, North St. Paul, and Robert L. Olson, St. Paul, Minn., assignors to Union Tank Car Company, Chicago, Ill., a corporation of New Jersey
Original application Apr. 29, 1964, Ser. No. 363,547, now Patent No. 3,335,671. Divided and this application
Sept. 22, 1965, Ser. No. 509,660

U.S. Cl. 103—262

Int. Cl. B01f 15/02; F04b 43/02

2 Claims



An injector assembly for introducing chemical into a service line carrying another liquid which consists of a fitting adapted to be interposed in the service line. The fitting has a central passage extending throughout its length which contains an aerodynamically shaped nozzle body. The nozzle body is supported by a plurality of vanes which are canted to the axis of the passage to impart a swirling motion to the liquid flowing therethrough. A jet outlet for the chemical is positioned at a downstream face of the nozzle body and is fed by conduit means extending through the body and one of the vanes.

3,424,101

METHOD FOR TRANSPOSING RAILROAD TRACK RAILS

Frederick L. Striebel, 806 Montana Ave., and Claus R. Grage, 803 Mitchell, both of Deer Lodge, Mont. 59722

Original application Mar. 4, 1965, Ser. No. 437,222, now Patent No. 3,332,357, dated July 25, 1967. Divided and this application Feb. 28, 1967, Ser. No. 641,074

U.S. Cl. 104—2

Int. Cl. E01b 29/17, 33/00

6 Claims

The disclosure pertains to a method of reversing the positions of track rails at railroad track curves, in accordance with which the rail anchors along the curve are removed and the rail ends at the curve tangents are disconnected to form the curve rails into rail lengths consisting of a number of rails connected together, the spikes from the inside of the curve rails are removed between the disconnected rail length ends, the gauge of the curve rail lengths is narrowed sufficiently to draw the curve rails out from under the spikes along the outside of the curve rails, the curve high and low side rail lengths are simultaneously transposed to the opposite sides of the track, and then the transposed rail lengths are fitted into alignment with and connected to the tangent rails, the transposed rail lengths are moved outwardly into engagement with the outside spikes around the high and low sides of the curve, and the spikes along the insides of the transposed rail lengths and the rail anchors are re-applied.

3,424,102

ANTI-COLLISION FACILITY USED FOR TWO MOVING VEHICLES TRAVELLING ON THE SAME TRACK

Andre Nectoux, Le Creusot, France, assignor to Societe des Forges et Ateliers du Creusot, Paris, France, a company of France

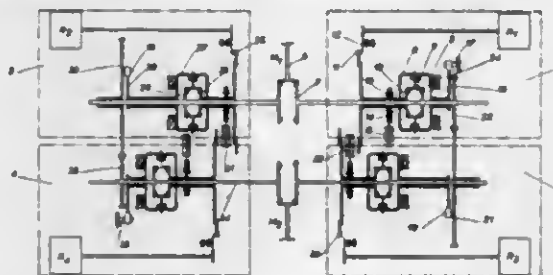
Filed May 23, 1967, Ser. No. 640,634

Claims priority, application France, May 26, 1966, 63,111

U.S. Cl. 104—152

Int. Cl. B61b 13/00; B61c 3/00; F16h 35/02

2 Claims



A collision preventive device designed for two moving bodies, embodying for each travelling direction of each moving body decelerating gear, incorporating a differential gear, a planetary wheel of which is driven by an element representing the moving body location, a casing of said differential gear being equipped with a lever free to cooperate with a thrust stop, in which differential gear each thrust stop of the two decelerating gears corresponding to the coming close to one another of the two moving bodies is so mounted as to rotate about the differential shaft associated therewith, and the thrust stop which causes one of the moving bodies to decelerate is connected through a gear set to a component made dependent on the location of the other moving body so that said thrust stop is caused to come nearer to the lever against which it is to butt as the two moving bodies come closer the one to the other, and conversely.

ERRATUMFor Class 104—172 see:
Patent No. 3,424,112

3,424,103

CLIP-ON PUSH ROLLER

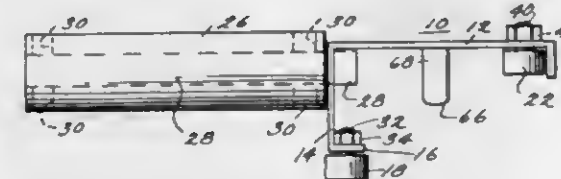
Anthony J. Suraci, Mobile, Ala., assignor to Jet Automatic Car Wash Equipment Company, Inc., Mobile, Ala., a corporation of Alabama

Filed Oct. 27, 1966, Ser. No. 589,913

U.S. Cl. 104—172

Int. Cl. B61b 13/00; B61c 11/00; B65g 19/24

14 Claims



A clip-on push roller is adapted to be utilized with a conventional chain conveyor assembly having a housing with two vertical side walls and a longitudinal opening in the top wall. The clip-on push roller comprises a frame having spaced apart stabilizing members for engaging the outer surfaces of the side walls of the conveyor housing, a hook for engaging the conveyor chain which extends through the longitudinal opening in the housing, and a push roller rotatably mounted on a shaft of the frame. The clip-on push roller can also be utilized with conveyor assemblies having the longitudinal opening of the conveyor disposed in one or both sides of the conveyor assembly.

3,424,104

CONVEYOR APPARATUSColin James Allen, 1 Turner St., Dunedin,
Otago, New Zealand

Filed Aug. 10, 1966, Ser. No. 571,535

Claims priority, application New Zealand, Aug. 13, 1965, 142,611

U.S. Cl. 104—172

Int. Cl. B61b 9/00, 13/00; B61j 3/00

10 Claims



A conveyor for a carrier along a path by driving members fixed to an endless drive positioned on one side of the path with such members arranged to be released by a release station positioned on the side of the drive remote from the path. The driving members include a release mechanism operable selectively to release and marshal subsequent carriers moved about the path with the marshalled carriers remaining in the stationary position until the leading carrier moves past the station whereupon the second carrier advances to the station and subsequent carriers caused to advance while maintaining the selected spacing therebetween the carrier stopped at the station.

3,424,105

ARTICULATED CAR SINGLE AXLE TRUCK

Alan R. Cripe, Richmond, Va., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed May 11, 1966, Ser. No. 549,416

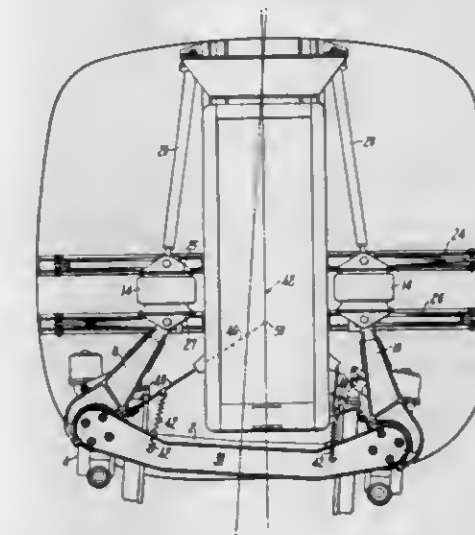
U.S. Cl. 105—4

Int. Cl. B61d 17/20; B61f 5/00, 1/14

5 Claims

A suspension system is provided wherein the abutting ends of two railway cars are pendulously supported on

pivotal support arms over a single axle. The system incorporates a transversely-extending transom connecting



the trunnions about which the support arms rotate, and a cable arresting arrangement of particular geometry.

3,424,106

TRACKMAN'S CAR

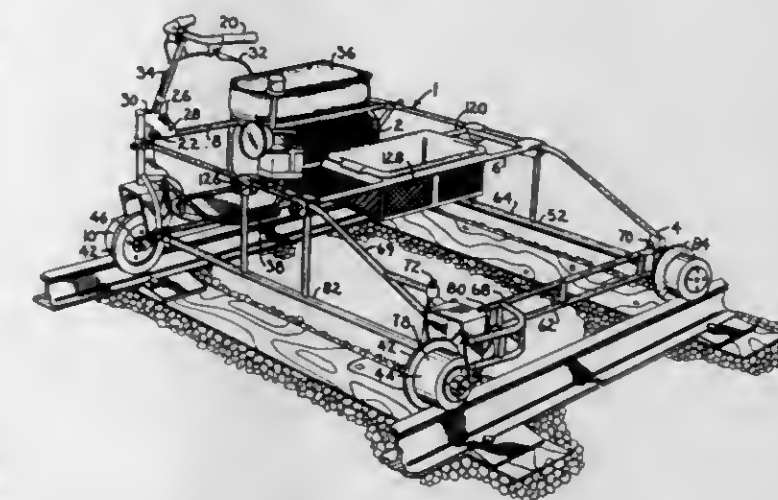
John E. Scroggs, 1214 W. 62nd St., Kansas City, Mo. 64113; John E. Webb, 1500 N. 44th St., Kansas City, Kans. 66102; and Glenn F. Schlund, Shawnee Mission, Kans. (9824 Outlook Drive, Overland Park, Kans. 66207)

Filed Nov. 14, 1966, Ser. No. 594,161

U.S. Cl. 105—26.1

Int. Cl. B61d 5/12; B61c 13/00; B61f 13/00

9 Claims



A portable vehicle for use on rails and having laterally spaced side frame members with one supporting a power unit. The side frame members are connected by spaced transverse truss like members having spaced separable connections to said one frame member and pivotal connections to the other. The erected frame structure of the vehicle is stiffened by longitudinal stiffener members arranged between and spaced from the side frame members and having ends detachably connected to the transverse connector members. Each of the side frame members have fore and aft wheels. A drive shaft is operatively connected to opposed wheels on the side frames with the drive shaft being driven by the power unit to rotate said wheels to propel the vehicle. The drive shaft is detachably connected relative to said wheels whereby upon detachment of the drive shaft and the transverse frame connectors and longitudinal stiffener, the structure may be collapsed into three assemblies that are easily transportable.

3,424,107

AUDIBLE SIGNAL DEVICE FOR TRAILER HITCHES ON RAILWAY CARS

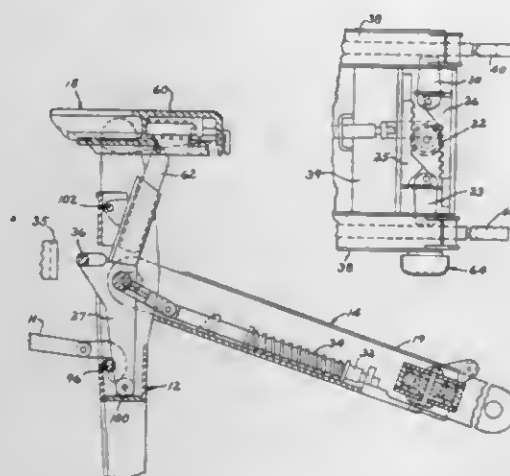
Dallas W. Rollins, St. Charles, Mo., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey

Filed Feb. 13, 1967, Ser. No. 615,415

U.S. Cl. 105—368

Int. Cl. B65j 1/22; B60p 7/08

5 Claims



An audible signal device indicates the positive locking of a trailer hitch in its erect position on a railway flat car. The audible signal device is operatively connected to latch means in a collapsible leg of the hitch and operable upon movement of the latch means to locked position to emit an audible signal to the tractor operator for indicating a positive locking of the collapsible leg in erect position.

3,424,108
EXPENDABLE FIBRE SIDE FILLER FOR RAILROAD CARS

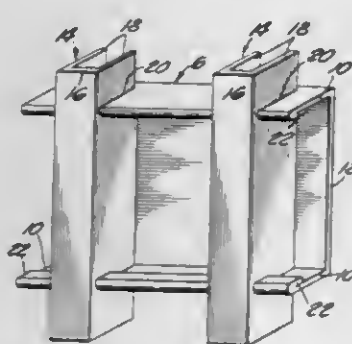
Richard Vargen, Crockett, Calif., assignor to California Packing Corporation, San Francisco, Calif., a corporation of New York

Filed Nov. 26, 1965, Ser. No. 510,010

U.S. Cl. 105—369

Int. Cl. B61d 45/00, 3/16

1 Claim



An expendable fibre side filler for railroad cars or truck walls to prevent damage to the cargo caused by shifting of the cargo during transit, comprised of a filler element which is slotted to match a slotted retaining member. These members being folded and engaging each other to fill the void areas.

3,424,109

PROCESS FOR THE MANUFACTURE OF MOLDED SUGAR ITEMS

Roland D. Joffe, 39 Carwall Ave., Mount Vernon, N.Y. 10552, and Daniel E. Joffe, 5 Sadore Lane, Yonkers, N.Y. 10710

Filed Jan. 20, 1967, Ser. No. 610,570

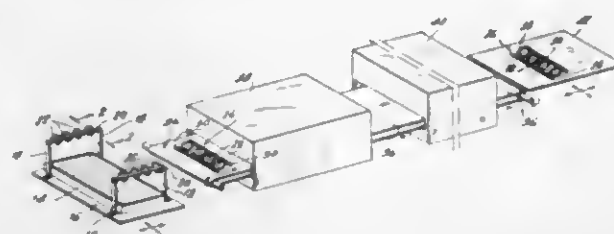
U.S. Cl. 107—54

Int. Cl. A23g 3/12; A21c 11/00

9 Claims

A process for manufacturing molded sugar articles wherein granulated sugar is moistened with a wetting

agent and then placed in a mold which is vibrating to compact the moistened sugar after which the molded sugar



is exposed to heat and cooling and further vibration to free the completed molded article from the mold.

3,424,110
PALLET

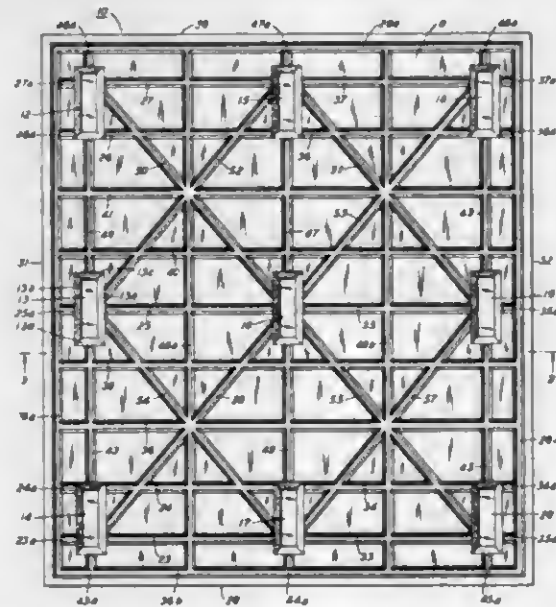
William W. Toot, 1807 Selene Ave., South Plainfield, N.J. 07080

Filed Feb. 3, 1967, Ser. No. 613,922

U.S. Cl. 108—53

Int. Cl. B65d 19/32

7 Claims



A one piece molded nestable type pallet is disclosed, having a network of supporting ribs and a plurality of tapered, hollow legs arranged into spaced apart parallel rows. The ribbed network includes: perimeter ribs adjacent and coextensive with the sides; ribs connecting adjacent legs; ribs positioned parallel to the sides, intermediate the legs, and extending the distance between the perimeter ribs; and ribs connecting the side and end legs to the perimeter ribs.

3,424,111

READILY ASSEMBLABLE AND ADJUSTABLE SHELVE

Louis Maslow, Huntsville Road, Dallas, Pa. 18612

Filed Mar. 30, 1967, Ser. No. 627,120

U.S. Cl. 108—144

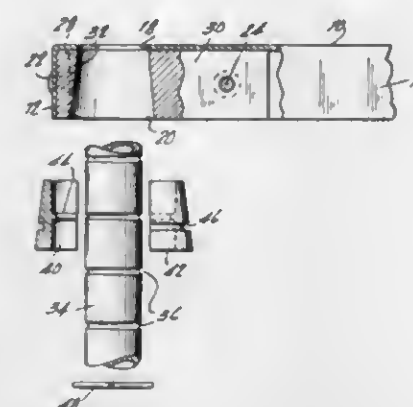
Int. Cl. A47b 9/08; A47f 5/10

10 Claims

This invention is concerned with devising readily assemblable and adjustable shelving. Briefly, the corner posts of the shelving are provided with graduated circular recesses or slots along their vertical dimension; and, additionally, the posts are fitted with suitable post supports in relation thereto. Coordinated thereto also are

provided shelf members with corner supports, which corner supports are adapted to receive and securely hold the corner posts and their respective supports. The spacing

ends and it is cut between the tubes. Then individual bot-tomed tubes are delivered to fly sticks and rapidly thrown



of the shelving is adjusted by varying the position of the post supports along the height of the corner posts.

3,424,112
CONVEYORS

Olaf J. B. Orwin, Birmingham, England, assignor to Fish-nlow Products Limited, Birmingham New Road, Tipton, England, a British company

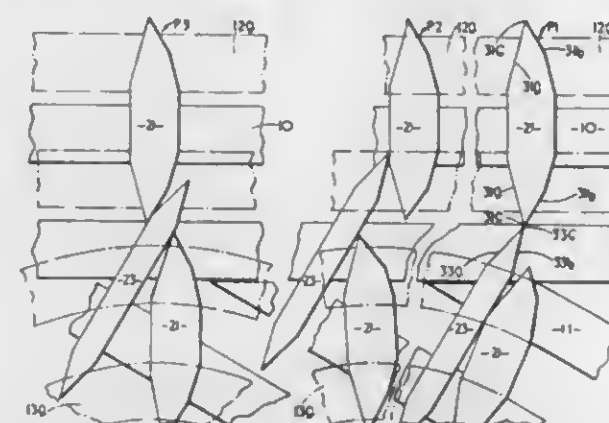
Filed Jan. 11, 1967, Ser. No. 608,613

Claims priority, application Great Britain, Jan. 22, 1966, 3,004/66

U.S. Cl. 104—172

Int. Cl. B61b 9/00, 13/00; E01b 25/26

2 Claims



This invention relates to conveyors of the kind including a pair of wheeled trolley supporting tracks which converge at a junction point, and is concerned with the transference of the trolleys from one track to the other at the junction point.

3,424,113

APPARATUS FOR BOTTOMING BAG TUBES

Edwin A. Dickmann, Afton, Mo., assignor to Bemis Company, Inc., Minneapolis, Minn., a corporation of Missouri

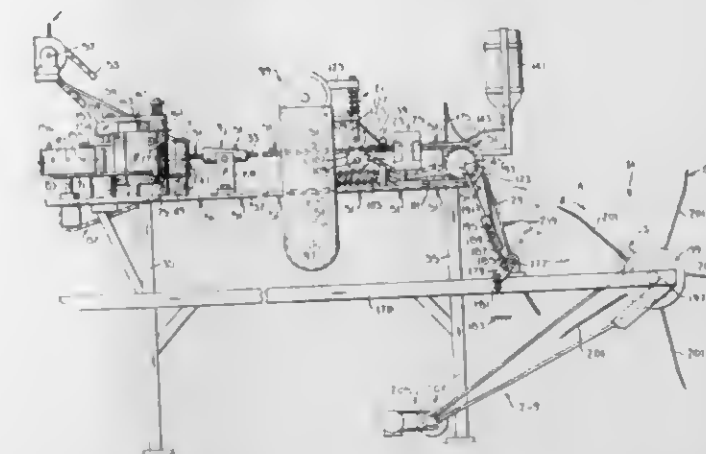
Filed Nov. 4, 1964, Ser. No. 409,005

U.S. Cl. 112—10

Int. Cl. D05b 13/00

17 Claims

Bag tubes of open-mesh material are continuously fed forward one after another with the tubes extending transversely to the direction of feed. A continuous tape is folded around the ends of the tubes. The tape has printed matter thereon recurring at intervals corresponding to the spacing of the tubes being fed forward. The parts of the apparatus are arranged so that the printed matter on the tape registers with the tubes. The tape is sewn to the tube



by the fly sticks onto spikes, the spikes impaling the open-mesh bags.

3,424,114

NEEDLE DEVICE

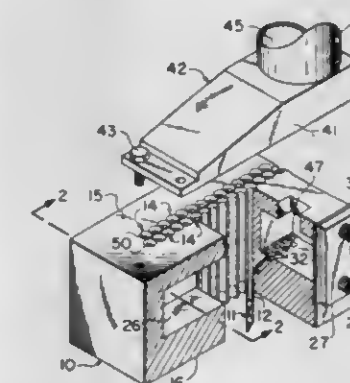
Joe T. Short, West Point, Ga., assignor to Callaway Mills Company, La Grange, Ga., a corporation of Georgia

Filed Nov. 12, 1965, Ser. No. 507,297

U.S. Cl. 112—79

Int. Cl. D05c 15/12

1 Claim



There is disclosed a tufting machine needle device comprising an elongated channel block member with a plurality of integrally formed yarn channels extending there-through and communicating at one end with a plurality of needle points which protrude transversely from the elongated channel block member.

3,424,115

CUT-OFF DEVICE FOR THE THREADS OF DOUBLE CHAIN STITCH SEWING MACHINE

Dieter Schopf, Gerlingen, Germany, assignor to Union Special Maschinenfabrik, G.m.b.H., Stuttgart, Wurttemberg, Germany

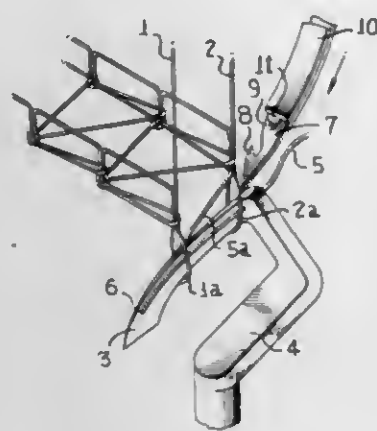
Filed July 31, 1967, Ser. No. 657,212

Claims priority, application Germany, Aug. 6, 1966, U 12,972

10 Claims

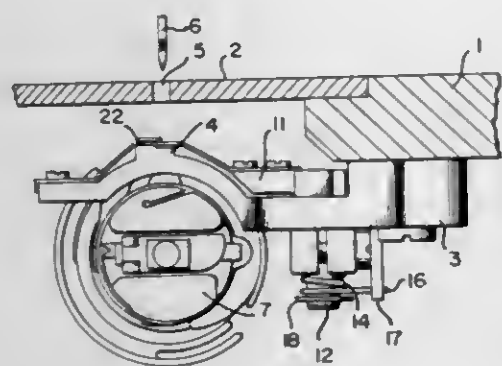
A thread severing device for cutting threads on a double chain stitch, multiple needle sewing machine wherein the thread carrying needles cooperate with a looper thread carrying looper, the device including a cutter blade presenting a cutting edge and a thread catcher reciprocable in contact with the cutter blade in position for being pro-

jected and retracted through the multiple needle thread loops on the projected looper, the thread catcher having two hooks extending from a side thereof, one said hook being effective upon retraction of the thread catcher to engage and conduct portions of the needle thread loops against the thread cutting edge and the other of said hooks



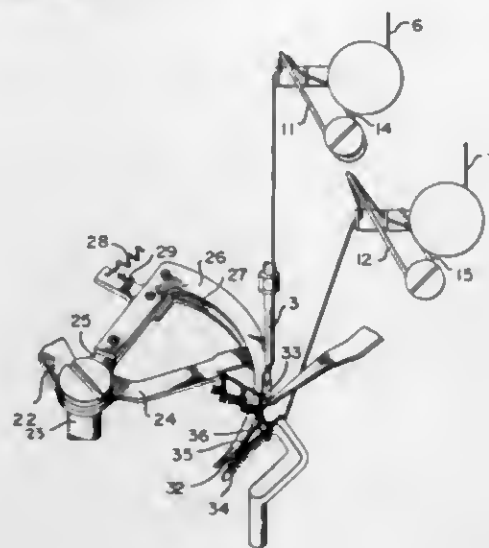
being effective upon said retraction to conduct the looper thread against said cutting edge, thereby to separately cut said looper and needle thread portions by engagement thereof between the cutting edge and the hooks.

3,424,116
THREAD CUTOFF DEVICE FOR LOCKSTITCH SEWING MACHINES
Wolf-Rudiger von Hagen, Grotzingen, Kreis Nürtingen, Germany, assignor to Union Special Maschinenfabrik, G.m.b.H., Stuttgart, Württemberg, Germany
Filed Aug. 24, 1966, Ser. No. 574,647
Claims priority, application Germany, Aug. 25, 1965, U 11,982 VIIa 52a; July 15, 1966, U 12,900 VIIa 52a
U.S. Cl. 112-252
Int. Cl. D05b 65/02



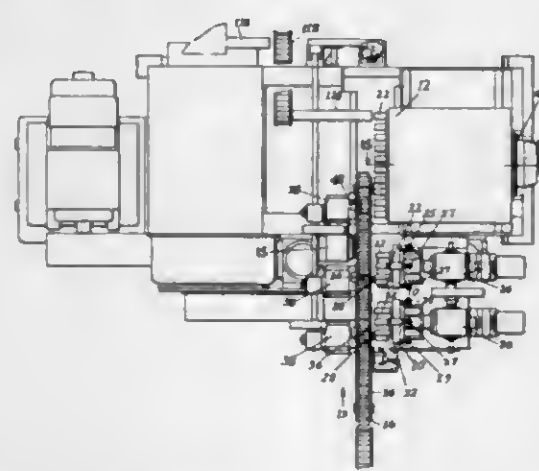
A thread severing device employable in lockstitch sewing machines is disclosed herein and includes a stationary thread cutter and a swingably mounted thread catcher for engaging the needle thread loop and the bobbin thread and moving these threads into cutting engagement with the cutter. The thread catcher is swingably mounted for movement into the needle path at the time the needle thread loop is drawn to its maximum size by a needle thread loop taker normally provided in lockstitch sewing machines. The thread catcher remains in a position proximate the loop taker until the loop taker discards the needle thread loop whereupon the needle thread loop engages the thread catcher and the thread catcher returns to its initial position drawing the engaged threads into cutting operation with the cutter.

3,424,117
THREAD SEVERING DEVICE FOR SEVERING THE LOOPER AND NEEDLE THREADS ON DOUBLE CHAIN STITCH SEWING MACHINES
Dieter Schopf, Gerlingen, Germany, assignor to Union Special Maschinenfabrik, G.m.b.H., Stuttgart, Württemberg, Germany
Filed May 6, 1966, Ser. No. 548,126
Claims priority, application Germany, May 8, 1965, U 11,705; Dec. 9, 1965, U 12,259
U.S. Cl. 112-252
Int. Cl. D05b 65/02



A thread severing device for double chain stitch sewing machines is disclosed herein. The severing device includes a thread catcher movable between the thread carrying looper blade and the stitching plate for catching the thread and drawing the thread into clamping engagement with clamping means and into cutting engagement with cutting means whereby the looper thread is cut and clamped at a predetermined point and whereby the needle thread may be cut and released at said point. The cutting and clamping means may be movable to and retractable from the predetermined point and control provisions are disclosed for controlling the operation of the severing device and for drawing off a predetermined amount of looper and needle thread upon actuation of the severing device such that a new sewing operation may be begun.

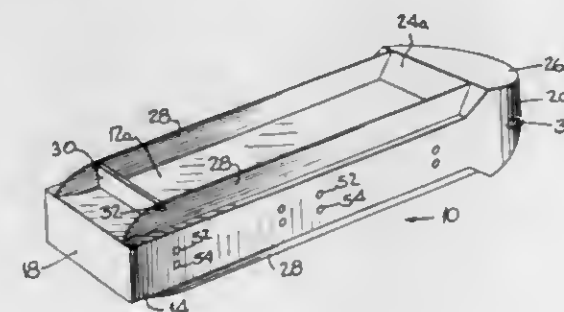
3,424,118
CONVERSION PRESS APPARATUS FOR CAN TREATING
Ralph J. Stolle, Lebanon, and Elton G. Kaminski, Sidney, Ohio, assignors to The Stolle Corporation, Sidney, Ohio, a corporation of Ohio
Filed Jan. 6, 1966, Ser. No. 519,025
U.S. Cl. 113-1
Int. Cl. B21d 51/26



A can treating machine for performing a plurality of operations on can bodies, each can body having an integral end with a rivet member thereon, comprising three

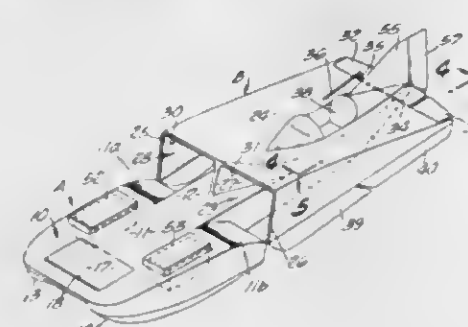
rotating drums, each drum having a plurality of mandrels on its face at various intermediate locations. The drums are indexed by mechanical means such that the mandrels travel intermittently through various stations at which can finishing operations are performed. A conveyor belt travels intermittently and parallel with the drums and aids in the expeditious delivery of the can bodies to the mandrels on the drums. Means are associated with two of the drums to perform trimming operations on depending can body edges and polishing operations on the entire can or any desired portion thereof. The can bodies then proceed to the third drum where they are positioned on the mandrels thereof and the operations of doming, flanging, prescoring, depth scoring, coining and placing and staking the pull key are performed. The can bodies are then discharged.

3,424,119
REVERSIBLE SELF-DUMPING AND SELF-BAILING SCOW
Peter J. Roche, Katonah, N.Y. (Wilner Road, Somers, N.Y. 10589), and Thomas J. Smith, 1500 Elm St., Stratford, Conn. 06497
Filed Nov. 20, 1967, Ser. No. 684,272
U.S. Cl. 114-38
Int. Cl. B63b 35/30



A reversible scow having opposing surfaces of identical construction alternately operative as deck or bottom and provided intermediate these surfaces with a plurality of water-tight compartments, means to flood selected compartments along one side of the scow to overturn the scow and automatic self-bailing means to drain the flooded compartments in the overturned position of the scow.

3,424,120
HYDROTUNNEL BOAT
Vsevolod B. Koriagin, 1534 Raymond Ave., Glendale, Calif. 91201
Filed Dec. 20, 1966, Ser. No. 602,876
U.S. Cl. 114-67
Int. Cl. B63b 1/22, 1/36

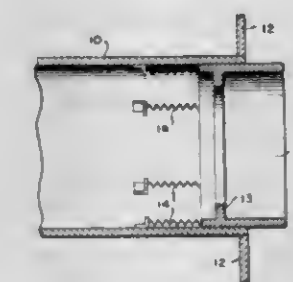


A hydroplane boat with air-borne capabilities at cruising speeds having anti-pitch-up bow control means including an aerodynamic hinged flap operable to vary the effective coefficient of lift of an aerodynamically operative

surface at the bow entrance end of an axially extending bottom tunnel, hinged movement of the flap being effected by a water controlled flap or vane which holds the hinged flap in closed position when the boat is on the water, but moves it to apply corrective forces without changing the angle of attack, when the boat leaves the water.

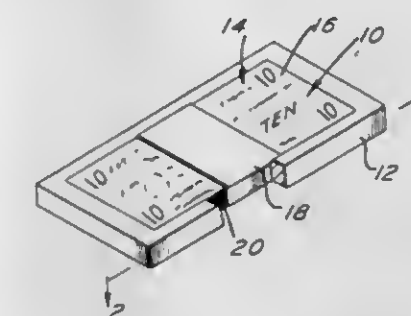
A further feature includes an improved hull superstructure which provides tunnels on opposite sides of the hull, these tunnels having intakes at the after part of the upper deck and exits below the hull at the rear end of the boat, automatically controlled flaps being provided for controlling air stream flow through the tunnels and varying pressures therein and the lifting forces at the stern of the boat.

3,424,121
THRUSTER DUCT NOZZLE
John F. Thomas, Baltimore, and Robert L. Ragot, Severna Park, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed Dec. 22, 1966, Ser. No. 605,517
U.S. Cl. 114-151
Int. Cl. B63h 25/46, 11/02



A thruster duct nozzle for use on a naval vehicle having means to reduce the forces opposing the effect of the thruster. This means includes means to extend and retract the nozzle and means to produce counter vortices or flow at the exit of the nozzle or to provide a nozzle in a recess with or without the means to produce the counter vortices or flow.

3,424,122
ALARM DEVICE
Sidney M. De Angelis, 522 Swede St., Norristown, Pa. 19140
Filed July 18, 1966, Ser. No. 565,770
U.S. Cl. 116-2
Int. Cl. G08b 19/00



An alarm device is provided for preventing and frustrating the successful outcome of robberies. The alarm device closely resembles a banded packet of legal currency in size, appearance, thickness, weight, etc. The alarm device has a plurality of compartments therein which include smoke powder, explosive, sirens, etc. An ignition device may be provided for igniting the materials within the compartments. A gasless fuse may be provided for igniting the contents of the alarm device. Alternatively, a remote control may be utilized to ignite the alarm device. The time delay is provided so that the robber will be exiting from the place being robbed when the alarm device is set off.

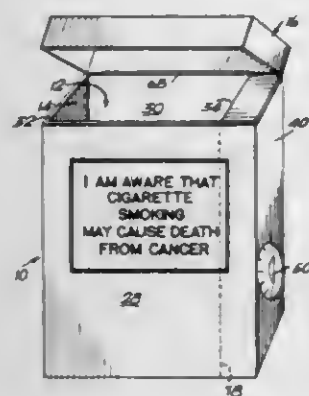
3,424,123

STOP-SMOKING CASEJude A. Giffard, 191 NE. 121st St.,
North Miami, Fla. 33161

Filed Mar. 24, 1967, Ser. No. 625,805

U.S. Cl. 116—2
Int. Cl. G08b 3/02

5 Claims



A cigarette case having a first compartment to accommodate a plurality of cigarettes which are always available to the user, and a second compartment enclosing a timing mechanism and an audible signal control knob exterior of the case to be manually set to any desired time interval up to a limit, such as one hour. The purpose of the invention is to assist the user in breaking the smoking habit by delaying the actual lighting of a cigarette for a selected time interval after the impulse or reflex-action has moved the user to smoke. An appropriate sign warning of the dangers of smoking is included on the case to be read by the user during the delaying time interval.

3,424,124

BELL GONG SHELL MOUNTING CONSTRUCTION

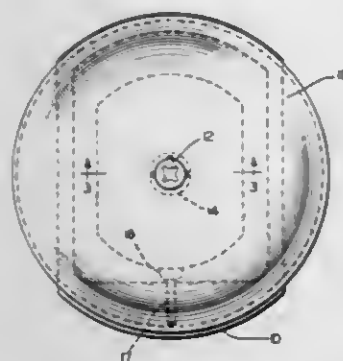
Wendell L. Jenkins, Canton, Ohio, assignor to The W. L. Jenkins Company, Canton, Ohio, a corporation of Ohio

Filed May 19, 1966, Ser. No. 551,321

U.S. Cl. 116—152

Int. Cl. G10k 1/072, 1/06

1 Claim



1. Bell gong shell mounting construction of the type in which a striker assembly is mounted on a bell housing, in which the housing includes a gong shell mounting pedestal having gong shell attachment means formed therein, in which a generally cup-shaped gong shell is mounted on the pedestal with its periphery located adjacent to the tip of the striker and attached to the housing pedestal, and in which the striker is operable to strike the gong shell at its periphery; the improvement including providing three registration means on the pedestal and providing three corresponding integrally formed registration means on the gong shell, both registration means being constructed, arranged and located in position such that the gong shell is mountable on the pedestal only in one position, said striker being located at a selected optimum position with respect to the gong shell periphery, and in which the three pedestal registration means are

notches formed in the pedestal and in which the three gong shell registration means are tabs integrally formed in the gong shell and adapted to be positioned in the notches.

3,424,125

RECIRCULATING SYSTEM FOR FLOWABLE MATERIALS

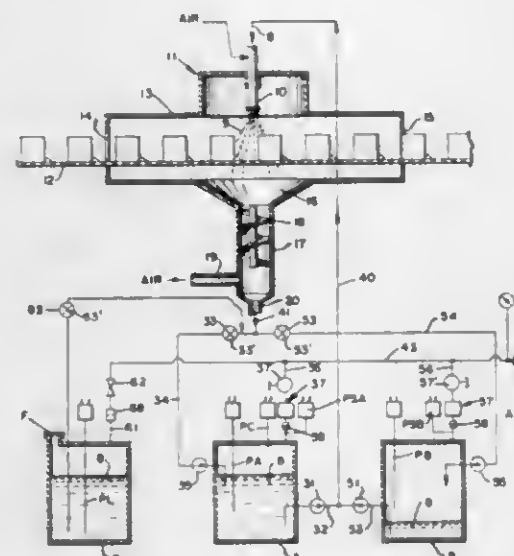
Richard F. Wiggins, Fairfield, Conn., assignor to The Gyromat Corporation, Stratford, Conn., a corporation of Connecticut

Filed Apr. 28, 1967, Ser. No. 634,725

U.S. Cl. 118—7

Int. Cl. B05c 11/10

12 Claims



A system for automatically and continuously supplying and recirculating a normally flowable material to a pneumatic spray gun station and for automatically replenishing the flowable, sprayable material as it is consumed.

3,424,126

AIR-KNIFE COATER

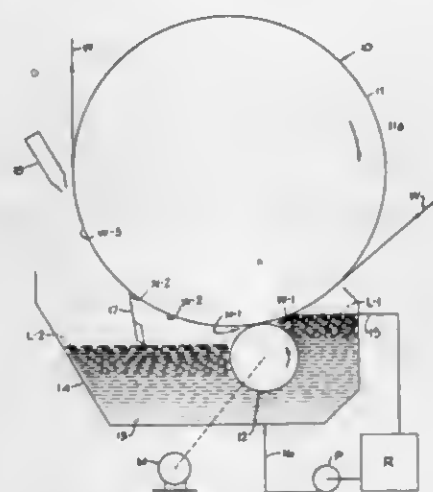
Ralph P. Mahoney, Beloit, Wis., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin

Filed Jan. 25, 1963, Ser. No. 253,962

U.S. Cl. 118—63

Int. Cl. B05c 11/06

9 Claims



A coating apparatus or "coater" wherein a traveling paper web has an excess of coating applied initially thereto by a coating applicator (preferably at a submerged coating nip); then the coater moves the web with the excess coating thereon to a type of metering device (preferably a dam or doctor blade) which presents a notched surface to the coating on the web to remove the excess and leave retained coating in the form of alternating ridges and valleys; and finally such retained coating is next subjected to a transverse gas jet (or air-knife) which essentially smooths the coating down on the web.

3,424,127

APPARATUS FOR APPLYING RETRO-REFLECTIVE BANDS ON CYLINDRICAL SURFACES

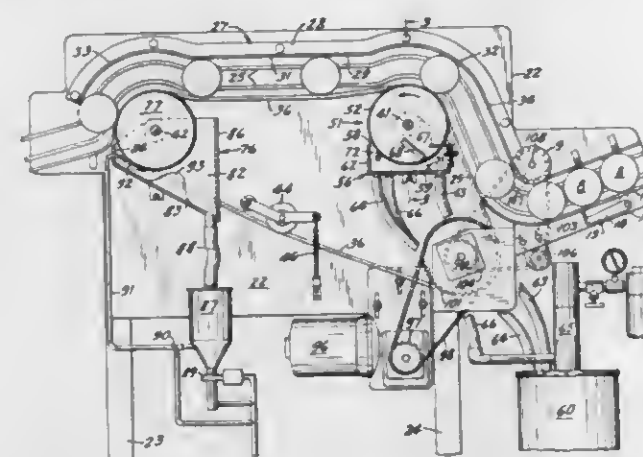
Melvin L. Johnson, Roseville, and Arno'd P. Le Vasseur, Lakeville, Minn., assignors to Minnesota Mining & Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Filed Dec. 11, 1967, Ser. No. 689,708

U.S. Cl. 118—219

Int. Cl. B05c 11/12, 3/20; B44c 1/92

7 Claims



An apparatus for applying a reflex-reflecting stripe around the circumference of a cylindrical member by first coating the member with an adhesive material and then applying a layer of reflex-reflecting particles to the adhesive band. The apparatus has a first coating wheel for the direct application of an adhesive material and a horizontally spaced applying wheel for applying a layer of reflex-reflective particles to the adhesive band.

3,424,128

APPARATUS FOR GREASING BAKING PANS

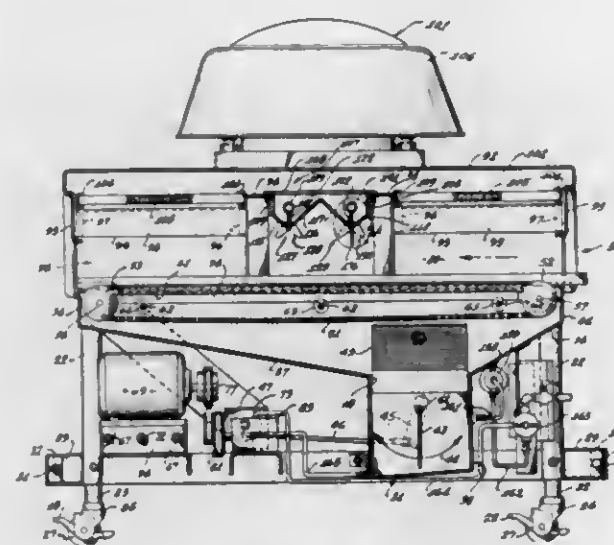
Norman V. Beaman, La Habra, Calif., assignor to Par-Way Mfg. Co., Los Angeles, Calif., a corporation of California

Filed Nov. 10, 1966, Ser. No. 593,487

U.S. Cl. 118—314

Int. Cl. A21b 3/16; A21d 8/08; B05c 5/00

9 Claims



A baking pan greasing machine having a plurality of rows of atomizing nozzles directed angularly downwardly, the rows extending transversely across the path of travel of the baking pan through the machine, the nozzles of each of the rows being directed in the same directions, and the nozzles of different rows being directed at different angles spaced substantially 90° apart, so that all nozzles are directed along direction lines diagonally of the direction of travel of the pan past the rows of nozzles. A short spacing interval between nozzles is used in each nozzle row.

**3,424,129
SPRAY BOOTH**

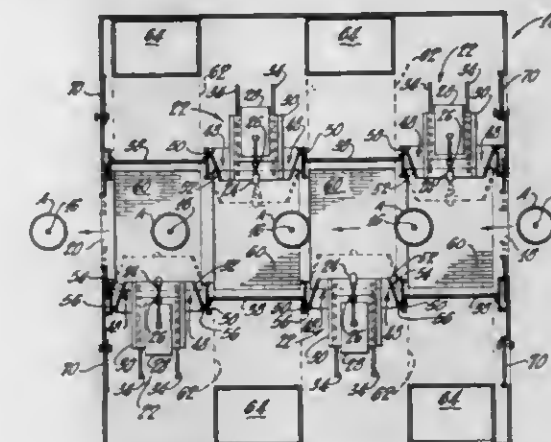
Donald J. Peeps, Rossford, and Lewis M. Owen, Toledo, Ohio, assignors to The DeVilbiss Company, Toledo, Ohio, a corporation of Ohio

Filed Apr. 20, 1967, Ser. No. 632,297

U.S. Cl. 118—314

Int. Cl. B05c 11/16, 5/00

14 Claims



A spray booth is provided in which air is directed into the booth primarily around the spray heads and is exhausted from the booth at a remote location. Flow of air is thus established toward the article being coated with little turbulence and air is supplied where it is needed the most, thereby minimizing air requirements for the spray booth. The equipment, including spray heads, reciprocators, and controls are not located directly in the coating chamber and are not subject to spray "backlash," thereby reducing cleaning and increasing operating time. The operator is similarly situated, eliminating the requirement for using a respirator and reducing possible hazard to him. The spray heads are sometimes moved toward and away from the coating chamber in order to accommodate articles of different sizes. In such an instance, the spray booth also has means to maintain the position of entry of the air constant relative to the spray heads.

3,424,130

ENTRY PORT MEMBER FOR DIP CRUCIBLE APPARATUS

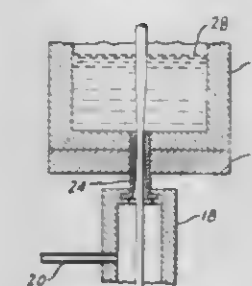
Joseph E. Byrnes, Schenectady, and William G. Moffatt, Ballston Lake, N.Y., assignors to General Electric Company, a corporation of New York

Filed Mar. 6, 1967, Ser. No. 620,954

U.S. Cl. 118—405

Int. Cl. B05c 3/132; B22d 19/00

4 Claims

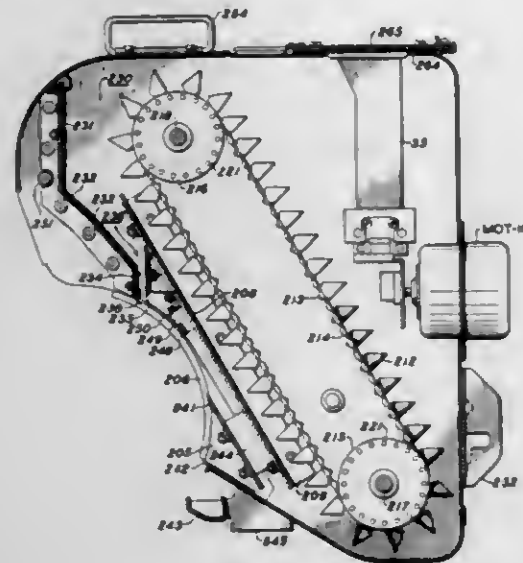


In accreting molten material onto a continuous, elongated core, the core is passed upwardly through a crucible containing a molten bath of the material. An entry port in the form of a cylindrical bushing is positioned in the bottom wall portion of the crucible through which the core is passed. The entry port is provided with relatively short land section having internal parallel surfaces extending from the upwardly disposed opening, and a second section having internal wall surfaces diverging from the land section terminating at the downwardly disposed opening thereby defining an opening of larger diameter than the upwardly disposed opening.

3,424,131 ELECTRODED CASCADE DEVELOPMENT SYSTEM

Gilbert A. Aser, Rochester, and David R. Stokes, Fairport, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Sept. 30, 1964, Ser. No. 400,489
U.S. Cl. 118—637
Int. Cl. B05b 5/02

3 Claims

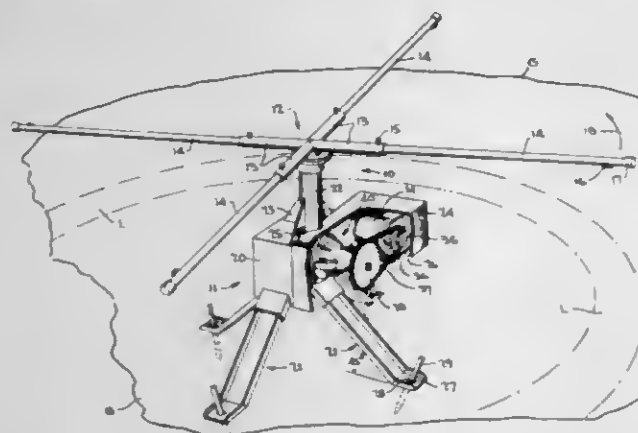


A toner scavenging development electrode in a two-component cascade development system. The electrode extends across the latent electrostatic image-bearing surface in the central portion of the cascade zone. The electrode is of a length shorter than the unelectroded portions of the cascade development zones before it and after it. The electrode is biased to a potential several times higher than that on the background portions of the latent electrostatic image being developed for removing toner particles previously deposited on the background portions.

3,424,132 HORSE WALKER

Jack N. Fischer and William J. Manning, Louisville, Ky., assignors to Bluegrass Engineering & Mfg., Inc., Louisville, Ky., a corporation of Kentucky
Filed Aug. 15, 1966, Ser. No. 572,480
U.S. Cl. 119—29
Int. Cl. A01k 15/00

5 Claims



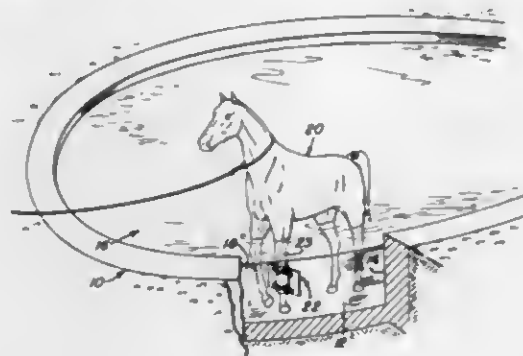
A device for exercising horses is provided wherein horizontally extending arms are driven to lead said horses in a closed lead path. Drive means for said arms includes the combination of a slip clutch and a reduction gear means interposed between said slip clutch and said arms, whereby the horse is constantly urged forward under controlled power with activation of the slip clutch requiring sufficient backward force to retard the reduction gear means. Said gear means includes a planetary gearing arrangement and chain means is provided on said slip clutch to positively transfer the power. A stand for the device

includes legs extending at 45 degrees and fabricated of channel members with stake means for fastening the stand to the ground.

3,424,133 EXERCISING ATTACHMENT

John T. Brady, 8805 Fairhaven Road, Little Rock, Ark. 72205
Filed Jan. 13, 1967, Ser. No. 609,042
U.S. Cl. 119—29
Int. Cl. A01k 15/00

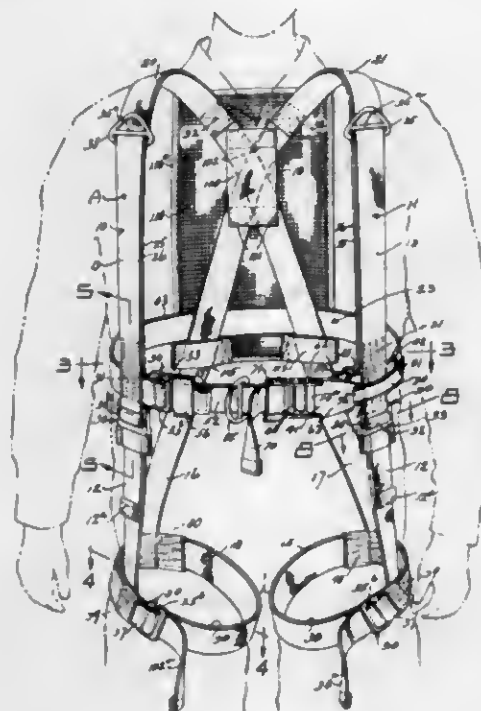
6 Claims



An attachment for the lower portion of the front leg of a horse adapted to be utilized singly or in pairs and on a horse while the latter is being walked through a body of water, the attachment being constructed so as to resist rearward movement of the front legs of the horse through the water and in conjunction with the horse having a portion of its total weight buoyed up by the water either by displacement of a sufficient quantity of water by the body of the horse or by additional displacement of water by means of flotation devices supported from the horse.

3,424,134
INDUSTRIAL SAFETY HARNESS
Robert A. Rosenblum, Lexington, Ky., assignor to Irvin Industries Inc., a corporation of New York
Filed Dec. 12, 1966, Ser. No. 600,832
U.S. Cl. 119—96
Int. Cl. A62b 35/00; B64d 17/30

13 Claims



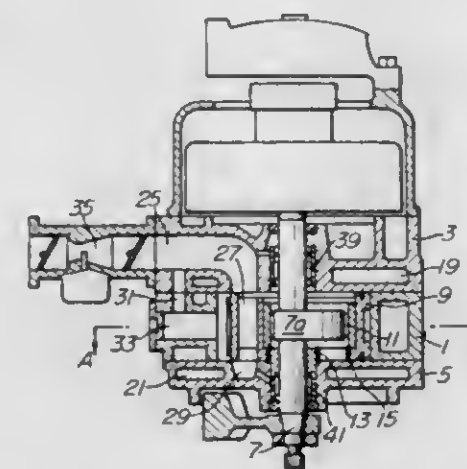
An industrial harness for providing maximum protection and security in any situation requiring an emergency life-line or static support line. The harness is designed for secure attachment of the same upon the body of the wearer in non-interfering relation with the legs and arms

of the wearer, with quickly releasable belt means and cross back webs, lanyard attaching means at the shoulders, waist belt, in front of a wearer.

biased to automatically control the flow of fresh gas to the ports in response to a variation in the pressure of the gas in the intake passage.

3,424,135
SUCTION DEVICE FOR ROTARY PISTON
INTERNAL COMBUSTION ENGINE
Hiroshi Tado, Suita-shi, Japan, assignor to Yanmar Diesel Engine Co., Ltd., Osaka, Japan, a corporation of Japan
Filed Nov. 7, 1966, Ser. No. 592,408
Claims priority, application Japan, Feb. 23, 1966, 41/15,517
U.S. Cl. 123—8
Int. Cl. F02b 53/04, 55/06, 55/10

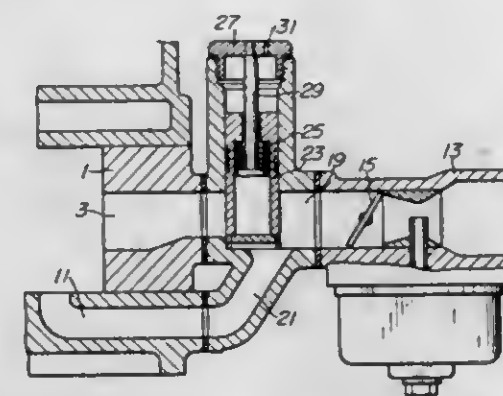
1 Claim



A suction device for NSU-Wankel type rotary piston, internal combustion engines having the inner sliding surface of the housing and the bearing lubricated with a fuel-air mixture containing a lubricating oil with the piston and piston bearing being cooled by the circulation of the mixture through the piston. A bypass passage is provided in the intake system to allow part of the intake mixture to be directly drawn into the working chamber of the engine thereby bypassing the piston separately from the principal portion of the intake mixture flowing through the piston. Thereby the charging efficiency of the intake mixture is raised and the engine output is improved without having any adverse affect on the cooling and lubrication of the piston and bearing.

3,424,136
INTAKE SYSTEM FOR ROTARY PISTON
INTERNAL COMBUSTION ENGINE
Yoshitsugu Hamada, Nagahama-shi, Japan, assignor to Yanmar Diesel Engine Co., Ltd., Osaka, Japan, a corporation of Japan
Filed Nov. 4, 1966, Ser. No. 592,065
Claims priority, application Japan, Nov. 10, 1965, 40/90,767
U.S. Cl. 123—8
Int. Cl. F02b 53/06, 37/00; F02m 7/00

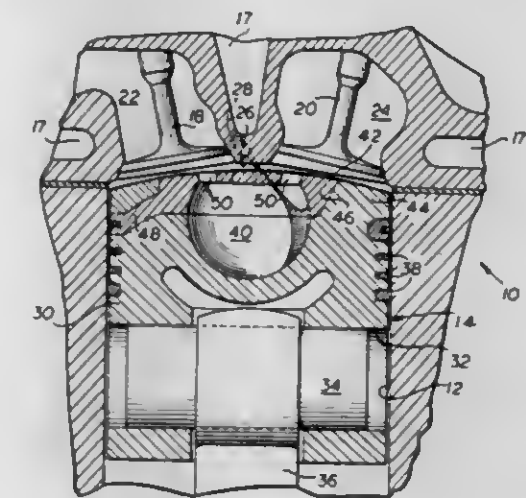
2 Claims



An intake system for a rotary piston internal combustion engine comprising a main intake port, an auxiliary intake port and a slide valve in an intake passage communicating with both ports. The slide valve is spring

3,424,137
INTERNAL COMBUSTION ENGINE
COMBUSTION CHAMBER
Rudolf W. Guertler, Fort Wayne, Ind., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed May 8, 1967, Ser. No. 636,846
U.S. Cl. 123—30
Int. Cl. F02b 3/00

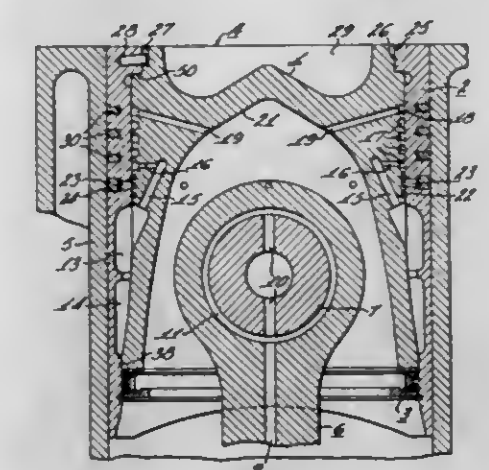
10 Claims



A piston construction wherein the combustion chamber located in the upper part of the piston is formed with a cross-over member to strengthen the combustion chamber opening. The cross-over member also protects certain areas of the cylinder head with which the piston is associated by preventing the combustion gases from reaching these areas thereby reducing the possibility of excessive thermal stresses. In addition, openings are positioned in the piston head leading from the combustion chamber to divert hot combustion gases away from that portion of the cylinder head where inurious thermal stresses are most likely to occur.

3,424,138
TWO-PIECE PISTON WITH COOLING
PROVISIONS
Alexander Dreisin, Olympia Fields, Ill., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed July 28, 1967, Ser. No. 656,731
U.S. Cl. 123—41.38
Int. Cl. F01p 3/10; F16j 1/02

7 Claims



An internal combustion engine piston having a crown section received within a skirt section and fastened therein by a lock resiliently biasing the crown section in the skirt section to permit axial expansion, the crown section being constructed of aluminum and the skirt section of cast iron. Cooling passages from the wrist pin connect with helical

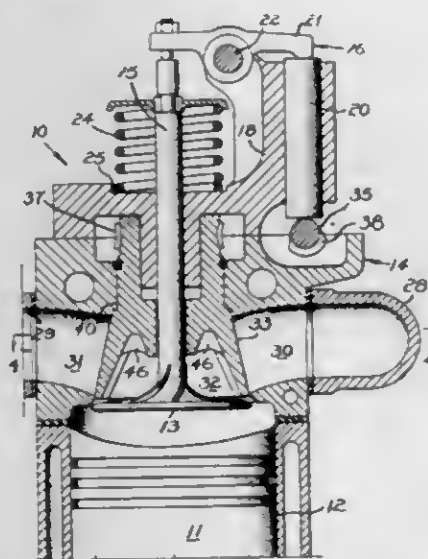
passages between the crown section and the skirt section in the area of the piston rings to dissipate heat from the peripheral walls of the piston.

3,424,139 INTERNAL COMBUSTION ENGINE VALVE MEANS

Donald G. Brooks, 18 Beckman Ave., Highbury,
South Australia, Australia
Filed Dec. 29, 1966, Ser. No. 605,920
Claims priority, application Australia, Jan. 6, 1966,
143/66

U.S. Cl. 123—79
Int. Cl. F01I 1/28, 5/18

7 Claims



An internal combustion engine having a rotary valve concentric with a poppet valve, the rotary valve being driven at one quarter engine speed so that it:

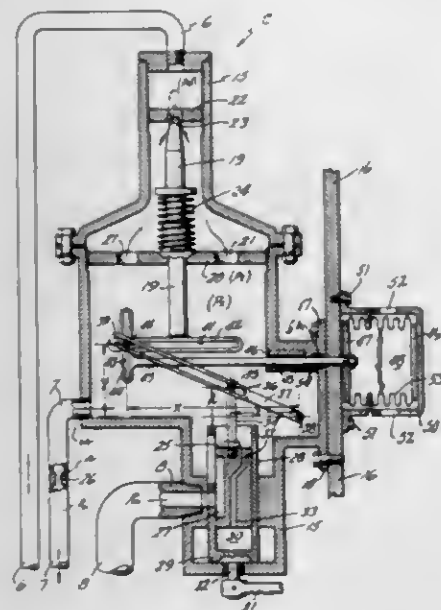
- (1) Functions as a deflector to deflect inducting gas during the intake stroke of an engine or exhaust gas during the exhaust stroke of the engine, and
- (2) Imparts a swirl to the inducting gas as it flows into the engine during the intake stroke.

3,424,140 FUEL SYSTEM FOR INTERNAL COMBUSTION ENGINES

Angustin M. Prentiss, Hartford, Conn., assignor to
Chandler Evans Inc., West Hartford, Conn., a cor-
poration of Delaware

Filed Jan. 18, 1965, Ser. No. 426,282
U.S. Cl. 123—119
Int. Cl. F02m 7/24, 17/10, 39/00

19 Claims



A fuel injection apparatus having fuel supplied under pressure to a positioning valve that divides the pressurized

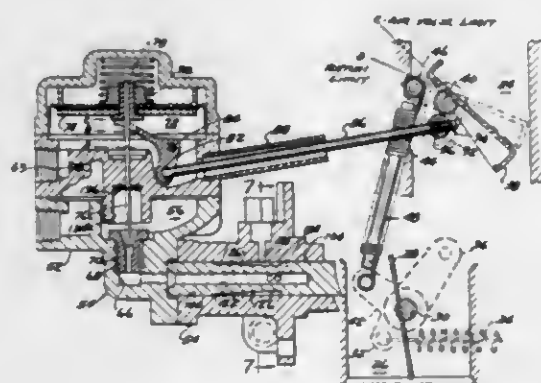
fuel supply into two streams. A fuel regulator positioned in the pressure field of the positioning valve with a fixed orifice and a valve having a variable area orifice. The area of the variable area orifice is controlled by an integrating linkage interconnected to said valve, a pressure-responsive bellows assembly, and said positioning valve, to automatically vary the proportion of fuel injected into the engine cylinder, in response to simultaneous variations in engine volumetric efficiency, density of the air in the engine intake manifold, and preselected air/fuel mixture ratios.

3,424,141 CHARGE FORMING SYSTEM FOR PORT INJECTION INTERNAL COMBUSTION ENGINE

Carl F. High, 17581 Appoline Ave.,
Detroit, Mich. 48235
Filed Aug. 8, 1966, Ser. No. 571,028

U.S. Cl. 123—119
Int. Cl. F02m 7/10; F02b 33/32; C10j 1/04

20 Claims



A charge forming system in which the air induction system has a venturi primary air inlet in parallel with a valved auxiliary air inlet, which valve opens by a direct linkage from the main throttle valve of the air induction system in the upper ranges of engine operation and on demand of the engine when same exceeds the capacity of the venturi air inlet. The fuel control has two orifice means in series, the first orifice means consisting of a variable opening controlled by a pin which is actuated from a venturi-vacuum controlled diaphragm with an assist at higher engine speeds from a mechanical linkage connected with the auxiliary air intake valve, and the second orifice means, to which fuel is delivered from the first orifice means, consists of an axially movable piston having longitudinal tapered slots registering respectively with the outlet ports connected to the fuel jet nozzles disposed at each cylinder intake port-runner, the piston being actuated through a direct mechanical linkage with a manifold pressure operated diaphragm.

3,424,142 OSCILLATOR CONTROLLED ELECTRONIC IGNITION SYSTEM

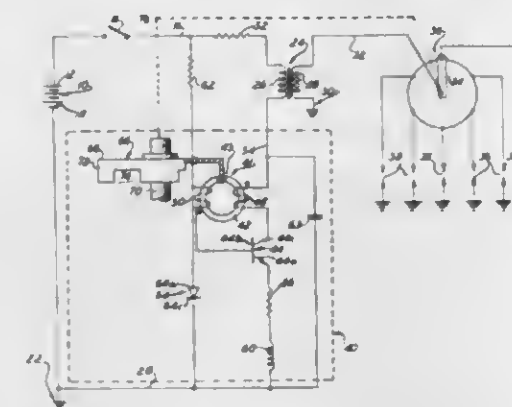
Ole K. Nilssen and Joseph F. Ziomek, Livonia, Mich., as-
signors to Ford Motor Company, Dearborn, Mich., a
corporation of Delaware

Filed Nov. 9, 1966, Ser. No. 593,061
U.S. Cl. 123—148
Int. Cl. F02b 1/08; H05b 37/02, 41/36

8 Claims

The amplifying transistor of a blocking type oscillator is connected in series with the ignition coil primary winding and a capacitor capable of absorbing substantially all variations in current during oscillation is connected in parallel with the transistor so the oscillator produces a unidirectional current in the coil primary winding during oscillation. When the oscillator switches to quiescence, the current in the coil primary winding drops precipitously to

a negligible amount and thereby induces energy in the coil secondary winding to produce an ignition pulse. An addi-



tional inductor is included in the transistor output circuit to assist in precipitously turning off the oscillator.

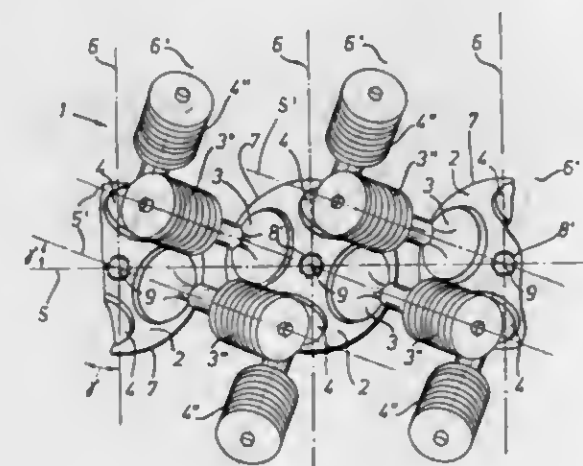
3,424,143 CYLINDER HEAD FOR INTERNAL COMBUSTION ENGINES

Ludwig Apfelbeck, Graz, Austria, assignor to Bayerische
Motoren Werke Aktiengesellschaft, Munich, Germany
Filed Aug. 11, 1967, Ser. No. 660,045

Claims priority, application Germany, Aug. 13, 1966,
B 88,485

U.S. Cl. 123—191
Int. Cl. F02b 23/00

15 Claims



A cylinder head for a cylinder row of an internal combustion engine which includes per cylinder, an approximately hemispherically shaped combustion chamber, and four V-shaped radially suspended valves arranged in a cross-wise manner, of which two opposite valves form the inlet valves and the other two opposite valves form the outlet valves, whereby the planes determined by the axes of opposite valves subtend an angle of about 15 to 30° with the center longitudinal plane of the cylinder row as well as with the cross plane passing through the cylinder axes; the axes of the two inlet valves subtend a smaller V-angle than the axes of the two outlet valves, and/or the inlet channels and the access bores for the spark plugs pass over into one another uninterruptedly in the direction of the longitudinal center plane of the cylinder row whereby the walls of the two inlet channels of a combustion space are directly connected with each other by way of the walls of the access bore for the spark plug of this combustion space and the walls of an inlet channel of a combustion space is directly connected with the walls of the adjacent inlet channel of the next combustion space within the area of the longitudinal center plane of the cylinder row.

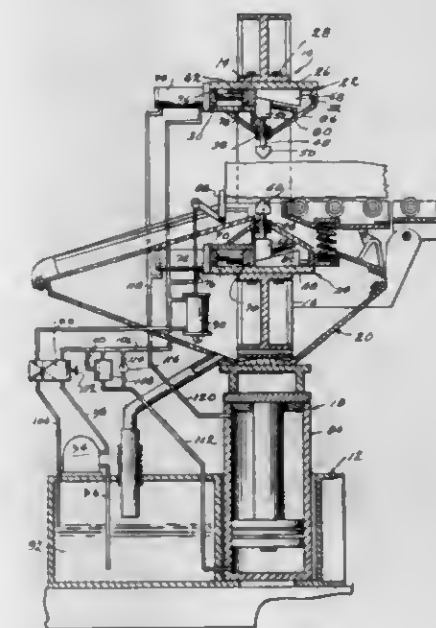
3,424,144 STONE CUTTING MACHINE

Renell A. Giconi, Grantsville, Md., assignor to Vaughn
W. Crile, Canonsburg, Pa.

Continuation-in-part of application Ser. No. 400,401,
Sept. 30, 1964. This application May 12, 1967, Ser. No.
648,516

U.S. Cl. 125—23
Int. Cl. B28d 1/30

8 Claims



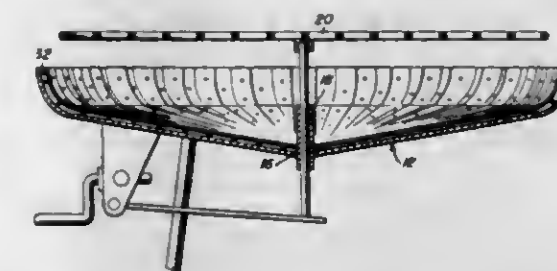
A stone cutting machine having opposed cutting assemblies mounted for movement by a main hydraulic ram away from each other to receive a stone therebetween and toward each other to cut a stone disposed therebetween, each cutting assembly having a separate pair of hydraulic rams for moving a multiplicity of side-by-side cutting teeth through an operative stroke during which all of the cutting teeth are moved by spring forced wedge members movable along guide rods extending therethrough into contacting engagement with the opposed irregular surfaces of the stone prior to the cutting stroke, the cutting stroke being automatically sequently effected after contacting engagement of the teeth is accomplished and the cutting teeth of each cutting assembly being positively moved either through cooperating lost motion wedging surfaces or through springs into a retracted position through the return stroke of the hydraulic rams associated therewith simultaneously with the movement of the cutting assemblies apart by the main hydraulic ram.

3,424,145 GRILL LINER

Mary Lou Stitt, 1008 Ohio Ave., Monaca, Pa. 15061
Filed Nov. 28, 1966, Ser. No. 597,349

U.S. Cl. 126—25
Int. Cl. F24b 3/00; A47j 37/07; F23b 13/00

7 Claims



A non-combustible liner for grill fire bowls comprising a sheet-like body configured to the interior shape of a fire bowl and provided with radially extending corrugations defining upper and lower air passages extending inwardly from the peripheral edge of the liner completely thereabout. The liner is provided with apertures communicating the lower air passages with the top of the liner and

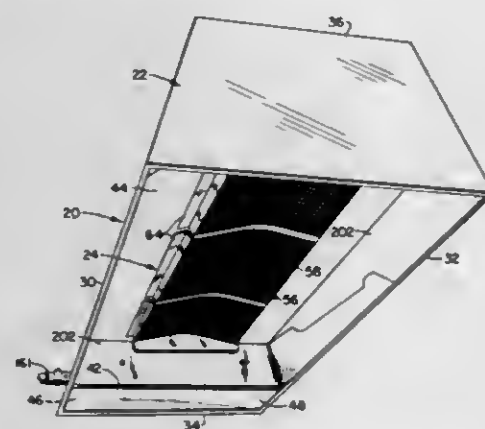
hence combustible fuel supported thereon. The liner can be reinforced by a subjacent network of thin relatively rigid reinforcing wires.

3,424,146

INFRARED HEATERS AND GENERATORS

Malcom W. Patrick, Chagrin Falls, and Philip M. Forniti, Cleveland, Ohio, assignors, by mesne assignments, to White Consolidated Industries, Inc., a corporation of Delaware

Filed Mar. 23, 1967, Ser. No. 625,334
U.S. Cl. 126—92 15 Claims
Int. Cl. F23d 13/14; F24c 3/04



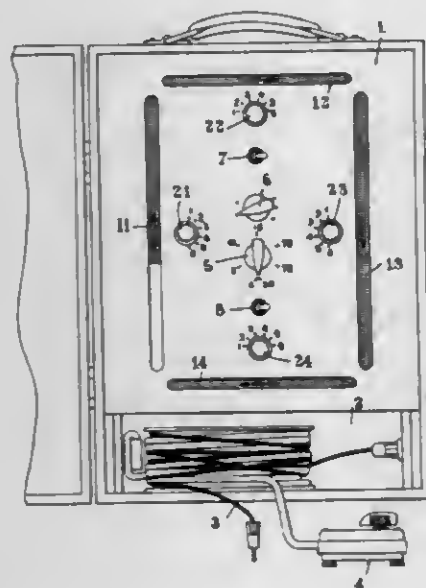
Combustion type infrared generators having two relatively inclined rows of radiants providing a V-shaped radiant surface; retainers for mounting the radiants in the burner housing, which preferably has stepped sides and internal combustible mixture distributing baffles; and a curved reradiator adjacent the radiant surface. Radiant heaters having infrared generators removable through a normally open side of a heater casing and without other access to the casing exterior, a fuel-air supply arrangement and ignition and control systems.

3,424,147

APPARATUS FOR IMPOSING A RESPIRATORY CYCLE TO A PATIENT

Etienne Giordano, 9 Cite Riverin, Paris 10^e, France
Filed Mar. 23, 1966, Ser. No. 536,703
Claims priority, application France, Mar. 25, 1965, 10,673

U.S. Cl. 128—1 6 Claims
Int. Cl. A61b 19/00; A61h 31/00, 1/00



An apparatus for imposing to a patient a respiratory cycle comprising the successive phases: inspiration, apnoea and expiration, consisting essentially of a board on which four tracks associated respectively with the four phases

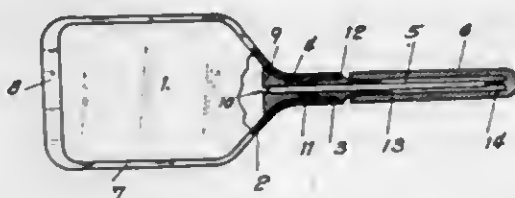
of the cycle are provided. Movable luminous images are formed on said tracks so as to form a substantially closed continuous trace and an adjustable time selector is associated with each track for controlling the time necessary for the movable luminous image to travel along the corresponding track or, in other words, the relative duration of the corresponding phase of the respiratory cycle.

3,424,148

DEVICE FOR TAKING BLOOD SAMPLES

Jean Cadeillan, Poitiers, Vienne, France, assignor to Jacques Blomet, Paris, France
Filed May 10, 1965, Ser. No. 454,454
Claims priority, application France, May 12, 1964, PV 694, Patent 1,426,127

U.S. Cl. 128—2 3 Claims
Int. Cl. A61b 5/10; A61n 5/00; A61j 1/00



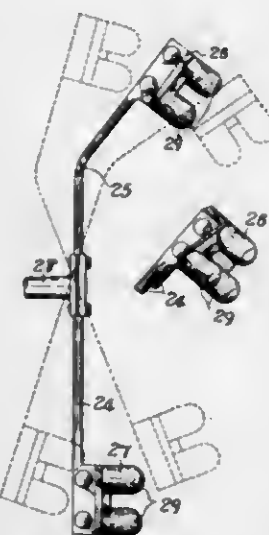
A device for taking blood samples comprising a flexible bag having an opening therein. A mandrel is positioned within the opening in sealing relationship to the bag and a cannula is positioned within the mandrel in communication with the interior of the bag. The cannula projects outwardly away from the bag and a removable cap is positioned over the outwardly projecting portion of the cannula.

3,424,149

PERCUSSION DEVICE IN MASSAGER

Shinichiro Fujimoto, 8, Naka 6, Hannan-cho, Abeno-ku, Osaka-shi, Japan
Filed Oct. 17, 1966, Ser. No. 587,250
Claims priority, application Japan, Oct. 16, 1965, 40/84,485

U.S. Cl. 128—55 1 Claim
Int. Cl. A61h 23/02, 7/00



A percussion imparting device for the human body wherein percussions are imparted to the shoulders of the patient and to the waist of the patient. The device includes a motor driven shaft supported in a frame, the drive including a belt pulley on the shaft and a belt entrained around the belt pulley and motor shaft. Eccentric wheels are fixed on opposite sides of the belt pulley, and cylindrical shafts are operatively connected to the eccentric wheels. Elongated rod shaped arms are connected midway their ends to the cylindrical shafts and are movable thereby. The ends of the arms above the connection are bent,

and percussion imparters are fixed at the top and bottom ends of the arms and adapted to contact the body of the user of the device.

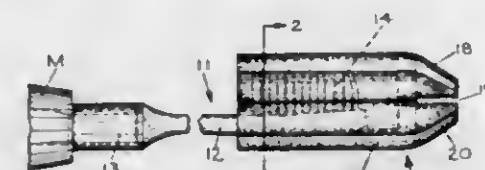
of an inch in diameter, connected near one end by a thread or the like, cotton wrapped around each piece to hold it in the nostril.

3,424,150

MESSAGE DEVICE

Samuel R. Meranto, North Grafton, Mass., assignor to Albert A. Mahassel, North Grafton, Mass., and G. Kendall Nylin, Worcester, Mass.

Filed Jan. 24, 1966, Ser. No. 522,560 3 Claims
U.S. Cl. 128—67
Int. Cl. A61h 7/00



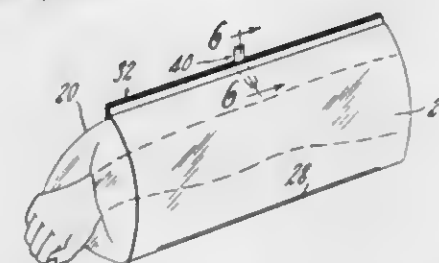
A message device comprising a flexible message element encompassing the brush portion of a combination handle and brush.

3,424,151

INFLATABLE SPLINT

Richard E. Ericson, Barrington, Ill., assignor to The Kendall Company, Boston, Mass., a corporation of Massachusetts

Filed Jan. 3, 1966, Ser. No. 518,156 10 Claims
U.S. Cl. 128—87
Int. Cl. A61f 5/04



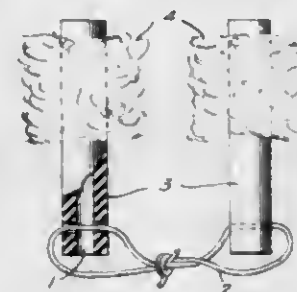
A hollow sleeve inflatable splint has flexible film walls of double thickness forming an inflatable chamber with the walls secured together around both ends of the sleeve, preferably integrally by reason of the sleeve being made from a folded over one-piece tube of the film material, the splint being held in sleeve form by a longitudinally extending closure and the walls also, in one form, being sealed together longitudinally in areas of less length than the sleeve to divide the inflatable chamber into compartments limited in number for functional reasons.

3,424,152

TONE DOWNER

Irene Dorsey Kuhlman, Sedalia, Mo. (50 Plaza Square, Apt. 112, 16th and Olive, St. Louis, Mo. 63103)

Filed Feb. 25, 1966, Ser. No. 534,957 4 Claims
U.S. Cl. 128—132
Int. Cl. A61f 5/56, 13/00; A61l 15/00



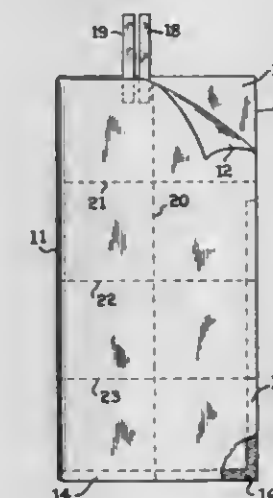
A device for insertion in the nostrils of an individual to reduce nasal snoring comprising two pieces of soft rubber tubing, each about one inch long and a quarter

3,424,153

DISPOSABLE SURGICAL LEGGING

Frank M. Lewis, Jr., Neenah, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware

Filed Dec. 23, 1966, Ser. No. 604,241 8 Claims
U.S. Cl. 128—132
Int. Cl. A61f 13/06; A41b 11/00



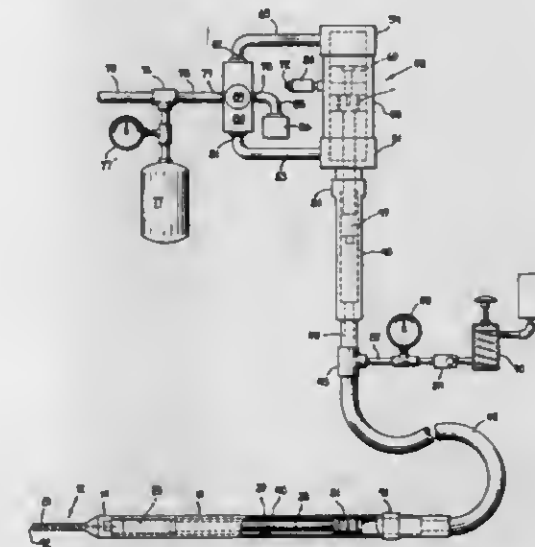
An improved disposable surgical legging used to cover the upraised legs of a surgical patient. The improvement comprises fitting conventional rectangular-shaped, loose-fitting leggings with a pair of straps fastened to the open end of the legging in offset positions to facilitate opening the legging for placement on the patient.

3,424,154

INJECTION SYSTEM

Charles W. Kinsley, 935 Spanawood Drive, Indianapolis, Ind. 46208

Filed Nov. 8, 1965, Ser. No. 506,715 5 Claims
U.S. Cl. 128—173
Int. Cl. A61m 11/06, 5/20; F15b 7/00

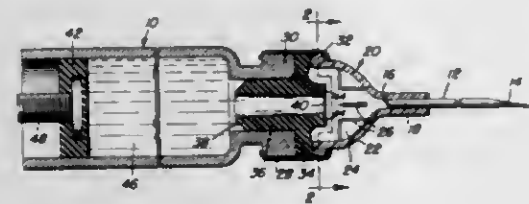


A system for injecting fluids, such as local anesthetic liquids, into the soft tissues, particularly the gums, of a living body comprising a hand piece having a probe terminating in a jet orifice from which a high-velocity jet of liquid may be ejected from an ampule within the hand

piece by movement of a piston within the hand piece and actuated by a liquid column in a flexible tube connected to a remote pneumatic motor. In the preferred form, the pneumatic motor includes a major piston and an auxiliary piston spring urged away from said major piston but movable, under the influence of pressure flow, to strike a hammer blow against said major piston in the direction of liquid-ejecting motion of said major piston, to start said major piston in such motion.

3,424,155
BURSTABLE DIAPHRAGM SEAL
Stanley J. Sarnoff, 7507 Hampden Lane,
Bethesda, Md. 20014

Continuation of application Ser. No. 447,741, Apr. 13, 1965. This application Jan. 24, 1968, Ser. No. 700,299
U.S. Cl. 128—218
Int. Cl. A61m 5/18; A61j 1/06, 1/08



A cartridge for a hypodermic syringe is provided at the forward end with a stopper having a diaphragm which when distended into a hollow conical transparent shield will engage projections on the interior of the shield and be burst thereby, if not previously burst.

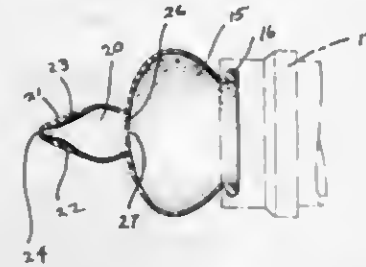
3,424,156
HYDRAULIC DENTAL SYRINGE
Leo R. Smith, 1203 S. 28th St., Fort Pierce, Fla. 33450
Filed Oct. 7, 1966, Ser. No. 585,118
U.S. Cl. 128—229
Int. Cl. A61m 3/00; F16l 55/14; B05b 1/02



A hydraulic dental syringe having a tubular body portion which also comprises the handle of the device, which body portion is separable to permit the introduction of a tablet of water-soluble dentifrice, or the like, therein. The body portion is adapted for connection to a source of water under pressure and is provided with a valve means responsive to lateral movement of a high velocity jet stream nozzle carried by the body portion for selectively controlling the jet stream discharge from the syringe.

3,424,157
NURSING NIPPLE WITH FLOW-REGULATING MEANS

Rocco J. di Paolo, 101 Monroe St.,
Massapequa Park, N.Y. 11762
Filed Oct. 23, 1965, Ser. No. 503,647
U.S. Cl. 128—252
Int. Cl. A61j 11/00, 17/00



A nursing nipple provided with a bulbous fluid storage chamber and a connecting teat portion having an outlet aperture for the flow of a fluid therethrough. An internally disposed partial partition responsive to external pressure is provided between the bulbous chamber and teat portion for regulating the flow of a fluid between the storage chamber and the teat portion.

3,424,158
COMBINATION PLASTIC MOLD, SUPPOSITORY PACKAGE, DISPENSER AND METHOD FOR PROVIDING AND USING THE SAME
Jules Silver, North Franklin, Conn. 06254
Filed June 21, 1966, Ser. No. 559,177
U.S. Cl. 128—260
Int. Cl. A61m 31/00; A61f 15/00

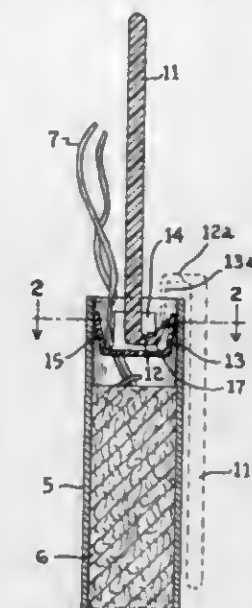


A sanitary method of providing a medicament in which it is completely concealed in a disposable tube in a solid form which will liquify at normal body temperatures and in which tube a disposable plunger is provided to dispense the medicament into a body opening directly from the tube without the necessity of contact of the medicament by human hands or with any foreign material at anytime during handling and administration of the medicament.

3,424,159
TAMPON INSERTION DEVICE
Howard A. Whitehead, Appleton, and Edward Rightor, Jr., Neenah, Wis., assignors to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Dec. 12, 1966, Ser. No. 600,874
U.S. Cl. 128—263
Int. Cl. A61f 13/20; A61m 31/00

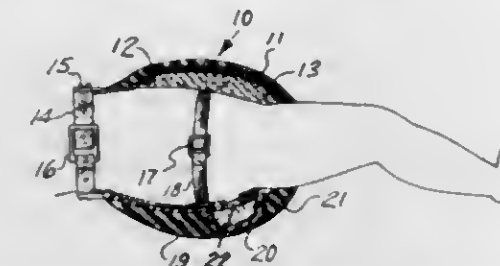
A tampon applicator having an outer tube and a hinged one-piece plunger for ejecting a tampon contained within the tube. The plunger has a flexible cup-shaped piston slidably disposed within the tube and, hingedly connected to the piston, a foldable handle which lies outside of, and is

coextensive with, the tube. The piston is constructed with outwardly biased spring sections which resist rearward



movement in the tube without inhibiting forward movement in the tube.

3,424,160
BABY-DRY-GIRDLE
Dirk W. Koorwinder, Redwood City, Calif. (545 Harbor Blvd., Belmont, Calif. 94002), and William F. McCormick, 1885 E. Bayshore, Palo Alto Estates, East Palo Alto, Calif. 94303
Filed Aug. 17, 1966, Ser. No. 572,956
U.S. Cl. 128—286
Int. Cl. A61f 5/44, 13/00; A61l 15/00

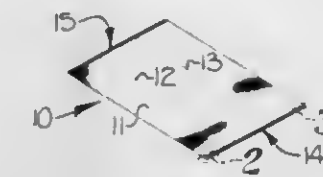


1. A sanitary baby girdle comprising, in combination, a curved front section container, a layer of foam rubber material secured to the interior of said container, said interior of said container forming a hollow recess, and an interchangeable pad of porous material positioned within said recess, the outer portion of said pad being covered with a layer of non-absorbant material for preventing baby's skin from being exposed to undesirable fluids, a curved rear section container having a recess therein, an inner layer of foam rubber material within said container and said recess, a layer of porous material within said recess, means for adjustably securing said containers between the legs of a baby, a vertical belt for enclosing the waist of said baby, a strap for securing said rear container to said belt, means for removably securing said front container to said belt and auxiliary belt means for adjustably affixing each of said containers to the baby's buttocks.

3,424,161
SEWN DIAPER WITH NON-RAVELING STITCHING
Stanley C. Scheler, Charlotte, N.C., assignor to The Kendall Company, Boston, Mass., a corporation of Massachusetts
Filed Feb. 25, 1966, Ser. No. 529,998
U.S. Cl. 128—284
Int. Cl. A61f 13/18; D05b 17/00; B32b 7/08

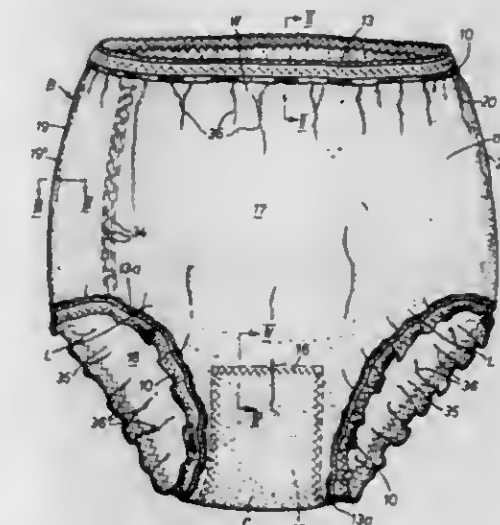
A prefold diaper formed of cut and folded woven fabric and having lines of overedge stitching extending along

and over the cut edges of the folded fabric to finish these edges and impart anti-ravel characteristics thereto, each of the lines of stitching including a plurality of interlocking threads, one of which consists essentially of thermoplastic material and at least one other of which is formed of non-thermoplastic material. The thermoplastic thread of



each line of stitching has portions extending along one face of the fabric generally perpendicular to the edge and these portions are fused to the fabric and also to the interlocking portions of the non-thermoplastic thread to anchor the stitching and prevent raveling thereof during normal use of the diaper.

3,424,162
UNDERPANTS, IN PARTICULAR HYGIENIC PANTY
Irma Parravicini, Zurich, Switzerland, assignor to Flora Parravicini, Zurich, Switzerland
Filed Sept. 30, 1965, Ser. No. 491,698
Claims priority, application Switzerland, May 20, 1965, 7,079/65
U.S. Cl. 128—288
Int. Cl. A61f 13/16; A61l 15/00; A41b 9/04

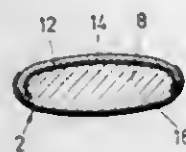


Underpants characterized by the feature that they embody a body portion which is at least partially of cellulose material which is in fleece-like form and they may incorporate a gauze insert or may be completely lined with gauze. At the waist portion and at the leg portions, an elastic band and fabric band can be sewn or otherwise affixed. The cellulose material may be reinforced by a number of parallel threads.

3,424,163
SANITARY NAPKIN
Gunnar Gravdahl, Haslum, Norway, assignor to A/S Saba, Tonsberg, Norway, a Norwegian body corporate
Filed Apr. 15, 1966, Ser. No. 542,814
Claims priority, application Norway, Oct. 4, 1965, 159,948; Mar. 10, 1966, 162,049
U.S. Cl. 128—290
Int. Cl. A21f 13/16, 13/20; A61l 15/00

A disposable sanitary napkin wherein an elongated wrapper which is an integral part of the napkin has an oblong, pad-like absorbent compress positioned therein. The wrapper is made from relatively non-elastic material

having extensions at both ends which are designed to be secured to the belt of a user. At one side the wrapper has an opening with a configuration defined by the adjacent area on one side of the absorbent compress. A relatively thick porous layer of a material which is very soft, com-



fortable, and liquid-pervious covers the opening. The wrapper may be made from a woven or non-woven material and may also be treated to prevent liquid penetration. The compress may also be treated to prevent excessive piling during use.

3,424,164 SILK SUTURE

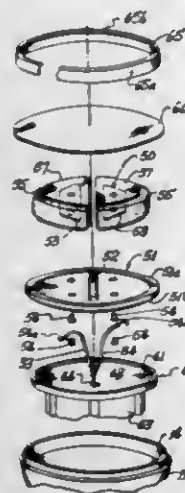
Alfred Bloch, Somerset, and Arthur S. Messores, North Brunswick, N.J., assignors to Ethicon, Inc., a corporation of New Jersey
No Drawing. Filed May 20, 1966, Ser. No. 551,536
U.S. Cl. 128—335.5 4 Claims

Int. Cl. A61I 17/00; D02g 3/40

A non-capillary, braided silk suture is prepared by treating the suture with a solution of fibroin and drying at about 105° C. whereby the silk filaments are coated with fibroin and bonded together.

3,424,165 ELECTRONIC MUSCLE STIMULATOR AND ELECTRODES THEREFOR

John I. Moss, Skokie, Ill., assignor to Relaxacizor, Inc., Los Angeles, Calif., a corporation of California
Filed Sept. 16, 1966, Ser. No. 579,980
U.S. Cl. 128—405 9 Claims
Int. Cl. A61n 1/04, 1/32



1. In an electronic muscle stimulator including a tubular casing containing a source of electrical energy and signal generating means powered therefrom for generating electrical signals for muscle stimulation, and an electrode assembly mounted to an open end of said casing, said electrode assembly comprising:

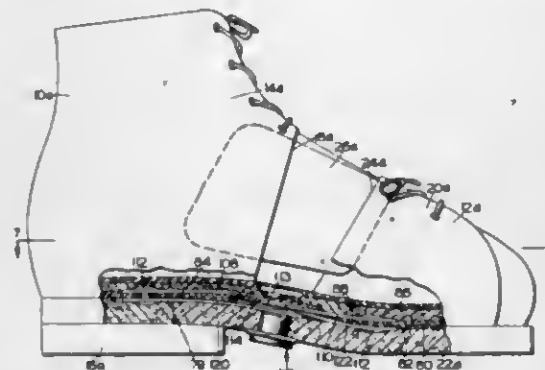
- a support plate of electrical insulating material transversely disposed across said open end of said casing;
- a pair of substantially semicircular support pads defining a chordal edge extending between the ends of an arcuate edge; and
- a pair of circular discs of flexible electro-conductive sheet material, each of said discs being folded around the chordal edge of a different one of said support pads so that portions of the disc are above and beneath the support pad to thereby form a sub-

stantially semicircular electrode, said electrodes being secured to said support plate with their chordal edges in spaced apart parallel alignment, said electrodes being connected to the output of said signal generating means.

3,424,166 CORRECTIVE SHOE WITH ANGULAR CLAMPED ADJUSTMENT

Lyle P. Gibbons, 4719 NE. Glisan,
Portland, Oreg. 97213

Continuation-in-part of application Ser. No. 364,656, May 4, 1964. This application Apr. 3, 1967, Ser. No. 641,083
U.S. Cl. 128—583 6 Claims
Int. Cl. A43b 7/24; A61f 5/14



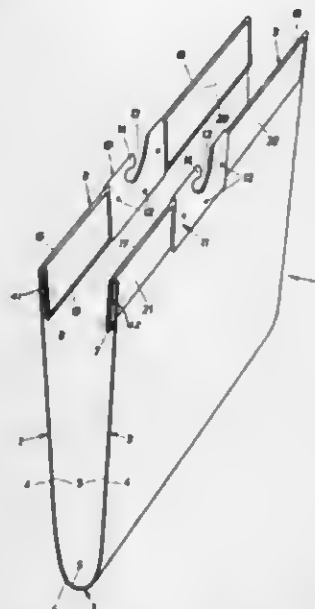
A corrective shoe having heel and toe portions connected pivotally in order that they may be adjustable with relation to each other for applying corrective side pressure to a foot. The embodiments hereof employ pivotally connectable plates secured to the heel and toe portions. The pivot connection includes locking structure, operable from the bottom, for positioning the heel and toe portions in desired adjusted positions. Also included in the invention are side plates or flaps serving to reinforce side portions of the shoe and at the same time serving to close a space between the heel and toe portions of the shoe necessitated by the adjustable feature thereof.

3,424,167 HANGING FOLDER

Walter Lennartz, Waldstrasse 9, Rothschaalge,
near Dachau, Germany

Filed Feb. 27, 1967, Ser. No. 618,576
Claims priority, application Germany, Feb. 25, 1966,
L 52,954 7 Claims

U.S. Cl. 129—16.7
Int. Cl. B42f 21/04



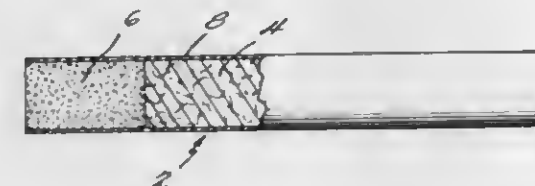
A hanging folder of plastic comprising two covers connected by a base portion with free edges of the covers

having a support means thereon for permitting the folder to be hung from a support rail. The support means has a recess over which extends a projecting support nose for engagement with the rail. The free edges of the folder are of transparent plastic and are folded over so as to form pockets therein for receiving exchangeable identification strips.

3,424,168 REMOVING CONTAMINANTS FROM CIGARETTE SMOKE

Roger V. Lloyd, Pittsburgh, Pa., assignor to Pittsburgh Activated Carbon Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 21, 1966, Ser. No. 595,936
U.S. Cl. 131—10.9 6 Claims
Int. Cl. A24d 1/06



Activated carbon is impregnated with Benedict's solution or the potassium analog thereof to make a tobacco smoke filter. The product does a better job of removing acetaldehyde from smoke than does activated carbon alone, particularly in the range of 0.17 to 0.33 ml. of Benedict's solution per gram of activated carbon.

3,424,169 PROCESS FOR THE PREPARATION OF RECONSTITUTED TOBACCO IN SHEET FORM AND PRODUCT OBTAINED THEREBY

Rolf Erhard Moren, Alfredshem, and Stig E. H. Hammar, Skälby, Sweden, assignors to Mo Och Domsjö Aktiebolag, Örnsköldsvik, Sweden, a corporation of Sweden
No Drawing. Filed Mar. 10, 1966, Ser. No. 533,230
Claims priority, application Sweden, Mar. 17, 1965,
3,467/65 11 Claims

U.S. Cl. 131—17
Int. Cl. A24b 3/14

A process is provided for preparing reconstituted tobacco in sheet form from viscous, aqueous pasty dispersions of finely divided tobacco, from 1 to 30% of a water-soluble cellulose derivative binder having a flocculation temperature below about 80° C., and water-soluble polyalkylene glycol having a molecular weight of from 200 to 6000 to increase the flocculation temperature of the cellulose derivative to above 80° C. A reconstituted tobacco material of the above composition is also provided.

3,424,170 PROCESS OF FORMING RECONSTITUTED TOBACCO FOILS

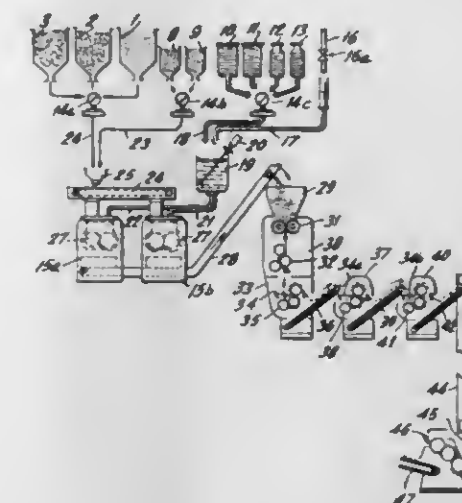
Georg Grunwald, Saselbergweg 44, Hamburg-Sasel, Germany; Hans-Dietrich Otto, Wagnerkoppel 19 k, Hamburg-Farmen, Germany; and Heinz Erik Bernhard Daniel Borgwaldt, deceased, late of Hamburg-Hochkamp, Germany, by Ilse Sophie Antonie Hermine Borgwaldt, nee Murken, sole heiress, Roosensweg 22, Hamburg, Germany

Continuation-in-part of abandoned application Ser. No. 414,842, Nov. 30, 1964. This application Oct. 6, 1967, Ser. No. 674,704
Claims priority, application Germany, Dec. 6, 1963,
B 74,561 8 Claims

U.S. Cl. 131—140
Int. Cl. A24b 9/00, 13/00

Process of forming reconstituted tobacco foils. Tobacco particles of various sizes, including particles of more than

1000μ diameter, are moistened and kneaded, without grinding, with a quantity by weight of an inert liquid such as water or glycol which is less than the weight of the particles. The thus moistened particles are then



pressure rolled by a plurality of rollers rotating at different speeds under a pressure of more than 100 atmospheres to form a foil-like structure. The structure is then conditioned by adjusting its moisture content.

3,424,171 TOBACCO AROMATICS ENRICHED NONTOBACCO SMOKABLE PRODUCT AND METHOD OF MAKING SAME

William A. Rooker, 112 E. Placadyly,
Winchester, Va. 22601

No Drawing. Filed Aug. 15, 1966, Ser. No. 572,199
U.S. Cl. 131—143 9 Claims
Int. Cl. A24b 15/08, 3/00, 15/02

A novel process for the production of a commercially acceptable nontobacco smokable product having a tobacco taste, involves the removal of aromatic material from natural tobacco by conventional techniques, sorption of these extracted aromatics on charcoal, removal of the aromatics from the charcoal by means of a solvent and final incorporation of the solvent extract on commercially acceptable treated vegetable (cellulose) base.

3,424,172 CIGARETTE FILTERS

Georg Neurath, Parkstrasse 51, Hamburg-Grossfottbek, Germany; Reiner Kopsch, Stormsweg 4, Hamburg, Germany; and Joachim Raban, Borgfelde 26, Hamburg-Schenefeld, Germany

No Drawing. Filed May 16, 1966, Ser. No. 550,124
Claims priority, application Germany, May 14, 1965,
R 40,626 3 Claims

U.S. Cl. 131—267
Int. Cl. A24f 13/06

A cigarette filter made of cellulose ester filaments, which in order to increase their absorbing capacity, are impregnated with an acidic carboxylic acid alkyl ester.

3,424,173 FILTER ELEMENT FOR SELECTIVELY REMOVING NICOTINE FROM TOBACCO SMOKE

George P. Touey and Robert C. Mumpower II, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

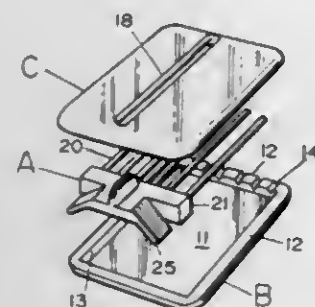
No Drawing. Filed Sept. 14, 1967, Ser. No. 667,650
U.S. Cl. 131—267 4 Claims
Int. Cl. A24f 7/04; A24d 1/06

A filter element containing 1,2,4-butanetriol for selectively removing nicotine from tobacco smoke.

3,424,174
COMPACT HAIR LIFT
 Anthony Battaglia, 455 NW. 202nd Terrace,
 Miami, Fla. 33169

Filed Dec. 7, 1966, Ser. No. 599,849
 U.S. Cl. 132—11
 Int. Cl. A45d 25/00

1 Claim



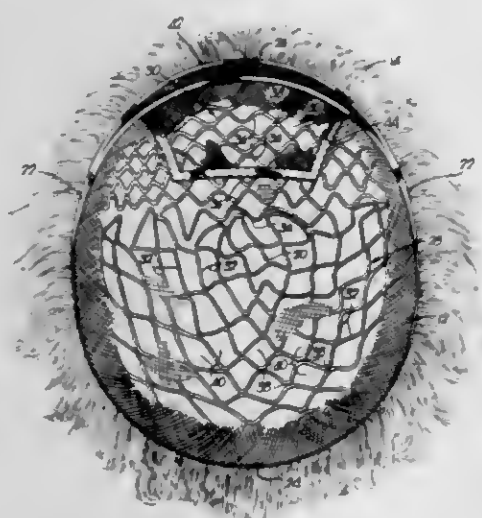
A compact hair lift having a prong support means slidably mounted within a hollow casing. An actuating means cooperating with the prong support means through a slot in the top of the casing permits the prongs to be pushed out when in use and retracted when in storage. The prong support means has resilient members mounted in the rear so as to force the prong support means into a frictional fit with the casing when the prongs are retracted and into a lock position when the prongs are in use.

3,424,175
WIG

Richard Hartwich, 1000 E. Belvedere Ave.,
 Baltimore, Md. 21212

Filed Aug. 25, 1966, Ser. No. 574,982
 U.S. Cl. 132—53
 Int. Cl. A41g 3/00, 5/00

6 Claims

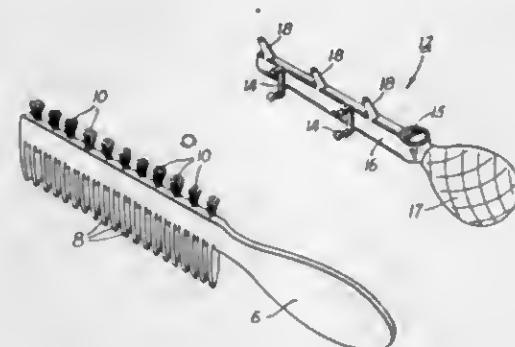


1. In a wig:
 a cap;
 a mat covering the outer face of said cap,
 said mat including an elongated anchoring strip and individual strands of hair material secured to the strip throughout the length thereof,
 said strip having a sinuous lay on said face throughout the length of the strip to support the hair material in a position simulating normal hair growth of a human being; and
 means attaching said strip to the cap with the hair material extending freely therefrom whereby to permit

styling and setting of said mat comparable in appearance and versatility to that of a natural head of hair.

3,424,176
HAIR DYEING APPARATUS
 Edith A. Hale, 310 E. 44th St., New York, N.Y. 10017
 Filed Nov. 2, 1966, Ser. No. 591,457
 U.S. Cl. 132—112
 Int. Cl. A45d 25/08

4 Claims



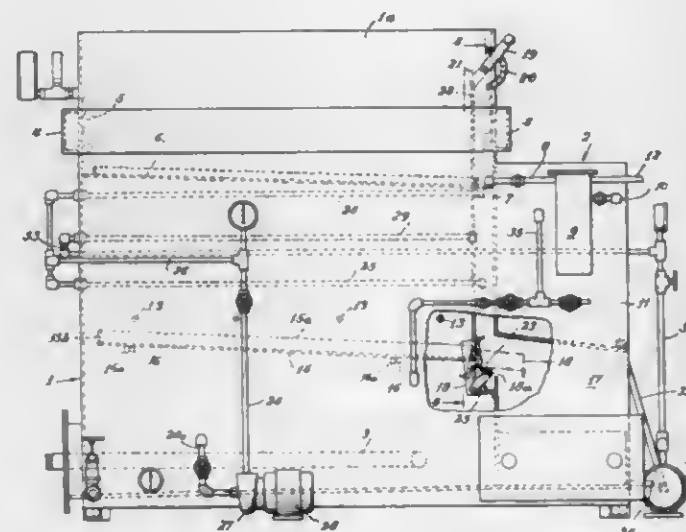
This invention relates to hair dyeing apparatus and in particular, to wet combs and brushes for applying developers, dyes, tints, bleaches, wave-set solutions and the like to the hair.

3,424,177
DEGREASING, PHOSPHATIZING AND CLEANING APPARATUS

William R. Hamilton, Western Springs, Ill., assignor to Baron-Blakeslee Incorporated, Chicago, Ill., a corporation of Illinois

Filed June 18, 1965, Ser. No. 465,106
 U.S. Cl. 134—96
 Int. Cl. B08b 3/04; B01d 3/00; C23f 7/08

5 Claims

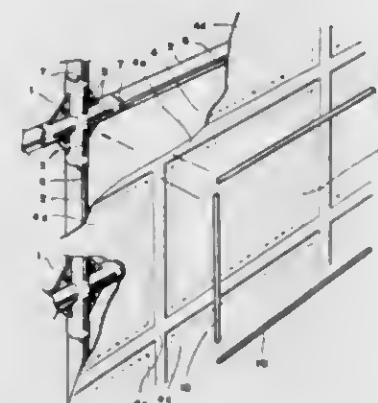


Apparatus for degreasing, phosphatizing and removing acid from treated article has a main tank including vertically spaced heater, imperforate tray, article supporter, sprayers, trough and cooler. The tank contains a treating bath including a volatile solvent. Trough conveys solvent condensate to first supplementary tank. Imperforate tray conveys solvent oil condensate to second supplementary tank. Pump and conduit means sequentially deliver treating bath and then solvent condensate from main tank and first supplemental tank, respectively, to sprayers.

3,424,178
SMALL SIZE CONSTRUCTIONS WHICH ARE READILY FABRICATED OR DISMANTLED
 Yoshimi Yazaki, Nakamaru-cho 9, Itabashi-ku,
 Tokyo, Japan

Filed Nov. 1, 1966, Ser. No. 591,226
 Claims priority, application Japan, Nov. 4, 1965, 40/67,660; July 22, 1961, 41/69,551; July 22, 1966, 41/69,552; Aug. 3, 1966, 41/73,552; Aug. 3, 1966, 41/73,553; Aug. 3, 1966, 41/73,556; Aug. 8, 1966, 41/74,990; Sept. 8, 1966, 41/84,712
 U.S. Cl. 135—1
 Int. Cl. A45f 1/00, 1/16

2 Claims

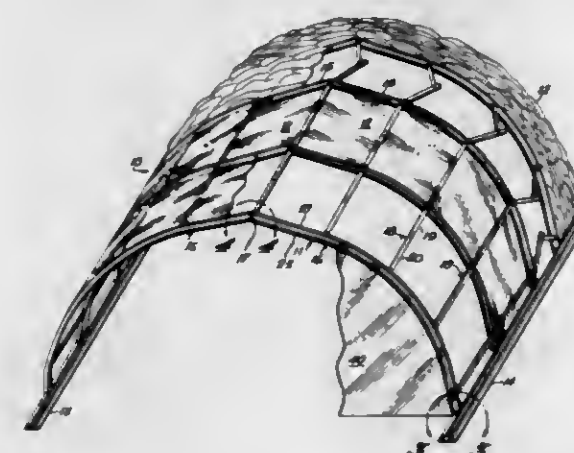


A demountable construction including a joint member having a socket, a frame member insertable in the socket and provided with an elongated projection which interlocks in a notch provided in the joint member, a ridge on the joint member and in line with the projection in its interlocked position, a sheet covering overlying the projection and the ridge and a single resilient clamp resiliently secured to both the projection and the ridge and securing the covering thereto.

3,424,179
COLLAPSIBLE SWIMMING POOL ENCLOSURE
 Seymour Minot, 292 Cornwall Road,
 Glen Rock, N.J. 07452

Filed June 22, 1967, Ser. No. 648,083
 U.S. Cl. 135—3
 Int. Cl. A45f 1/16; E04f 10/02; E04b 1/347

5 Claims



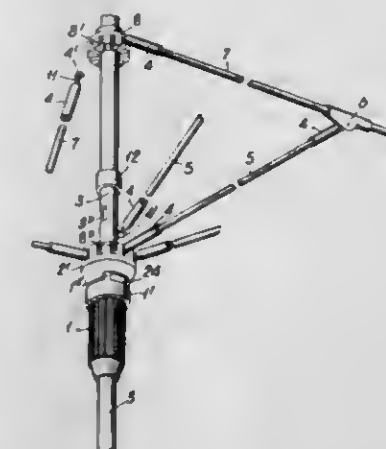
A collapsible swimming pool enclosure including a plurality of arcuate ribs arranged in spaced, parallel, aligned, vertical planes, the outer ends of which ribs are guided for relatively collapsing and expanding movement along spaced, parallel guide rails placed at each side of a pool or other area to be covered, such movement and spacing being controlled by a plurality of collapsible spreader arms extending between adjacent pairs of the ribs, and flexible, transparent panels secured between adjacent pairs of the ribs and overlying the spreader arms.

3,424,180
FRAMEWORK OF PLASTIC MATERIAL FOR UMBRELLA, BEACH SUNSHADE OR PARASOLS

Giancarlo Andolfi, Via Accademia 23, Milan, Italy
 Filed Apr. 27, 1966, Ser. No. 545,739

Claims priority, application Italy, Apr. 29, 1965, 4,151/65, 4,153/65
 U.S. Cl. 135—20
 Int. Cl. A45b 25/02, 25/08

1 Claim

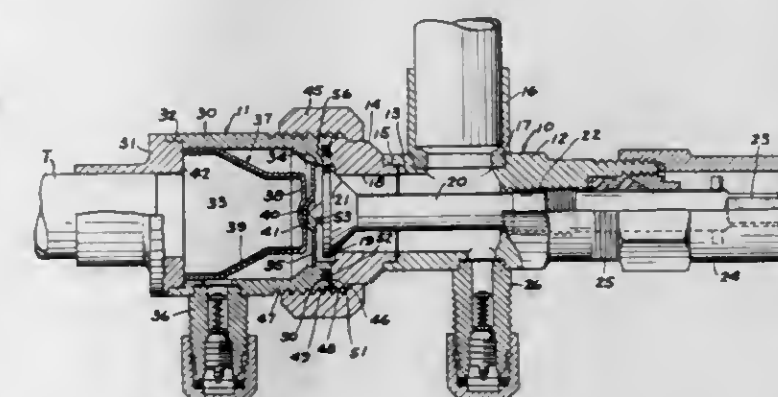


Plastic umbrella framework characterized by ease in assembly and rust-proof structure.

3,424,181
REFRIGERATION VALVE
 Stanley H. Morse, Adrian, Mich., assignor to Primore Sales, Inc., Adrian, Mich., a corporation of Michigan

Filed Sept. 30, 1965, Ser. No. 491,752
 U.S. Cl. 137—68
 Int. Cl. F25b 45/00; F16k 27/00

14 Claims



The refrigeration valve disclosed herein comprises a first body having a hollow chamber and an opening in one end thereof providing communication to the chamber. The body has another opening spaced from the first opening providing communication to the chamber. A valve stem is mounted for movement in the valve body and has a sealing surface adapted to engage a complementary surface in the first mentioned opening upon axially outward movement of the stem. A second body is provided and has an interengaging gas tight coupling with the first body. The second body has a chamber therein and an opening extending from the chamber adjacent the first mentioned opening of the first body. A sealing disc is brazed in the opening of the second body such that movement of the valve stem away from the sealing surface causes the valve stem to engage the disc and place the brazed connection under tension to sever the brazed connection.

3,424,182 VORTEX VALVE

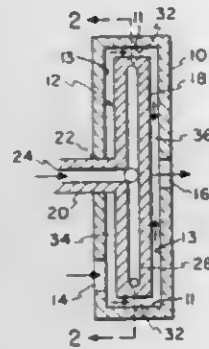
Endre A. Mayer, Birmingham, Mich., assignor to The Bendix Corporation, Southfield, Mich., a corporation of Delaware

Filed May 25, 1965, Ser. No. 458,619
U.S. Cl. 137—81.5
Int. Cl. F15c 1/16

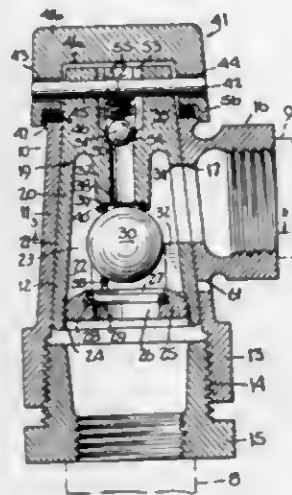
3,424,184 VENTING ANTISIPHON ROTARY PLUG VALVE WITH DRAINAGE MEANS

Richard Brimley, 1788 E. 17th S., Salt Lake City, Utah 84108; Lynn F. Margetts, 2221 Preston St., Salt Lake City, Utah 84106; and Hyrum Russell Margetts, 2671 E. 33rd S., Salt Lake City, Utah 84109

Filed Oct. 18, 1966, Ser. No. 587,449
U.S. Cl. 137—102
Int. Cl. F16k 45/00; E03c 1/10



A vortex device having an annular chamber with a supply fluid opening at one end, a cylindrical cavity including an outlet opening at the other end, and control ports between the ends to impart a rotational velocity to the supply fluid passing through the annular chamber such that vortical flow occurs in the cylindrical cavity and egresses through the outlet opening.



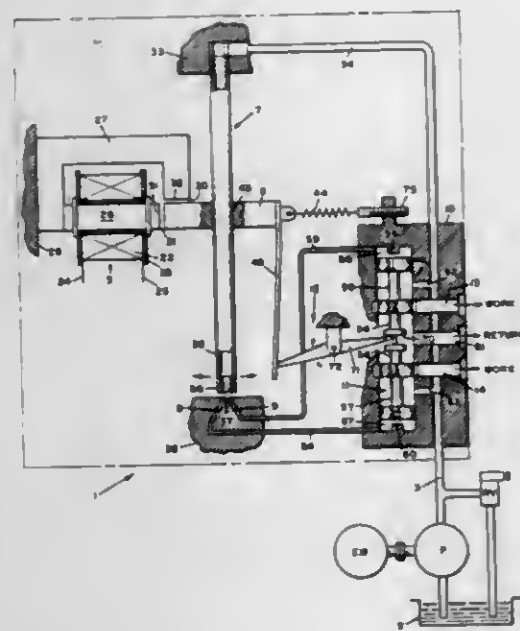
1. A rotary plug valve comprising a hollow casing with an inlet opening and a discharge opening lateral to said inlet opening, a valve plug having a chamber and rotatably seating in said casing, a seating ring mounted in said valve plug adjacent said inlet opening and having an inlet port connecting said inlet opening to said chamber, a discharge port in said valve plug lateral to said inlet port for mating with said discharge opening to connect said chamber with said discharge opening and providing a flow path from said inlet opening through said valve plug to said discharge opening, a boss mounted on said valve plug in said chamber and extending towards said seating ring and having a vent passage to atmosphere and a vent opening, a sealing ball positioned between said vent opening and said inlet port for closing either said inlet port or said vent opening, said valve plug having ribs to guide said ball between said inlet port and said vent opening, means for rotating said valve plug for mating said discharge port and opening to permit a flow through said chamber with said ball held against said vent opening on inlet pressure being greater than atmospheric pressure and positioning on said inlet port on inlet pressure being less than atmospheric pressure for preventing reverse flow through said chamber and said inlet and discharge openings.

3,424,185 QUICK EXHAUST VALVE

Zdenek J. Lansky, Winnetka, and Kenneth A. Bracki, Mount Prospect, Ill., assignors to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Nov. 15, 1966, Ser. No. 594,465
U.S. Cl. 137—102
Int. Cl. F16k 31/145; F011 9/02

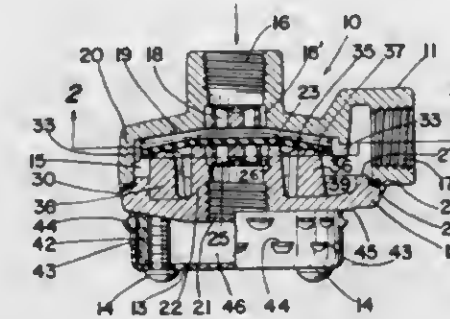
1. A quick exhaust valve comprising a housing having a valve chamber, inlet and exhaust ports leading from opposite ends of said chamber, a motor port leading from a side wall of the chamber, an inlet seat surrounding the inlet port, an outlet seat of smaller diameter than the inlet seat surrounding the exhaust port, a flexible valve disk between the two seats, said disk when pressure fluid is admitted to the inlet port being flexed thereby to a first position in which its central portion contacts the second seat to close the exhaust port and its outer margin is spaced from the first seat to permit flow of fluid from the



A solenoid operated servovalve delivering an output which varies linearly with a control current applied to the solenoid. The solenoid exerts force on an armature connected to operate a valve, and the valve in turn applies pressure to a movable element causing it to be shifted. Movement of the latter is fed back to the armature through a lever bearing on a cantilevered leaf spring attached to the solenoid armature. The cantilever spring exerts a reaction force on the armature in the same direction as the solenoid force tends to draw the armature, and acts in opposition to a biasing spring. The non-linearity of the solenoid is cancelled by the non-linearity of the feedback coupling.

inlet port to the motor port, said disk when fluid pressure in the motor port is higher than in the inlet port being flexed by the fluid into a second position in which its outer margin contacts the first seat to close the inlet port and the central portion is spaced from the exhaust port to permit flow of fluid from the motor port to the exhaust port, and circumferentially spaced abutments be-

and wherein the pressure in such chamber is the same as the inlet pressure. A bleed valve assembly provides communication between the inlet and the chamber to

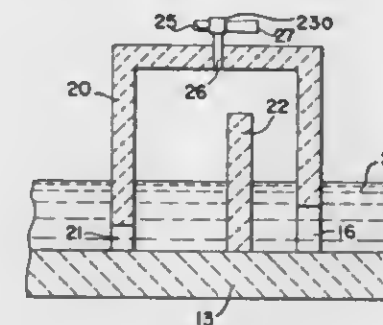


tween the second valve seat and the motor port and opposite said outer margin having inner end surfaces engageable by the disk for supporting the same when the disk is in its first position, said abutments being spaced radially inward of said side wall to permit free flow of fluid around and between the abutments from the motor port to the exhaust port when the disk is in its second position.

3,424,186 CIRCULATING DEVICE

Robert J. Sparks, 7250 Brecksville Road, Independence, Ohio 44131

Filed Sept. 26, 1966, Ser. No. 581,896
U.S. Cl. 137—205
Int. Cl. F041 3/00; C21c 7/00



The combination of a vessel and a device for circulating molten material from one place to another within the vessel, characterized by a hollow chamber, a partition separating an inlet port and outlet port formed in the walls of the chamber and a vacuum or pressure source for transporting molten material from a submerged strata in the vessel, through the inlet port, over the partition, through the outlet port to discharge into a submerged strata in the vessel.

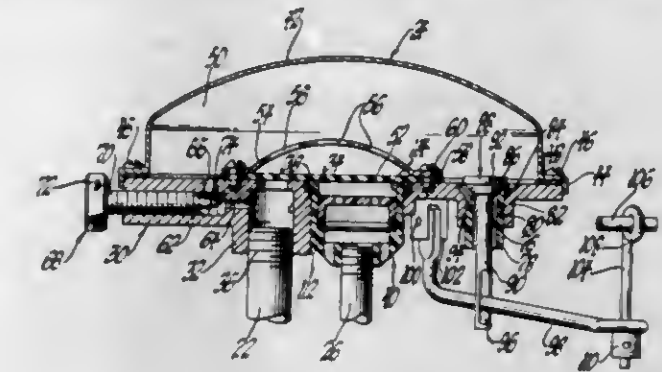
3,424,187 TOILET TANK FILL VALVE

Thomas J. Brennan, 5620 Roundhill Court, and Walter A. Baumstark, 720 Hupp Cross Road, both of Birmingham, Mich. 48010

Continuation-in-part of application Ser. No. 322,179, Nov. 7, 1963. This application Feb. 3, 1965, Ser. No. 431,773

U.S. Cl. 137—217
Int. Cl. E03d 1/36; E03c 1/10

A toilet tank fill valve having inlet and outlet means closable by a diaphragm located in a pressure chamber

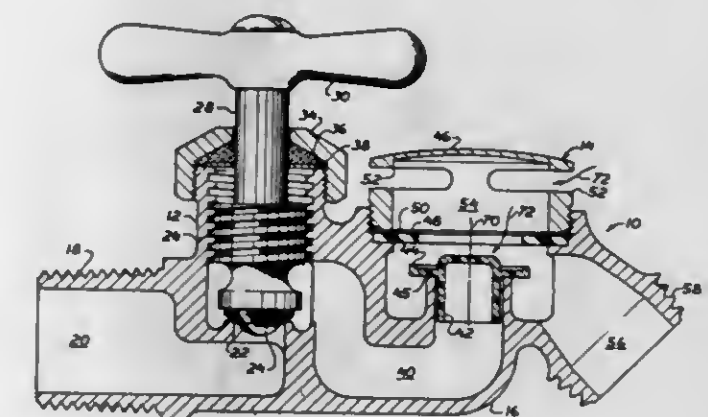


close the diaphragm upon filling of such chamber. The valve is controlled by means actuated in response to the water level in the tank.

3,424,188 ANTISIPHON FAUCETS

Watford C. Whitaker, 650 Auburn Ave., Sierra Madre, Calif. 91024, and Frank De Michael, 1335 McBilinda Ave., Pasadena, Calif. 91107

Filed Oct. 10, 1967, Ser. No. 674,170
U.S. Cl. 137—218
Int. Cl. E03c 1/10



This disclosure relates to antisiphon faucets, and particularly to faucets, such as hose bibbs, having vacuum breakers integral with a valve.

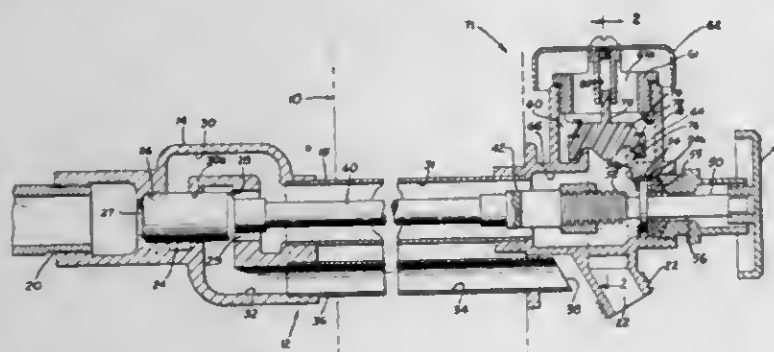
According to the present disclosure, a faucet such as a hose bibb is provided with valve means at the inlet side of the faucet for controlling flow of liquid through the faucet. An atmospheric vacuum breaker is mounted integral with the valve at the outlet portion of the faucet.

According to an optional and desirable feature of the present disclosure, the vacuum breaker includes means for preventing discharge of liquid through the outlet upon removal of the vacuum breaker from the faucet.

3,424,189 SELF-DRAINING SILL COCK AND VACUUM BREAKER

Joseph C. Woodford, Spring Lake, Mich., assignor to Woodford Manufacturing Company, Des Moines, Iowa, a corporation of Iowa
Filed Aug. 17, 1965, Ser. No. 480,366
U.S. Cl. 137-218
Int. Cl. E03c 1/10; E03b 9/08; F16k 11/00

3 Claims

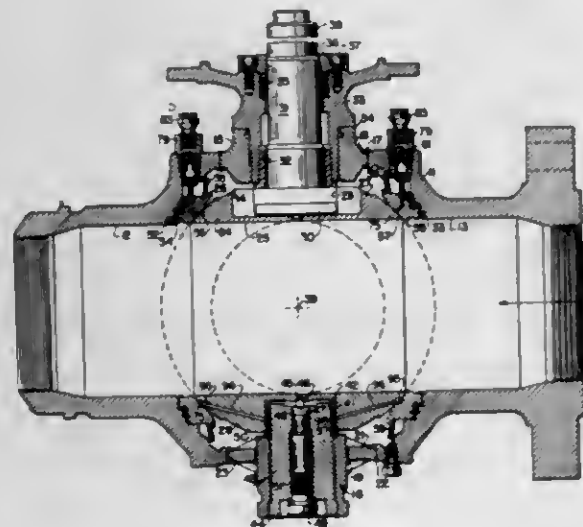


A self-draining sill cock assembly for use in fluid supply systems and which is constructed to automatically drain the sill cock assembly between the outlet and the valve inlet portions thereof when fluid flow through the assembly is stopped by the closure of the valved inlet.

3,424,190 LUBRICATED BALL VALVE HAVING SEATING RINGS WITH PREFORMED MATCHING SEAT- ING SURFACES

Adolf Wolfensperger, Kearney, Nebr., assignor to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 1, 1965, Ser. No. 435,838
U.S. Cl. 137-246.15
Int. Cl. F16k 5/22, 5/06, 5/18

11 Claims



1. In a plug valve assembly, a body having upstream and downstream fluid passage sections, a ported plug rotatable within said body between positions where it blocks and provides fluid communication between said passage sections, an upstream seat ring within the body, said plug having a normally spherical surface for engaging a seating surface on said ring, means mounting said seat ring for substantially axial displacement with respect to the upstream passage section, said seating surface of the seat ring being preformed to a contour that substantially conforms to the contour assumed by the spherical

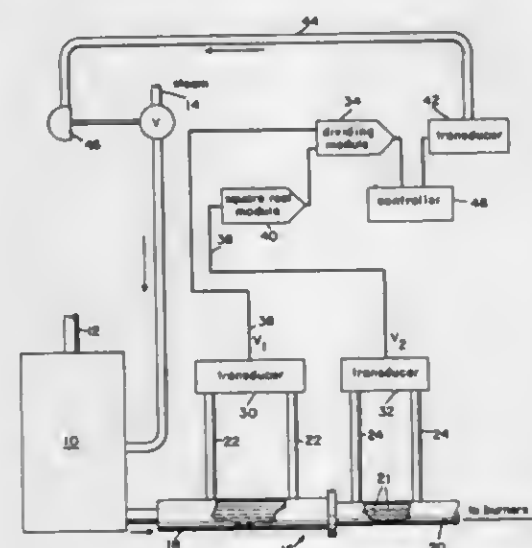
surface of said plug when the plug is in closed valve position and subjected to predetermined high line fluid pressures encountered during normal operation, and means for resiliently biasing said seat ring toward engagement with the plug surface for distorting said seat ring toward substantially spherical surface contact with said plug when there is little or no substantial line pressure differential across said valve assembly and enabling said seat ring to relax said deformation to enable its seating surface to change toward said preformed contour to match deformation of said spherical plug surface under predetermined line pressures.

8. In a plug valve assembly having a body enclosing a rotatably mounted ported plug, a seat ring engaging at least one side of the plug, an operating stem extending from said plug through an opening in the body, means providing a trunnion support for said plug within the body and comprising a bearing, and means for injecting fluent lubricant from externally of said body through passages in said seat ring to provide an annular band of said lubricant at the seating surfaces of said ring and said plug and means providing a passage through the plug connecting said band with said bearing.

3,424,191 SYSTEM FOR REGULATING VISCOSITY OF LIQUIDS

James W. Murdock, Springfield, Pa., assignor to the United States of America as represented by the Secretary of the Navy
Filed Sept. 29, 1966, Ser. No. 583,510
U.S. Cl. 137-334
Int. Cl. G05d 24/02; F82c 3/08

5 Claims



1. A system for regulating the viscosity of fuel oil to provide efficient combustion which comprises,

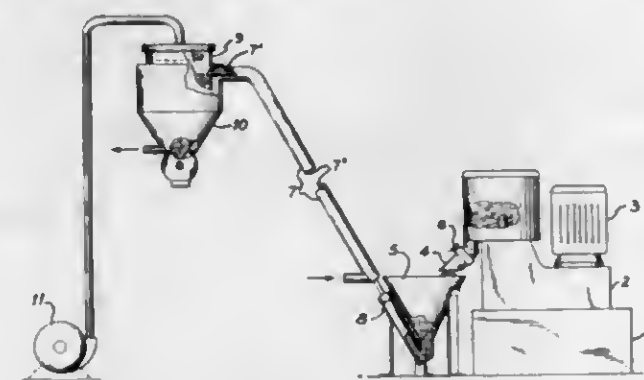
- (a) a fuel oil storage unit having valve controlled heating means,
- (b) a conduit assembly for connecting said fuel storage unit with combustion apparatus,
- (c) said conduit assembly having a first zone for laminar flow of the fuel oil between its inlet and outlet and a second zone for turbulent flow of the fuel oil between its inlet and outlet,
- (d) a first transducer operative by differential pressure existing between the inlet and outlet of said first zone to provide a first output voltage and a second transducer operative by differential pressure existing between the inlet and outlet of said second zone to provide a second output voltage and
- (e) an analog module operative by said first and second output voltages for producing a signal voltage to operate the valve controlled heating means.

3,424,192 EQUIPMENT, MORE PARTICULARLY FOR MANU- FACTURING PLASTIC MATERIALS

Paul Rayner, 20 Rue Franklin, Montreuil Sous Bois, Seine-St-Denis, France
Filed May 13, 1965, Ser. No. 455,501
Claims priority, application France, Oct. 26, 1964, 992,705

U.S. Cl. 137-340
Int. Cl. B01j 13/00; B01f 3/22

1 Claim

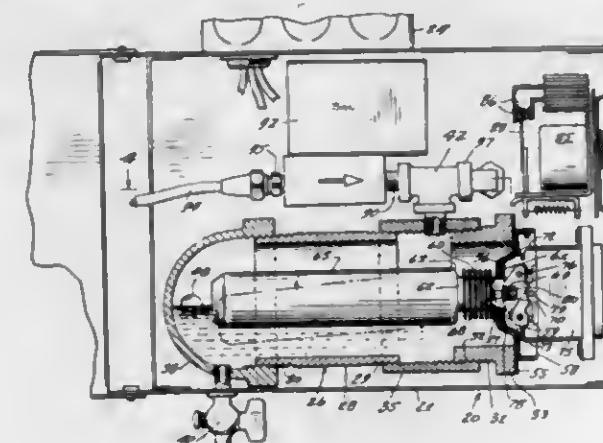


Equipment for making plastic materials comprising means for cooling a heated mixture during its travel from a hopper receiving the heated mixture from the mixer to a cyclone hopper and including co-axial piping. Pneumatic means are provided for propelling the mixture and fluid means for cooling the mixture all in the co-axial mixture.

3,424,193 AUTOMATIC FUEL OIL LEVEL CONTROL FOR SUPPLY TO AN OIL BURNER

John E. Dignam, % Ion-Tronic Corporation of America, 100 Dobbin St., Brooklyn, N.Y. 11222
Filed Jan. 15, 1968, Ser. No. 697,867
U.S. Cl. 137-389
Int. Cl. F16k 33/00, 31/18

10 Claims



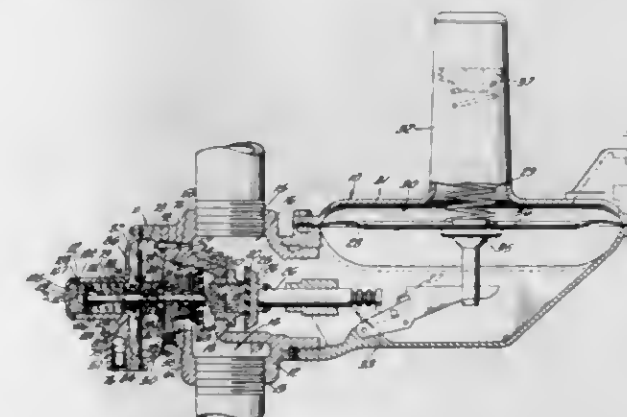
An oil level control unit for the supply of fuel oil to a low pressure air-atomizing oil burner provided with an auxiliary oil supply reservoir from which oil under pressure is delivered to the atomizer of the oil burner. The control unit consists of an auxiliary float tank having therewithin a float lever operatively connected to a micro-switch to close the circuit therethrough when the float lever drops. The float tank is directly connected to the oil supply reservoir so as to have a common oil level therewith. A solenoid valve mounted on the float tank is connected to a main source of oil supply and controls the admission of oil into the float tank, the solenoid valve being normally closed. A relay is connected in series with the micro-switch for controlling the circuit to the solenoid valve, the relay further being connected to the current source to the motor of the oil burner. On a drop of the oil level in the float tank and a shutting down of the oil burner motor, the micro-switch and relay will operate to permit current to flow to the solenoid valve to actuate the same to open position so as to permit delivery of oil to

the float tank and to the auxiliary reservoir. On elevation of the float lever to its normal horizontal position, the micro-switch will be open and the relay contacts will return to their normal closed engagement thus cutting off the circuit to the solenoid valve.

3,424,194 OVERPRESSURE SHUTOFF DEVICE

Harold F. Kruzan, Yorba Linda, Calif., and Helaz K. Hetz, Doylestown, Pa., assignors, by mesne assignments, to American Meter Company, Philadelphia, Pa., a corporation of Delaware
Filed July 26, 1966, Ser. No. 567,882
U.S. Cl. 137-461
Int. Cl. F16k 17/02

12 Claims

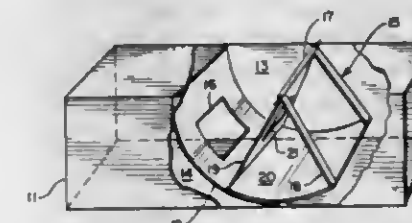


An overpressure shutoff device for use with a gas pressure regulator. A normally reset closure member is provided which allows gas flow. When an abnormal pressure condition occurs, the shut off device trips allowing the closure member to terminate gas flow. The closure member is coupled with a shaft coaxially mounted with respect to a tripping mechanism which includes a ball cage and a plurality of balls. A plug is provided for engaging the shaft for facilitating resetting of the closure member and tripping mechanism as the plug is unscrewed from the housing of the device.

3,424,195 AUTOMATIC AIR FLOW CONTROL DEVICE FOR DUCT SYSTEMS

Arthur G. Stiles, 4581 Allison, Wheat Ridge, Colo. 80033
Filed Oct. 24, 1966, Ser. No. 588,978
U.S. Cl. 137-504
Int. Cl. G05d 7/01

11 Claims



1. The combination with a duct of an air-conducting system, of flow-regulating means within the duct controlling air flow from an upstream to a downstream portion of the duct, including structure having at least one orifice for passing air flow from the upstream to the downstream portion, and associated structure having an imperforate segmental surface disposed for swinging movement in said duct under the impelling flow of the air stream in said upstream portion and cooperating with said orifice for decreasing resistance to air flow through the orifice when the pressure at the orifice decreases and increasing resistance to air flow through the orifice when

the pressure at the orifice increases, and thereby maintaining a substantially uniform air flow at said orifice during pressure changes in said upstream portion.

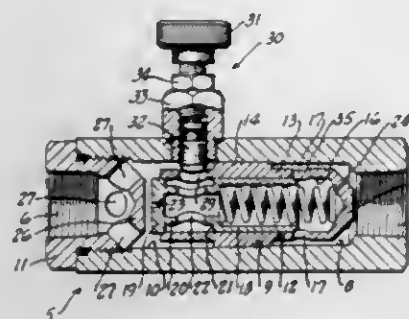
3,424,196

FLOW REGULATING VALVE

Verne P. Donner, Palatone, Ill., assignor to Deltrol Corp., Bellwood, Ill., a corporation of Delaware
Filed June 1, 1966, Ser. No. 554,578

U.S. Cl. 137—504
Int. Cl. G05d 7/01

6 Claims



1. A flow regulating valve, comprising:
 - (A) a tubular body having an inlet chamber in its front and an outlet chamber in its rear;
 - (B) means in the body providing a sleeve having
 - (1) an open end projecting forwardly into the inlet chamber,
 - (2) a closed end projecting rearwardly into the outlet chamber,
 - (3) and a metering port in its side, opening to the outlet chamber;
 - (C) a pressure responsive plunger axially slidably mounted in the sleeve and normally occupying a position with its rear end forwardly adjacent to said metering port to progressively restrict the same as the plunger is moved rearwardly in the sleeve from its normal position;
 - (D) passage means in the plunger normally cooperating with the metering port to afford limited communication between the inlet and outlet chambers, and comprising
 - (1) a control port in the front of the plunger, opening to the inlet chamber,
 - (2) an axial passage opening rearwardly into the closed end portion of the sleeve and communicating with the control port, said axial passage having a greater cross sectional area than the control port,
 - (3) and a bypass port in its side, adjacent to the front of the plunger and communicating with said axial passage, said bypass port being closed by the forward end portion of the sleeve in the normal position of the plunger but being communicable with the inlet chamber at times when the plunger is moved out of its normal position to a forward position to thereby communicate the inlet and outlet chambers in bypass relation to said control port;
 - (E) means defining the normal position of the plunger, comprising a spring in the rear portion of the sleeve, said spring yieldingly resisting rearward motion of the plunger out of its normal position; and
 - (F) means in the front of the tubular body having
 - (1) an inner portion which projects rearwardly into the inlet chamber toward the front of the plunger and provides an abutment confronting but normally spaced from the plunger, and with which the plunger is engageable to define said forward position thereof,

- (2) an outwardly opening bore providing an inlet,
- (3) and channel means communicating said inlet with the inlet chamber at a location spaced from the surface of the abutment engaged by the plunger in the forward position thereof and remote from said control port.

3,424,197

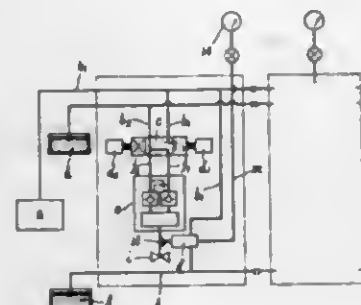
INDICATION APPARATUS OF DISPLACEMENT BY MEANS OF LIQUID PRESSURE

Toru Yanagisawa, Takarazuka, Japan, assignor to Sumitomo Precision Products Company Limited, Amagasaki, Hyogo, Prefecture, Japan

Filed Feb. 21, 1967, Ser. No. 617,649
Claims priority, application Japan, Mar. 25, 1966, 41/18,645

U.S. Cl. 137—557
Int. Cl. F16k 37/00, 31/12

4 Claims



An apparatus for indicating mechanical displacement to indicate correctly and continuously the condition of various kinds of actuators such as the stroke of a cylinder, the rotation angle of a butterfly valve, the extent of opening of a gate valve, etc., at a remote location.

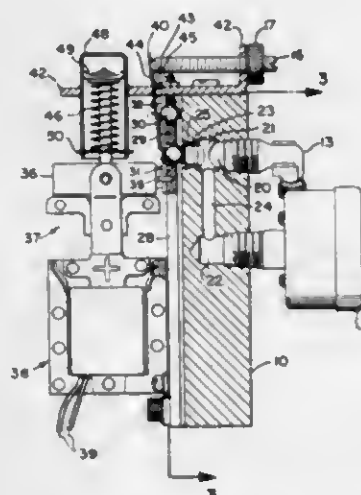
3,424,198

VALVE MEANS

Arthur R. Erbach, Des Plaines, Ill., assignor to Beckman Instruments, Inc., a corporation of California
Filed June 10, 1965, Ser. No. 462,838

U.S. Cl. 137—583
Int. Cl. A46b 11/02; F16k 45/00; G01d 15/18

11 Claims



A combined pressure regulating and pressure release valve having a manifold block, a carriage positioned in a guide groove, a solenoid for moving the carriage from one extreme position to another, and a pair of balls so rotatably mounted in the carriage that one always seals an orifice except while the carriage is being moved from one position to the other. Pressure is vented to atmosphere through the orifice. A spring attached to the carriage urges a ball against the orifice with adjustable force to provide pressure regulation when the carriage is in the one position.

3,424,199

MAGNETICALLY OPERATED VALVE

Bo Breitholtz, Vasteras, and Fred Carlén, Pär Ahrnholm, and Karl Gustav Sindahl, Ludvika, Sweden, assignors to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden

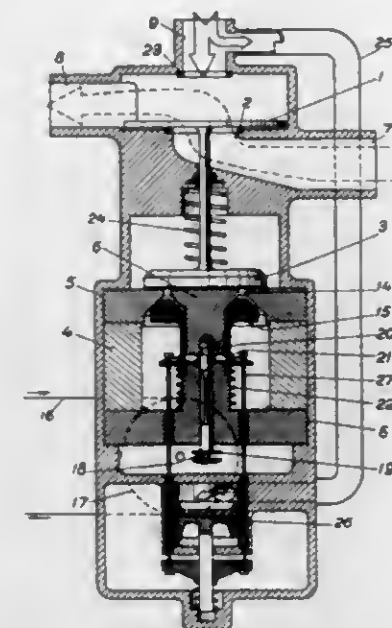
Filed Apr. 12, 1966, Ser. No. 542,124

Claims priority, application Sweden, Apr. 12, 1965, 4,716/65, 4,717/65

U.S. Cl. 137—596

Int. Cl. F16k 31/08, 31/36; H01h 33/82

15 Claims



In an air blast circuit breaker, the blast valve is normally held closed against the action of the air pressure operating on it by a permanent magnet circuit having a gap therein which is bridged by an armature connected to the valve. A shunt armature is mounted so as to be movable to a position to form a parallel path for the holding flux through the armature so as to reduce the magnetic attraction on the armature and allow the valve to open.

3,424,200

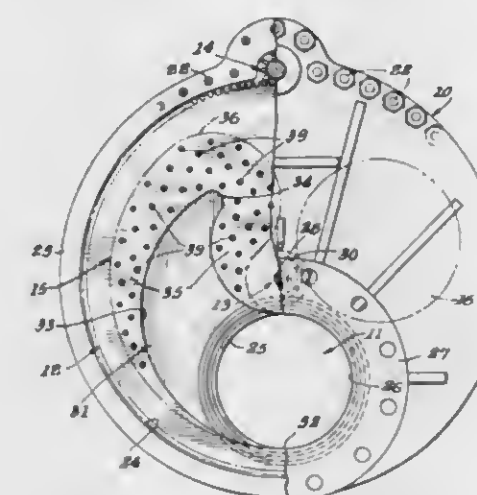
NON-CAVITATING DISC VALVE

Walter M. Marley, Monterey Park, and Herman Milstein, Los Angeles, Calif., assignors to Roto-Disc Valve Company, Los Angeles, Calif., a corporation of California
Filed Nov. 4, 1966, Ser. No. 592,173

U.S. Cl. 137—625.31

Int. Cl. F16k 3/00

9 Claims



The present valve incorporates a novel feature: that of obviating cavitation causing erosive damage to both the disc and the valve body. This undesirable wear on the valve parts occurs when the disc is rotationally adjusted

to a position intermediate full flow and non-flow. The inventive concept comprises the provision, in a valve of the character disclosed in said application, of a plurality of auxiliary orifices preferably arranged in a pattern adjacent the gradually tapered port in the valve disc, the same providing an auxiliary flow which inhibits formation of vacuum-induced turbulences on the downstream side of the disc, thereby minimizing cavitation effects.

In a modification in which the tapered port is replaced by a group of differently sized ports arranged concentrically around the axis of rotation of the disc, such cavitation-inhibiting orifices may be arranged around those of said ports that are smaller than the flow passage of the body.

3,424,201

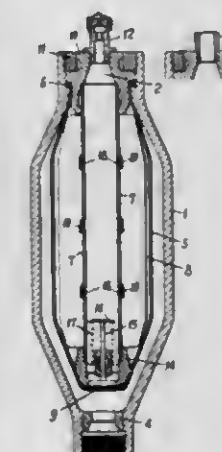
BLADDER TYPE ACCUMULATOR WITH CORE TUBE

Kazuo Sugimura and Nobuyuki Sugimura, both of 1416 Sodeshi-cho, Shimizu-shi, Shizuoka Prefecture, Japan
Filed June 13, 1966, Ser. No. 557,130

Claims priority, application Japan, Sept. 15, 1965, 40/56,530

U.S. Cl. 138—30
Int. Cl. F16l 55/04

4 Claims



A bladder type of accumulator with a central core having; longitudinal fins to promote a regular shape during inflation and deflation, flaps covering the core communicating holes to protect the bladder, and a poppet valve at the lower end of the core tube.

3,424,202

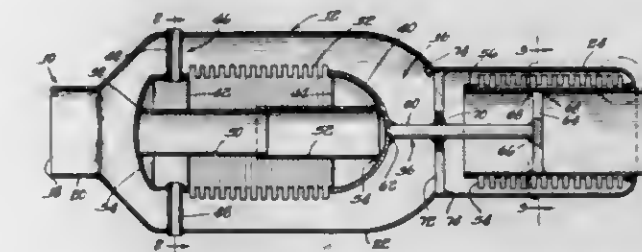
DUAL BELLOWS COMPENSATOR

Thomas N. Lincome, Elgin, Ill., assignor to Calumet & Hecla, Inc., Evanston, Ill., a corporation of Michigan
Filed Sept. 8, 1966, Ser. No. 578,023

U.S. Cl. 138—31

Int. Cl. F16l 51/02, 27/12

9 Claims

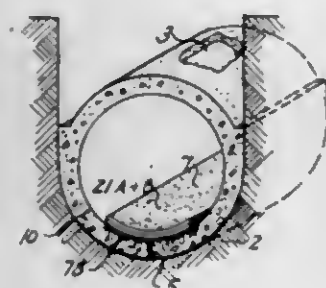


1. A compensator comprising: a primary fluid carrier having a first orifice for passing fluid; a secondary fluid carrier telescopically arranged with said primary fluid carrier defining a second orifice for passing fluid; and restraining means disposed inside said primary fluid carrier

connected thereto and to said secondary fluid carrier, said restraining means including a plurality of corrugated tubular members and coupling means cooperating to form a rigid connection between said tubular members.

3,424,203 IN-PLACE REPAIRS FOR CONCRETE IRRIGATION PIPE

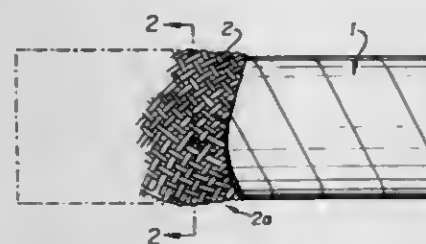
David Rubenstein, San Diego, Calif., assignor to Chem Stress Industries, Inc., a corporation of California
Filed Apr. 26, 1966, Ser. No. 545,470
U.S. Cl. 138—98 9 Claims
Int. Cl. F16I 55/61; B32b 35/00



This patent application relates to quick methods of repair and apparatus for repairing cracked inverts of existing concrete pipe lines wherein the invert section (the bottom of the pipe) of said concrete pipe lines has been cracked by sonic booms, earth pressures, "slugging of the line as it is called," etc., and generally by dynamically applied loads through the earth from outside of said concrete pipe lines. The invert repairs are made from the inside of the said concrete pipe lines by laminating polymeric resin composition-filler-fiber reinforcements into and onto the concrete body of said pipe and by making very strong composite structure in the area of the repair from the concrete material of the said concrete pipe with said polymeric resin composition-filler-fiber reinforcements and this with no excavation except access holes into said pipe, and this at a fraction of the cost of replacement of such pipe, the only known way prior to this invention.

3,424,204 REINFORCED PAPER PIPE

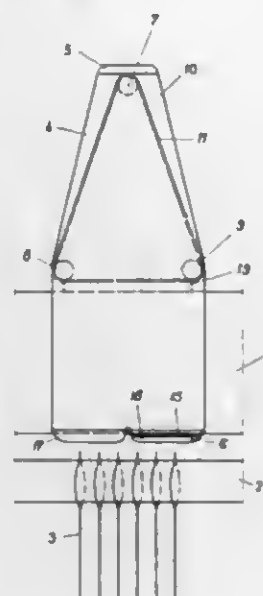
Isao Sato, 1127 Ishikiri-cho, Hiraoka, Osaka, Japan
Filed Oct. 27, 1964, Ser. No. 408,460
Claims priority, application Japan, Jan. 27, 1964, 39/3,878
U.S. Cl. 138—144 9 Claims
Int. Cl. F16I 9/14, 11/02



1. A pipe comprising
a hollow innermost paper core layer,
a layer of knitted fiber yarn disposed about said paper core layer,
said layer of knitted fiber yarn comprising exclusively a substantially spirally intertwined network extending along the length of said paper core layer, and
a resin binder permeating said layer of knitted fiber yarn and binding said layer of knitted fiber yarn and said paper core layer together.

3,424,205 GUIDE FOR DETACHABLY MOUNTING ON A STAVE OR A HEDDLE FRAME FOR A LOOM

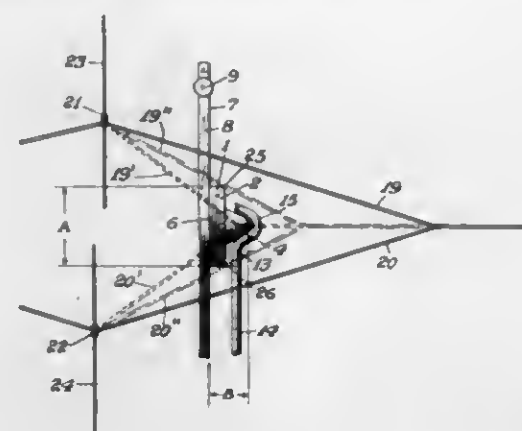
Bernhard Robert Koch, Horgenberg, Switzerland, assignor to Grob & Co., Aktiengesellschaft, Zurich, Switzerland
Filed Mar. 24, 1967, Ser. No. 625,646
Claims priority, application Switzerland, Apr. 4, 1966, 4,904/66
U.S. Cl. 139—91 10 Claims
Int. Cl. D03c 9/06, 13/00



The invention relates to a guide for detachably mounting on a stave of a heddle frame for a loom. The guide comprises two spaced apart guide plates which extend above the stave and depending resilient legs which can be forced apart to snap onto the stave in the position required. Each leg has an intumed foot and a handgrip piece. A spring strip fastening encloses the space between the side plates to prevent dust accumulating and also presses a friction grip onto the stave.

3,424,206 SHUTTLE AND GUIDING STRUCTURE THEREFOR

Zdeněk Rambousek, Vladimír Svatý, and Lubomír Tatíček, Liberec, Czechoslovakia, assignors to Elitex, Zavody textilního strojírenství, Liberec, Czechoslovakia
Filed Sept. 7, 1966, Ser. No. 577,645
Claims priority, application Czechoslovakia, Sept. 11, 1965, 5,611/65
U.S. Cl. 139—188 3 Claims
Int. Cl. D03d 49/60, 49/24, 47/00

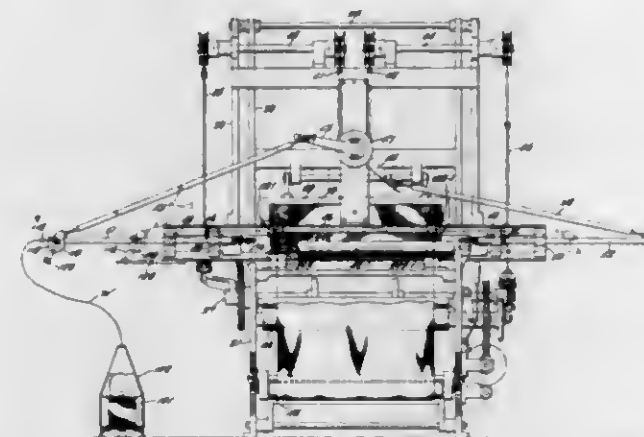


The shuttle of a weaving loom has an elongated wide base and an elongated guide rib on the base. The base slides over the guide face of a reed assembly transversely of the reed blades during weaving while the rib, which projects from the base away from the reed, is guided in a row of stationary spaced fingers whose free end portions form respective bights conformingly to receive

the rib, the width of the base being greater than the corresponding dimension of the free end portions. The base thus prevents warp threads from being caught between the rib and the guide fingers.

3,424,207 SHUTTLELESS WIRE LOOM

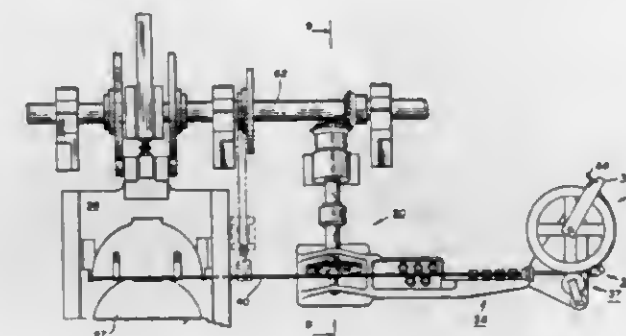
William B. Krebs, Hanover, Pa., assignor to Keystone-Seneca Wire Cloth Company, Hanover, Pa., a corporation of Pennsylvania
Filed Mar. 31, 1967, Ser. No. 627,409
U.S. Cl. 140—7 22 Claims
Int. Cl. B21f 27/02; D03d 47/18, 47/28



A loom for weaving cloth from strands of wire in which the conventional shuttle is eliminated and weft wires of the cloth are fed through the shed of the loom as individual strands by modification of the conventional shuttle carriers. One of the carriers is provided with a feeder for feeding a strand of wire to the center of the shed in the loom and the other carrier is provided with a gripper for engaging and pulling the strand the rest of the way through the shed. After the weft is inserted in place, both ends are tucked into the edge of the wire cloth to form a selvage.

3,424,208 WIRE HANDLING APPARATUS

Raymond A. Helster, 657 Dakota Trail, Franklin Lakes, N.J. 07417
Filed July 5, 1966, Ser. No. 562,587
U.S. Cl. 140—93 18 Claims
Int. Cl. B21f 45/00, 1/02

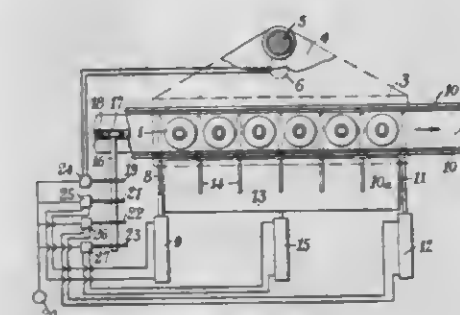


A wire handling apparatus for receiving, transporting and feeding wire through a bail-applying mechanism wherein wire is fed from a coil and into a wire straightener section. An eccentrically mounted wire feed is movable into and away from the path of the wire, this feed, when in engagement with the wire, is adapted for actuation to advance the wire in determined amounts through the straightener and into an automatic feed. An anti-backlash wire guiding means having a sprag engaging the wire is disposed in the path of the wire. An automatic wire feed is provided in which a shiftable cam is adjustable to advance a determined feed length of wire, after which the

feed is discontinued. After the feed of the wire is completed, the wire is cut to a precise length. The wire is carried in a covered wire groove feed path and as it is cut the cover is moved from the wire groove and the wire is transferred from the groove.

3,424,209 DEVICE FOR HANDLING OBJECTS ON A CONVEYOR

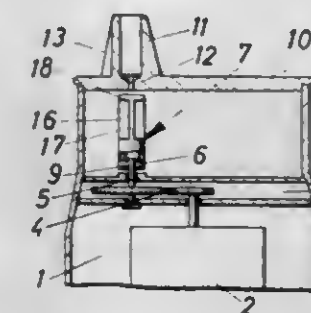
Antoine Di Settembrini, Monlieu de la Drille, Epouville, Seine-Maritime, France
Filed June 17, 1966, Ser. No. 558,343
Claims priority, application France, June 28, 1965, 22,535
U.S. Cl. 141—168 1 Claim
Int. Cl. B65b 43/52



A device for positioning and temporarily holding against motion, at a working station, objects carried by a conveyor, notably for filling bottles made of a moderately rigid material. A first screen and a second screen are disposed beneath said working station respectively upstream and downstream thereof for stopping the objects on said conveyor. A plate positioned alongside the conveyor has a bevelled edge on the side registering with said conveyor and carries transverse screens. The positioning plate moves transversely of and above the conveyor within the area defined by the first and second screen for lifting the objects from the conveyor.

3,424,210 CUTTING HEAD FOR A LEAD SHARPENING DEVICE

Peter Dziuk and Willi Ertl, Nuremberg, Germany, assignors to J. S. Staedtler Kommanditgesellschaft, Nuremberg, Germany, a company of Germany
Filed May 3, 1966, Ser. No. 547,266
U.S. Cl. 144—28.72 4 Claims
Int. Cl. B43I 23/02

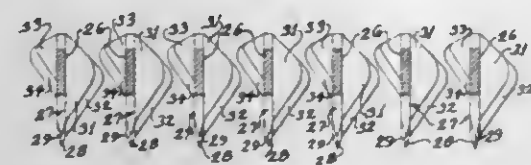


A lead sharpening device comprising a cutting head in the form of a rotary cylindrical cage in which several cutter blades are mounted in circumferentially spaced relationship and symmetric to the rotational axis of the cage. The cutting edges of the blades constitute a generator of an imaginary conical configuration coaxial with the rotational axis of the cage and defining an angle with said rotational axis whereby a lead inserted into the center axis of said imaginary conical configuration obtains a generally conical point by the action of the blades when the cage is rotated.

3,424,211
LAND CLEARING IMPLEMENT
 John R. Marine, Panama, Ala. 35477
 Filed Oct. 20, 1965, Ser. No. 498,903

U.S. Cl. 144—34
 Int. Cl. A01g 23/06

2 Claims



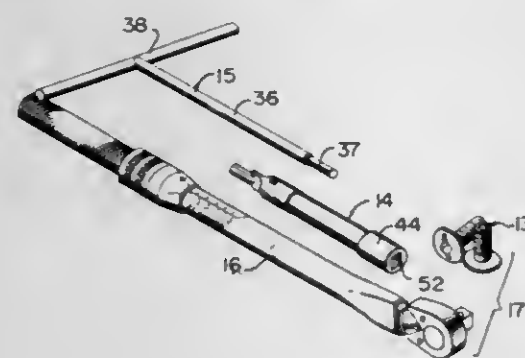
Land clearing implement having a plurality of laterally spaced splitter elements with shear blades at opposite sides thereof extending forwardly and inwardly with one shear blade terminating adjacent the forward end of the splitter element and the other shear blade terminating rearwardly of the forward end of said one shear blade with shear blades of adjacent splitter elements overlapping each other as viewed in the direction of travel.

3,424,212
SCREW WRENCH DEVICE

Clyde Kemper, Westminster, Md., assignor to The United Company, Westminster, Md., a corporation of Maryland
 Filed Apr. 12, 1967, Ser. No. 630,287

U.S. Cl. 145—50
 Int. Cl. B25b 15/00, 13/48; F16b 23/00

10 Claims



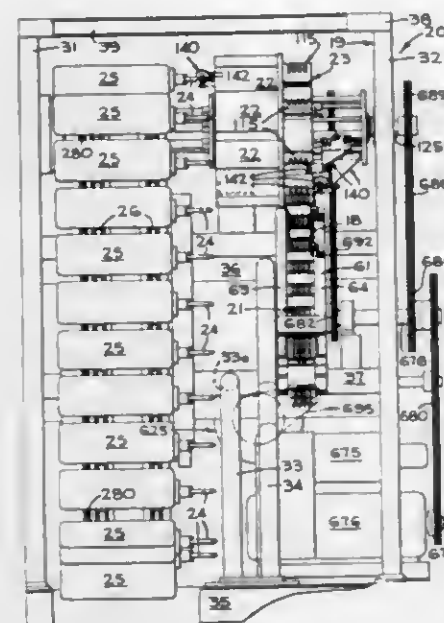
Screw driving devices particularly adapted for employment with screws located proximate additional machine elements. The screw and driving devices include a shank portion, a grip portion, and a compound drive member including a driving blade and multiple-sided driving member. The blade and multiple-sided member are provided for mating with corresponding screw slots and bores, respectively.

3,424,213
PINEAPPLE STRIP PEELING MACHINE
 Leslie Vadas, Los Gatos, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
 Filed June 20, 1966, Ser. No. 558,725

8 Claims

1. A fruit peeling mechanism comprising a rotatable spindle adapted to impale a fruit along its stem-blossom axis and to rotate the fruit about the axis of said spindle, means for rotating said spindle, a first cutter disposed adjacent said spindle, means for holding said first cutter in engagement with the peel of the fruit and for moving said first cutter longitudinally of the spindle during rotation thereof to make a spiral cut in the peel and leave the peel in attached strip form, a second cutter disposed adjacent said spindle and mounted for movement longitudinally of said spindle, and means for holding said second cutter in cutting engagement with the peel and moving said second cutter longitudinally of said spindle in trailing relation to

said first cutter by the width of one strip peel, said second cutter being effective to penetrate the peel to substantially the same depth penetrated by said first cutter to undercut and to remove the strip peel prepared by said



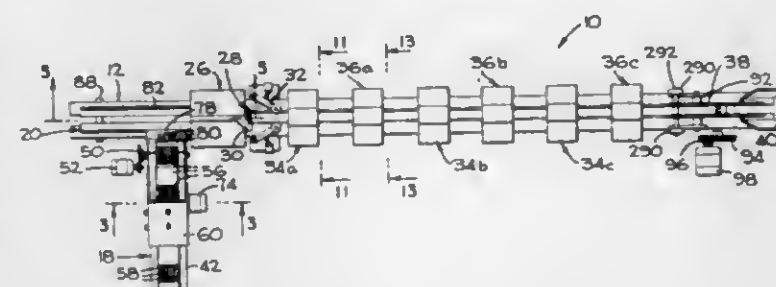
first cutter, said first cutter being disposed in a plane transverse to said spindle, and said second cutter being provided with a sharpened edge disposed generally transverse to the spiral path of movement of said first cutter.

3,424,214
PINEAPPLE STRIP PEELING AND CORING MACHINE

Leslie Vadas, Los Gatos, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
 Filed June 20, 1966, Ser. No. 558,984

U.S. Cl. 146—6
 Int. Cl. A23m 3/12; A47j 17/14, 25/00

13 Claims



A strip peeler for pineapples forces a coring tube into the fruit while the fruit is first restrained by movable stop plates at the centering head and then restrained by friction rollers, and the fruit is indexed for strip peeling by a series of knives mounted on pivoted arms.

3,424,215
PITTING MECHANISM

Robert C. Luhdorff, Campbell, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
 Filed July 22, 1966, Ser. No. 567,175

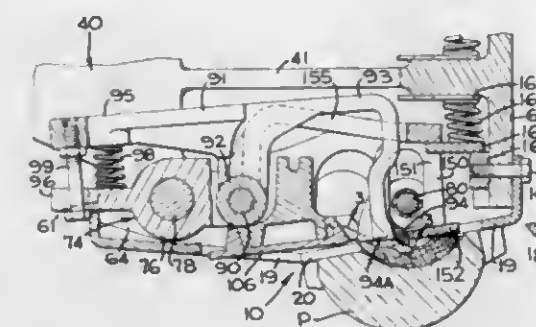
U.S. Cl. 146—28
 Int. Cl. A34n 3/08; A47j 25/00; B23q 15/02

2 Claims

1. In a pitting head of the type wherein a cutter is moved in an arcuate path outwardly through an annular opening in peach support plate means to cut around a pit half that is supported adjacent the opening against the

outer surface of the plate means, a central recess in said plate means, and a pit finder movable at least partially through said central recess in the plate means, to engage the surface of the pit; the improvement wherein a flat plate

across the backbone area and then along the opposite side to the middle of the belly; again, the elevation of the skinning blade being automatically controlled to prevent severing of the skin in the backbone area.



3,424,218
MEDICAL MATERIAL CONTAINER
 John E. Vanderbur, Jr., and James N. Waggoner, Los Angeles, and Robert M. McBrien, Manhattan Beach, Calif., assignors to The Garrett Corporation, Los Angeles, Calif., a corporation of California
 Filed Dec. 7, 1966, Ser. No. 599,947

U.S. Cl. 150—5
 Int. Cl. B65d 35/08, 41/20

7 Claims

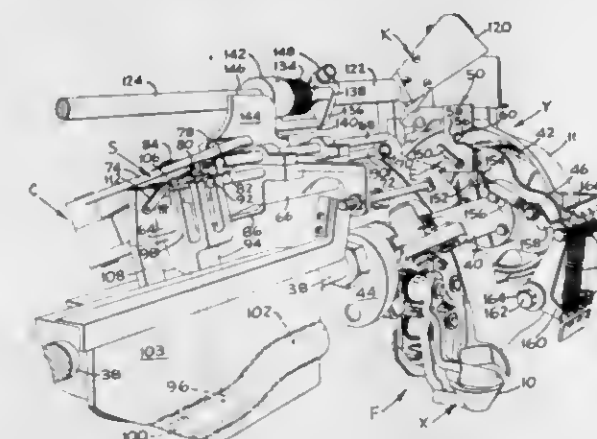
member is carried by said pit finder and is mounted in a position to partially block said recess to prevent the pit half from moving into the pitting head after it has been severed by the cutter.

3,424,216
CUT END EJECTOR

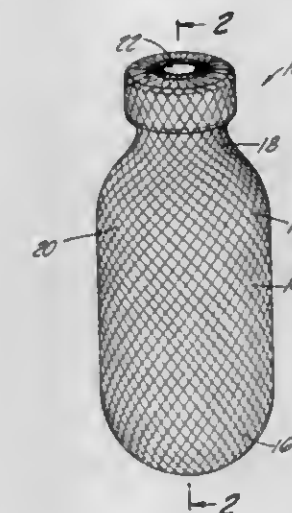
Gerald R. Anderson, Campbell, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
 Filed Aug. 24, 1966, Ser. No. 574,784

U.S. Cl. 146—81
 Int. Cl. A01d 23/04; A23n 15/04; B23q 15/02

2 Claims



In a pear machine, a severed fruit-end ejector arm is swung across the fruit receiving face of the gauge plate by a multilobed cam on the feed turret shaft.



A thin-walled container fabricated from a silicone elastomer material has a silicone elastomer closure member removably secured thereto at a reduced neck portion of the container by a reinforcing band removably disposed thereabout. The closure may comprise a reinforcing ring to prevent collapse when the band is applied.

3,424,219
COBRA-HEAD SHAPED CONNECTOR HOOK AND METHODS OF USE

Roger L. Gower, P.O. Box 65, Canaan, Maine 04924
 Filed Oct. 22, 1965, Ser. No. 501,166

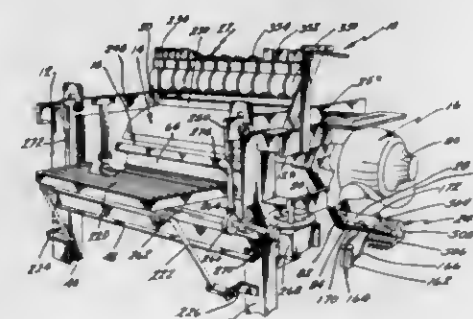
U.S. Cl. 152—241
 Int. Cl. B60c 27/08; F16g 15/04

6 Claims

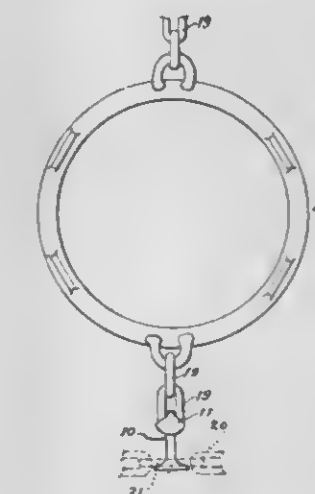
3,424,217
SKINNING METHOD
 Paul F. Burch, Rockford, Mich., assignor to Wolverine World Wide, Inc., a corporation of Michigan
 Original application Mar. 11, 1964, Ser. No. 351,246, now Patent No. 3,310,085, dated Mar. 21, 1967. Divided and this application Jan. 19, 1967, Ser. No. 647,573

U.S. Cl. 146—241
 Int. Cl. A22b 5/16; A22c 18/00; B23q 15/02

2 Claims



A method of skinning double hog sides with the skinning vice comprising an open throat hook, a shank, and a base member permitting turning of the device after the fashion



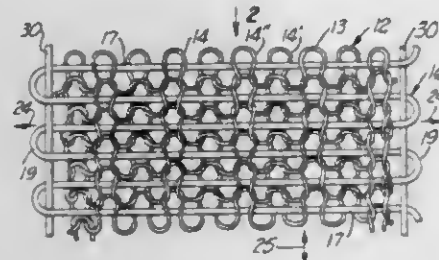
This invention relates to a detachable connecting device comprising an open throat hook, a shank, and a base member permitting turning of the device after the fashion

of a swivel, with the end portion of the hook being flattened and flared in the form of a cobra head and having radii upon the periphery thereof adjacent the shank to facilitate assembly of the connector by insertion of the cobra head through a link as of chain, and to minimize the possibility of accidental disassembly of the unit from the chain.

3,424,220

ISOTENSOID STRUCTURES AND METHOD
Hans U. Schuerch, Santa Barbara, Calif., assignor to
Astro Research Corporation, Santa Barbara, Calif., a
corporation of California

Filed Oct. 21, 1965, Ser. No. 499,567
U.S. Cl. 152—358 37 Claims
Int. Cl. B60a 9/10; D04b 9/08



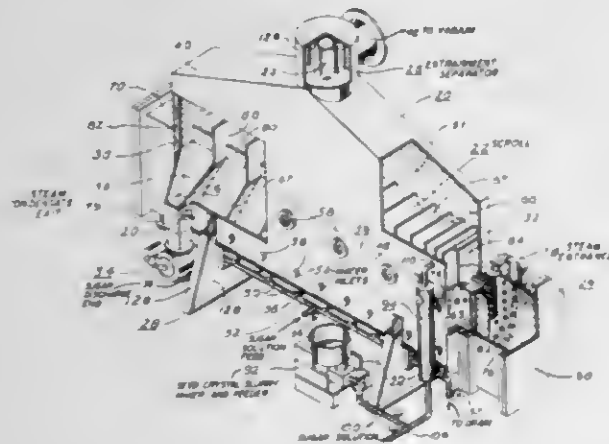
An isotensoid structure in which high-strength load-carrying filamentary members are kept in place relative to each other by stitches of a knit matrix. The filamentary members are joined on at least one edge of the knit matrix by loop members through which a strong anchor member extends.

3,424,221

**APPARATUS AND METHOD FOR CONTINUOUS
CRYSTALLIZATION BY EVAPORATION**

Gene W. Luce, 2710 Bristol Place,
New Orleans, La. 70114

Filed June 6, 1966, Ser. No. 560,952
U.S. Cl. 159—26 21 Claims
Int. Cl. B01d 9/00



A crystallizer for continuously crystallizing material by evaporation material from solution onto seed crystals that are continuously introduced at a controlled rate into the feed end of a horizontal boiler in which is mounted a stationary horizontal scroll that divides the boiler longitudinally into oppositely disposed sides, one of which is heated and the other remaining unheated, and transverse into a plurality of interconnected chambers of progressively greater volume from said feed end of the boiler, said chambers having means for continuously introducing

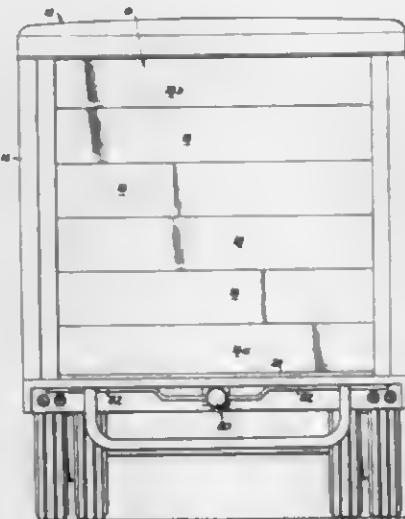
and augmenting said material in solution, the mixture of seed crystals and solution progressing from chamber to chamber from said feed end of the boiler to the other end by thermal activity of the boiling mixture induced by the eccentric heating in the boiler, said crystals growing manifold in size without increase in number as the increasing volume of said mixture passes through said progressively larger chambers to be discharged from said boiler from last of said chambers.

3,424,222

SEAL STRUCTURE

Richard G. Stoner, 806 Washington Road, Grosse Pointe,
Mich. 48236, and Bruce D. Calkins, 806 Shore Club
Drive, St. Clair Shores, Mich. 48080

Filed Oct. 31, 1966, Ser. No. 590,844
U.S. Cl. 160—40 8 Claims
Int. Cl. E06b 7/23, 3/48; E05d 15/38



A seal structure is provided for use as a door seal in refrigerated units, such as trucks, trailers, and the like. The seal is utilized with a closure assembly comprising a fixed frame member defining an opening. A closure member is slidably associated with the frame member. The seal structure is fixed to either the fixed frame member or the closure member and is engageable with the other member. The seal structure has a collapsible portion and a contacting portion which normally engages the other of the members. Vacuum means are connected to the collapsible portion and adapted to temporarily collapse the seal structure and allow unrestricted movement of the closure member with respect to the fixed frame member. The seal encloses a chamber in which are provided baffle means which provide an even collapse of the chamber when a vacuum is applied to the chamber. An open cell structure may be provided within the chamber for normally maintaining the chamber in an expanded condition. A casing surrounds the major portion of the chamber to guide the contacting portion along a predetermined path when the chamber is collapsed.

3,424,223

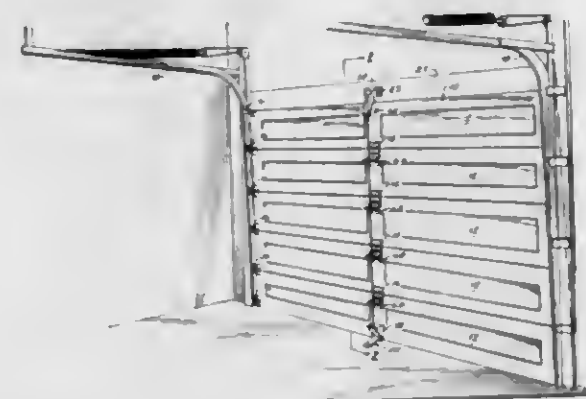
**DOOR REINFORCING ASSEMBLY FOR
VERTICALLY OPERATING DOORS**

Melvin H. Rosenblatt, Southfield, Mich., assignor to The
Celotex Corporation, Tampa, Fla., a corporation of
Delaware

Filed Oct. 19, 1967, Ser. No. 676,577
U.S. Cl. 160—209 6 Claims
Int. Cl. E05d 15/38; E06b 3/70

A door reinforcing assembly for vertically-operating doors has tension means attached to the top and bottom

of the door to distribute external forces applied to said door to the door frame through locking means engageable fine a center channel having a track in which the curtain slides run or slide and a pair of opposed side channels



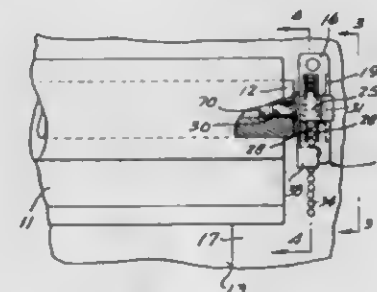
with the door frame and prevent excessive destructive deformation of said door.

3,424,224

**CORD CONTROL MECHANISM FOR
ROLLER SHADES**

Norman E. Lowe, 937 Schuykill Ave.,
Reading, Pa. 19601

Filed Dec. 16, 1966, Ser. No. 602,400
U.S. Cl. 160—308 4 Claims
Int. Cl. E06b 9/204, 9/208



A roller shade-operating mechanism employing a chain gearingly-engaged with a serrated pulley and having a swingable locking element on the associated pulley shaft swingable into locking engagement with the chain to releasably hold the associated shade in a given adjusted position and being releasable responsive to actuation of the chain.

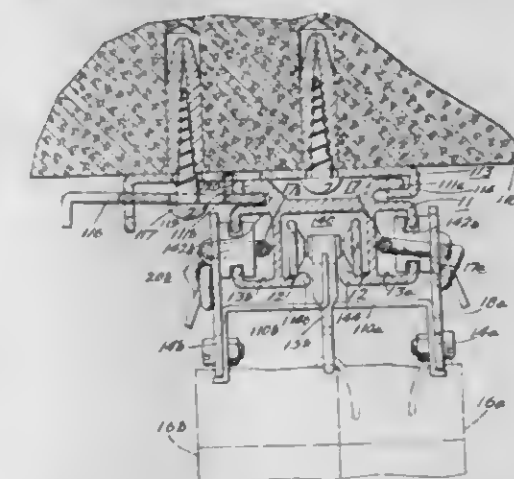
3,424,225

CURTAIN RAIL ASSEMBLY
Gustaf Magnusson, Anderstorp, Sweden

Filed Jan. 3, 1968, Ser. No. 695,498
Claims priority, application Sweden, Jan. 20, 1967,
866/67

U.S. Cl. 160—345 6 Claims
Int. Cl. A47h 15/00, 1/104; E05d 13/02

In a curtain rail assembly for at least a pair of curtain panels adapted for movement between "open" and "closed" positions by means of a common cord including a plurality of curtain slides on which the panels are suspended and at least a pair of end slides to which the lead edge of each of the panels is secured, the improvement comprising an elongated curtain rail of a configuration to de-



having trackways within which the end slides run or slide and in which the runs of the cord are disposed.

3,424,226

LOST WAX CASTING METHOD

Byron Steele, 29 W. 9th St., New York, N.Y. 10011

Filed Dec. 16, 1966, Ser. No. 602,262
U.S. Cl. 164—28 6 Claims
Int. Cl. B22c 9/04, 9/02; B28b 7/34



1. The process of casting a duplicate from a model, comprising the steps of:

- (a) forming a primary investment, containing formed holes, about the model;
- (b) separating the model from the primary investment;
- (c) forming a shell of a removable duplicative material in the primary investment;
- (d) forming a core in said shell and primary investment;
- (e) placing removable rods in the formed holes in the primary investment and connecting said rods to said shell;
- (f) forming a secondary investment about said primary investment, said secondary investment having interconnecting passageways formed therein;
- (g) removing said shell and said rods from said core, primary investment and secondary investment; and
- (h) casting the duplicate between the primary investment and core.

3,424,227

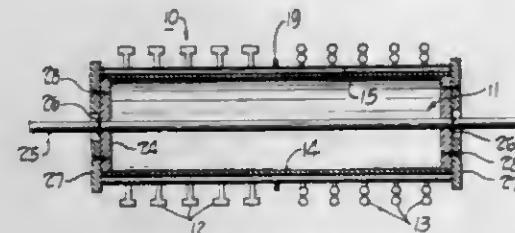
METHOD OF INVESTMENT CASTING

Claude H. Watts, Lyndhurst, and Robert A. Horton,
Chesterland, Ohio, assignors to Precision Metal-
smiths, Inc.

Filed May 4, 1966, Ser. No. 547,477
U.S. Cl. 164—36 12 Claims
Int. Cl. B22c 9/02, 9/22; B22d 33/04

In the art of investment casting, a process comprising the steps of forming a set-up including sprue means, divider means which projects from the outer surface of

the sprue means around its perimeter and is located between the ends of the sprue means, and a plurality of laterally extending patterns attached to the sprue means on each side of the divider means, forming a refractory mold wall around the set-up at each side of the divider



means, removing the set-up from the mold wall to provide separate refractory molds each having a through passage and a plurality of pattern cavities gated into the passage, and closing one end of each mold passage so that molten metal can be cast into the molds.

3,424,228

ANISOTROPIC MOLD LINER FOR CONTINUOUS CASTING OF METALS

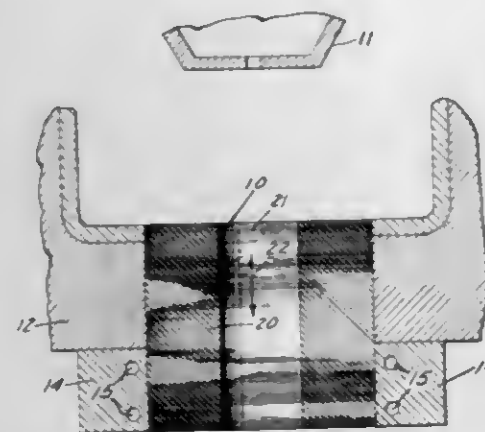
James W. Warren, Jr., Whittier, Calif., assignor, by mesne assignments, to Ducommun Incorporated, Vernon, Calif., a corporation of California

Filed Apr. 8, 1966, Ser. No. 541,159

U.S. Cl. 164—273

Int. Cl. B22d 11/00, 11/12, 15/00

6 Claims



A mold having a portion for receiving hot metal and a rod or bar forming portion which consists of a body of pyrolytic graphite having an *a-b* plane of high heat conductivity, said pyrolytic graphite having a mold opening formed therein along an axis in a direction at right angles to the *a-b* plane so that the molten metal flowing there-through contacts the pyrolytic graphite at the edges of the *a-b* plane and having a heat sink surrounding the pyrolytic graphite at the solidifying area of said mold, said heat sink being in heat transfer relationship to outer edges of the *a-b* plane of said pyrolytic graphite body.

3,424,229

CORE INSERTION UNIT FOR CASTING MOULDS

Marius Gunnergaard-Poulsen, Lyngby, Denmark, assignor to Dansk Industri Syndikat A/S, Herlev, Denmark, a company of Denmark

Filed July 11, 1966, Ser. No. 564,013

Claims priority, application Denmark, Feb. 22, 1966, 914/66

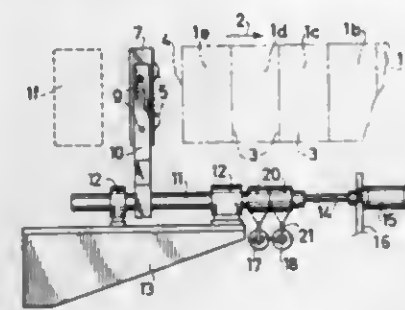
U.S. Cl. 164—340

Int. Cl. B22d 33/04

3 Claims

1. A unit for inserting cores into casting moulds consisting of successively produced uniform mould parts

which in time with their production are slid together so as to form a horizontally disposed pile mould having one or more casting cavities with core receiving guides at each joint in the mould, comprising a core carrier having core holders corresponding to the core receiving guides of the casting cavity, means for moving said core carrier in two stages, first transversely to the direction in which the mould parts are slid together until the



cores lie direct in line with the core receiving guides, and next parallel to the direction in which the mould parts are slid together for the insertion of the cores into the receiving guides of the moulds, and means for releasing the cores from the core holders.

3,424,230

CRYOGENIC REFRIGERATION DEVICE WITH TEMPERATURE CONTROLLED DIFFUSER

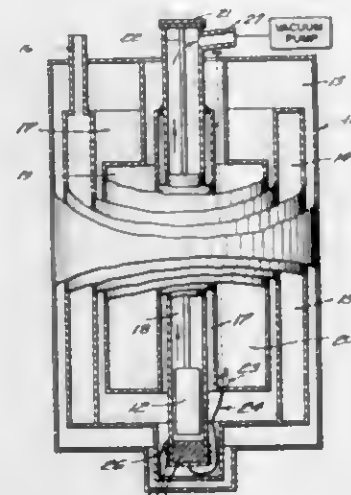
Robert C. Wright, Jr., Hingham, Mass., assignor to Andonian Associates, Inc., Waltham, Mass.

Filed Dec. 19, 1966, Ser. No. 602,683

U.S. Cl. 165—2

Int. Cl. F25b 19/00, 29/00; F25d 25/00

6 Claims



A device for cooling or continuously regulating the temperature of a body from below 2° K. to above 300° K. has a thermally insulated chamber for receiving the body, a source of liquid refrigerant and a temperature controlled heat exchanger and diffuser. The refrigerant is evaporated, passed through the heat exchanger and diffuser, where its temperature is regulated, and then flowed over the body.

3,424,231

ENVIRONMENTAL CHAMBER

Andrew Truhan, R.D. 3, Box 392T, Somerset, N.J. 08873

Filed Mar. 23, 1967, Ser. No. 625,527

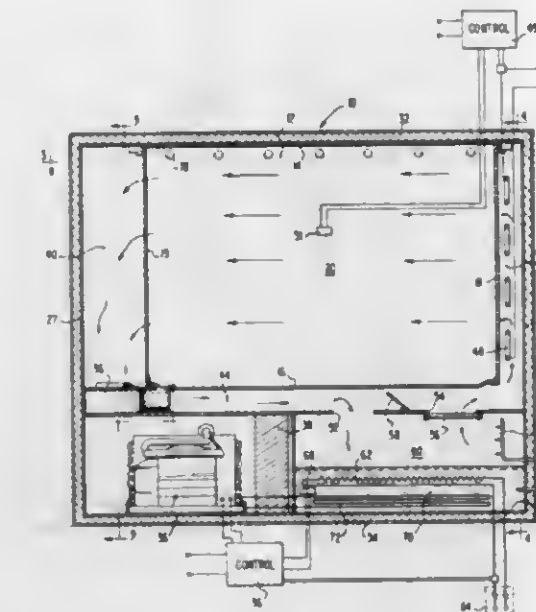
U.S. Cl. 165—19

Int. Cl. F24f 3/14, F28f 25/06, 27/00

4 Claims

A controlled temperature and humidity chamber having a fan for circulating a stream of gas from the cham-

ber through a temperature and humidity regulating unit having a liquid sump with heating and cooling coils submerged therein. Control is provided to maintain the sump at a desired temperature by suitable actuation of the



heating and/or cooling coils and the liquid is sprayed into the gas stream to regulate the temperature and humidity thereof. The regulated gas is then passed through a final heating unit and recirculated through the chamber.

3,424,232

HEATING AND COOLING SYSTEM

Walter A. Garrett, 1355 S. 21st,

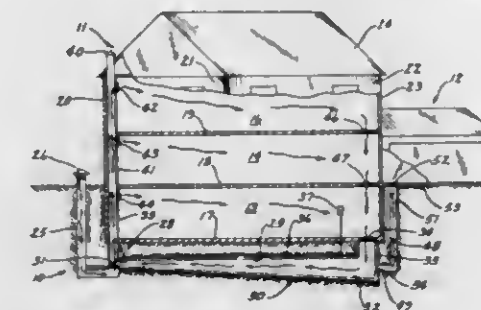
Fort Dodge, Iowa 50501

Filed Oct. 24, 1967, Ser. No. 677,545

U.S. Cl. 165—45

Int. Cl. F25b 29/00; F24f 3/00; F24j 3/04

8 Claims



This invention relates to a heating and cooling system which utilizes the temperature of the ground in combination with the natural tendency of air to flow due to variation of temperature, and due further to air to flow in response to variation of restriction to flow. One system comprises a conduit for leading outside air to the small end of a gradually narrowing duct formed under a building, a pipe leading upwardly from the junction into an outlet adjacent the ceiling in one or more rooms, with a register in the floor of each room having an outlet, the registers connecting through the floors to the large end of the duct, thereby setting up a natural flow of the air without the need of fans and the like. Electric wires and insulation are wrapped about the duct for heating the air passing therethrough in the winter, while the coolness of the ground about the duct is used to cool the air passing therethrough in the summer.

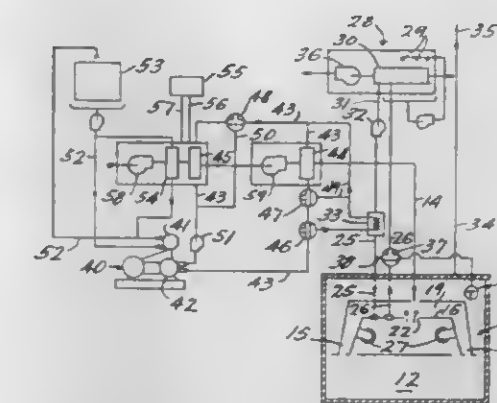
3,424,233
COMFORT CONDITIONING SYSTEM
Gershon Meckler, Atlanta, Ga., assignor to Lithonia Lighting, Inc., Conyers, Ga., a corporation of Georgia

Filed June 22, 1967, Ser. No. 648,119

U.S. Cl. 165—48

Int. Cl. F25b 29/00; F24j 3/04; F24f 7/06

5 Claims



Primary conditioned air is delivered to space at minimum required for ventilation, and mixed with recirculated air to provide circulation adequate for comfort. The air recirculation is through a lighting fixture from which lighting heat is removed by cooled water under maximum load conditions, or only partially removed under reduced load conditions as required to maintain a desired control temperature within a space. The air recirculation can be induced by the flow of primary conditioned air. The removal of heat can be by cooled water circulated through passages in a reflector of the lighting fixture, and control over the removal of lighting heat absorbed by the circulated water can be under the control of a thermostat space which diverts available water whenever excess cooling capacity is available.

3,424,234

ROTARY HEAT EXCHANGERS

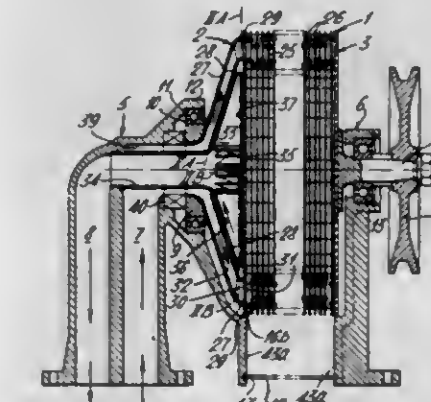
Nikolaus Laing, 35 Hofener Weg, 7141 Aldingen, near Stuttgart, Germany

Original application Jan. 2, 1963, Ser. No. 249,064, now Patent No. 3,260,306, dated July 12, 1966. Divided and this application May 26, 1966, Ser. No. 553,225

U.S. Cl. 165—89

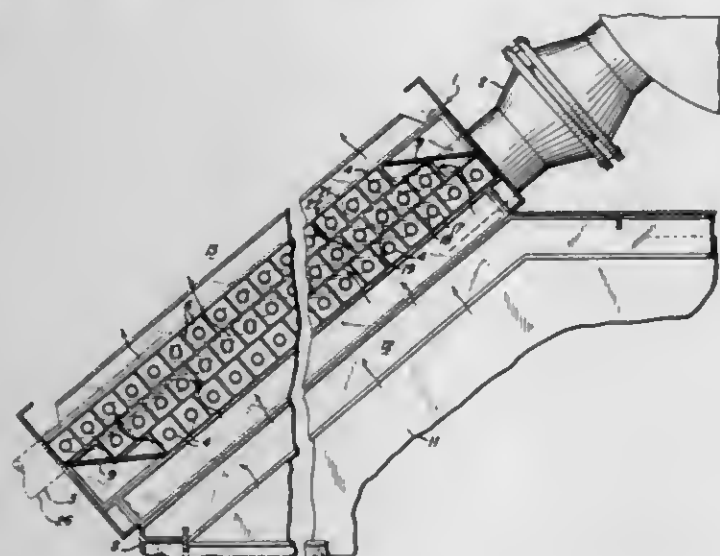
Int. Cl. F28f 5/02; F28b 9/04, 11/08

9 Claims



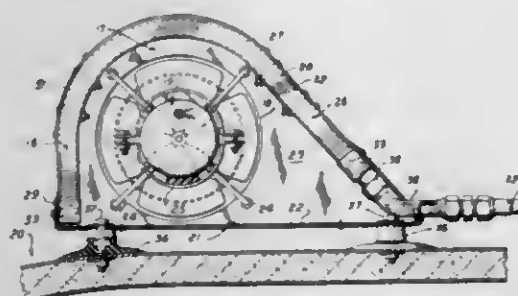
A rotary heat exchanger having a rotor comprising a plurality of longitudinally extending hollow fluid passages and manifold means including means therein for guiding fluid into and out of said passages upon rotation of the rotor.

3,424,235
AIR-COOLED CONDENSER WITH PROVISION FOR PREVENTION OF CONDENSATE FREEZING
 Willem Schoonman, Voorschoten, Netherlands, assignor to The Lummus Company, New York, N.Y., a corporation of Delaware
 Filed Oct. 11, 1966, Ser. No. 585,883
 U.S. Cl. 165—110 10 Claims
 Int. Cl. F28b 1/00, 9/08; F24h 3/06



Air-cooled condenser for steam or other condensable vapor is arranged to provide serpentine path for vapor and generally cocurrent flow of air to prevent freezing of condensate.

3,424,236
CONDENSER UNIT FOR AUTOMOTIVE VEHICLES
 Raymond W. Hergott, Dallas, Tex., assignor to Tempking Corporation, Dallas, Tex., a corporation of Texas
 Filed Jan. 5, 1967, Ser. No. 607,538
 U.S. Cl. 165—122 1 Claim
 Int. Cl. F28f 13/12; F25b 39/04; B60h 3/04

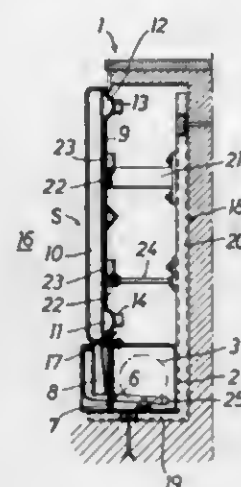


A cooling unit for installation on the top of an automotive vehicle, and transversely thereof, comprising a streamlined open ended housing having a planar bottom and continuously curved front, top and rear walls which consist substantially in their entirety of a pair of corresponding curved radiator elements, arranged end to end and open to the flow of air therethrough, the said radiator elements comprising a continuous convoluted tube whose convolutions are parallel and spaced apart, having heat radiating fins therebetween.

3,423,237
HIGH PRESSURE INDUCTION APPARATUS
 Hartmut Laux, Lovenich, near Cologne, Germany, assignor to Rox Lufttechnische Gerätebau G.m.b.H., Cologne-Braunsfeld, Germany
 Filed Sept. 1, 1966, Ser. No. 576,652
 Claims priority, application Spain, Sept. 3, 1965, 317,090
 U.S. Cl. 165—123 10 Claims
 Int. Cl. F28f 13/12; F24f 3/04

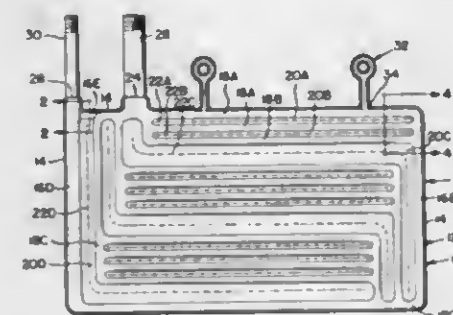
This provides a high pressure induction mechanism for controlling the temperature in a room. This apparatus in-

cludes an expansion chamber for compressed air which is deflected upwardly by way of a distribution duct toward



a heat exchanger through which expanded fluid medium flows toward the room side of the apparatus.

3,424,238
GLASSED HEAT EXCHANGER CONSTRUCTION
 Harry R. Leeds, Rochester, and Robert J. McWilliams, Rush, N.Y., assignors to Ritter Pfaudler Corporation, Rochester, N.Y., a corporation of New York
 Filed May 8, 1967, Ser. No. 636,759
 U.S. Cl. 165—133 5 Claims
 Int. Cl. F28f 19/02, 3/14

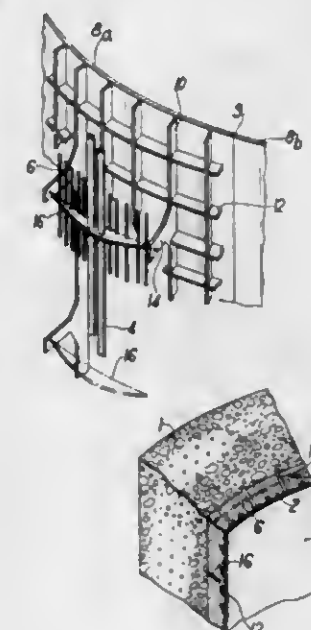


A heat exchanger is provided having two plates, at least one with a channel in one face, with an inlet and outlet, welded in face-to-face relation to enclose a circulation conduit therebetween for flow of a heat exchange fluid there-through, and glassed exterior partially flat and partially arcuate surfaces. The edges of the plates are joined to form smoothly arcuate edge surfaces provided by arcuate protuberances set along the edges of the outer surface of at least one plate. The conduit between the joined plates passes along at least one arcuate edge of the joined plates.

3,424,239
NUCLEAR REACTOR PRESSURE VESSEL
 Michel Coodray, Saint-Leu-la-Forêt, France, assignor to Société Indatom, Paris, France
 Filed Apr. 25, 1967, Ser. No. 633,629
 Claims priority, application France, Apr. 27, 1966, 59,368
 U.S. Cl. 165—136 5 Claims
 Int. Cl. F28f 13/00

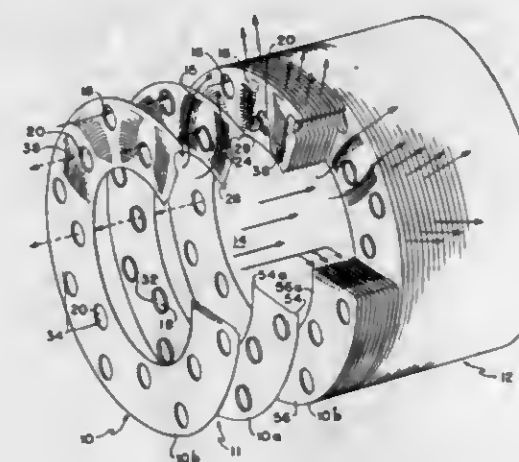
A nuclear reactor pressure vessel comprising a prestressed concrete wall lined with a heat-insulating layer which is traversed by a cooling circuit and with a leak-tight membrane formed by curved plates fabricated from a metal which is capable of withstanding direct contact

with the fluid which is circulated through the reactor, said plates being welded together, stiffened by reinforcements and anchored either in the concrete or in the heat-



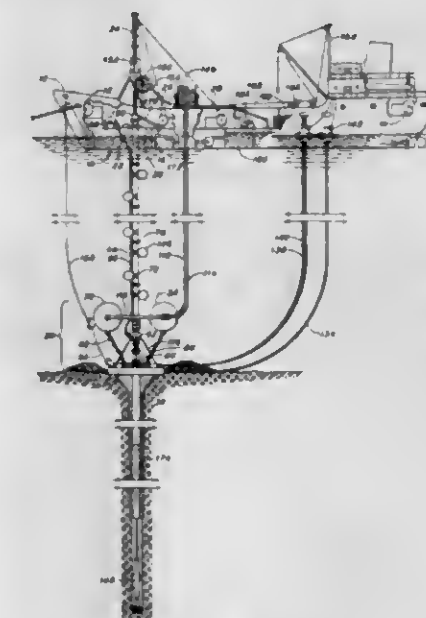
insulating layer, the welded joints having previously been subjected to heat treatment which is similar to a prior treatment carried out on each of the plates.

3,424,240
CORRUGATED STACKED-PLATE HEAT EXCHANGER
 Wolfgang J. Stein, Milford, and Salvatore Straniti, Orange, Conn., assignors to Avco Corporation, Stratford, Conn., a corporation of Delaware
 Filed Aug. 26, 1966, Ser. No. 575,285
 U.S. Cl. 165—166 11 Claims
 Int. Cl. F28f 3/04, 13/06



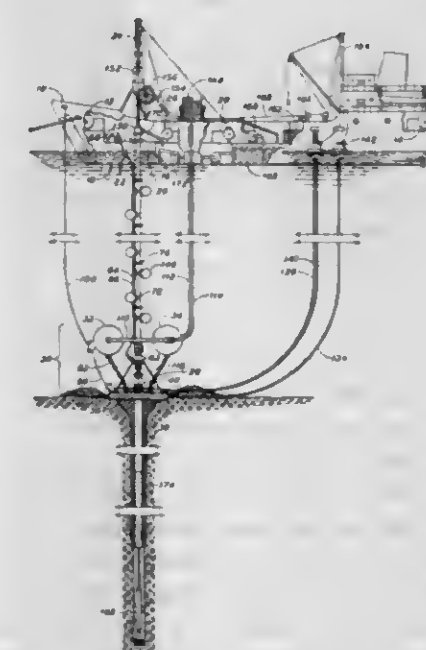
Plates of relatively thin material are formed in series one and series two types for stacking alternately in construction pairs, with patterns of corrugations between spaced openings in the stacked plates. Alternate plates in each stack providing corrugated patterns with transverse relationship assuring turbulence-inciting structure in both primary and secondary flow passages. Pairs of plates are sealed together to form construction pairs which pairs are secured together to complete the structure of the stack accomplished by sealing only two surfaces of substantially uniform thickness of plate. The construction of the stack of plates is accomplished without necessity for provision of tubular inlet and outlet channels extending through the stack.

3,424,241
METHOD FOR DRILLING AND WORKING IN OFFSHORE WELLS
 William C. Triplett, Ingleside, Tex., assignor to Chevron Research Company, a corporation of Delaware
 Continuation-in-part of application Ser. No. 625,682, Dec. 3, 1956. Division of application Ser. No. 652,756, Apr. 15, 1957. This application Feb. 24, 1967, Ser. No. 618,423
 U.S. Cl. 166—5 5 Claims
 Int. Cl. E21b 33/035



A method of carrying out offshore well operations where a riser or conductor means may be guided downwardly to or upwardly from a submerged wellhead. The riser is coupled to a wellhead by coupling means which are releasable from a floating vessel. The coupling is mechanically and releasably maintained as offshore operations continue.

3,424,242
METHOD AND APPARATUS FOR DRILLING OFFSHORE WELLS
 William C. Triplett, Corpus Christi, Tex., assignor to Chevron Research Company, a corporation of Delaware
 Continuation-in-part of application Ser. No. 625,682, Dec. 3, 1956. This application Apr. 15, 1957, Ser. No. 652,756
 U.S. Cl. 166—6 19 Claims
 Int. Cl. E21b 43/01, 7/12



Apparatus and methods of drilling, working in, and completing submerged wells in offshore locations involv-

ing the use of conductor means, or casing means extending from a floating vessel to a submerged well head, a releasable coupling for connecting the conductor means or casing means to the well head, guide means for guiding the conductor means or casing means into coupled relation with the well head, and a drilling mechanism guided through the conductor means or casing means to the well site.

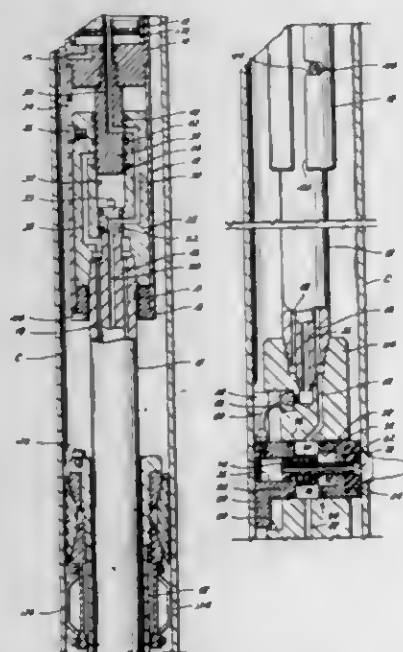
Apparatus for drilling and working in a well including movable latches which provide a selectively operable connection between a conductor means or casing means and a submerged well head.

Apparatus for completing a well including means for guiding a tubular conduit into the casing of a submerged well and sealing the thus guided conduit to the casing.

3,424,243

FORMATION INJECTING AND TESTING APPARATUS FOR WELLS

Doyle M. Lawrence, Box 1064, Liberty, Tex. 77575
Filed Aug. 11, 1966, Ser. No. 571,869
U.S. Cl. 166—100 4 Claims
Int. Cl. E21b 33/12, 43/00

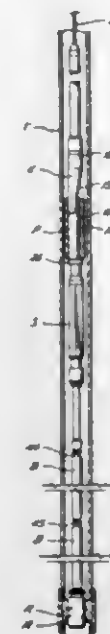


Earth formation testing and treating apparatus for use with a tubular string of well pipe to be lowered therewith into a well and operated therein by manipulation of the string to allow the introduction of fluid through the string into, or the withdrawal of fluid through the string from, an earth formation surrounding the well bore. The apparatus includes a tubular barrel adapted to be connected to the string for longitudinal movement therewith in the well bore and in which valve means is movably disposed to allow relative longitudinal movement of the barrel and valve means, anchoring means adapted to be anchored in the well by manipulation of the string, and means positioned for coaction with the anchoring means and valve means to allow the barrel to be moved with the string to operate the valve means. The apparatus is also provided with fluid conducting mechanism through which fluid may flow through the string under the control of the valve means and which is operable by fluid pressure introduced through the string under the control of the valve means to establish fluid flow communication between the string and formation through the fluid conducting means. The apparatus is adapted to be used with a well casing perforating device, such as a perforating gun, whereby a well casing may be perforated and fluid introduced or withdrawn from the formation at a predetermined location in the bore during a single trip of the string in the well bore.

3,424,244

COLLAPSIBLE SUPPORT AND ASSEMBLY FOR CASING OR TUBING LINER OR PATCH

Myron M. Kinley, Chickasha, Okla., assignor to J. C. Kinley Co., a corporation of Texas
Filed Sept. 14, 1967, Ser. No. 668,748
U.S. Cl. 166—114 11 Claims
Int. Cl. E21b 33/12, 43/10, 17/00

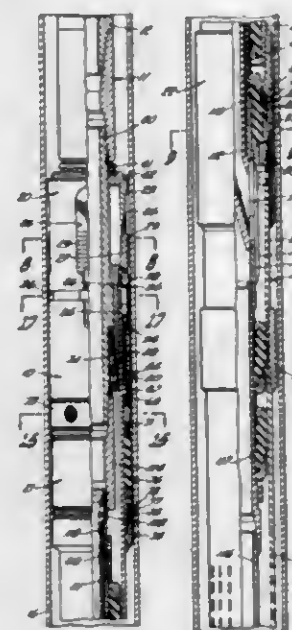


A collapsible support adapted to be used alone or in an assembly for supporting a tubular patch in casing or tubing prior to and during expansion of the patch into substantial conformity with the inside of the casing or tubing; said support being collapsible after expansion of the patch for obtaining a full expansion of the patch and for indicating to the operator that the patch has been expanded.

3,424,245

WELL TOOL

James R. Solum, Los Angeles, and Robert O. Park, Lakewood, Calif., assignors to B & W Incorporated, Torrance, Calif., a corporation of California
Filed July 19, 1966, Ser. No. 566,400
U.S. Cl. 166—124 23 Claims
Int. Cl. E21b 33/12, 23/06, 43/10



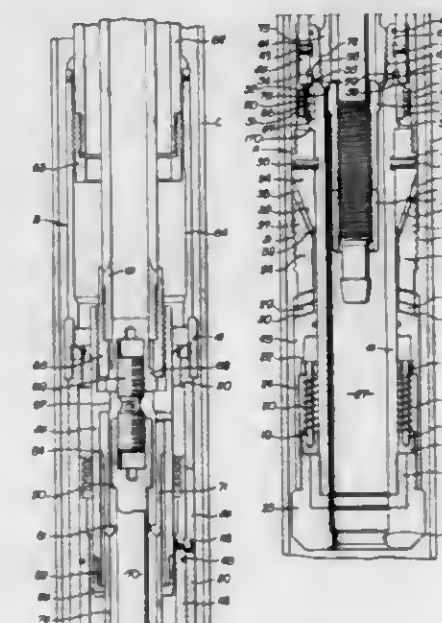
1. In a well tool for use with an operating tool positioned therein to selectively open and close a fluid port to

the outside, comprising, a collar means adapted to be held against rotation in the well bore, said collar means having at least one port therein, a sleeve rotatably and substantially concentrically mounted in said collar means and adapted to be rotated by the operating tool, said sleeve having a lateral port therein longitudinally aligned with said collar port and circumferentially alignable upon rotation of the sleeve, and detent means on said collar and sleeve for releasably locking said sleeve to said collar in positions of alignment and non-alignment of said ports.

3,424,246

RETRIEVABLE WELL BORE INDEXING APPARATUS

William D. Myers, Houston, Tex., assignor to Baker Oil Tools, Inc., City of Commerce, Calif., a corporation of California
Filed Aug. 15, 1966, Ser. No. 572,364
U.S. Cl. 166—127 28 Claims
Int. Cl. E21b 23/00, 33/12



Apparatus adapted to be lowered in a well bore for facilitating perforating the well casing at vertically spaced intervals and the subsequent fluid treatment of the earth zones through the perforated intervals.

Such apparatus including an indexer having anchor means for releasably anchoring the indexer at a selected location in the well casing, the indexer being releasably connectible to a wire line running tool for setting the indexer in the well casing.

Such apparatus including packer means releasably engageable with the indexer and having vertically spaced packing elements for sealing engagement with the well casing between the perforated intervals.

Such apparatus in which the indexer has releasable lock means for preventing release of the anchor means, and the packer means is connectible to the lock means to release the same.

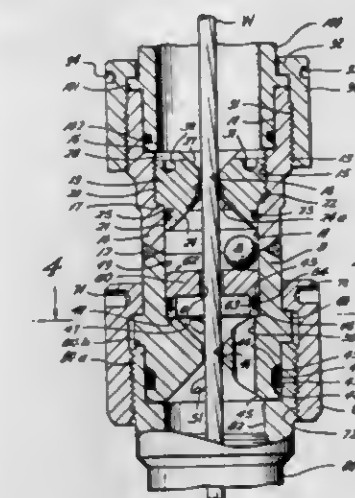
3,424,247

AUTOMATIC WIRELINE SAFETY VALVE

William T. Lee, Magnolia, Tex., assignor to Bowen Tools, Inc., a corporation of Texas
Filed Oct. 3, 1967, Ser. No. 672,470
U.S. Cl. 166—224 10 Claims
Int. Cl. E21b 43/00, 33/03; F16k 15/00

An automatic wireline safety valve wherein a wireline extends longitudinally through a valve housing; the valve

action being obtained by a movable metal ball disposed to one side of the wireline within the valve housing so that



when the wireline is removed from the valve, the ball is automatically moved by well pressure to a closed position to prevent the loss of well fluid.

3,424,248

PLUGGING UNDERGROUND CAVITIES

Ross Parry-Davies, Johannesburg, Transvaal, Republic of South Africa, assignor to The Cementation Company (Africa) Limited, Johannesburg, Transvaal, Republic of South Africa

Filed Aug. 22, 1967, Ser. No. 662,477
Claims priority, application Republic of South Africa, Sept. 16, 1966, 66/5,589
U.S. Cl. 166—285 7 Claims
Int. Cl. E21b 33/13, 33/12



A method of plugging an underground cavity with a plug that can support a filling consists in drilling a series of holes from surface to intersect the cavity at a predetermined level and to penetrate into the opposite wall of the cavity, passing a series of porcupines through the drill holes to span the cavity, and dropping concrete containing a fibrous aggregate such as plumber's yarn on to the porcupines, the set concrete re-inforced by the porcupines forming the plug and each porcupine consisting in a rigid spine and a series of springy quills radiating from the spine all inclined in a direction which allows them to be deformed into a bundle which can pass down a drill hole.

3,424,249 CLEANING STEAM INJECTION WELL TUBING STRING IN SITU

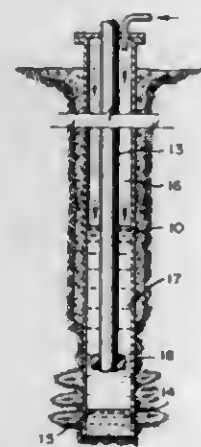
Tyler W. Hamby, Jr., and Maurice M. Patterson, Houston, Tex., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Oct. 19, 1966, Ser. No. 587,776

U.S. Cl. 166—304

12 Claims

Int. Cl. E21b 21/00, 43/24



A method of installing a bright coated tubing string in a well and preventing the formation of substantially opaque hydrocarbon deposits on said string whereby a tubing string is first lowered into a well containing oil after which a hydrocarbon solvent is introduced on top of the head of oil and moved by pressurizing the space above the solvent to thereby drive the solvent and other fluids present in the well into an oil bearing formation in communication with the well; the solvent thus serving to remove hydrocarbon deposits from the bright coated tubing string.

3,424,250 FOAM-GENERATING APPARATUS

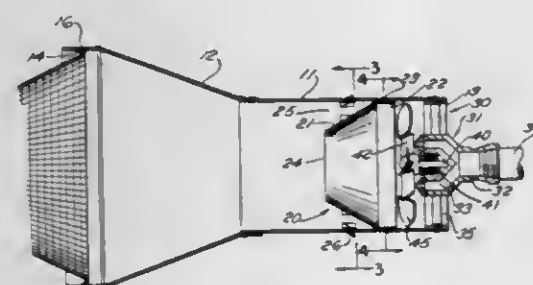
Charles F. Thomae, 51 Oak St., Norton, Mass. 02766

Filed Jan. 6, 1966, Ser. No. 519,157

U.S. Cl. 169—15

6 Claims

Int. Cl. A62c 5/04; B05b 7/30; E02c 1/08



An apparatus for entraining air in a mixture of water and detergent compound to form a foam and then entraining further air in the foam to provide a high expansion foam for use in firefighting.

3,424,251 BULLDOZER

Jean Bouley, 2190 Portland Blvd., Sherbrooke, Quebec, Canada

Filed July 12, 1965, Ser. No. 471,299

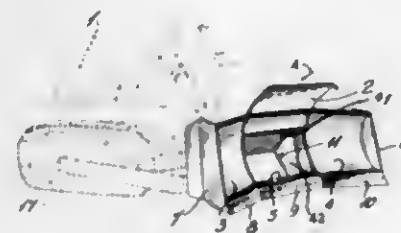
U.S. Cl. 172—801

1 Claim

Int. Cl. E02f 3/76; A01b 13/02

A bulldozer blade with a central panel having an aper-

ture therethrough, defining a trapezoidal channel consisting of two rearwardly and upwardly converging side



members interconnected by a rearwardly extending top member.

3,424,252 INTERNAL COMBUSTION PERCUSSION TOOL AND HAMMER PISTON LOCKING MEANS THEREFOR

Sven Erik Wiclund, Saltsjobaden, Sweden, assignor to Atlas Copco Aktiebolag, Nacka, Sweden, a corporation of Sweden

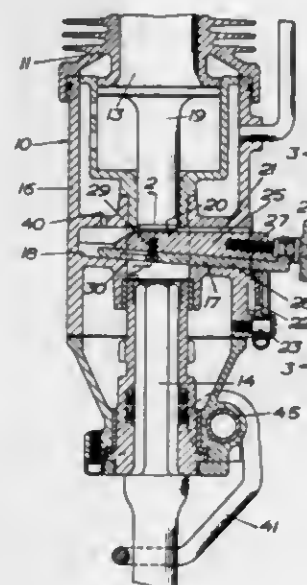
Filed Sept. 1, 1967, Ser. No. 664,985

Claims priority, application Sweden, Sept. 6, 1966, 11,955/66

U.S. Cl. 173—116

10 Claims

Int. Cl. E21c 3/18; B25d 9/10



In an internal combustion percussion tool having a motor piston and a freely reciprocating hammer piston in communication with the working cylinder of the motor piston, the hammer piston is clamped and immobilized in the tool housing by means of a lock member engaging the impact end of the hammer piston and supporting surfaces fixedly connected to the tool housing. Hereby the work delivered by the motor piston for driving accessory apparatus such as grinding wheels, vibrators and drain pumps from the crankshaft of the motor piston will be at an optimum.

3,424,253 METHOD FOR DRILLING AND WORKING IN OFFSHORE WELLS

William C. Triplett, Corpus Christi, Tex., assignor to Chevron Research Company, a corporation of Delaware

Filed Dec. 3, 1956, Ser. No. 625,682

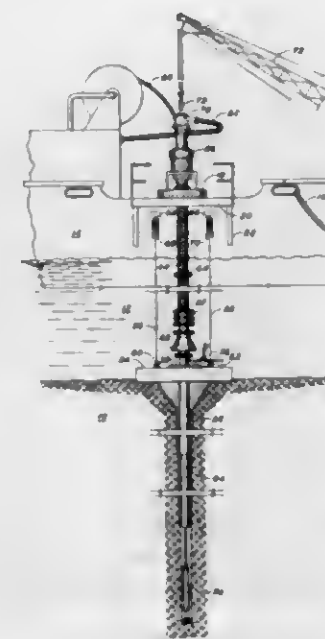
U.S. Cl. 175—7

4 Claims

Int. Cl. E21b 15/02; B63b 5/44

Methods of drilling and working on wells in submerged formations entailing the use of conduit means extending

from a submerged well head to a floating vessel, the jetting-in of a casing attached to well head equipment, the



cementing in of casing, and the guiding of drilling equipment.

3,424,254 CRYOGENIC METHOD AND APPARATUS FOR DRILLING HOT GEOTHERMAL ZONES

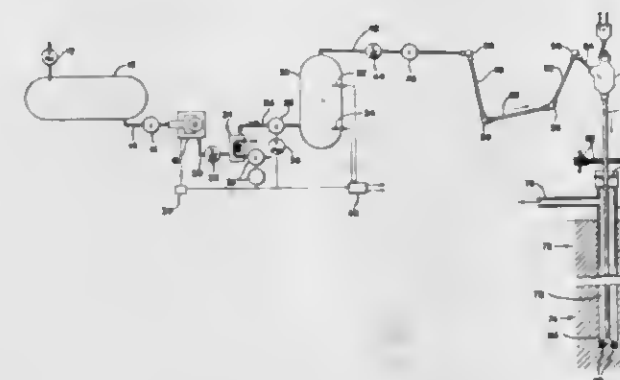
Major Walter Huff, 3361 Craigend, West Vancouver, British Columbia, Canada

Filed Dec. 29, 1965, Ser. No. 517,295

U.S. Cl. 175—17

2 Claims

Int. Cl. E21b 7/00, 41/00



Process and apparatus for storing cryogenic fluids in their liquid state, raising the temperature of the cryogenic fluid sufficiently to volatilize it, and then to hold the gaseous cryogen for use in the boring operation. Gaseous cryogen is directed under pressure through the drill stem of the boring apparatus. The inert cryogenic gas issues from the lower end of the drill stem cooling the cutters, providing an inert atmosphere to inhibit oxidation of the drill bits, and at the same time cooling the surrounding rock formations sufficiently so that they remain solid.

3,424,255 CONTINUOUS CORING JET BIT

Ernest A. Mori, Glenshaw, and Paul W. Schaub, Verona, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

Filed Nov. 16, 1966, Ser. No. 594,901

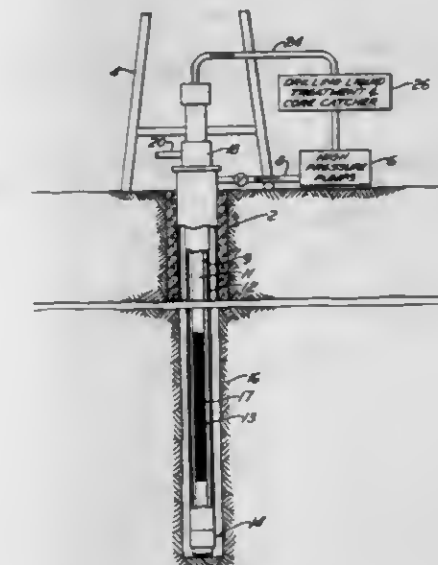
U.S. Cl. 175—60

13 Claims

Int. Cl. E21b 49/02, 9/16; E21c 19/00

A method and apparatus for drilling the borehole of a well in which a core is removed from the well. Nozzles

are pivotally and eccentrically mounted in a nozzle holder seated in a downwardly tapering annulus between rotating concentric drill pipe and conduit. An abrasive-laden liquid is pumped down the annulus under a high pressure which swings the nozzles into position to cut a groove having an outer diameter larger than the diameter of the



drill string and an inner diameter smaller than the diameter of the conduit. Reversal of the direction of flow of the drilling liquid allows circulation of the nozzle holder from the well for replacement of nozzles.

3,424,256 APPARATUS FOR CONTROLLING DIRECTIONAL DEVIATIONS OF A WELL BORE AS IT IS BEING DRILLED

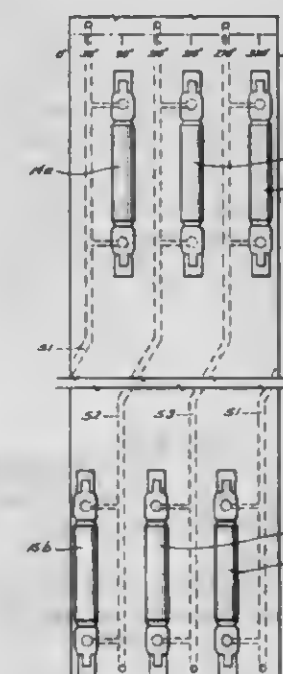
John D. Jeter, Cocoa, Fla., and Horace C. Harris, Jr., Midland, Tex., assignors to Whipstock, Inc., Midland, Tex.

Filed Jan. 10, 1967, Ser. No. 608,336

U.S. Cl. 175—76

18 Claims

Int. Cl. E21b 7/08, 3/12

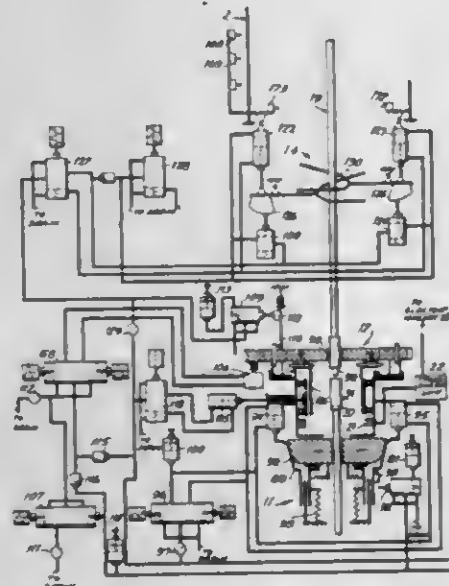


An apparatus for controlling well bore directional deviations with upper and lower laterally movable borehole abutments which exert lateral force on the drill string

in which they are incorporated. The force on the upper abutments is transmitted through a hydraulic system to the lower abutments. The hydraulic system has a higher pressure than the pressure of the drilling system and has a substantially constant volume between the abutments.

3,424,257
DEVICE FOR AUTOMATIC PULLING AND RUNNING OF DRILLING STRING
Alexandr Mikhailovich Kotlyarov, V.O. Malogavansky prospekt 4, kv. 71, and Nikolai Nikolaevich Protopopov, Zagorodny prospekt 27, kv. 2, both of Leningrad, U.S.S.R.

Filed May 5, 1966, Ser. No. 547,915
U.S. Cl. 175-85 18 Claims
Int. Cl. E21b 19/07; B21b 19/08



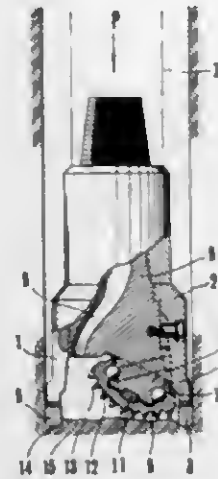
A device for the automatic pulling and lowering of a drilling string comprising an elevator for gripping the uppermost section of a drill string and driven by a draw means which raises and lowers the elevator at a regulable speed; first and second engager means engage respective adjacent sections of the drill string to selectively unscrew or screw the uppermost section to the remainder of the string; the sections are fed to the string during running and removed from the string during pulling by a handling means. In order to successfully screw and unscrew the sections from the string, a sensing device determines the engagement of both the engager means with their respective sections when the joint between the sections is disposed between the first and second engager means. The control device for the draw means is interconnected with the first and second engager means, the handling means and the locating means such that sections can be automatically added to the string during running and removed from string during pulling.

3,424,258
ROTARY BIT FOR USE IN ROTARY DRILLING
Yoshihiro Nakayama, Tokyo, Japan, assignor to Japan Petroleum Development Corporation, Tokyo, Japan, a corporation of Japan
Filed Nov. 13, 1967, Ser. No. 682,038
Claims priority, application Japan, Nov. 16, 1966, 41/74,989

U.S. Cl. 175-333 1 Claim
Int. Cl. E21b 9/18; E21c 13/02

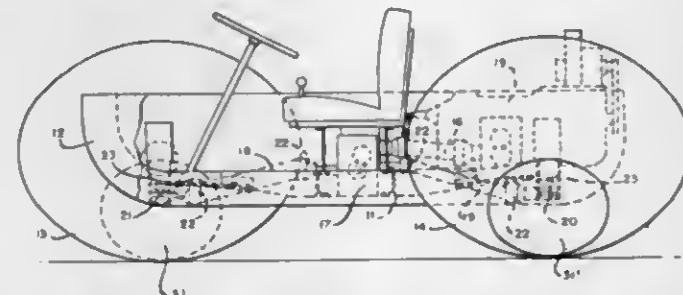
A rotary bit for use in rotary drilling, comprising a plurality of spaced cutting edges formed in a plurality of parallel rows on a semi-spherical convex rotary member rotatably mounted on an inclined supporting shaft provided within the body of said rotary drill equipped with

scraping members on the lower end of the leg of said body for producing a raised core of rock for being cut by said cutting edges, said rows being disposed perpendicular



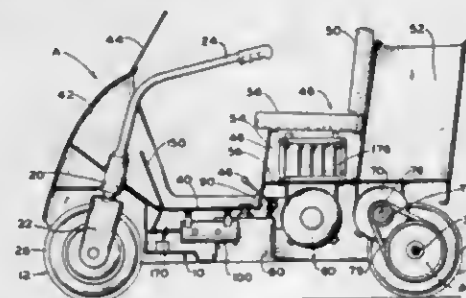
to the same diameter of said convex rotary member, each cutting edge of one row being disposed substantially parallel to the adjacent edges of the adjacent rows.

3,424,259
VEHICLE WITH INCLINED WHEELS
Elle P. Aghnides, 795 5th Ave., New York, N.Y. 10021
Filed June 15, 1966, Ser. No. 557,645
U.S. Cl. 180-29 18 Claims
Int. Cl. B62d 61/00, 57/00, 7/00



The disclosure relates to a vehicle having wheels of generally hemispherical or conoidal configuration with the axis of rotation of each wheel inclined relative to the lateral axis of the vehicle and with each wheel having a main wheel portion together with an auxiliary or apex wheel of smaller diameter than the main wheel portion. Both wheels are normally in contact with the ground. The smaller wheel is freely rotatable relative to the main wheel portion and a means is provided for optionally locking the smaller apex or auxiliary wheel to the main wheel portion.

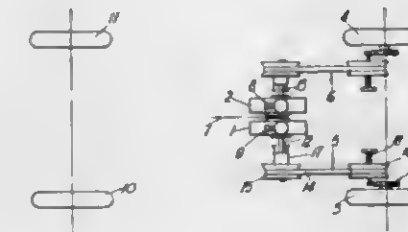
3,424,260
HYDRAULICALLY OPERATED GOLF CARTS
Robert W. Stone and Benjamin G. Stone, St. Louis County, Mo., assignors of ten percent to V. Jack Muehlenkamp, St. Louis, Mo.
Filed May 15, 1967, Ser. No. 638,209
U.S. Cl. 180-66 7 Claims
Int. Cl. B60k 3/00; F16d 31/00



A battery powered vehicle utilizing the battery power to operate a hydraulic pump and thereafter provide the

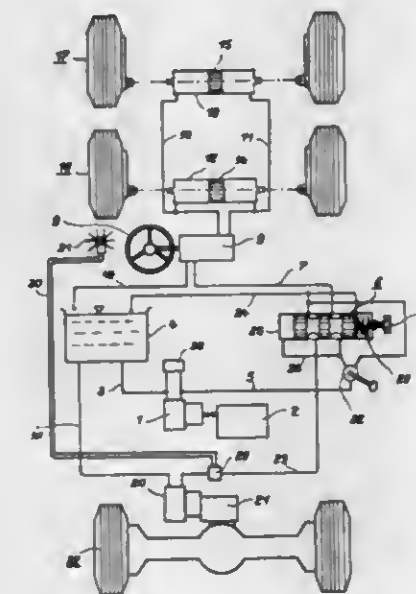
motive forces for the vehicle through a hydraulically operated variable speed drive system, whereby to eliminate the large ampere-hour drains on batteries which occur when starting and stopping the present direct electrical drive systems.

3,424,261
VEHICLE TRANSMISSIONS
Anthony John Sheldon, Evenlode Place, Moreton-on-the-Marsh, Gloucestershire, England
Filed Apr. 29, 1966, Ser. No. 546,442
Claims priority, application Great Britain, Apr. 30, 1965, 18,206/65
U.S. Cl. 180-70 3 Claims
Int. Cl. B60k 17/02, 5/00, 1/02



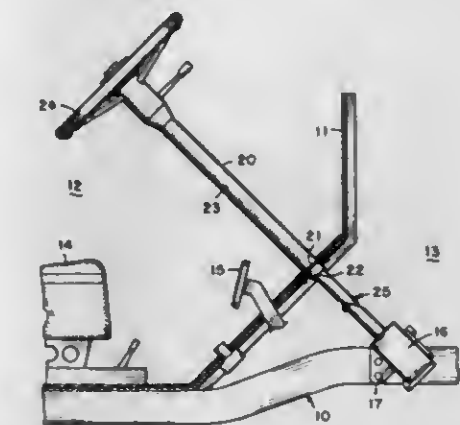
In a motor vehicle having two driven wheels and two infinitely variable V-belt drives one for each driven wheel, the input pulley of each V-belt drive is centrifugally controlled in relation to motor speed by a device which serves also to engage a clutch between the motor and the said input pulley.

3,424,262
HYDRAULIC POWER STEERING MECHANISM FOR A ROAD VEHICLE
Karl Kunz, Heuchling, near Lauf, Germany, assignor to Karl Heinz Schmidt, Hersbruck, Germany
Filed July 24, 1967, Ser. No. 655,586
U.S. Cl. 180-79.2 9 Claims
Int. Cl. B62d 5/00



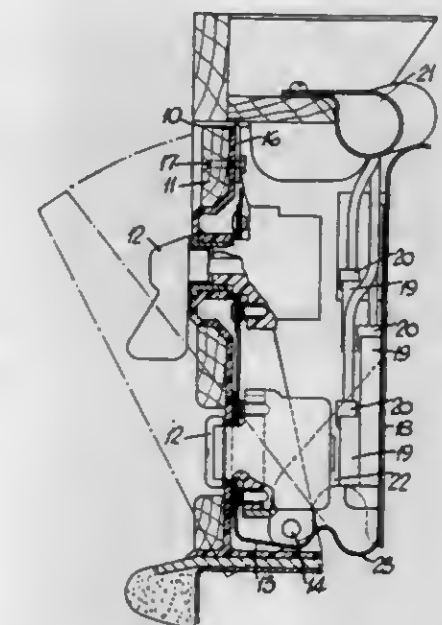
In a hydraulic power steering mechanism for a road vehicle where failure of the hydraulic pressure from a motor driven pump is caused by stalling of the engine or malfunction of the pump, a second hydraulic pump is provided that is driven by a road engaging wheel of the vehicle, and means is provided to substitute the hydraulic pressure developed by the second hydraulic pump for that of the motor driven pump in case of failure of the motor driven pump, automatic means being provided to effect this substitution.

3,424,263
SAFETY STEERING COLUMN
Enoch Black, Rte. 2, Granby, Mo. 64844
Filed Sept. 28, 1966, Ser. No. 582,645
U.S. Cl. 180-82 4 Claims
Int. Cl. B60r 21/02; B62d 1/18, 1/20



The safety steering assembly includes a steering shaft interconnecting a gear box and steering wheel. The shaft is rotatively mounted within a tubular column which is mounted on a vehicle firewall, and the shaft includes separable parts having a breakable joint connection located outside of the tubular column. The joint includes inclined contiguous parts held together under normal operating conditions and completely separable on collision impact.

3,424,264
DASHBOARD ASSEMBLIES FOR ROAD VEHICLES
Nigel Neville William Long, Ward End, Birmingham, and Raymond Hickton, Halesowen, England, assignors to Joseph Lucas (Industries) Limited, Birmingham, England, a British company
Filed Apr. 11, 1967, Ser. No. 630,073
Claims priority, application Great Britain, Apr. 21, 1966, 17,458/66
U.S. Cl. 180-90 3 Claims
Int. Cl. B60k 37/00; H02b 1/00, 9/00



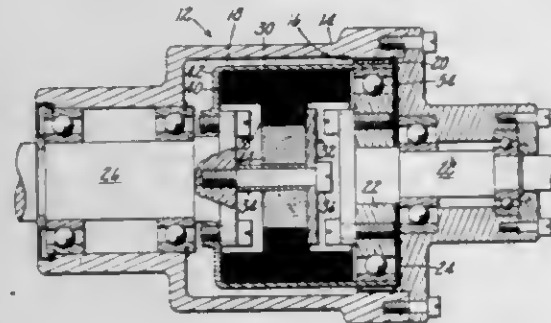
A dashboard assembly for a road vehicle including a movable front panel carrying instruments and switches, pivotally engaged with a fixed back panel carrying sockets for engagement by plugs on the wiring harness of the vehicle and a flexible printed circuit member electrically connecting the sockets with the instruments and switches.

vehicle is tied down, the supply of hydraulic fluid is terminated to the hydraulic steering means and the hydraulic drive means.

3,424,273

GREASE CARTRIDGE

John H. Carlson, Danvers, and Ernest H. Scott, Marblehead, Mass., assignors to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed Nov. 19, 1965, Ser. No. 508,715
U.S. Cl. 184-98 4 Claims
Int. Cl. F16n 15/00, 39/00; F16c 1/24

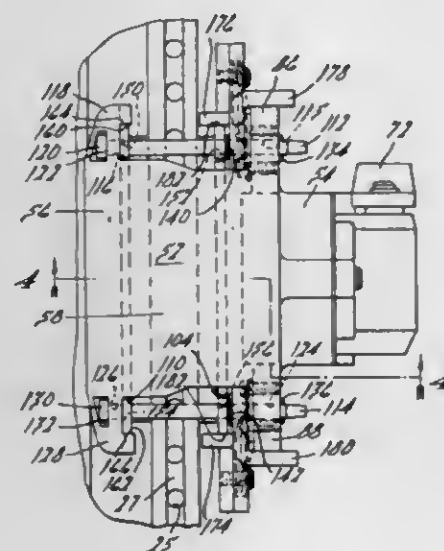


A lubrication cartridge, especially for grease, comprises superimposed plies of heat-resistant screen or cellular material which may be mounted in different positions of orientation and effectively retains the lubricant against shock and vibration, yet allows it to bleed at an appropriate rate when exposed to heat. Plastic screening is useful in low cost applications, and metal screen cartridges may be used in refillable applications. A wound coil form may advantageously have an end face disposed adjacent to a circular bearing.

3,424,274

DISK BRAKE AND SUPPORT AND GUIDE MEANS THEREFOR

Harvey C. Swift, Birmingham, Mich., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware
Filed Mar. 15, 1967, Ser. No. 623,443
U.S. Cl. 188-73 4 Claims
Int. Cl. F16d 55/224



This invention relates to a disk brake of the sliding caliper type in which a caliper having a fluid motor portion and a reaction portion is mounted on the stationary

torque plate by yieldable means in the form of flex straps. A piston is mounted in the fluid motor portion of the caliper for moving a brake shoe having a brake lining thereon into engagement with a braking face of a rotary disk that is attached to a wheel to be braked.

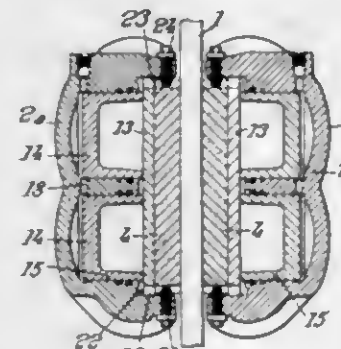
3,424,275

DISC BRAKES, IN PARTICULAR FOR AUTOMOBILE VEHICLES

Antoine Brueder, Paris, France, assignor to Societe Anonyme Andre Citroen, Paris, France
Filed Sept. 27, 1966, Ser. No. 582,435
Claims priority, application France, Oct. 6, 1965, 33,953

U.S. Cl. 188-73
Int. Cl. F16d 55/22

2 Claims

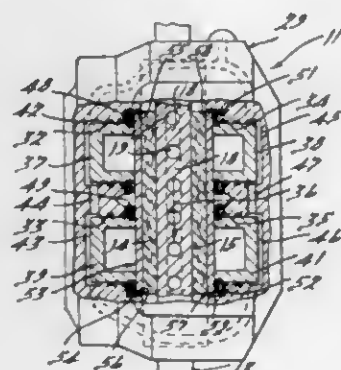


The brake includes a rotating annular friction disc fastened to a cup-shaped piece, and a stationary frame fastened to a plate lying in the same plane as the disc. The frame comprises two portions disposed symmetrically astride the annular disc from the inside thereof. These two frame portions are secured to each other and to the plate by common fixation means. The friction pads have parallel sides and are guided by corresponding parallel surfaces in the frame portions. One of these pads is located inside the cup-shaped piece, and can be removed therefrom through an opening in the cup-shaped piece, this opening being only slightly longer than the distance between the parallel sides of the friction pads.

3,424,276

OPPOSED PISTON DISK BRAKE

Richard T. Robinette, St. Clair Shores, Mich., assignor to Kelsey-Hayes Company, a corporation of Delaware
Filed Mar. 3, 1967, Ser. No. 620,352
U.S. Cl. 188-73 5 Claims
Int. Cl. F16d 55/10; B60t 11/10



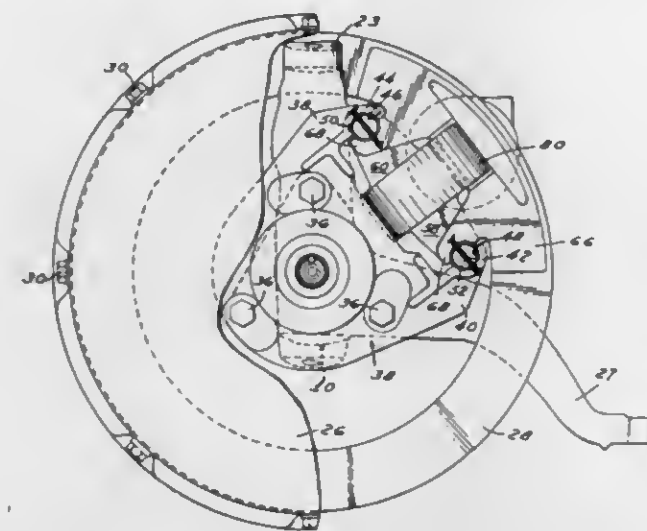
This application discloses a disk brake assembly having a pair of actuating pistons associated with each disk brake pad. The trailing piston is larger in cross sectional area

than the leading piston so as to compensate for the servo action, thus maintaining a substantially uniform loading across the brake pad frictional surface.

3,424,277

INSIDE CALIPER DISC BRAKE

John V. Barnes, Detroit, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed May 3, 1967, Ser. No. 635,916
U.S. Cl. 188-73 13 Claims
Int. Cl. F16d 55/224

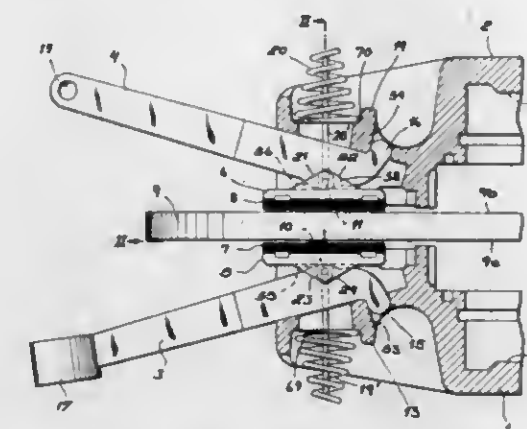


A disc brake for a motor vehicle having an annular brake rotor supported at its outer periphery. A floating brake caliper straddles the inner edge of the rotor and is supported on removable pins.

3,424,278

MECHANICALLY OPERABLE DISK BRAKE

Fritz Ostwald, Buchschlag, Leopold Franz Schmid, Stuttgart, and Walter Heusinkveld, Frankfurt, Germany, assignors to Alfred Teves Maschinen- und Armaturenfabrik KG., Frankfurt am Main, Germany, a corporation of Germany
Filed May 31, 1967, Ser. No. 642,398
Claims priority, application Germany, June 25, 1966, T 31,455
U.S. Cl. 188-73 5 Claims
Int. Cl. F16d 55/224, 65/30



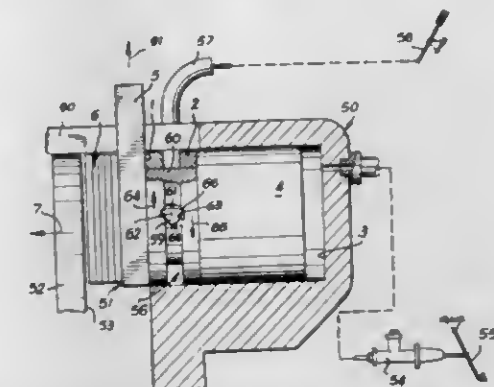
An auxiliary mechanical brake mounted in the yoke of a hydraulic or pneumatic main brake for automotive vehicles in which the auxiliary brakeshoes have inclined-plane surfaces engaging corresponding surfaces formed directly in the brake-support yoke so that the brakeshoes are wedged against the brake disk by this support. The brakeshoes are actuated by a pair of levers which form a four-point floating linkage with respect to the housing, all sides of the four-point linkage being of constant length for a given separation of the free ends of the actuating levers.

858 O.G.-42

3,424,279

SPOT-TYPE DISK BRAKE WITH PLURAL ACTUATORS

Heinz Frigger, Langen-Oberlinden, Germany, assignor to Alfred Teves Maschinen- und Armaturenfabrik KG., Frankfurt am Main, Germany, a corporation of Germany
Filed June 8, 1967, Ser. No. 644,587
Claims priority, application Germany, June 27, 1966, T 31,463
U.S. Cl. 188-73 8 Claims
Int. Cl. F16d 55/14, 65/18, 19/00

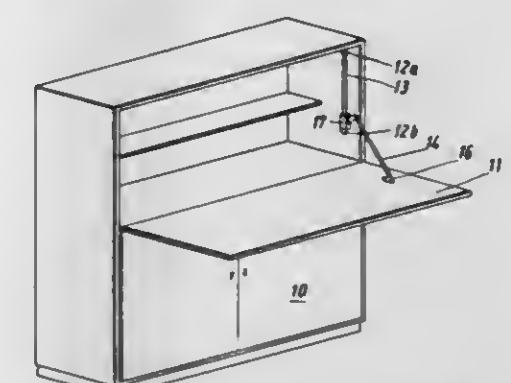


The invention relates to a disk-brake assembly having a brake yoke or support member in which a piston is mounted for displacement of a brakeshoe against the disk, wherein an auxiliary mechanism is provided for advancing the brakeshoe in the direction of the disk independently of the hydraulic movement thereof for self-adjustment to compensate for wear of the brake lining or for remote operation to lock the brakeshoe against the disk as an emergency brake, parking brake or locking brake. The auxiliary mechanism has a pair of relatively rotatable axially aligned rings interposed between the piston and the brakeshoe co-operating to increase their effective axial length upon relative rotation to urge the brakeshoe in the direction of the disk.

3,424,280

APPARATUS FOR HOLDING A MOVABLE MEMBER SUCH AS A DROP-LEAF DOOR

Antonius Hettich, 219 Schwarzenmoor, Herford, Westphalia, Germany
Filed Nov. 28, 1966, Ser. No. 597,423
Claims priority, application Germany, Nov. 27, 1965, K 57,765
U.S. Cl. 188-67 9 Claims
Int. Cl. F16b 21/00; E05f 5/02



An apparatus for restraining a drop-leaf of a cupboard includes a tie-rod pivotally connected to the leaf and, through a mechanical connection using a pressure member within a slide, which in turn is slidable on a guide rod fixed to the cupboard. The braking force of the pressure member varies with the force of the leaf dropping. The mechanical connection between the tie-rod and pressure member may be a bell crank lever or a pivotal connection. A brake lining may be provided and it may be in the form of a variable length tube surrounding the guide rod.

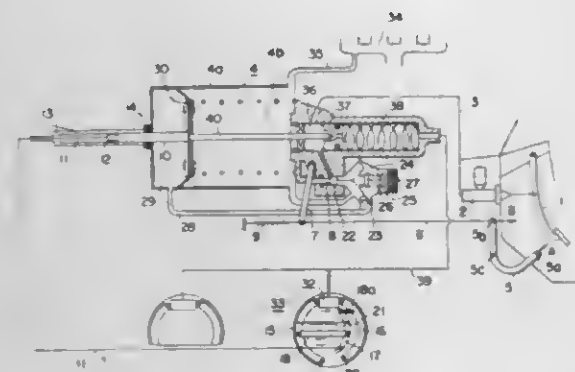
3,424,281 EMERGENCY BRAKE SUB-SYSTEM IN AUTOMOTIVE BRAKE SYSTEM

Tsuneo Kawabe and Toyoaki Kobayashi, Kariya-shi, Japan, assignors to Aishin Seiki Kabushiki Kaisha, Kariya-shi, Japan, a joint-stock company of Japan
Filed June 1, 1967, Ser. No. 642,761
Claims priority, application Japan, June 7, 1966, 41/36,718

U.S. Cl. 188—106

Int. Cl. F16d 65/24; F15b 7/08

1 Claim



A mechanism is actuated by excessive stroke of a brake pedal to operate a booster installed between a master cylinder normally actuated by the same brake pedal and the wheel brakes in a vehicle brake system of pneumatically-boosted hydraulic type, and the resulting operation of the booster is utilized to actuate another mechanism to effect mechanical operation of the wheel brakes. The brake pedal is depressed through the excessive stroke as a natural consequence when a failure occurs in the brake hydraulic system, whereby the brake system is immediately changed over to a mechanical system.

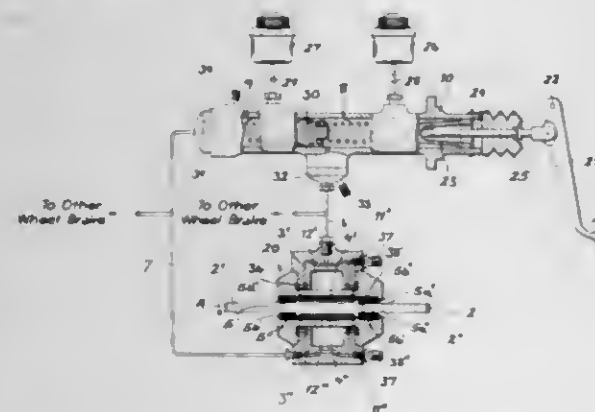
3,424,282 DUAL-NETWORK DISK BRAKE

Ernst Meler, Frankfurt am Main-Sindlingen, Germany, assignor to Alfred Teves G.m.b.H., Frankfurt am Main, Germany, a corporation of Germany
Filed Nov. 6, 1967, Ser. No. 680,831
Claims priority, application Germany, Nov. 12, 1966, T 32,505

U.S. Cl. 188—152

Int. Cl. B60t 11/20, 11/24; F16d 63/00

10 Claims



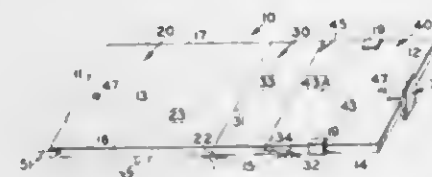
A dual-network disk brake wherein individual fluid transmission networks deliver respective streams of fluid to the wheel-brake cylinders in opposite lobes of a housing reaching around the periphery of a disk connected with the wheel of the housing, the housing having surfaces flanking the wheel-brake cylinders and the corresponding brakeshoes and co-operating with the cylinders on the opposite side of the disk for seizing the disk between an operative brakeshoe and the opposing surface when one of the cylinders fails. Either the disk or the housing can be limitedly deflectable in the axial direction to permit seizure of the disk, while the surfaces preferably are formed with plug-shaped brake pads at least partly re-

ceived in the housing. When the pads are omitted, the metal-to-metal contact between the surfaces and the disk generates sufficient noise to warn the driver of the failure of one of the brake networks.

3,424,283 FOLDABLE LECTERN STRUCTURE

Eldon L. Sheldon, 7240 Dudley, Lincoln, Nebr. 68505
Filed Apr. 20, 1967, Ser. No. 632,338
U.S. Cl. 190—11
Int. Cl. A45c 9/00; A47b 19/00

5 Claims

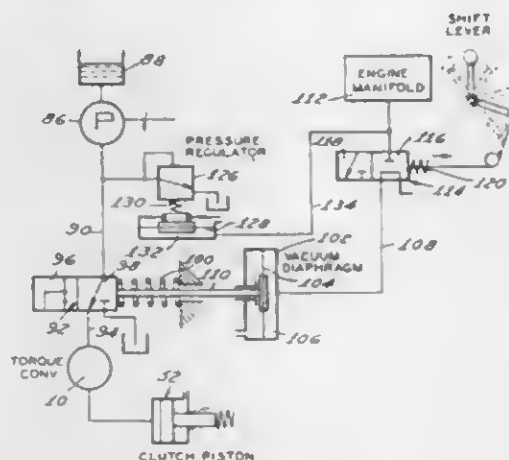


This invention relates to a speaker's lectern and especially relates to a foldable lectern that has particular utility in combination with a business man's attaché case.

3,424,284 CONTROL SYSTEM FOR SEMI-AUTOMATIC POWER TRANSMISSION MECHANISM

Charles C. Bookout, Livonia, and Robert E. Kaptur, Birmingham, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Aug. 22, 1967, Ser. No. 662,363
U.S. Cl. 192—3.33
Int. Cl. F16d 33/12, 35/00, 37/00

5 Claims



This specification discloses a semi-automatic power transmission mechanism for an automotive vehicle driveline including a clutch for interrupting the torque delivery path between a hydrokinetic unit and a multiple ratio gear system. The control system for actuating the clutch includes a valve arrangement that is sensitive to the pressure in the fuel-air mixture intake manifold of the internal combustion engine used in the driveline.

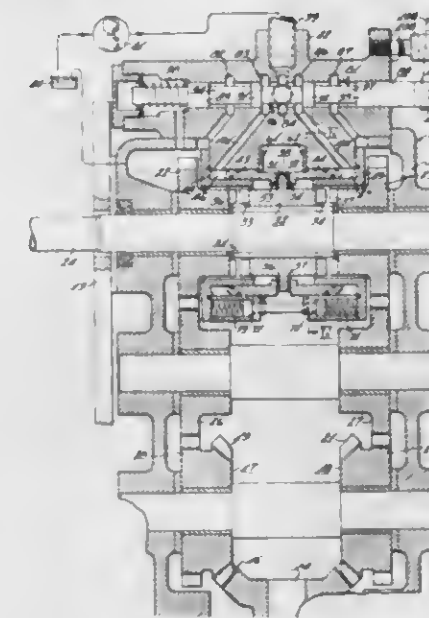
3,424,285 CONTROL MECHANISM FOR SHIFTING AND BRAKING A SHIFTABLE CLUTCH- ING MEMBER

Ferris L. McRay, Springfield, Ill., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Apr. 12, 1967, Ser. No. 630,405
U.S. Cl. 192—18
Int. Cl. F16d 67/02, 25/00; B60t 11/10

11 Claims

The drawings and accompanying description disclose several embodiments of a clutch control which incorporates a friction brake for the driven shaft when the control is in neutral. The force for engaging the friction brake

is provided by the same hydraulic actuators which effect shifting of the shiftable clutch member. The various illustrations relate to a motor grader control using a jaw clutch collar shiftable in opposite axial directions from a neutral



nondriving position to drive establishing positions. The clutch collar is biased to remain in a neutral position either by springs or by pistons operated by the same pressure fluid effecting shifting and neutral braking.

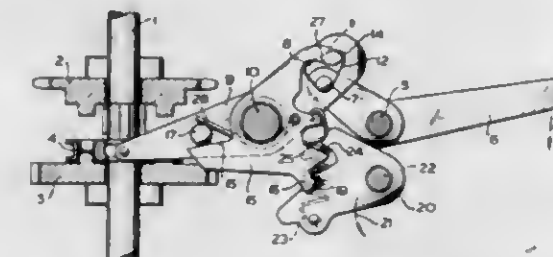
3,424,286 REVERSING CLUTCHES WITH DUAL OPERATORS

Gerd Otterbach, Wolfgang Grafe, and Reinhard Kessler, Schweinfurt, Germany, assignors to Fichtel & Sachs A.G., Schweinfurt, Germany
Filed Nov. 18, 1966, Ser. No. 595,414
Claims priority, application Germany, Nov. 20, 1965, F 47,731

U.S. Cl. 192—51

Int. Cl. F16d 11/04, 21/02, 1/10

10 Claims



A transmission for a tree-climbing branch lopping machine has two output wheels axially secured but rotatable on a drive shaft, and a coupling wheel splined to the shaft. A control lever and a motion transmitting linkage can shift the coupling wheel from engagement with either output wheel into an axially intermediate idling position, and springs engage the coupling wheel with one of the output wheels when the control lever is released. The coupling wheel is shifted from one to the other output wheel by an automatically operated reversing arm.

3,424,287 YIELDABLE CLUTCH

Andre S. Dreiding, Erlenbach, Germany, assignor to BP Chemicals (U.K.) Limited
Filed Mar. 29, 1967, Ser. No. 626,837
Claims priority, application Switzerland, Feb. 3, 1967, 1,834/67

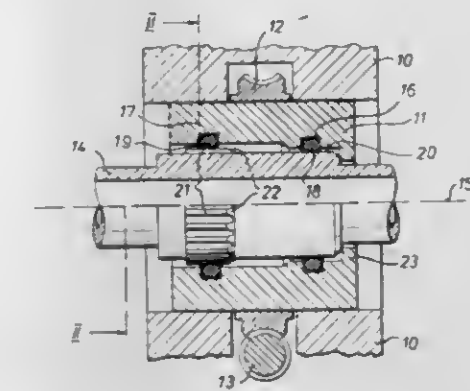
U.S. Cl. 192—55

Int. Cl. F16d 3/68, 11/04, 7/02

4 Claims

A coupling for transmitting rotary motion from one rotary part to another with one insertable in the other for

coupling and withdrawable to release the coupling, and one rotary part having a circular row of axially extending



ribs which engage and compress an elastic ring on the other rotary part.

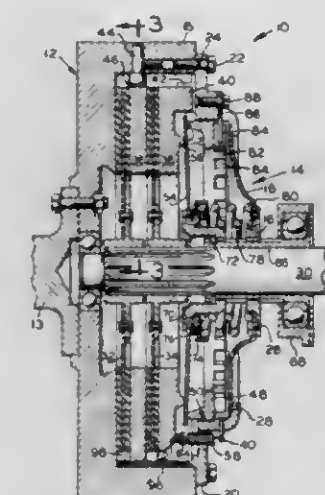
3,424,288 CLUTCH WITH NOISE AND WEAR SUPPRESSION

William H. Sink, Auburn, Ind., assignor to Dana Corporation, Toledo, Ohio, a corporation of Virginia
Filed Dec. 29, 1966, Ser. No. 605,674

U.S. Cl. 192—70.16

Int. Cl. F16d 11/06, 13/58, 65/10

14 Claims



A clutch comprising a flywheel and one or more axially extending driven friction disks is provided. The pressure plate of the clutch is resiliently urged into engagement with at least one of the friction disks and has, between its circumference and the circumference of the flywheel, a resiliently urged friction means serving as a vibration and tumbling arresting means to reduce wear and noise engendered by clutch operation.

3,424,289 INTERLOCKING CLUTCH TEETH

Pierre Bessot, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France
Filed Feb. 3, 1967, Ser. No. 613,928

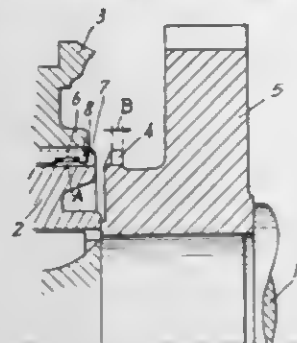
U.S. Cl. 192—108

Int. Cl. F16d 11/10, 13/60

2 Claims

A dog clutch of the striking-ring type which comprises a companion gear and a striking-ring having on that portion corresponding to the companion gear a circular groove having a depth less than and a width greater than the radial and axial dimensions, respectively, of the dogs

of said gear. The dog clutch outline is concave in the zone of engagement corresponding to the depth of the groove. The striking-ring dogs have a conventional out-

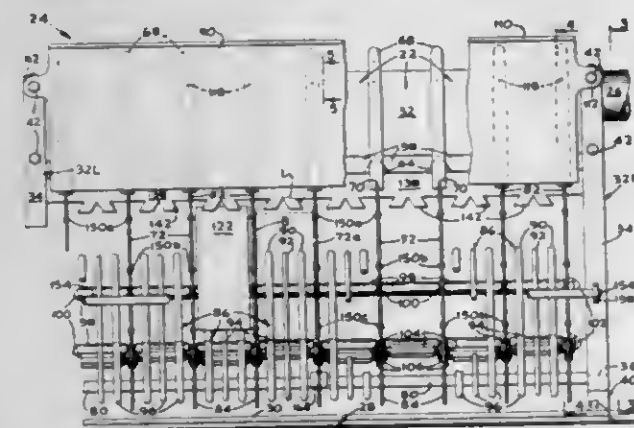


line and there is an angular clearance in the zone of engagement extending out of the groove to provide clearance.

3,424,290

BAGGING APPARATUS

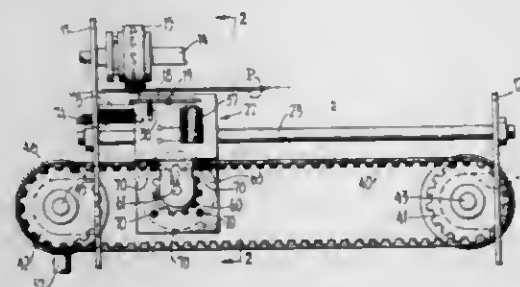
Robert J. Betschart, Sacramento, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Jan. 28, 1966, Ser. No. 523,598
U.S. Cl. 193—2 4 Claims
Int. Cl. B65g 11/00; B65b 43/36



An adjustable chute for guiding a plurality of stick confectons into bags has pivotally mounted side guides formed of upper pivoted guide bars and walls extending downwardly from the bars and loosely connected thereto with tongue and slot connections. The wall spacing is adjusted by oppositely threaded studs.

3,424,291

CARRIAGE DRIVE FOR HIGH-SPEED PRINTER
Andre F. Marion, Berkeley, Calif., assignor to Friden, Inc., a corporation of Delaware
Filed Aug. 28, 1967, Ser. No. 663,682
U.S. Cl. 197—49 2 Claims
Int. Cl. B41j 1/46, 23/04, 1/50



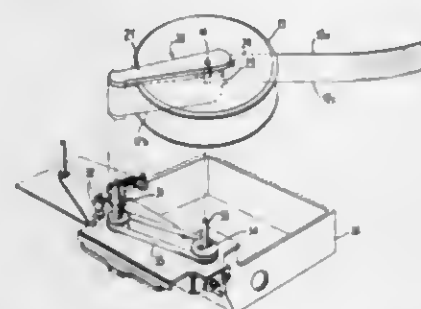
This patent relates to high-speed printers and more particularly to a print carriage shifting mechanism therefor. The carriage, with a print hammer supported thereon, moves continuously relative to a print line on a recording medium, and carries with it a type-wheel on which a series of type characters is circumferentially arranged in a single helical turn. Continuous movement of the print carriage from right to left parallel to and trans-

versely of the recording medium is under the control of a toothed belt having a running engagement with a pinion on the carriage. Normally, in the "at rest" position of the carriage, the pinion rotates freely with the continuous movement of the belt. However, upon initiation of a printing operation, an electromagnetic brake is energized and becomes effective to stop rotation of the pinion, thereby causing the carriage to move with the belt. Upon completion of a line of printing, the electromagnetic brake is de-energized and the carriage returns to its "at rest" position under the influence of a relatively strong spring.

3,424,292

EASY LOADING RIBBON PACKAGE

Willie Goff, Jr., and Jesse W. Spears, Lexington, Ky., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed June 28, 1966, Ser. No. 561,242
U.S. Cl. 197—151 4 Claims
Int. Cl. B41j 33/16

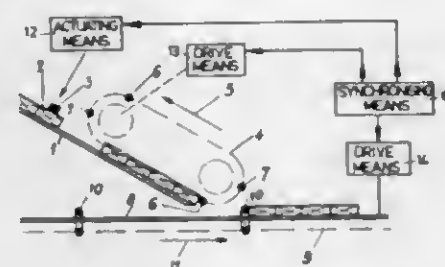


A loading assistant is mounted on a flanged spool of a ribbon supply package to form a stable loop of ribbon to assist threading around a typewriter feed capstan. The loading assistant is characterized by an eject pin for separating the assistant from the spool upon insertion into a typewriter and by a clamping flange that retains the loop in a taut condition.

3,424,293

DEVICE FOR GROUPING OBJECTS

Gert Deutschländer, Neuhausen am Rheinfall, Switzerland, assignor to Schweizerische Industrie-Gesellschaft, Neuhausen am Rheinfall, Switzerland
Filed Mar. 20, 1967, Ser. No. 624,307
Claims priority, application Switzerland, Mar. 22, 1966, 4,108/66
U.S. Cl. 198—34 3 Claims
Int. Cl. B65g 47/26



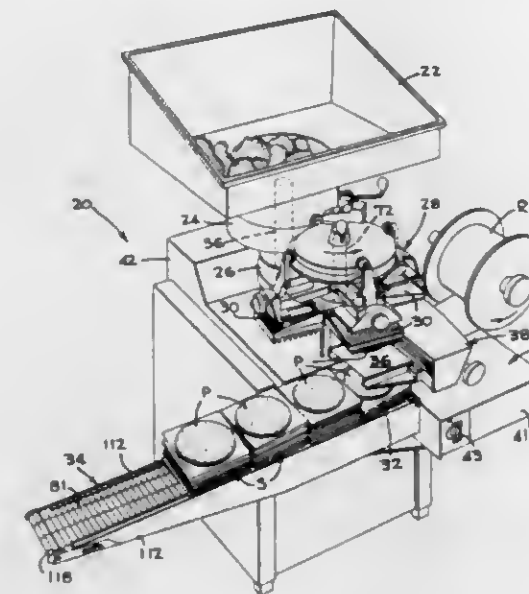
A device is disclosed for grouping objects, fed in a continuous succession, into groups of equal numbers, and for passing on the groups uniformly spaced apart.

3,424,294

COUNTER FOR FOOD MOLDING MACHINE

Eugene F. Felstehausen, Vermillion County, Ill., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed May 8, 1967, Ser. No. 636,861
U.S. Cl. 198—35 6 Claims
Int. Cl. B65g 57/03, 43/10; G06f 15/20
A cam, timed to the discharge of formed meat patties from food molding machine onto a conveyor, indirectly

rotates a pawl-controlled counting gear tooth by tooth with each patty discharged onto the conveyor to control the number of patties accumulated into a stack. The counting gear functions to store the control signals and at the completion of a counting cycle releases a pre-conditioned control mechanism which drives a ratchet arm for indexing the conveyor. The ratchet arm is positioned

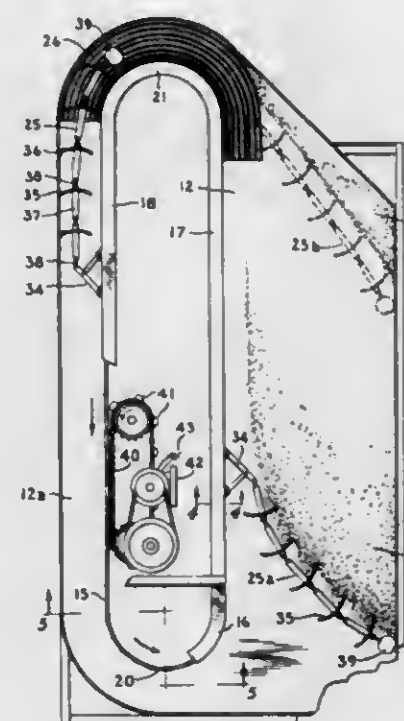


for a driving stroke, after one stack of patties is counted by the gear, by a spring that is tensioned by the cam and associated mechanical linkage, following which the ratchet arm engages the conveyor and is driven by the cam to indirectly reset the counting gear, re-tension the spring, reset the linkages, and index the conveyor for receiving the next stack of patties.

3,424,295

CONVEYOR APPARATUS

Harold F. Wahl, Portland, Oreg., assignor to Radar Pneumatics Incorporated, Portland, Oreg., a corporation of Oregon
Filed Dec. 8, 1965, Ser. No. 512,294
U.S. Cl. 198—170 9 Claims
Int. Cl. B65g 19/16



A reclaiming conveyor having a plurality of flexible sweep drags connected at their leading ends to an end-

less pull chain. The drags slide on a supporting surface for a pile of material to be removed and have free trailing ends which swing out away from the pull chain and impact against the material to engage and convey it. In order to swing the trailing ends against the material the supporting surface may be sloped away from the pull chain and/or a heavy rolling ball may be mounted on the trailing end of each drag.

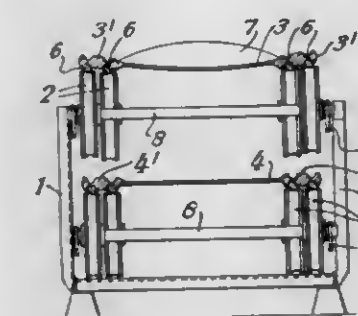
3,424,296

ROPE DRIVEN BELT CONVEYORS

Karlfried Steins, Oberhausen-Sterkrade, Germany, assignor to Cable Belt Limited, Inverness, Scotland, a British company
Filed Mar. 31, 1967, Ser. No. 627,532
Claims priority, application Germany, Apr. 9, 1966, G 46,565

U.S. Cl. 198—191
Int. Cl. B65g 15/08, 15/60

8 Claims



A rope driven belt conveyor comprising a belt supported adjacent its edges by ropes which also drive the belt, has more than one such rope adjacent each edge, the ropes adjacent each edge of the belt forming a group between which the load is distributed substantially equally by load compensating means.

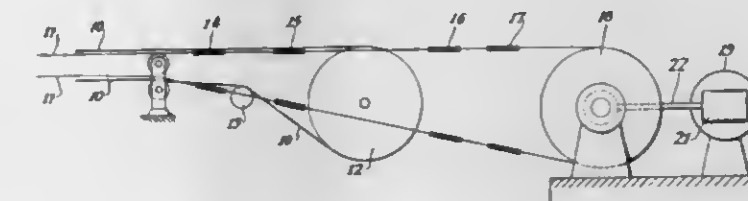
3,424,297

ROPE-DRIVEN CONVEYORS

Charles Thomson, Esher, England, assignor to Cable Belt Limited, Inverness, Scotland, a British company
Filed Apr. 13, 1967, Ser. No. 630,751
Claims priority, application Great Britain, Apr. 15, 1966, 16,651/66

U.S. Cl. 198—203
Int. Cl. B65g 23/28

7 Claims



A driving pulley for driving two ropes of a belt-driven belt conveyor and providing automatic equalisation of the tension in the said two ropes, the pulley having a tread surface which decreases in diameter from the sides towards the middle and the ropes being each led on to its adjacent one side of the tread and led off adjacent the middle, so that excess tension in one rope tends to cause it to ride towards the middle of the tread and push the other rope outwardly.

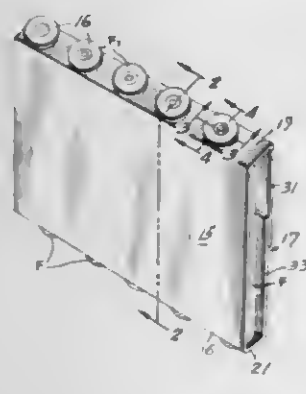
3,424,298

AMMUNITION HOLDER

John Watson Wallace, Beaurepaire, Quebec, and Randolph Bernard Snow, Montreal, Quebec, Canada, assignors to Price Wilson Limited—Price Wilson Limitee, Montreal, Quebec, Canada
 Filed Mar. 20, 1968, Ser. No. 714,544
 Claims priority, application Great Britain, Mar. 22, 1967, 13,419/67

U.S. Cl. 206—3
 Int. Cl. F42b 39/00

12 Claims



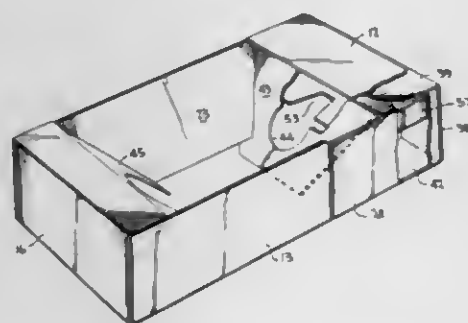
A cartridge holder carton in the form of a sleeve with opposed narrow cartridge-receiving top and bottom walls each provided with holes in staggered relationship to the holes in the other wall, and connecting side walls. Each hole is surrounded by a lip which supports the cartridge and frictionally engages it in a push fit. In the case of flanged cartridges the holes are on the top and bottom walls so that the flange rests on top of the walls where it is accessible for gripping to remove the cartridge. In the case of rimless cartridges, the lip engages in the groove near the base of the cartridge and the side walls adjacent to the top and bottom walls have openings forming extensions of those on the top and bottom walls to facilitate removal of the cartridge.

3,424,299

TUCK STYLE FRAME-VIEW DISPLAY CARTON

Charles W. Rosenberg, Jr., North Tonawanda, N.Y., assignor to F. N. Burt Company, Inc., Buffalo, N.Y., a corporation of Delaware
 Filed Nov. 16, 1967, Ser. No. 683,723
 U.S. Cl. 206—45.14
 Int. Cl. B65d 85/42

5 Claims



This invention relates to display cartons, and more particularly, to display cartons of the tuck style type formed of a foldable sheet material such as paperboard, for holding and displaying articles such as a bottle or tube. The display carton according to this invention has basically a tube configuration including interconnected front, back and side walls, but having a push-in flap front panel which cooperates with a spaced inner panel to receive an article and display the same through a window opening in the front panel of the carton.

3,424,300

COLORING SYSTEM FOR LEATHER FINISHING

John G. Penniman, Jr., Pleasantville, N.Y., assignor to Penniman Chemicals, Inc., Pleasantville, N.Y., a corporation of New York
 Filed Mar. 8, 1966, Ser. No. 532,733
 U.S. Cl. 206—47
 Int. Cl. B65d 79/00, 85/70; A45c 11/00

5 Claims



1. A balanced color system particularly suitable for finishing light or white synthetic or neutral leather in a variety of colors and shades comprising:

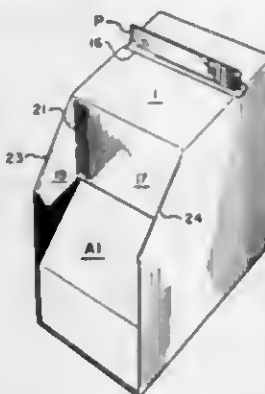
- (a) a group of sealed pods each containing approximately equal volumes of hue color pigmented coating compositions, said group of pods including sub-groups of pods for each hue color pigment employed in the system and each sub-group comprising a pod containing a hue color pigmented coating composition of standard pigment concentration and a series of additional pods containing the same hue color pigment of variable pigment concentration less than the pigment concentration of the standard pod, and
- (b) a pod containing a black pigmented coating composition and a pod containing a white pigmented coating composition, each containing approximately the same volume as the group of hue color pigmented pods.

3,424,301

PACKAGE OF ARTICLES OF DIFFERENT SIZES AND SHAPES

Homer W. Forrer, Jonesboro, and James B. Funkhouser, Doraville, Ga., assignors to The Mead Corporation, a corporation of Ohio
 Filed Feb. 26, 1968, Ser. No. 708,001
 U.S. Cl. 206—47
 Int. Cl. B65d 77/00, 85/54

12 Claims



A wrapper for a row of articles incorporates top, bottom and spaced side walls, an end panel foldably joined to one end edge of the top wall, and a pair of anchoring panels foldably joined to downwardly and outwardly extending top edge portions of the side walls respectively and to the adjacent end edges of the end panels. A transverse slot is formed in the top wall so as to receive an upwardly protruding portion of an article disposed therebelow. According to a modification of the invention, a cover panel may be foldably joined to the bottom edge of the end panel so as to overlie the top of the end article disposed therebelow and abutment edges may be formed on the bottom portions of the anchoring panels so as to engage the top of the cover panel and to hold the cover panel downwardly in snug engagement with the top of the article disposed therebelow. According to another modification of the invention, an inwardly protruding lip

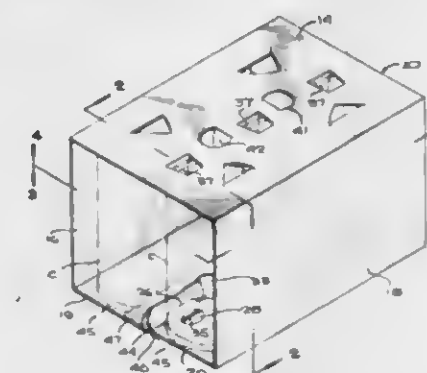
may be formed on the cover panel for engaging the upwardly protruding rim of the article disposed therebelow and web panels may form an interconnection between the anchoring panels and the adjacent edges of the cover panel.

3,424,302

CARRIER WITH CENTER DIVIDER

Henry Ganz, Teaneck, N.J., assignor to Continental Can Company, Inc. New York, N.Y., a corporation of New York
 Filed Jan. 29, 1962, Ser. No. 169,444
 U.S. Cl. 206—65
 Int. Cl. B65d 75/02

16 Claims



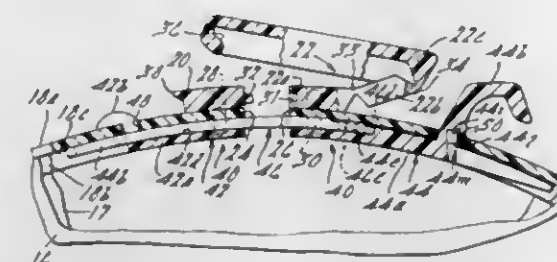
A wrap-around carrier for can-like containers provided with an integral rib means in one of the walls thereof having spaced recesses therein for receiving the chimes of the can-like container thereby securing said containers within the carriers.

3,424,303

SEALING RING

Boris M. Osojnak, Birmingham, Mich., assignor to Automation Devices Inc., Southfield, Mich., a corporation of Michigan
 Continuation-in-part of application Ser. No. 601,205, Dec. 12, 1966. This application Nov. 20, 1967, Ser. No. 684,152
 U.S. Cl. 206—53
 Int. Cl. B65h 75/00; G11b 23/02

15 Claims



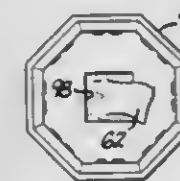
A sealing ring for use with a reel comprising a strip of flexible plastics material adapted to be wrapped around the reel to sealingly encircle the same; coating latch elements of relatively rigid plastics material are positioned on the outer sides of the strip adjacent the respective free ends of the same and coating guide members of relatively rigid plastics material as positioned on the undersides of the free ends of the strip in underlying relation to the respective latch elements. The guide members coat with a slide member formed of a doubled over stainless steel wire to prevent uncontrolled separation of the free ends of the strip and constrain the free ends to movement along an arcuate path centered on the axis of the strip loop. One of the rigid guide members has a radial extension which passes outwardly through an aperture in the strip and thereafter curves over to form a hook for hanging the sealing ring with the hook also serving to

3,424,304

PACKAGE OF WIPING CLOTHS

Bernard E. Sullivan, Bloomfield Hills, Mich., assignor to O'Brien Textiles Corporation, Detroit, Mich., a corporation of Michigan
 Filed Sept. 29, 1965, Ser. No. 491,092
 U.S. Cl. 206—56
 Int. Cl. B65d 83/00; A45c 11/00

1 Claim



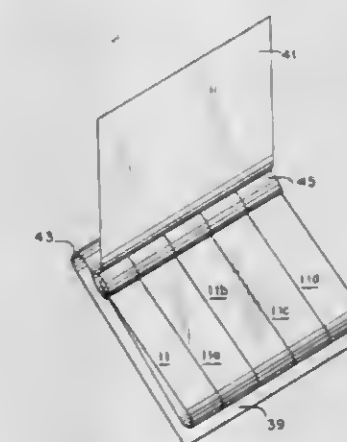
A package of wiping cloths and the method of making the package. The package comprises wiping cloths arranged in a random manner in a container having more than four side walls, cup-shaped end wall members and a removal slot in one of the walls. The method is performed by placing a box element over a frame member to form the side walls and to insert a cup-shaped end member in one end thereof. The element is then inserted, the wiping cloths inserted and the opposite end of the element closed with a cup-shaped member.

3,424,305

TAB AND PACKAGE THEREFOR

Alexander C. Ridland, Intersection of Via Alha and La Gracia, Rancho Santa Fe, Calif. 92067
 Filed July 3, 1967, Ser. No. 650,768
 U.S. Cl. 206—56
 Int. Cl. B65d 85/70

5 Claims

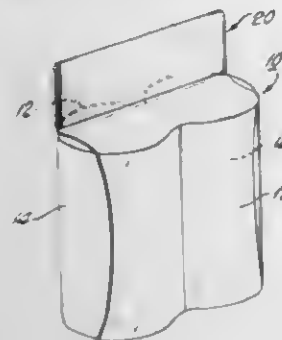


A tab construction particularly useful with easel type greeting cards wherein a strip of material is foldable along a central hinge line providing two substantially parallel tab legs with each leg having an adhesive portion adjacent the free end of the leg on the outer surface of the leg. The boundary of the adhesive portion inward from the free end of each leg is spaced outwardly from an alignment indicator line. The adhesive surface can be protected with a shield of suitable material that does not adversely affect the adhesive, such as wax paper or a proper plastic for example. In use, the protective shield is peeled off and the adhesive portions of the tab legs are affixed to the inner faces of the foldable flaps of the easel type card with the alignment indicator lines indicating how the tab legs should be folded and affixed. A unique

package is provided for the tabs wherein the tabs are held in a matchbook type package with protective shields for the adhesive surfaces of the tab legs affixed to the package and providing the means for retaining the tabs in the package.

3,424,306
PACKAGE AND METHOD OF PRODUCING SAME
Elsworth G. Munck, Parma Heights, Ohio, assignor to Union Carbide Corporation, a corporation of New York

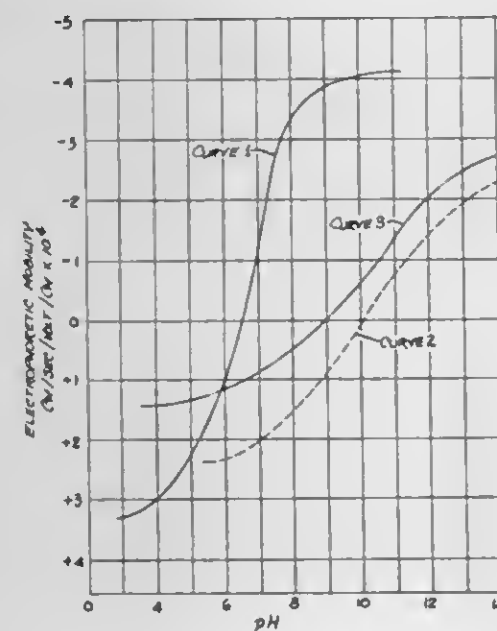
Filed Jan. 15, 1968, Ser. No. 697,957
U.S. Cl. 206—65
Int. Cl. B65d 65/28, 65/38



A package having a sheet of thermoplastic material heat shrunk around the package contents and an appendage extending from the body of the package. A header board is positioned in contact with the appendage to limit shrinkage of the appendage during the heat shrinking of the package. The header board also serves as a gripping means which can be twisted to allow easy opening of the package.

3,424,307
METHOD FOR SEPARATING ASBESTOS FIBERS FROM FOREIGN SOLIDS
Chung Hsiung Shih, Neshanic, N.J., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York

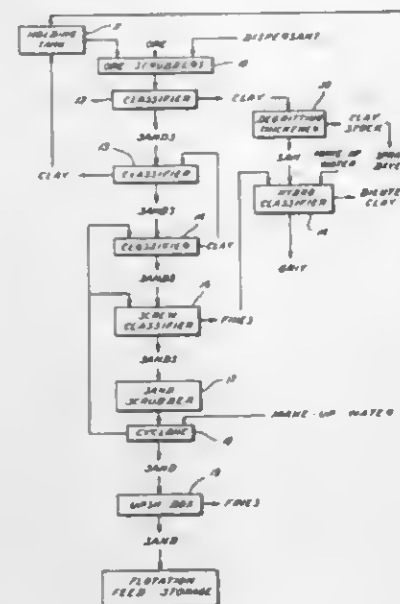
Filed Dec. 30, 1965, Ser. No. 517,707
U.S. Cl. 209—2
Int. Cl. B01k 1/00; B03c 1/00



Magnetite is separated from asbestos fibers by adjusting the pH of an asbestos fiber water slurry to a level at which both asbestos fibers and magnetite have the same electrophoretic mobility characteristic and subsequently, separating the magnetite by means of magnetic or gravity separation.

3,424,308
RECOVERY OF CLAY AND SAND FROM AN ORE
Douglas H. Fenske, Marlin, Tex., assignor, by mesne assignments, to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware

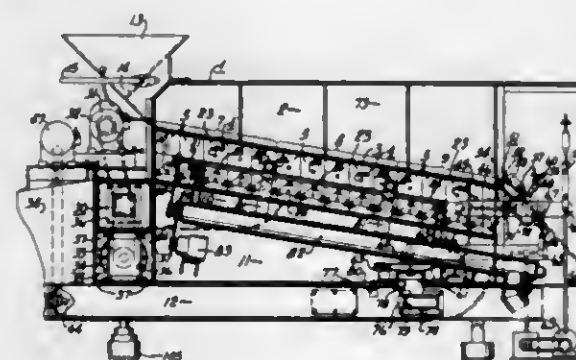
Filed Nov. 9, 1965, Ser. No. 506,927
U.S. Cl. 209—3
Int. Cl. B03b 1/00



An ore consisting essentially of silica sand and clay is treated in a series of hydraulic classification steps to produce a high clay content stock suitable for direct spray drying without intermediate filtration and a sand fraction suitable for further processing by flotation. The feed ore is slurried with a controlled amount of clay slurry, prior to classification, to obtain a clay fraction from the first classification zone having at least 40% by weight of clay.

3,424,309
PNEUMATIC SEPARATOR AND CLASSIFIER APPARATUS AND METHOD
William B. Binnix, % Ridge Equipment Company, Fallentimber, Pa. 16639

Filed Dec. 7, 1965, Ser. No. 512,089
U.S. Cl. 209—44
Int. Cl. B07b 3/12



A method and apparatus for pneumatically classifying a bed of uniformly crushed materials suspended on a downwardly sloping screen made up of a series of interchangeable marble pack cells each having its own screen section and selected of the same having different sized screens and a lateral draw off means with means to vibrate their screen section, which together with one or more preceding marble pack cells forms a cell unit. The screen is supplied with upwardly pulsating air under pressure through the full length of the bed which is stratified and separated at the lower end. Selectively separating and withdrawing materials of different sizes from selected said cell units at predetermined interchangeable intermediate positions and relocating the positions of the selected

cell units to obtain a predetermined classification and controlling the rate of flow of the bed of material by controlling the supply of pulsating air along the full length of the bed and by controlling the rate of flow from the end of the bed in cooperation with the controlled air supply to selectively classify and laterally draw off the classified materials.

3,424,310
METHOD AND MEANS FOR BENEFICIATING ORES

Martin Wilson, Anaheim, Calif., assignor to United States Borax & Chemical Corporation, Los Angeles, Calif., a corporation of Nevada

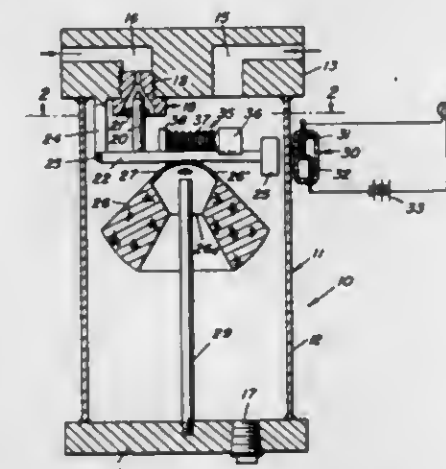
No Drawing. Continuation of application Ser. No. 486,217, Sept. 9, 1965. This application Mar. 19, 1968, Ser. No. 714,361

U.S. Cl. 209—166
Int. Cl. B03d 1/02

A process for obtaining mineral values from ore froth flotation using a combination of reagents (1) an admixture of alkyl and alkenyl amine components wherein the amines contain long straight chain hydrocarbon groups and (2) an aromatic oil thus making it possible to obtain relative efficient recovery over a substantially large temperature range.

3,424,311
FLUID SEPARATOR
Frederick M. Sledenburg, 424 Pine Island Road, North Fort Myers, Fla. 33903

Filed Aug. 31, 1966, Ser. No. 576,453
U.S. Cl. 210—86
Int. Cl. B01d 21/24, 35/00



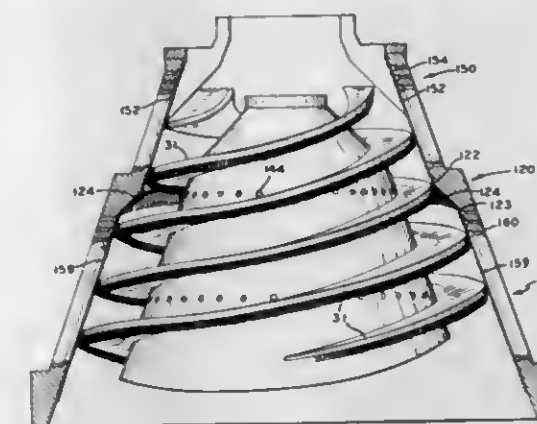
A separator for fluids of different specific gravities having a liquid container and a valve mechanism for selectively sealing the outlet of the liquid container including an outlet valve vertically moved into and out of the outlet in response to the swinging of a pivotally mounted control arm engaged therewith. The control arm is responsive to the level of a float in contact therewith and includes a pressure responsive shifting weight thereon so as to vary the mechanical advantage derived from the control arm for increasing the sealing pressure of the valve as the fluid pressure within the container increases.

3,424,312
WASH ARRANGEMENT FOR SCREEN CENTRIFUGES
Per Nyrop, Norwalk, Conn., and James C. Elsen, Elmhurst, Ill., assignors to Dorr-Oliver Incorporated, Stamford, Conn., a corporation of Delaware

Filed Nov. 25, 1966, Ser. No. 597,153
U.S. Cl. 210—374
Int. Cl. B01d 33/06

The present invention relates to improvements in the washing zone of screen centrifuges. The longitudinal direction of the separating screen is abruptly changed by

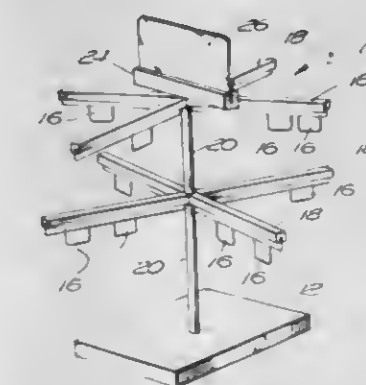
interposing an annular band at a different angle of conicity than at least the upper portion of the separating screen. The annular band is directly opposite the wash



discharge ports and serves to change the spatial configuration of the solids retained on the separating screen as the solids move into the wash zone.

3,424,313
DISPLAY STAND
Hans J. Felbelman, Cranston, R.I., assignor to Coro, Inc., Providence, R.I., a corporation of New York

Filed Aug. 22, 1966, Ser. No. 574,198
U.S. Cl. 211—13
Int. Cl. A47f 7/00, 5/02



A display stand for displaying ornamental articles that are mounted on cards, the cards being removably mounted on display arms that are formed as part of the stand, each of the arms including a plurality of mounting elements that depend therefrom and that are adapted to receive the cards in frictional relation therein.

3,424,314
CLOTHES BAR
Wayman H. Cornelsen, Fairview, Okla. 73737

Continuation-in-part of abandoned application Ser. No. 584,809, Oct. 6, 1966. This application Jan. 11, 1967, Ser. No. 608,698
U.S. Cl. 211—105.3
Int. Cl. A47h 1/08

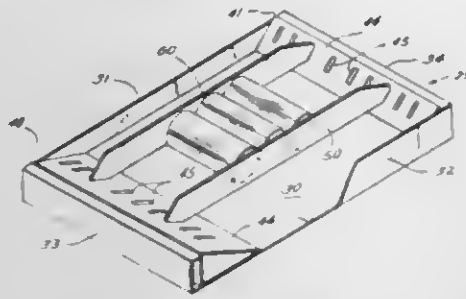


A clothes bar which includes a pair of elongated telescoping tubular members having a pair of upstanding supporting rings secured at opposite ends of the bar for hanging the bar in an auto or the like. The supporting rings are secured to the respective tubular members in a way such that they remain in an upstanding position on the clothes bar. One of telescoping tubular members is slightly bent from exact linearity so binding occurs between the tubular members at some point in their telescoping movement.

3,424,315 TILT SHELF

Paul L. Farren, 5603 S. Rice Ave.,
Houston, Tex. 77036

Continuation of application Ser. No. 526,262, Feb. 9,
1966. This application Nov. 28, 1967, Ser. No. 686,140
U.S. Cl. 211—126 8 Claims
Int. Cl. A47b 63/06, 53/02, 57/28

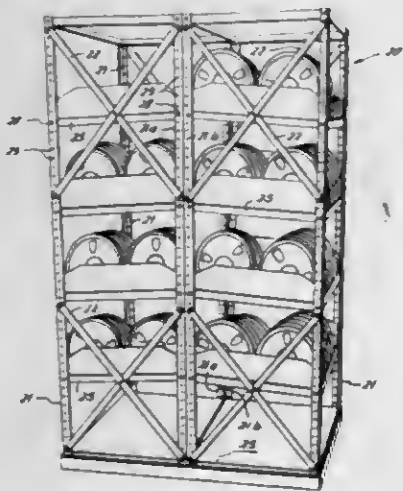


A unit for the storage of reels, such as those storing magnetic tape. Vertically spaced shelving includes spaced inclined shelves, each shelf being of sufficient depth to accommodate two or more reels. Shelves may be downwardly inclined in opposite directions about upright supports. The entire unit may ride on wheels or rollers along prepositioned tracks.

3,424,316 STORAGE CONTAINER

Paul L. Farren, 5603 S. Rice Ave.,
Houston, Tex. 77036

Application Mar. 23, 1966, Ser. No. 536,760, which is a
continuation of application Ser. No. 526,262, Feb. 9,
1966. Divided and this application Aug. 30, 1967, Ser.
No. 664,323 6 Claims
U.S. Cl. 211—148
Int. Cl. A47b 43/00, 63/06, 57/28



Tray and tray support for tape reels, the tray support so supporting the tray that the reels riding therein are biased toward one tray end. A tray portion may fit within a channel-shaped member of the support. The tray may include vertical partitions and reel-limiting devices extending outward of the partitions so as to restrain the tape reels.

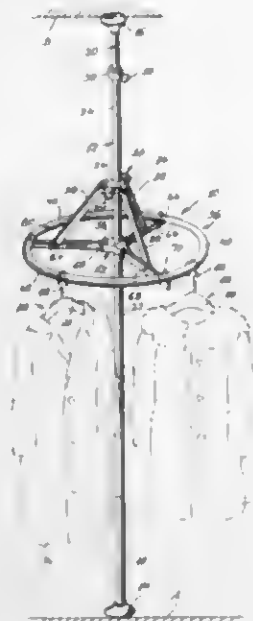
3,424,317 COSTUMER

Nat Singer, 35 McClellan St., Bronx, N.Y. 10452
Filed Dec. 9, 1966, Ser. No. 600,558

U.S. Cl. 211—167 3 Claims
Int. Cl. A47f 7/24, 5/02, 5/13

A rack for supporting articles of clothing comprising a tubular pole member with suction cups at each end,

and having two spiders thereon for supporting foldable arm members; the arm members have pins at their outer



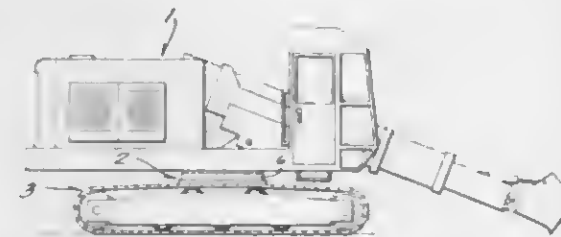
ends which engage holes in a sectional, interlapped ring member.

3,424,318

TURNTABLE DRIVE MECHANISM

Ervin H. Lorence, Milwaukee, Wis., assignor to Lorence
Manufacturing Corporation, Milwaukee, Wis., a cor-
poration of Wisconsin

Filed Oct. 31, 1966, Ser. No. 590,797
U.S. Cl. 212—69 13 Claims
Int. Cl. B66c 23/84; F16h 1/28



A turntable drive mechanism including a pair of hydraulic motors mounted on the turntable and the motors drive an eccentric ring which is journaled for rotation about an annular flange which extends downwardly from the turntable. The outer eccentric surface of the eccentric ring rides against the inner annular surface of an outer floating gear having a series of teeth which engage the internal teeth on a fixed gear ring formed on the base.

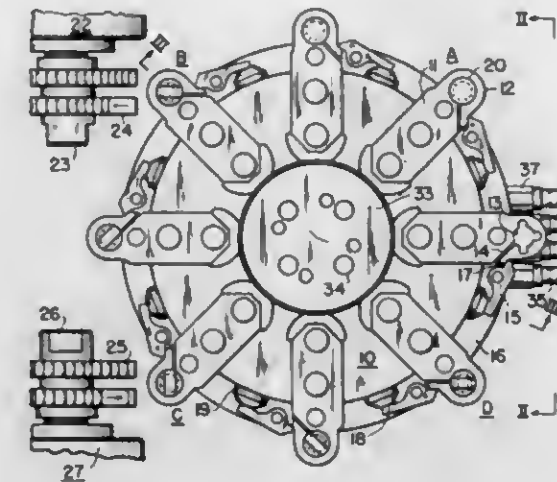
The outer floating gear is connected integrally with a second smaller gear which rotates with the larger outer gear. The teeth of the smaller inner gear mesh with the internal teeth of a second gear ring formed on the annular flange of the turntable. The gear ring on the base has a greater number of teeth than the mating outer gear and similarly the turntable gear ring has a greater number of teeth than the mating inner gear and the difference in the number of teeth between the outer gear and the gear ring on the base is the same as the difference in the number of teeth between the inner gear and the turntable gear ring.

As the eccentric ring is rotated, the outer gear will be moved by a wedging action in the opposite direction and at a slower rate of speed than the eccentric ring to provide a speed reduction. As the inner gear is connected integrally with the outer gear, it also rotates with the larger outer gear and thereby drives the turntable gear ring by wedging action in the opposite direction and at a slower rate of speed to provide a second speed reduction.

3,424,319 HYDRAULIC INDEXING AND CLAMPING FIXTURES

Harvey F. Hohlfelder, Jr., Painesville, and Nicholas P.
Darash, Euclid, Ohio, assignors to The F. Hohlfelder
Company, Cleveland, Ohio, a corporation of Ohio

Filed Nov. 9, 1966, Ser. No. 593,030 8 Claims
U.S. Cl. 214—1
Int. Cl. B25j 3/00; B23q 3/08; B23f 23/08



1. A fixture for indexing and holding workpieces to be machined by a tool of a metal-working machine, said machine having a fixed table for mounting the fixture, the fixture being connected to a source of hydraulic fluid under pressure, said fixture comprising:

- (A) a base member having an upstanding annulus at its upper portion and a lower portion extending from the annulus for securing to the table and including a pair of inlets and outlets for connection to said source;
- (B) indexing means having at least one workholder rotatably mounted on said annulus for positioning said workholder adjacent a tool;
- (C) driving means connected to an inlet and an outlet and within the lower portion of the base member, said driving means being engageable with said indexing means, and driving the indexing means in response to the magnitude and direction of fluid of pressure introduced to the driving means at the inlet; and
- (D) means for clamping a workpiece in said workholder, said clamping means being connected to a second inlet and outlet and operable in response to the position of the driving means relative to the position of the indexing means such that when a workholder carrying a workpiece is adjacent a tool, said clamping means operates to engage the workpiece.

3,424,320

CONVEYOR SYSTEM

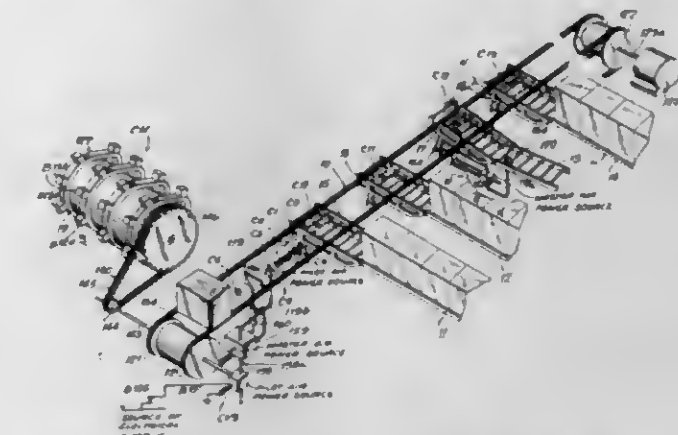
Gunnar Thure Eliassen, Saffte, Sweden, assignor to Aktiebolaget Electrolux, Stockholm, Sweden, a corporation of Sweden

Filed May 26, 1966, Ser. No. 553,205
Claims priority, application Sweden, May 26, 1965,
6,993/65

U.S. Cl. 214—11 15 Claims
Int. Cl. B65g 43/00, 37/00

An article handling system having a driven conveyor from which articles are discharged to a given one of a number of storage paths, a mechanical memory working in conjunction with the conveyor in which each article handled by the conveyor is represented by a free body like a ball, for example, which is fed forward through the mechanical memory in a path of movement defining a closed circuit, controlling the feeding of the balls in the

mechanical memory, and, depending upon the positions of the balls, actuating devices arranged to control the advancing of the articles on the conveyor, the mechanical memory including a rotatable drum having spaced rows of notches or hollows about its periphery in which each ball, after seating in a notch, is moved by the drum, such movement of the ball defining one part of the path of movement for the ball during which the ball is raised while in physical contact with the drum, gravitation channels each defining another part of the path of movement for each ball during which the ball moves downward by gravity while out of physical contact with the drum,



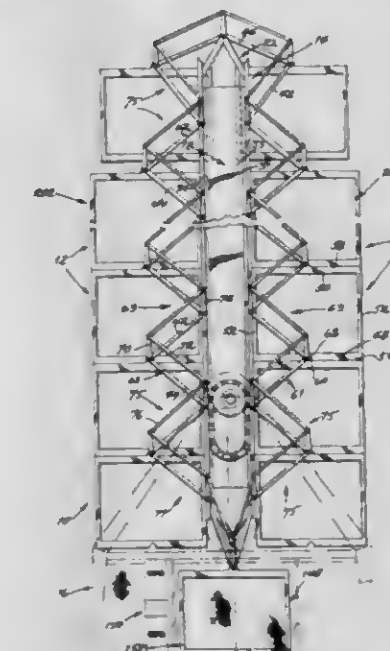
the gravitation channels being divided into collecting channels and memory channels, the collecting channels being arranged to receive the balls after they have completed at least one-half revolution around the drum and to deliver the balls, one at a time, to the memory channel when information about the destination of an article to a particular storage path is to be stored in the mechanical memory, the mechanical memory functioning to deliver the balls, one at a time, from the memory channel to the notches of the drum when an article is to be fed onto the conveyor and the articles corresponding to the balls are to be transported toward predetermined storage paths.

3,424,321

STABILIZING AND DRIVE MEANS FOR A PARKING APPARATUS

Robert D. Licht, Long Beach, Calif., assignor of twenty-three percent each to Walter A. Webster, Albuquerque, N. Mex., Harold G. Goble, Denver, Colo., and Robert F. Campbell, Placentia, Calif.

Filed July 14, 1965, Ser. No. 471,997 5 Claims
U.S. Cl. 214—16.1
Int. Cl. E04h 6/12; B65g 17/12, 17/32

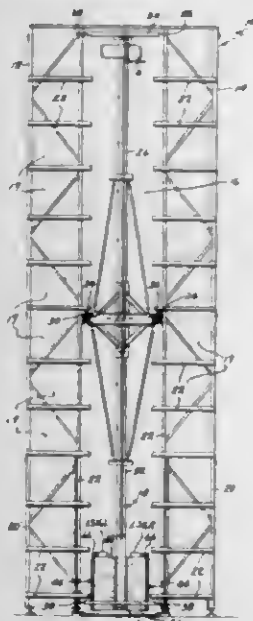


The invention relates to a vehicle parking arrangement for automobiles and the like in which vehicle support

platforms are suspended in endless conveyor fashion between a pair of vertically disposed endless conveyors. The platforms are supported from the respective conveyor links, with conveyors themselves having no end pulleys but rather being supported through a motion transmitting connection adjacent to but above the lower ends of the respective guideways of the respective conveyor. The motion of the respective platforms is controlled by a motion stabilizing parallel linkage assembly which for each platform includes a link that is made fast with respect to the platform and has its configuration controlled to hold the platform against sway.

3,424,322 AUTOMATIC WAREHOUSING SYSTEM AND METHOD

Sanford Saul, Cleveland, Ohio, assignor to The Triax Company, Cleveland, Ohio, a corporation of Ohio
Filed Dec. 15, 1965, Ser. No. 514,028
U.S. Cl. 214—16.4 9 Claims
Int. Cl. E04h 5/28; B66b 1/00



An automatic warehousing system for storing and un-storing loads from tiered bins including a powered load carrier movable through a load handling cycle sequentially to at least two load handling positions and wherein the load carrier has load sensing means thereon for sensing out of position loads in the storage bins, with control circuitry for the load carrier causing a predetermined distance horizontal movement of the load carrier away from the first load handling bin position after depositing of a load by the load carrier at the first bin position and then return of the load carrier back to the first bin position, prior to movement of the load carrier to the next load handling bin position in the load handling cycle. During said predetermined distance horizontal movement if an out-of-position load condition exists at the first bin position, the sensing means on the load carrier senses such out-of-position load and halts further movement of the load carrier, thus preventing damage to the load carrier and/or to the storage bin structure and/or to the out-of-position load.

3,424,323 VEHICLE LOADING RAMP

Albert Barnaby, 47 Lakeview Drive, Githshboro, N.J. 08026
Filed Sept. 19, 1966, Ser. No. 580,851
U.S. Cl. 214—85 3 Claims
Int. Cl. B60p 1/00; B65g 11/00

A loading ramp assembly for a truck trailer or the like, comprising in combination a fixed plate disposed in a generally vertical plane, the fixed plate being connected to a rearward extremity of the trailer, the fixed plate

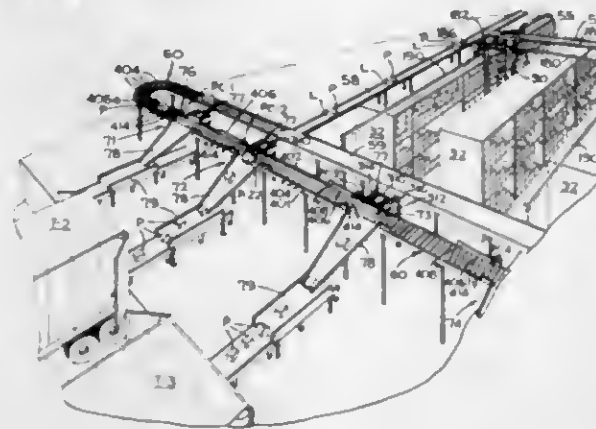
being apertured to provide a generally vertical elongated slot, a movable plate, which movable plate is disposed in a generally vertical plane adjacent the fixed plate, a first pivotal connecting means in the form of a first pin extending generally horizontally through the movable plate



and into the elongated slot in the fixed plate, a movable load-bearing ramp member, and second pivotal connected means in the form of a second pin extending generally horizontally through the movable plate and the ramp member.

3,424,324 METHOD OF SELECTING A PLURALITY OF ARTICLES IN A WAREHOUSE

Stanley M. Weir, Palo Alto, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Original application Feb. 25, 1966, Ser. No. 530,057, now Patent No. 3,379,321, dated Apr. 23, 1968. Divided and this application Nov. 3, 1967, Ser. No. 705,247
U.S. Cl. 214—152 5 Claims
Int. Cl. B65g

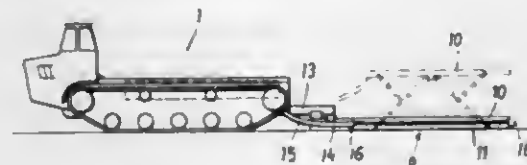


A method of selecting a plurality of articles in a warehouse with storage bins therein, for filling orders, by using a separate label for each article to be picked, recording data on each label indicative of the quantity of articles to be picked, the location of the article in the warehouse and the destination of the picked articles. A label is attached to each article at the location recorded on the label.

3,424,325 VEHICLE FOR RECOVERING DISABLED VEHICLES

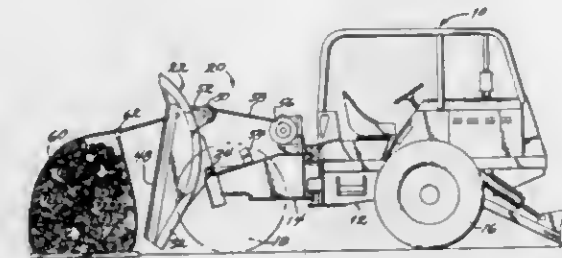
Benno Kaltenegger, Am Pleistalhof, Birlinghoven, Kreis Siegburg, Germany
Filed July 18, 1966, Ser. No. 565,767
Claims priority, application Germany, July 20, 1965, K 56,664

U.S. Cl. 214—390 10 Claims
Int. Cl. B60p 3/00, 1/46, 1/02



A vehicle for recovering disabled vehicles wherein mechanism carried by the recovering vehicle is lowered to the ground and is moved under the disabled vehicle and raised to elevate the disabled vehicle and move the same to a supported position on the recovery vehicle.

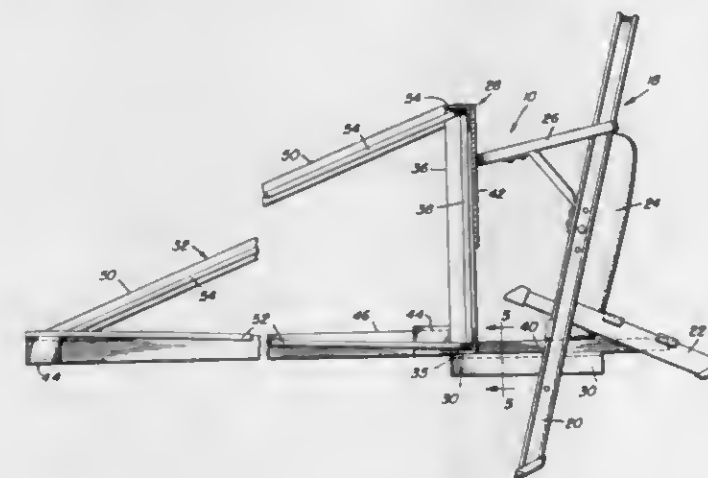
3,424,326
LOG HANDLING APPARATUS
Murray L. Thatcher, La Prairie, Quebec, Canada, assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed May 11, 1966, Ser. No. 549,333
U.S. Cl. 214—505 12 Claims
Int. Cl. B60p 1/04, 1/00



A log handling apparatus for use with a logging vehicle to load, transport and unload log sections having a log supporting cradle having log supporting surfaces mounted at one end of the vehicle by a pivotal connection for pivotal movement about a transverse axis between a substantially vertical loading position and a substantially horizontal transporting position, said pivotal connection being located on the cradle above the vertical centerline of said cradle whereby the cradle will have a tendency to move to the vertical loading position; a winch mounted intermediate the ends of the vehicle, the winch including a cable which is adapted to bind the log sections together, and, guide means mounted on the cradle above the pivotal connection for guiding the cable to and from the winch and for receiving a force from the cable to pivot the cradle into the transporting position pursuant to the log sections being winched onto the cradle.

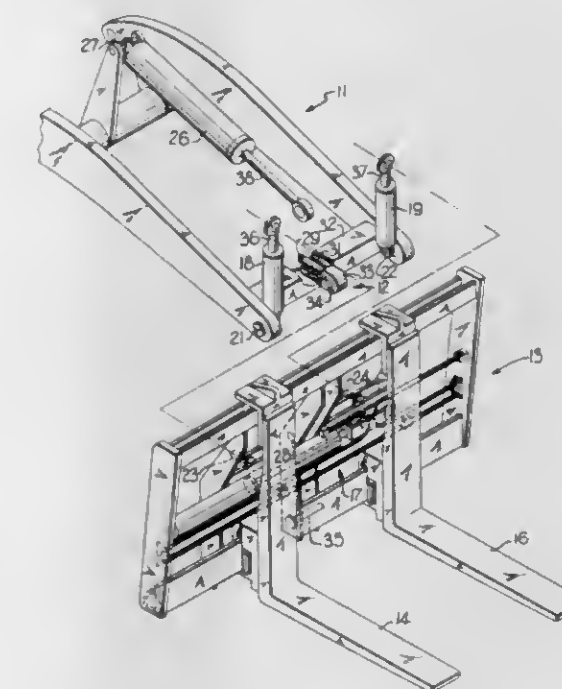
3,424,327 MULTIPLE CHAIR LIFTER

James K. Alana, 2268 Tantalus Drive, Honolulu, Hawaii 96813, and Daniel K. Hirata, 626-A Kaulani Way, Kailua, Hawaii 96734
Filed Dec. 15, 1966, Ser. No. 601,892
U.S. Cl. 214—620 8 Claims
Int. Cl. B66f 9/06; B62b 1/00, 1/06



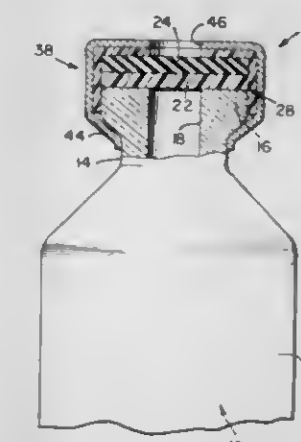
This invention is a multiple chair lifting device for lifting a plurality of individual chairs that have been previously secured or locked together to make a unitary row of chairs, or a multiple chair, so that it may be easily lifted and transported to and from a desired location, as in setting up or taking down a temporary multiple seating arrangement or auditorium; either on a flat floor, or on a plurality of ascending levels, on successive risers.

3,424,328
APPARATUS FOR CONNECTING A LIFT ASSEMBLY TO A FORK LIFT TRUCK
Arthur J. Gideonsen and Dale D. Sandroch, Pekin, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Mar. 6, 1967, Ser. No. 620,739
U.S. Cl. 214—768 6 Claims
Int. Cl. E02f 3/00; B66b 9/14, 9/18



A fork lift having a lift assembly adapted for oscillation about two normally related axes. Universal pivot means for connecting a lift assembly to a fork lift frame and means for controlling oscillation of the fork lift assembly with respect to the frame about two normally related axes.

3,424,329
SEALED INJECTION VIAL
Emanuel B. Hershberg, West Orange, and Hal N. Wolkoff, Bloomfield, N.J., assignors to Schering Corporation, Bloomfield, N.J., a corporation of New Jersey
Filed June 21, 1967, Ser. No. 647,677
U.S. Cl. 215—37 4 Claims
Int. Cl. B65d 41/20

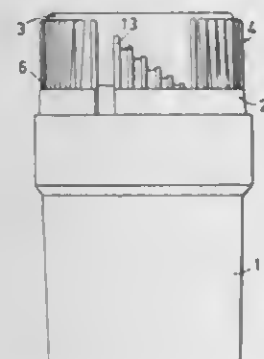


A closure for an injection vial having an apertured nonmetallic pre-sealing ring in addition to the conventional apertured metallic sealing ring and a composite sealing wafer consisting of a layer of generally inert plastic and a layer of rubber.

3,424,330
TAMPER-PROOF CLOSURE
 Henri Marcel, Les Cheres, Rhone, France
 Filed May 31, 1967, Ser. No. 642,539
 Claims priority application France, June 2, 1966,
 47,353; Feb. 13, 1967, 48,296

U.S. Cl. 215—46
 Int. Cl. B65d 49/12, 17/24

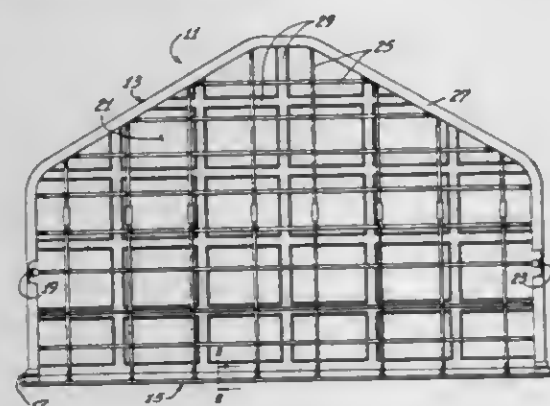
13 Claims



The invention relates to a tamper-proof closure for sealing and/or capping containers, comprising a lid or cap connected by a tearable guarantee band to a skirt intended to remain attached to the container, in which a series of longitudinal grooves extend from both edges of the band and open into an annular hollow space concentric with a step defining the edge of said band, so as to form a series of perforations weakening the areas connecting the band to the lid or cap and the skirt. The invention also relates to a mould for making this closure.

3,424,331
CONTAINER TO BASE FLEXIBLE CONNECTION
 John R. Borden, Manhattan Beach, Calif., assignor, by mesne assignments, to Tridair Industries, Redondo Beach, Calif.
 Filed Apr. 21, 1967, Ser. No. 632,820
 U.S. Cl. 220—1.5
 Int. Cl. B65d 87/00; B65j 1/02

13 Claims



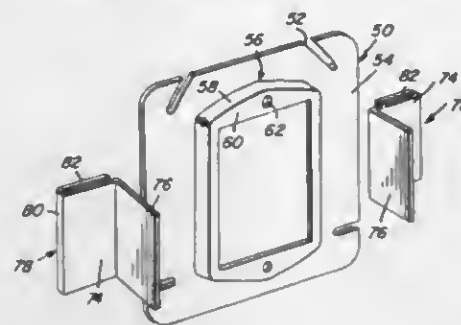
This disclosure describes a flexible connection between a container and a base or floor therefor which allows limited relative movement between the base and the container in a direction generally transverse to the plane of the base. Thus, forces acting on the base which distort the base will not be transmitted to the container through the flexible connection.

3,424,332
OUTLET BOX WITH COVER AND MOUNTING MEANS THEREFOR
 Demetrio Pimentel, Brooklyn, N.Y.
 (145—49 178th Place, Springfield Gardens, N.Y. 11434)
 Filed Aug. 15, 1966, Ser. No. 572,313
 U.S. Cl. 220—3.6
 Int. Cl. H02g 3/12, 3/14; H05k 5/03

5 Claims

An electrician's outlet box having an open front closed by an attached but removable cover plate provided with a centralized integral collar. This collar, when in use,

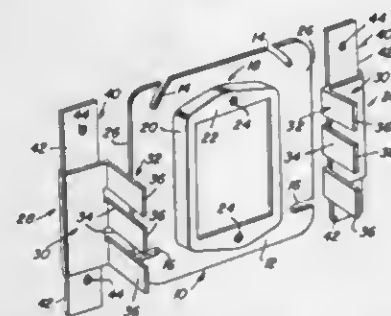
projects into a hole provided therefor in a room wall. Unique mounting clips are secured to the cover plate



for the purpose of securing the combined box and cover plate in operable position in the hole in the room wall.

3,424,333
OUTLET BOX WITH COVER AND MOUNTING CLIPS THEREFOR
 Demetrio Pimentel, Brooklyn, N.Y.
 (145—49 178th Place, Springfield Gardens, N.Y. 11434)
 Continuation-in-part of application Ser. No. 572,313,
 Aug. 15, 1966. This application Mar. 27, 1967, Ser.
 No. 626,316
 U.S. Cl. 220—3.6
 Int. Cl. H02g 3/12, 3/14; H05k 5/03

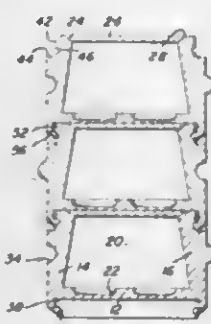
4 Claims



An outlet box, a cover plate, and mounting clips are attached to a construction surface, for example, a wall-board panel or room wall. The outlet box is a conventional cup-shaped open front type. The cover plate has a conventional centralized collar with a turned-in flange. The improvement comprises a pair of mounting clips which can be (1) bent around marginal edge portions of the cover plate and (2) and which have outstanding limbs which project through the wall opening and have bendable terminal ends clenched firmly against the room wall.

3,424,334
STACKING BOX CONSTRUCTION WITH INTERLOCK
 Joseph Goltz, Pittsburgh, Pa., assignor of twenty-five percent to I. C. Bloom and George I. Bloom, both of Washington, Pa., jointly
 Filed Oct. 9, 1964, Ser. No. 402,888
 U.S. Cl. 220—23.6
 Int. Cl. B65d 21/02, 11/10

10 Claims

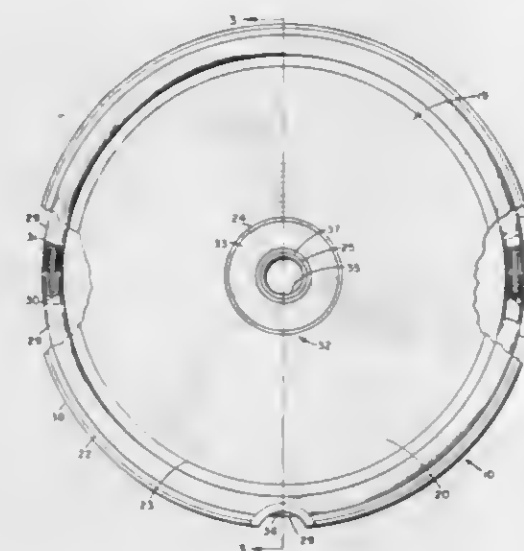


A stacking box having a structure enabling interlocking engagement between vertically stacked boxes combined

with interengaging means on the walls thereof for engaging similar boxes disposed in side-by-side relation thereby preventing relative vertical movement between adjacent boxes and also preventing relative transitory movement. Each box is also provided with a closure lid which does not interfere with the stacking interlocking connection between stacked boxes. The vertical interlocking engagement includes a depending flexible edge at the bottom of a box for outward flexing and interlocking engagement with an underlying box. The interengaging means on the side walls thereof includes interengaging projections and recesses for retaining the boxes in predetermined relationship to each other when disposed alongside of each other.

3,424,335
FLOATING DIAPHRAGM
 Arthur J. Wiltshire, Cleveland, Ohio, assignor to Structural Fibers, Inc., Chardon, Ohio, a corporation of Ohio
 Filed July 25, 1966, Ser. No. 567,433
 U.S. Cl. 220—26
 Int. Cl. B65d 87/20

10 Claims



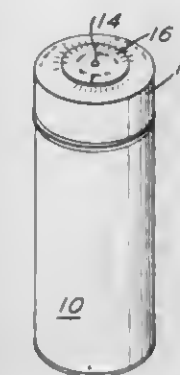
A floating diaphragm for separating liquid and gaseous substances within a tank or container having a relatively small access opening therein as compared to the diameter of the diaphragm and the diameter of the container, and a method of assembling the diaphragm within such a tank or container. The diaphragm includes two sheets of the flexible material joined together at spaced concentric circles. Two such circles define an annular sleeve which receives a buoyant tube. The tube is inserted through an opening in the sleeve. The buoyant tube may be inserted in the sleeve after the thin, flexible material has been inserted into the tank or container through the relatively small access opening. Male plugs and female sockets at the ends of the buoyant tube rigidly mate the free ends of the buoyant tube within the annular sleeve.

3,424,336
PROMOTIONAL PACKAGE
 Louis N. Perez, Willow Grove, Pa., and Eddo A. Bult, Brussels, Belgium, assignors to C. J. Webb, Inc., Dresher, Pa., a corporation of Pennsylvania
 Filed July 13, 1967, Ser. No. 653,197
 U.S. Cl. 220—42
 Int. Cl. B65d 41/18, 51/24

4 Claims

A container of the aerosol type is described where the cap or top, which is normally made of a plastic material, freely rotates in place on the container, and is provided with indicia-bearing surfaces which complement indicia-bearing surfaces contained on the container body

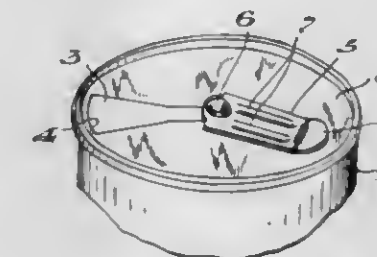
or a stationary or independently rotatable portion of the cap. Selected scales and symbols can then be provided



for computational purposes to enhance the utility of the package and regard for its supplier.

3,424,337
CONTAINER OPENING DEVICES
 Selmer G. Von Stocker, Pittsburgh, Pa., assignor to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania
 Filed July 12, 1966, Ser. No. 564,657
 U.S. Cl. 220—54
 Int. Cl. B65d 17/20

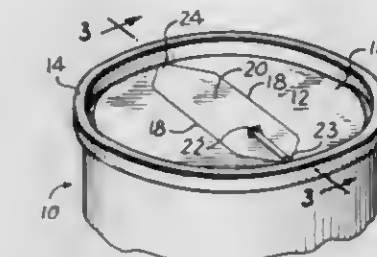
12 Claims



This disclosure concerns an easy open end for pressurized containers having a removable portion defined by a score line that has a multiplicity of relatively short segments of increased resistance to severance to prevent premature or uncontrollable tear strip severance caused by high internal pressures.

3,424,338
RESEALABLE CAN
 Sidney Kazel, 6131 N. Harding, Chicago, Ill. 60645
 Filed June 19, 1967, Ser. No. 647,036
 U.S. Cl. 220—54
 Int. Cl. B65d 17/20, 39/16

7 Claims



A resealable can end member construction including inner and outer layers of rigid material wherein the outer layer is provided with a tear strip defined by score lines and the inner layer includes an opening beneath the area bounded by the tear strip which opening is smaller in

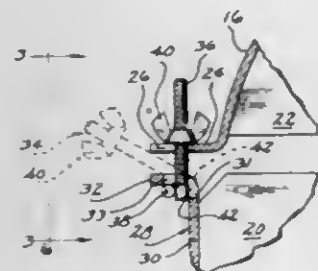
dimension than the tear strip opening. A resilient plug depending from the undersurface of the tear strip enables the can to be easily resealed with assurance that liquid and gas tightness appears even with repeated opening and closing of the can.

A resealable can end member construction of the foregoing type wherein provision is made for venting the end member to facilitate pouring when the tear strip is lifted, yet which can be sealed in a liquid and gas tight manner substantially the same as the pour opening.

3,424,339 WIRE CONTAINER

Phillip G. Venable, Orion, Ill., assignor to J. I. Case Company, a corporation of Wisconsin
Filed Feb. 20, 1967, Ser. No. 617,271
U.S. Cl. 220—55
Int. Cl. B65d 1/22, 43/16; B65h 49/20

4 Claims

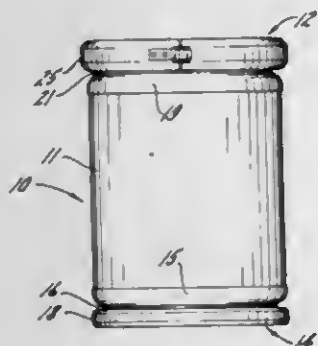


A wire container for a baler having a bottom portion and a hinged top portion with a latching mechanism for releasably holding the portions. The latching device incorporates an offset bolt for maximum rotational movement of the bolt with a minimum slot size in the bottom portion of the container.

3,424,340 SHIPPING CONTAINERS AND PLASTIC LIDS THEREFOR

Heinz Rocher, Lulsdorf, near Slegburg, Germany, assignor to Inland Steel Company, Chicago, Ill., a corporation of Delaware
Filed Feb. 5, 1968, Ser. No. 703,144
Claims priority, application Great Britain, Feb. 10, 1967, 6,582/67
U.S. Cl. 220—55
Int. Cl. B65d 45/32, 53/02; A47j 36/10

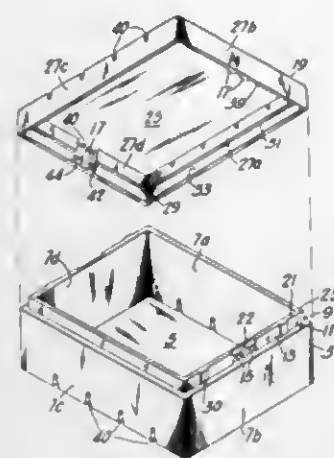
19 Claims



A self-supporting plastic lid for open-head containers, and containers employing such a lid, wherein the lid and container are so constructed as to provide a liquid-tight dust-tight closure at all times when in use, even when the lid is not clamped tightly in place, and wherein the lid is resistant to both deformation forces and aggressive substances while at the same time having no deleterious effect on the stored contents of the container.

3,424,341
PLASTIC CONTAINER WITH SELF-LOCKING LID
Joseph Slapnik, Arcadia, Calif., assignor to Sinclair-Koppers Company, a partnership of Delaware
Filed Oct. 10, 1966, Ser. No. 585,330
U.S. Cl. 220—60
Int. Cl. B65d 43/10

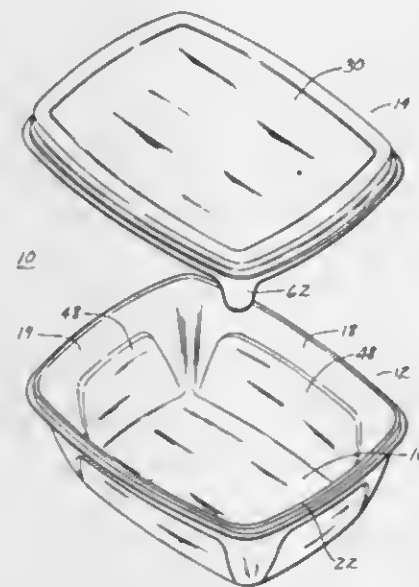
5 Claims



A molded foam plastic container is provided comprising a box and a detachable lid. The lid has a top and downwardly extending side walls, opposite side walls of said lid having on the inner surface thereof locking lugs which project in an inward normal direction. The box of the container comprises a base and side walls which are substantially vertical, with opposite sides of the outer surface of said box having locking wells adapted to receive the locking lugs of the interior surface of said lid to lock the lid in place.

3,424,342
CONTAINER
Howard A. Scopp, Windsor, and Thomas F. Sincok, Slmsbury, Conn., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Aug. 14, 1967, Ser. No. 660,480
U.S. Cl. 220—60
Int. Cl. B65d 43/10

13 Claims



A container having a lid which is hermetically sealed to the body by a heat sensitive composition located between a peripheral portion of the container lid and an upper sealing surface of the container body, and having snap-attachment means for reclosing after initial seal rupture. The sealant may be a wax modified hot melt or a nitrocellulose modified composition applied as a lacquer.

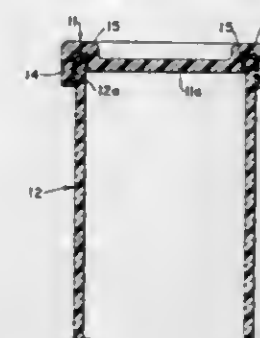
3,424,343 RECEPTACLES AND METHOD OF MAKING THE SAME

Johan Hoeffelman, Uccle, Belgium, assignor to Hedwin Corporation, Baltimore, Md., a corporation of Maryland
Filed July 19, 1965, Ser. No. 472,850
Claims priority, application Belgium, July 17, 1964, 650,677

U.S. Cl. 220—67

Int. Cl. B65d 11/06, 1/16; B29c 7/10

9 Claims

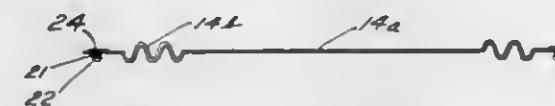


A method for assembling a rigid plastic receptacle composed of a tubular body and at least one end piece, which method involves heat sealing the tubular body to each end piece with an elastomer base adhesive which is interposed between the end piece and the body, such an adhesive producing a strong, shock-resistant connection.

3,424,344 RESILIENT HANDLE HAVING ACCORDIAN-LIKE FOLDS

William H. Robinson, New Vienna, Ohio 45159
Continuation of application Ser. No. 647,377, June 20, 1967. This application Jan. 29, 1968, Ser. No. 701,467
U.S. Cl. 220—94
Int. Cl. B65d 25/28

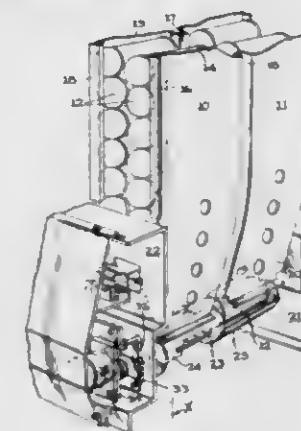
4 Claims



A plastic closure for sealing and carrying a container and its contents. The closure includes a resilient plastic carrying handle that moves to a carrying position when grasped and automatically retracts to a position substantially flush with the closure surface when released.

3,424,345
CRADLE MECHANISM
Harry R. Payne, Chattanooga, Tenn., assignor to The Seeburg Corporation, Chicago, Ill., a corporation of Delaware
Filed Nov. 29, 1967, Ser. No. 686,629
U.S. Cl. 221—116
Int. Cl. G07f 11/08; B65g 59/06

10 Claims

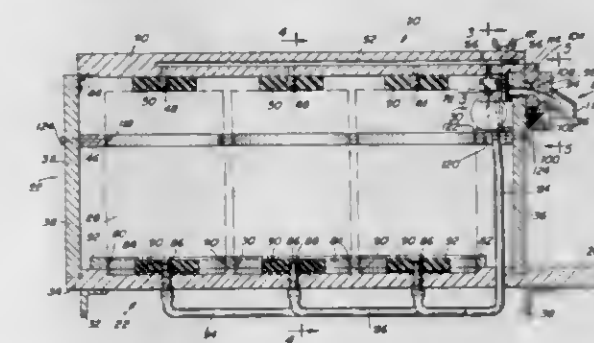


Articles are vended from front to back staggered stacks of articles alternatively by a motor driven cradle mech-

anism. This mechanism has front to back hollow semi-cylindrical article receivers opening oppositely, each receiver rotating 180° to dispense an article with the leading edge of the receiver separating the next article in the stack from the article being dispensed. A regulator is mounted in each receiver to control the rate of descent of the stack of articles and moves out of position as its receiver is rotated to allow the lowermost article in the stack to enter the receiver. A regulator trip assembly moves the regulator back to original position after the article has been dispensed.

3,424,346
DISPENSER UNIT
Delmar F. Fruehling, Downers Grove, Ill., assignor to National Can Corporation, Chicago, Ill., a corporation of Delaware
Filed Mar. 20, 1967, Ser. No. 624,484
U.S. Cl. 222—61
Int. Cl. B67d 5/08, 5/52; B67b 7/24

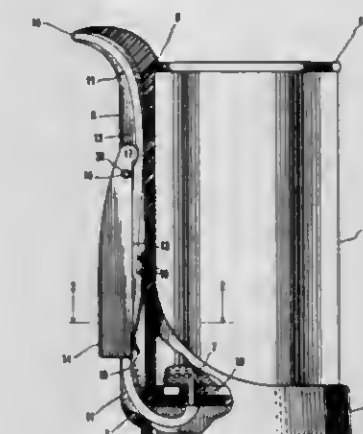
8 Claims



The dispenser unit including a support frame for accommodating a plurality of metal cans, two sets of piercing devices for piercing each of the can, gas passage means connecting one set of piercing tips to a gas supply holder and pressure regulator, and liquid passage means connecting the other set of piercing tips to product dispensing valves for dispensing the contents of any container under pressure. In one embodiment, separate gas shutoff valves are present for each container so that the containers can be individually removed or replaced without disturbing the pressure in the other containers. A piston type regulator and small puncturable gas pressure supply source are described.

3,424,347
DRINKING DEVICES
James Edward Trodgen, Jr., P.O. Box 7245, Benjamin Franklin Station, Washington, D.C. 20044
Filed Feb. 21, 1967, Ser. No. 617,677
U.S. Cl. 222—88
Int. Cl. B67b 7/28; B67d 1/12; F16l 55/14

1 Claim



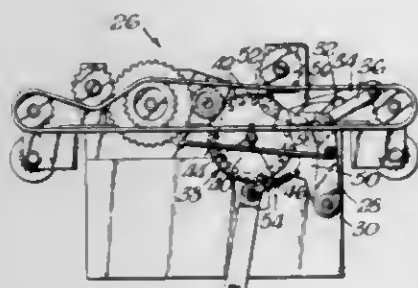
Apparatus for puncturing a pressurized container and dispensing the contents of the container through a spout. The apparatus includes a tube providing communication

through the puncturing means and the spout with manually operated valve means for selectively controlling the flow of fluid through the tube.

3,424,348

BLEND CONTROL UNIT INTERLOCK

Dana Walker Nelson, Bivalve, Md., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Feb. 17, 1967, Ser. No. 616,849
U.S. Cl. 222-134 3 Claims
Int. Cl. B67d 5/60, 5/64, 5/06

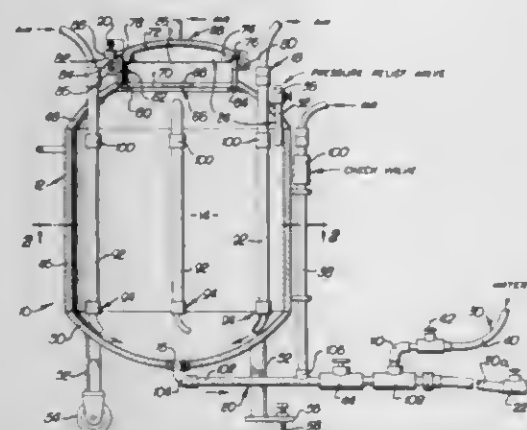


An interlocking device located between the operating lever and the blend selector of a blending dispenser for preventing blend changes during a dispensing operation.

3,424,349

FLUENT MATERIAL MIXING AND DISPENSING APPARATUS

Woodrow P. Vance, 1027 S. Shasta Ave., West Covina, Calif. 91790
Filed Apr. 3, 1967, Ser. No. 627,697
U.S. Cl. 222-145 9 Claims
Int. Cl. B67d 5/60, 1/08; B65g 69/08



Fluid material mixing and dispensing apparatus having a hermetic tank with an upper opening through which a solid ingredient of the material may be introduced into the tank, a lower material discharge conduit for conveying the fluid material from the tank to a point of use, means for initially supplying a liquid ingredient of the material to the tank through and subsequently flushing out the discharge conduit, and means for supplying compressed gas, such as air, to nozzles within the tank and to the discharge conduit for initially agitating the fluid material within the tank while preventing blocking of the material outlet from the tank, and for then simultaneously agitating the material in and expelling the material from the tank.

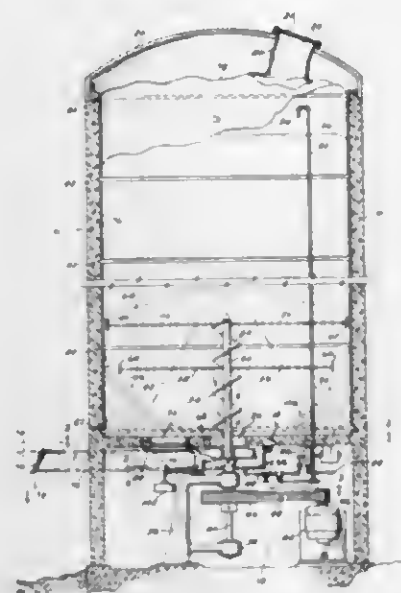
3,424,350

BOTTOM DISCHARGE FOR SILO

John H. Herr, R.D. 4, Lebanon, Pa. 17042, and Aaron Z. Stauffer, Rte. 1, Ephrata, Pa. 17522
Filed Apr. 28, 1967, Ser. No. 634,543
U.S. Cl. 222-63 9 Claims
Int. Cl. B65g 43/00, 33/10

A silo arranged for bottom unloading by means of an agitating mechanism in the lower portion operated by a

rotatable shaft to feed loosened material to impeller discharge means, and vacuum pump means connected to

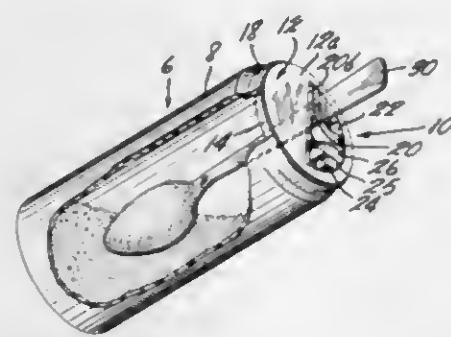


the interior of the silo reduce the pressure therein to below atmospheric pressure to compact the material therein and preserve maximum total digestive nutrients.

3,424,351

CONTAINERS

Frank A. Cilluffo, River Edge, and Walter Rusak, Jr., Rutherford, N.J., assignors to Thomas J. Lipton Inc., Englewood Cliffs, N.J., a corporation of Delaware
Filed June 16, 1967, Ser. No. 646,713
U.S. Cl. 222-189 10 Claims
Int. Cl. B65d 47/04, 25/38; A47g 19/24



In a container for granular products, an outlet structure having an opening through which the product can be poured or shaken or can be removed by a spoon. A plurality of resilient elements extend into the opening and form obstructions for breaking up lumps of the granular product when the product is poured or shaken from the container, but the elements are resiliently deflectable to enable a spoon to be admitted through the opening.

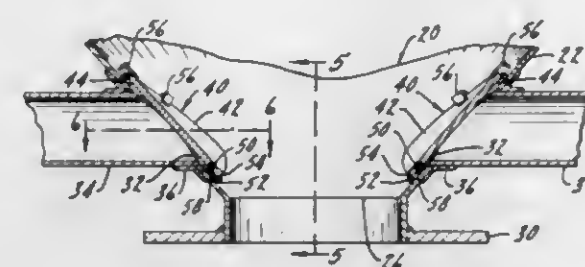
3,424,352

APPARATUS FOR DISCHARGE AND CLEANOUT OF PULVERULENT MATERIAL FROM TANK CARS

Laurence J. Schlink, Chicago, Ill., assignor, by mesne assignments, to Union Tank Car Company, Chicago, Ill., a corporation of Delaware
Filed June 8, 1967, Ser. No. 644,732
U.S. Cl. 222-195 8 Claims
Int. Cl. B67d 5/54; B65c 69/08

Apparatus for pressurized discharge and cleanout of pulverulent material from a hopper. The hopper has a discharge port for removing the material, and an adjacent gas inlet. A plate covers the inlet and is slightly

spaced from the hopper wall. The edge of the plate is chamfered, and an O-ring rests against the chamfered edge and the wall. When pressurized gas is introduced at the inlet, the O-ring moves up the chamfered edge, allowing a thin, high-velocity stream of gas to sweep along

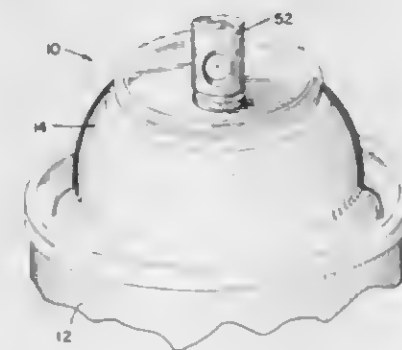


the hopper walls. The spacing between the plate and the wall may be varied, and the gas stream may be directed by a baffle.

3,424,353

AEROSOL VALVE ASSEMBLY

Ernest E. Meador, Mount Zion, and Oliver R. Etheridge, Decatur, Ill., assignors to A. E. Staley Manufacturing Company, Decatur, Ill., a corporation of Delaware
Filed Nov. 29, 1965, Ser. No. 530,741
U.S. Cl. 222-402.1 11 Claims
Int. Cl. B65d 83/14

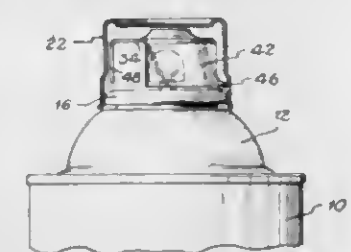


A spray valve assembly for aerosol containers which includes a discharge tube slidably mounted in a cap forming housing with an operating button forming a nozzle on the upper end thereof and the tube having a laterally opening internal orifice which is opened or closed according to the axial movement of the tube and a stop mounted for rotation about the axis of the tube and disposed in the path of the operating button so that, by adjusting the position of the stop, the travel of the discharge tube is controlled and thereby the volume of the spray is varied.

3,424,354

AEROSOL VALVE CLIP

Richard J. Dykinga, Miami, Fla., assignor to Pet Chemicals, Inc., Miami, Fla.
Filed May 12, 1967, Ser. No. 637,964
U.S. Cl. 222-402.14 2 Claims
Int. Cl. B65d 83/14; F16k 31/44, 21/04

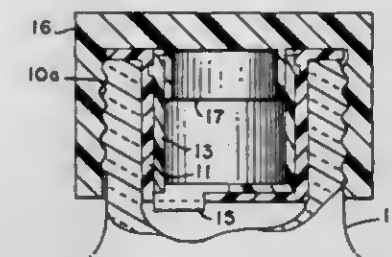


A triangularly shaped clip which engages the upper beaded edge of the neck of an aerosol can is used to hold down and hold open the aerosol valve to dispense the entire contents of the can. The clip is such size that it can be packaged inside the cap for the aerosol can for purpose of shipping.

3,424,355

MEASURING AND DISPENSING CLOSURE

Marjorie A. K. Blumen, Tiburon, Calif., assignor to McConnell-Blumen & Associates, Newark, Calif., a joint venture
Filed Aug. 29, 1967, Ser. No. 664,031
U.S. Cl. 222-450 5 Claims
Int. Cl. G01f 11/26; B65d 47/20

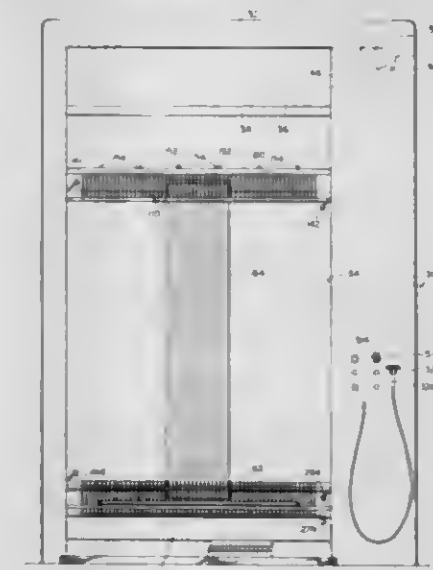


A cap structure for containers adapted to dispense measured amounts of the contents from the container. This device employs a fixed cup member which is inserted into the neck of the container. A rotatable cup member is fitted into the fixed cup. Both of the cups are provided with openings in their bottoms and the rotatable cup is provided with a projection which functions as a stop and which extends into the opening in the fixed cup bottom. The device is also provided with a cover or cap which is threaded to the neck of the container and which is provided with a projection frictionally engaging the inside of the rotatable cup so that when the cover is screwed onto the neck of the container, the clutch enters the rotatable cup and rotates this cup to bring the opening in the bottom thereof into alignment with the opening of the bottom of the fixed cup, whereby the rotatable cup may be filled with liquid or granular material from the container through the aligned openings when the container is inverted. In order to capture the contents in the rotatable cup, the cover is turned through less than one revolution so that the opening in the rotatable cup is brought out of alignment with the opening in the fixed cup. Thereafter, the container may be turned right side up and the contents of the rotatable cup exposed upon removal of the cover from the container.

3,424,356

DRAPERY PLEATING, FINISHING AND SIZE CONTROL MACHINE

Frederick G. Getchell, James W. Getchell, and Harold K. Trunnell, Eugene, Oreg., assignors, by mesne assignments, of one-half each to Northwest Science Investment Corporation and Preferred Growth Capital Inc.
Filed June 5, 1963, Ser. No. 285,724
U.S. Cl. 223-32 27 Claims
Int. Cl. D06j 1/00; F26b 13/12; B31f 1/08

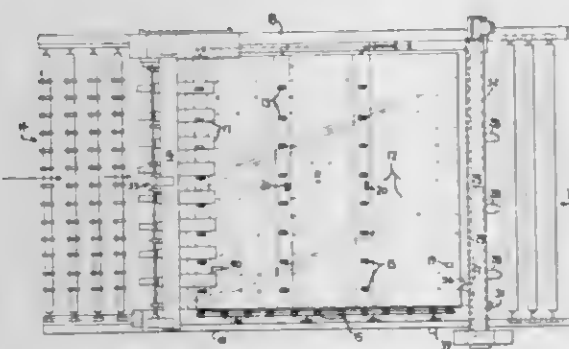


A table loader is placed in the pleating machine with the pleats started and pleater carriages move the drapery

into paddles. The loader is hooked over hangers and paddles are turned to clamp the pleats with fingers. An upper pleater bar is raised at high speed and then lower paddles clamp the lower end of the drapery. Then the upper pleater bar is driven at a slow speed to stretch the drapery. Four chains traveling around sprockets keyed together by shafts raise and lower the upper pleater bar and prevent cocking thereof. Cables prevent cocking of the lower frame and counterweight balance the weight of a lower pleater bar.

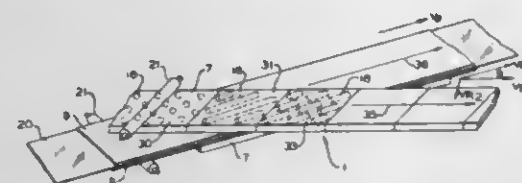
3,424,357 AUTOMATICALLY SIZING AND SEVERING GLASS SHEETS

Edward W. Curtze, Charles O. Huffman, and Clifford A. Mikus, Pittsburgh, Pa., assignors to PPG Industries Inc., Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 28, 1966, Ser. No. 568,664
U.S. Cl. 225—2
Int. Cl. B26f 3/02; B65h 35/10; B26d 3/08



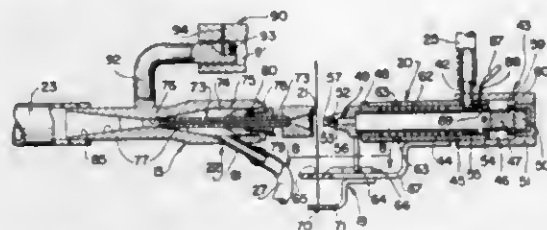
This invention is an apparatus and a method for severing glass sheets of preselected sizes from other larger sheets or a continuous ribbon of glass. The apparatus has an air table for supporting glass, a movable positioning bridge for transporting the glass, a second fixed bridge transversing the conveyor line, and scoring devices positioned thereon which are movable across the glass sheet. The positioning bridge and the movable scoring device are moved by servomechanisms. An input logic circuit and a control circuit under the command of an operator directs the sequence of operation. The method herein comprises floating sheets of glass over an air support, moving said sheet beneath a fixed bridge and scoring said sheet transversely and longitudinally to produce sized sheets and severing the sheet along the score lines.

3,424,358
METHOD FOR PRODUCING FIBRILLATED FILM
Leroy E. Robinson and Dan E. Perry, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Mar. 25, 1965, Ser. No. 442,588
U.S. Cl. 225—3
Int. Cl. B26f 3/02; B65h 35/10



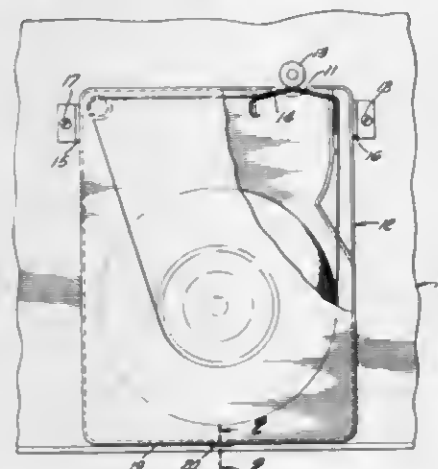
Oriented film is fibrillated between two belts of elastic material by distending the belts in a direction transverse to the direction of orientation of the film by passing pressure means across and in contact with at least one elastic belt so that the component of the velocity of the pressure means that is parallel to the direction of movement of the film is substantially equal to the velocity of movement of the film.

3,424,359
YARN HANDLING APPARATUS
Roland O. Houle, Pawtucket, and Hans H. Richter, Cranston, R.I., assignors to Leeson Corporation, Warwick, R.I., a corporation of Massachusetts
Filed July 17, 1967, Ser. No. 653,759
U.S. Cl. 226—97
Int. Cl. B65h 17/28, 17/32



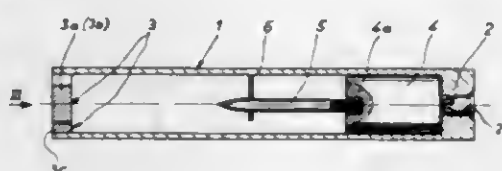
Apparatus for handling a strand of yarn continuously advancing at high speed through a winding machine. The strand is cut and an injector plunger and jet divert the strand into an aspirator which passes the strand to a disposal container. A vortex encircled by a high speed laminar stream substantially increases the capacity of the aspirator for keeping the cut strand moving after it has been diverted into the aspirator.

3,424,360
LEAF SPRING PRESSURE DEVICE
FOR CAPSTAN DRIVES
Samuel A. Trott, 10049 Rublo Ave., Granada Hills, Calif. 91344
Filed Oct. 22, 1965, Ser. No. 501,030
U.S. Cl. 226—168
Int. Cl. B65h 17/24, 17/48



A magnetic tape cartridge includes a leaf spring having a convex portion bearing against one side of the tape resiliently urging it against a capstan drive shaft.

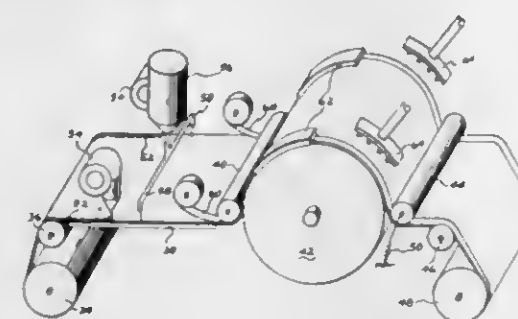
3,424,361
FASTENER DRIVING TOOL
Johann Wolfgang Bayer, Schaan, Liechtenstein, assignor to Hilti Aktiengesellschaft, Schaan, Liechtenstein
Filed June 30, 1966, Ser. No. 561,939
Claims priority, application Germany, July 5, 1965, A 49,653
U.S. Cl. 227—10
Int. Cl. B25c 1/14



A fastener driving tool includes a barrel with a driving plunger mounted therein for sliding movement to drive a fastener positioned ahead of the plunger through an open muzzle end. A guide for the fastener is located within the

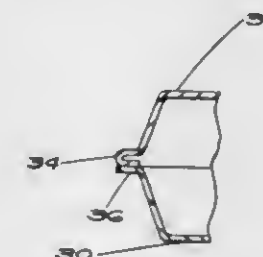
barrel between the plunger and the muzzle end, and the barrel includes an abutment adjacent the muzzle end. The guide and the abutment are shaped to permit the guide to pass through the open muzzle end of the barrel around the abutment but to cause the plunger to engage against the abutment and be retained within the barrel.

3,424,362
APPARATUS FOR MAKING HEATING ELEMENT
Glen H. Morey, Terre Haute, Ind., assignor to Templeton Coal Company, Terre Haute, Ind., a corporation of Indiana
Original application Dec. 18, 1964, Ser. No. 419,443, now Patent No. 3,349,359, dated Oct. 24, 1967. Divided and this application Feb. 20, 1967, Ser. No. 617,233
U.S. Cl. 228—5
Int. Cl. B23k 1/20; H05k 3/34



Apparatus for making electric resistance heaters from a fabric with conductive fibers therein having means to apply conductive coating to the fabric, and means to apply conductive strips to the coating to form terminals for the heater. Apparatus also includes means to cut fabric into lengths and means to coat the cut edges to prevent fraying.

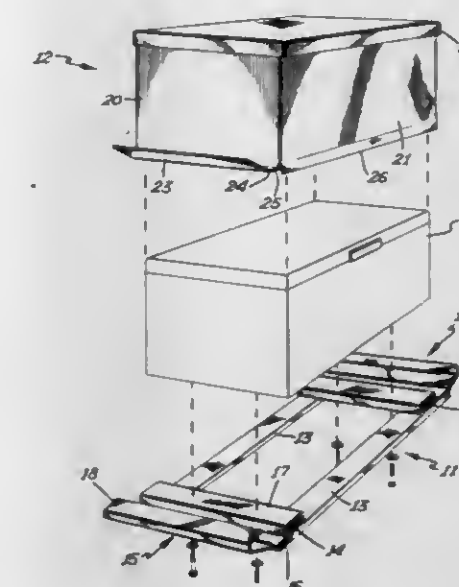
3,424,363
PACKAGES
Donald W. Donovan, Glastonbury, Conn., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Oct. 22, 1965, Ser. No. 500,515
U.S. Cl. 229—2.5
Int. Cl. B65d 85/32, 43/16



A multi-compartmented package comprising a foamed plastic lower section, and a non-foamed plastic upper section partially heat sealed to the bottom portion.

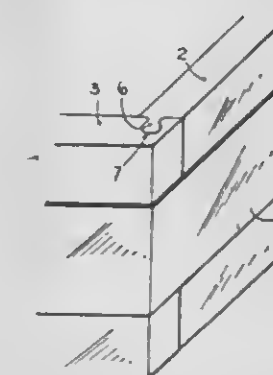
3,424,364
SHIPPING CONTAINER FOR
BULKY ITEMS
Charles W. Grafslund, 5521 Irving Ave. S., Minneapolis, Minn. 55419
Filed Mar. 17, 1967, Ser. No. 623,932
U.S. Cl. 229—23
Int. Cl. B65d 13/04, 19/20

A shipping container for bulky items or articles including a base member having longitudinally extending stringers and transversely arranged supports extending between the stringers, a pair of foldable flange retaining elements being wrapped about the transversely arranged



mounted on the base, the carton body including a pair of foldable flange members extending downwardly from the body and being received into the flange retaining cavities. Means are also provided for retaining the flanges within the flange retaining cavities for positive retention of the carton body on the base member.

3,424,365
COLLAPSIBLE PLASTIC CONTAINER
Emilio Venturi, Via Roma, Concesio, Brescia, Italy
Continuation-in-part of application Ser. No. 479,703, Aug. 13, 1965. This application Oct. 30, 1967, Ser. No. 678,917
U.S. Cl. 229—30
Int. Cl. B65d 5/30

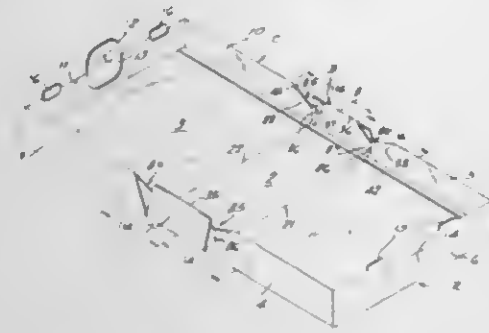


One of the important aspects of modern plastic containers is the ability to be reused, assembled and disassembled with ease, so as to effect savings in storage and material. The present container is prefabricated in such a way as to conform with these requirements. Its peculiar structural configurations show it provided with U-shaped vertical interlocking edging in the walls for joining firmly one wall to the adjacent one, or, if so desired, with dove-tailed vertical edges or bulbous fasteners for insertion into expansion cuts provided in some of the walls of the container.

3,424,366
HINGED HOLLOW WALLED CARTON AND
BLANK THEREFOR
Marshall I. Williamson, P.O. Box 2975, New Haven, Conn. 06515
Filed Nov. 21, 1966, Ser. No. 595,991
U.S. Cl. 229—31
Int. Cl. B65d 5/24, 5/22

Hollow walled folding cartons, including cut and creased blanks for the same, wherein the cartons have

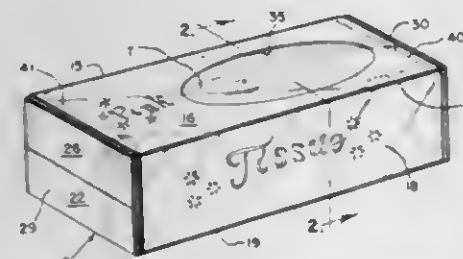
hollow side walls of polygonal cross-section, the blanks being made in sections hingedly joined together and with



the hollow side walls specially constructed at these joints to provide for the folding of the upstanding hollow side walls.

3,424,367 OVERWRAPPED CARTON

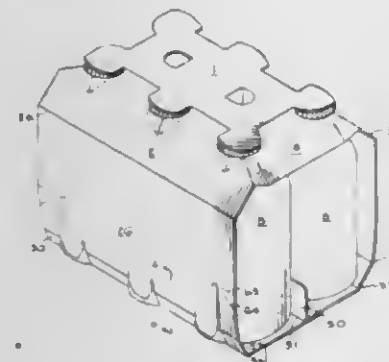
John D. Desmond, Philadelphia, Theodore S. Lesinski, Conshohocken, and James A. Martin, Phoenixville, Pa., assignors to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Continuation-in-part of application Ser. No. 579,681, Sept. 15, 1966. This application Apr. 10, 1968, Ser. No. 725,564
U.S. Cl. 229-38 5 Claims
Int. Cl. B65d 5/08, 17/24



An overwrapped carton having a tubular body formed from a blank of paperboard cut and scored to provide a plurality of serially connected walls and a thin flexible sheet of film disposed to extend over certain of the walls and having end portions secured to other walls in such a manner that the attachment of the film to the body is not readily visible and so that the film may be readily removed from the body without leaving any traces of the film which are readily visible.

3,424,368 ARTICLE CARRIER

Homer W. Forrer, Jonesboro, Ga., assignor to The Mead Corporation, a corporation of Ohio
Filed Feb. 10, 1967, Ser. No. 615,233
U.S. Cl. 229-40 9 Claims
Int. Cl. B65d 71/00, 85/54

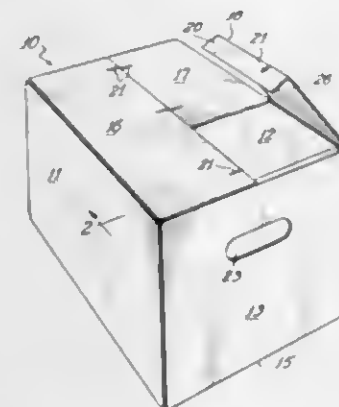


An article carrier of the open end wrap-around type having top, bottom and side walls foldably joined together to form a tubular structure and having corner apertures

formed at the junctions between the bottom wall and the side walls is provided with a plurality of slits in the bottom wall adjacent the corner apertures so as to render the size and configuration of the apertures adaptable to variations in the size of the packaged items.

3,424,369 REINFORCED COVER FLANGE FOR CONTAINERS

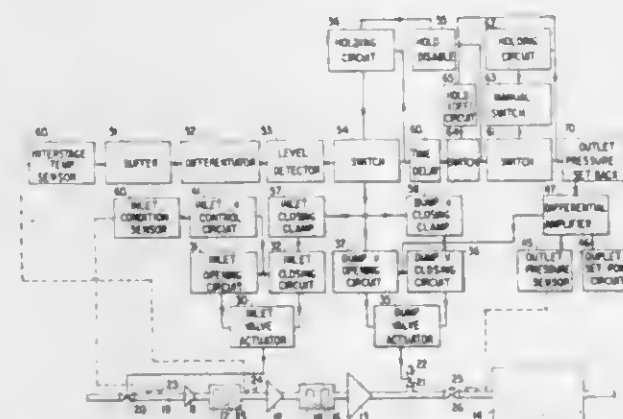
Harry F. Drnec, Mount Prospect, and Allan E. Foote, Naperville, Ill., assignors to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed Nov. 20, 1967, Ser. No. 684,194
U.S. Cl. 229-44 2 Claims
Int. Cl. B65d 5/10, 43/16



A container of relatively thick, foldable paperboard having side walls, end walls, a bottom, and cover panels hinged on the upper edge of each side wall, each cover panel having a fold line near its free edge, one or more metal or plastic staples secured in the panel across the fold line and bent together with the paperboard to form a flange, the flange being integral with the panel, the staples retaining the flange at a predetermined angle with the panel and allowing retention of the flange in the interior of the container when the cover is closed.

3,424,370 GAS COMPRESSION SYSTEMS

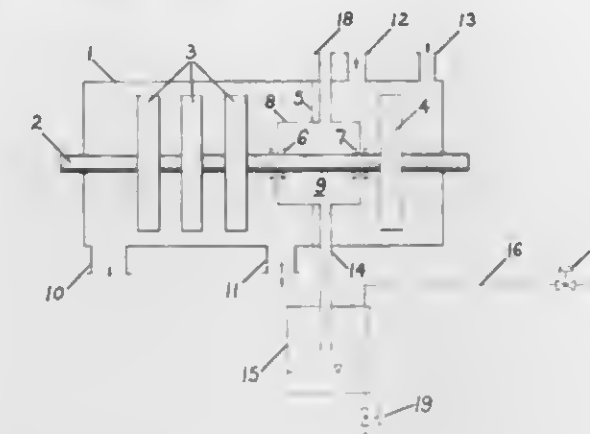
John Law, Mantius, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Mar. 13, 1967, Ser. No. 622,544
U.S. Cl. 230-5 18 Claims
Int. Cl. F04b 49/02, 41/06



A gas compression system having control means for detecting the onset of a surge condition and for adjusting the conditions of operation of the system to eliminate the surge condition and lessen the likelihood of its recurrence. The control system is responsive to the rate of change of inlet gas temperature to one of the stages of a centrifugal compressor. When a rate of change of temperature is detected, which is indicative of the onset of a surge condition, inlet and discharge valves in the system

are repositioned and the discharge pressure is reset downwardly to remove the surge condition and lessen the likelihood of its recurrence. If a surge condition is subsequently detected, the discharge valve is fully opened to positively prevent damage to the system.

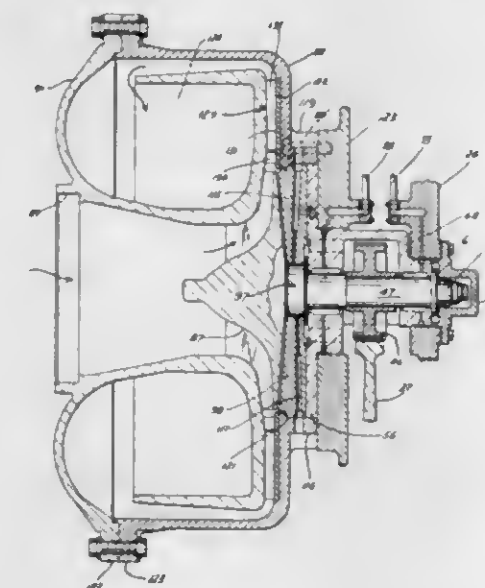
3,424,371
SYNTHESIS GAS PLANT
Ulrich Happe, 3 Schulzstr., 46 Dortmund, Germany
Filed Apr. 20, 1967, Ser. No. 632,413
U.S. Cl. 230-43 2 Claims
Int. Cl. F04b 39/00



The prevention of intermingling of gases in a synthesis gas plant where fresh or carburated gas is compressed in one chamber and recycle gas is compressed in an adjoining chamber by providing an intermediate chamber maintained at lower pressure than the other chambers and from which gas is continuously drawn off. A liquid is introduced into the intermediate chamber for dissolving reaction products from constituents of the carburated and recycle gas.

3,424,372 CENTRIFUGAL GASEOUS MEDIUM COMPRESSOR

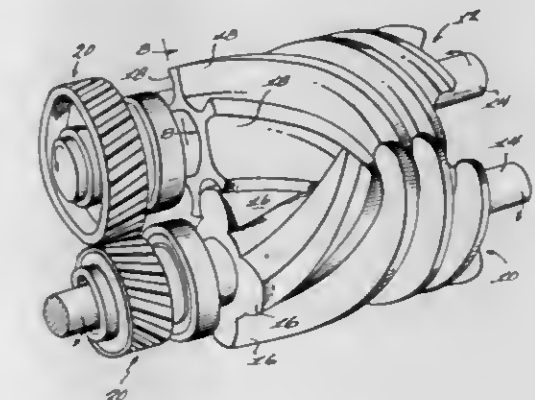
Ernest W. Blattner, Franklin, Pa., Harry H. Boettcher, Pleasantville, N.Y., Anthony F. Carter, Newton Highlands, and Arnold M. Helmann, Swampscott, Mass., Wainwright Holt, Jr., Wyckoff, N.J., and David G. Wilson, Cambridge, Mass., assignors to Chicago Pneumatic Tool Company, New York, N.Y., a corporation of New Jersey
Filed Nov. 30, 1966, Ser. No. 598,082
U.S. Cl. 230-127 17 Claims
Int. Cl. F04d 17/08, 17/12, 29/58



A compressor of the centrifugal type having a multiple number of compressor impeller assembly units, each directly driven by a common bull gear. It is suitable for

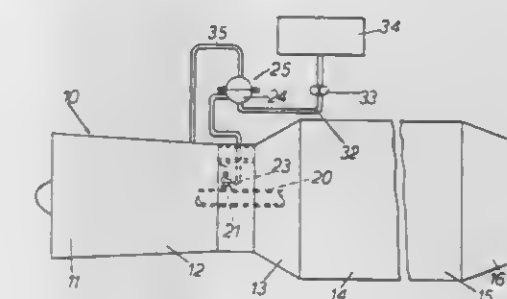
the compression of air as well as other gases. The compressor units which differ from one another in size are mounted in an orderly arrangement about one side of a common gear casing which houses the bull gear; and they are interconnected with one another by means of heat exchange units. Each compressor unit provides a separate stage of compression for the air drawn into it. The air drawn into each stage is efficiently compressed by its impeller through an individual diffuser unit and scroll into a separate one of the heat exchange units wherein it is cooled and freed of moisture before it is caused to be drawn into the next succeeding compressor unit for a further stage of compression. The air is finally discharged in a highly compressed condition from the final compressor unit.

3,424,373
VARIABLE LEAD COMPRESSOR
John W. Gardner, 1 York Lane, Quincy, Ill. 62301
Filed Oct. 28, 1966, Ser. No. 590,322
U.S. Cl. 230-143 6 Claims
Int. Cl. F04c 17/04, 17/12



A fluid compressor having a pair of intermeshing rotors is provided with a continuously variable lead for the lobes and gates of the intermeshing rotors. The variable lead extends from an inlet end of the compressor to an outlet end of the compressor, and the lobes of the male rotor, of the pair of rotors in the compressor, have wrap angles of less than 360 degrees. The intermeshing relationship between the pair of rotors is such that a sealing line is formed with a decreasing length from the inlet end of the compressor to the outlet end of the compressor. A method of assembling a variable lead compressor is described.

3,424,374
BEARING LUBRICATION DEVICE
Charles William Robey, Derby, England, assignor to Rolls-Royce Limited, Derby, England, a British company
Filed Apr. 17, 1967, Ser. No. 631,352
Claims priority, application Great Britain, May 11, 1966, 20,950/66
U.S. Cl. 230-206 9 Claims
Int. Cl. F04b 39/02; F02c 7/06



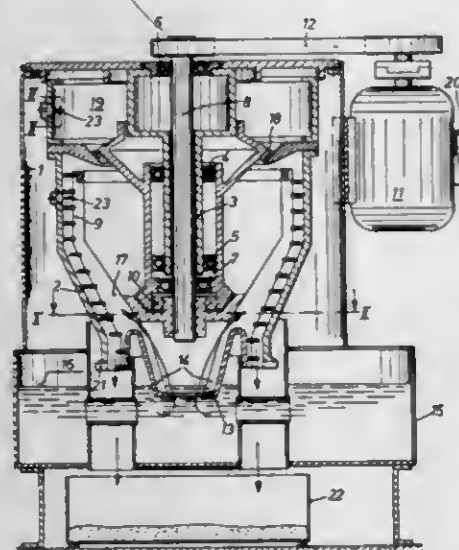
A shaft bearing lubrication device has a conduit which supplies lubricant to the bearing, the conduit comprising

a pump the output of which is independent of the speed of shaft and a valve which regulates the flow of the lubricant to the bearing in response to a fluid pressure which is itself a function of the shaft speed.

3,424,375
CONTINUOUSLY OPERATING SCREENLESS
SCREW-TYPE CENTRIFUGE
Fritz Maurer, Lichtensteig, Switzerland, assignor to Turbo-Separator A.G., Wattwil, Lichtensteig, Switzerland
Filed Oct. 9, 1967, Ser. No. 673,688
Claims priority, application Germany, June 2, 1967, T 34,018

U.S. Cl. 233-20
Int. Cl. B04b 9/10, 11/00

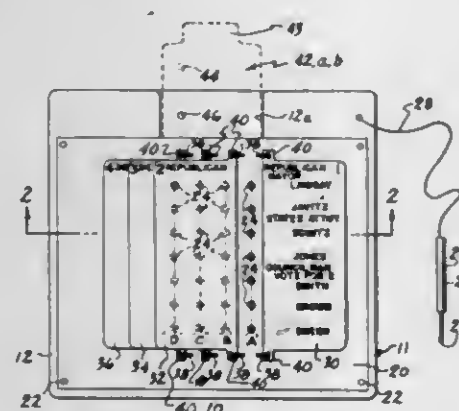
7 Claims



A continuously operating screenless screw-type centrifuge for removing solids from liquid and including a centrifuge drum and a screw-type conveyor coaxially mounted in a housing at a fixed distance apart, the difference in speed of the drum and the screw being variable in predetermined time intervals.

3,424,376
VOTING MACHINE
Bert Leroy Evans, Tulsa, Okla., assignor to Seismograph Service Corporation, Tulsa, Okla., a corporation of Delaware
Filed Aug. 22, 1966, Ser. No. 574,106
U.S. Cl. 235-50
Int. Cl. G07c 13/00

18 Claims

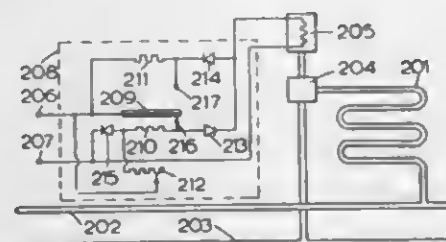


A voting machine of the type using a manually operable vote recording means such as a stylus for recording a voter's selections upon a ballot. The ballot, which includes a characteristic slot or the like representing the

voter's classification, is inserted into the machine and actuates one or more blocking dies. The voting machine is provided with a plurality of groups of openings respectively representing issues within different voter classifications and the stylus is inserted through the latter openings to record the voter's selections on the ballot. The blocking dies normally block all of the openings but when the ballot is inserted, the group of openings corresponding to the voter's classification is unblocked to permit selections within that group while any other group of openings representing issues outside of that voter's classification is blocked to prevent selections within any such group.

3,424,377
APPARATUS FOR CONTROLLING THE TEMPERATURE OF A MEDIUM
Fritz Ludwig Felix Steghart, Gerard Cross, Peter Leslie Kershaw, Slough, and Trevor Exelby Oliver, Windsor, England, and Leonard George Farrant, Vancouver, British Columbia, Canada, assignors to Satchwell Controls Limited, Slough, Buckinghamshire, England, a company of the United Kingdom
Filed Oct. 11, 1965, Ser. No. 562,981
Claims priority, application Great Britain, Oct. 12, 1964, 41,495; Dec. 3, 1964, 49,246; Dec. 9, 1964, 50,152; Apr. 12, 1965, 14,171
U.S. Cl. 236-1
Int. Cl. G05d 23/00, 15/00

9 Claims



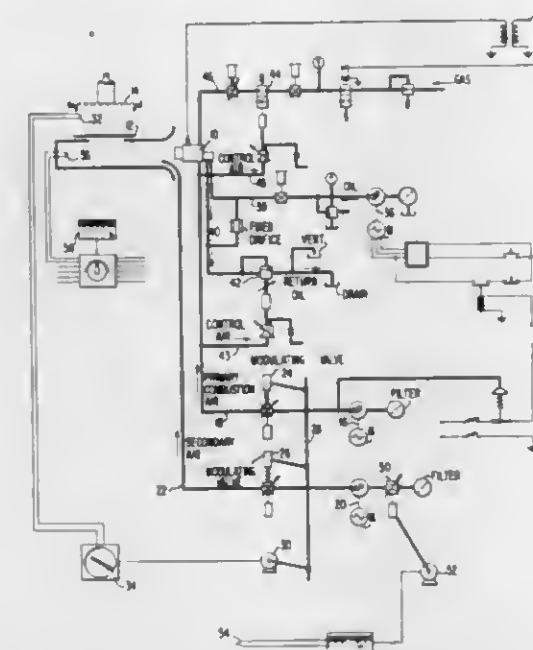
An automatic temperature control system which includes a thermostatic device yet ensures a substantially uniform output of heat from, or absorption of heat by a heating and/or cooling device controlled by the thermostatic device. The thermostatic device is adapted to operate at a predetermined temperature and is subjected to the temperature which is to be controlled. A heat exchanger is arranged to effect a desired heat transfer between a first medium and a second medium of which the temperature of the second medium affects the controlled temperature. An electric motor changes the rate of heat transfer. A circuit means is provided by which the operation of the thermostatic device modifies the degree of energization of the motor means to correct the temperature variation which caused operation of the thermostatic device. Means are also provided and arranged to superimpose on the control of the motor means by the thermostatic device a time-modulated oscillatory effect.

3,424,378
AUTOMATIC HEAT CONTROL APPARATUS
John Martin, Monterrey, Nuevo Leon, Mexico, assignor to Fabricacion de Maquinas, Monterrey, Nuevo Leon, Mexico, a corporation of Mexico
Filed Feb. 7, 1966, Ser. No. 525,658
U.S. Cl. 236-15
Int. Cl. F23n 1/02; F23c 1/08; G05d 23/00

5 Claims

1. Apparatus for supplying varying amounts of heat at constant temperature to an enclosed structure comprising:
a burner for supplying heat directly to the interior of the structure;
means including a valve for supplying air under positive pressure to mix with the combustion products as they enter the interior of the structure;

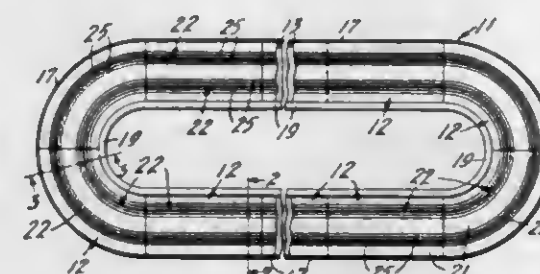
means responsive to the temperature within the structure for generating a control signal proportional thereto;
means including a valve for supplying primary combustion air under positive pressure to said burner;



means interconnecting said valves to maintain a fixed ratio in their setting throughout a full range of adjustment thereof;
and means for adjusting said valves automatically in response to said control signal; whereby the temperature within the structure is maintained constant while varying the amount of heat supplied thereto.

3,424,379
ROAD RACING TRACK
Joseph E. Glammarino, Rockville Centre, and Derek A. Brand, North Merrick, N.Y., assignors to Aurora Plastics Corp., West Hempstead, N.Y., a corporation of New York
Filed July 24, 1964, Ser. No. 384,904
U.S. Cl. 238-10
Int. Cl. E01b 23/02; A63h 18/12

2 Claims



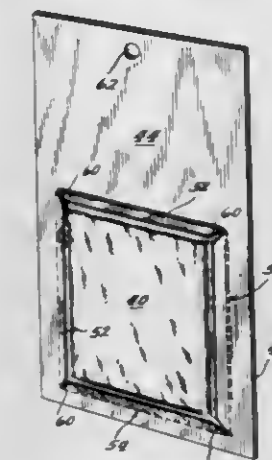
A miniature racing track made up of a plurality of sections in which each section has a base and a roadway positioned above the base is provided with several wedge shaped banking elements which are selectively inserted between the base and roadway to give the roadway a desired degree of bank.

3,424,380
PACKAGE AND SUPPORT THEREFOR
Frank J. Curran, Downers Grove, Ill., assignor to Frank J. Curran Co., a corporation of Illinois
Filed June 13, 1967, Ser. No. 645,741
U.S. Cl. 239-60
Int. Cl. A61l 9/04; B65d 25/00, 73/00

4 Claims

A solid body of vaporizable deodorant, insecticide, etc., is wrapped in cellophane or other protective wrapper and held in an aperture formed by folding cardboard having

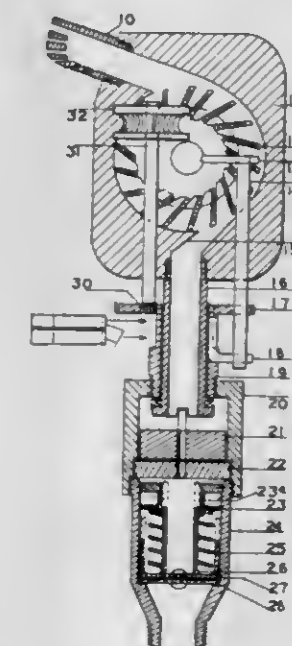
matching apertures which become coincidental with each other when the cardboard is folded and the two inside faces thereof are made to adhere to each other. The



apertures are defined by a plurality of tabs which bend outwardly to form a seat in which the body of deodorant, etc., snugly fits.

3,424,381
COMPLETE MULTIPURPOSE STRAIGHT LINE
SPRINKLER
Carl L. Best, 4141 NW. 39th Ave.,
Fort Lauderdale, Fla. 33309
Filed Oct. 17, 1966, Ser. No. 587,195
U.S. Cl. 239-97
Int. Cl. B05b 3/04

10 Claims



A reversible rotary, water driven sprinkler, for forming linear, square or rectangular patterns having coating pattern control elements in the water line; one of which elements is stationary and the second of which rotates with the sprinkler head.

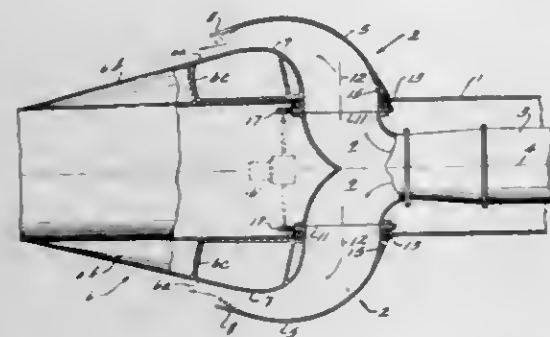
ERRATUM
For Class 239-124 see:
Patent No. 3,425,058

3,424,382
SPLIT PLUG VECTORABLE EXHAUST NOZZLE
Lonnie W. Pinaire, Loveland, Ohio, assignor to General Electric Company, a corporation of New York
Filed May 20, 1966, Ser. No. 558,535
U.S. Cl. 239-265.25
Int. Cl. B64c 15/12

6 Claims

A split plug vectorable exhaust nozzle structure having a pair of nozzles symmetrically mounted to an aircraft for

rotation thereon, a nozzle plug extends into the throat of each nozzle and has a forward portion movable with the nozzle and a fixed aft portion. The fixed and movable nozzle plug portions of each nozzle are separable along a



surface of revolution taken about the rotational axis of the exhaust nozzle. A movable fairing structure may be provided which opens to allow unimpeded rotation of the nozzle structure.

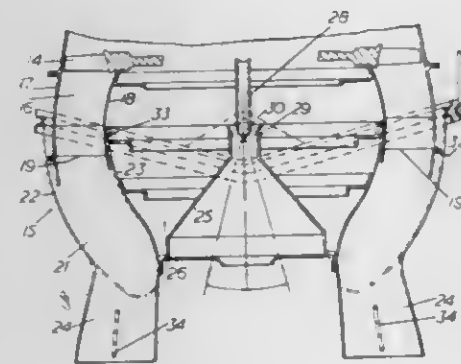
3,424,383 JET NOZZLE

George Samuel Kitson, Aspley, Nottingham, and Roger Anthony Cresswell, Derby, England, assignors to Rolls-Royce Limited, Derby, England, a British company
Filed Oct. 3, 1966, Ser. No. 583,571

Claims priority, application Great Britain, Oct. 22, 1965, 44,944/65

U.S. Cl. 239—265.35
Int. Cl. B64c 15/04

7 Claims



A jet nozzle comprising an annular fixed duct inside which is fitted an annular swivelling duct, jet gases passing through both ducts. At the discharge end of the swivelling duct are several nozzle members and through these members the jet gases are directed to the atmosphere. Jet gases are allowed to pass to a space internally of the inner wall of the annular swivelling duct so as to assist in pressure balancing of the inner wall and prevent it from bursting.

3,424,384 ADJUSTABLE PLUG TYPE JET PROPULSION NOZZLE

Henry Marie André René Lacombe, Bois-le-Roi, France, assignor to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation, Paris, France, a company of France

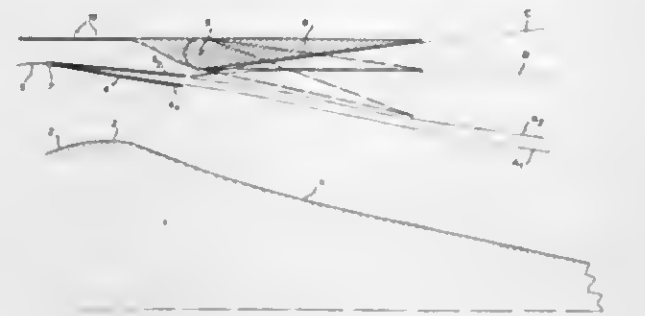
Filed Sept. 19, 1966, Ser. No. 580,538
Claims priority, application France, Sept. 21, 1965, 32,137

U.S. Cl. 239—265.39
Int. Cl. B64c 15/06; B05b 1/30

2 Claims

An adjustable plug type jet propulsion nozzle having a stationary tail cone which tapers rearwardly from a part thereof of maximum cross-section to a tail end which defines, in conjunction with a number of flaps, an annular convergent-divergent jet pipe, the throat of

which is in the zone of said part of maximum cross-section, said flaps being pivoted at a location upstream of said part and extending to a free trailing edge at a location downstream of said part but way upstream of said



tail end, said flaps being so inclined as to define, in conjunction with the tapered portion of said tail cone, a divergent jet pipe section having a mean flow direction which converges with respect to the axis of said nozzle.

3,424,385 GAS TORCH WITH PRESSURE RESPONSIVE VALVE FOR CONVERSION FROM INTERNAL TO EXTERNAL MIXING

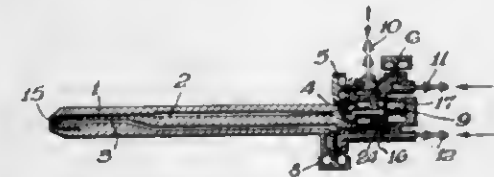
Traugott Gutermann, and Georg Maurer, Frankfurt am Main, Germany, assignors to Messer Griesheim G.m.b.H., Frankfurt am Main, Germany, a corporation of Germany

Filed Mar. 4, 1966, Ser. No. 531,907

Claims priority, application Germany, May 6, 1965, M 65,133

U.S. Cl. 239—412
Int. Cl. B05b 7/12; B23k 7/00

6 Claims



A gas torch is provided which is capable of internally mixing the fuel gas and oxygen during the preheating process and then automatically converting from internal mixing to external mixing by pressure responsive means.

3,424,386 SAND BLASTING APPARATUS

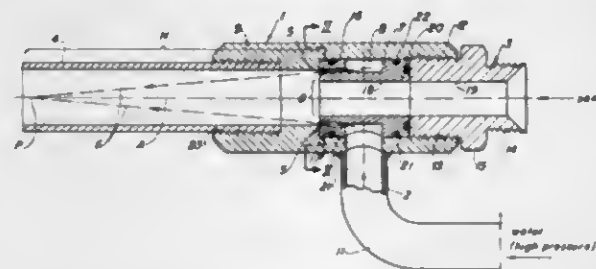
Wolfgang Maasberg, Duisburg, and Karl Sprakel, Mulheim (Ruhr), Germany, assignors to Woma-Apparatebau Wolfgang Maasberg & Co. G.m.b.H., Rheinhausen, Germany, a corporation of Germany

Filed Feb. 28, 1966, Ser. No. 530,675

Claims priority, application Germany, Dec. 11, 1965, W 40,494

U.S. Cl. 239—427.3
Int. Cl. B65b 7/04

4 Claims

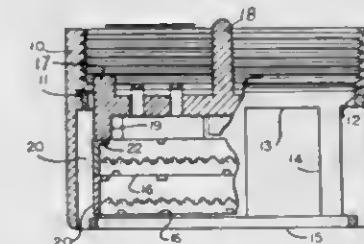


A sandblasting system in which a stream of granular material is passed through a tubular nozzle and water at a pressure of upwards of 50 atmospheres is directed forwardly at this stream of granules from all around the

latter in a conical convergent jet whose apex is located inwardly of the discharge end of the tube in which the nozzle terminates. The nozzle includes a sleeve received in the tubular body and forming an annular channel with the wall of the body while a fitting is coaxial with the sleeve, delivers water under elevated pressure, and is threaded into the body.

3,424,387 WATER AERATORS

Elle P. Aghnides, 795 5th Ave., New York, N.Y. 10021
Original application June 27, 1962, Ser. No. 205,712, now Patent No. 3,211,383, dated Oct. 12, 1965. Divided and this application Oct. 5, 1965, Ser. No. 493,201
U.S. Cl. 239—428.5
Int. Cl. F16k 45/04; B05b 1/02



The disclosure relates to water aerators which are adapted to be secured to the outlet end of a water faucet and to provide a highly aerated stream of water containing numerous air bubbles which are intimately admixed with the water stream. The aerator is provided with a plurality of longitudinal ribs in the interior of the casing, and these ribs support an annular member which extends to the downstream end of the aerator and supports one or more mixing screens. The casing and the ribs define an air inlet passageway from the discharge end of the aerator, through the spaces between the ribs, to a mixing space between the aforementioned mixing screens and an upstream jet-forming means.

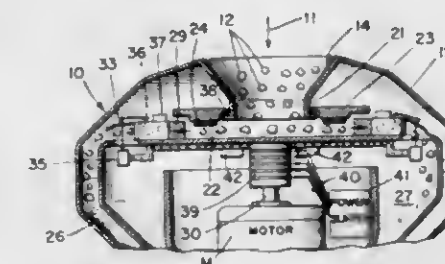
3,424,388 APPARATUS FOR CRUSHING AND SORTING SOLID PARTICLES

Richard A. Reichel, Santa Barbara, Calif., assignor to International Sorting Systems Corporation, a corporation of California

Filed July 25, 1966, Ser. No. 567,597

U.S. Cl. 241—79.1
Int. Cl. B02c 13/00

7 Claims



Apparatus for sorting minerals with a metallic content above a given value from minerals whose metallic content is below that given value. Sample minerals to be sorted are fed from a conveyor to the central region of a rotating table that impels the minerals under centrifugal force through a plurality of radially aligned passages. Minerals with metallic content above the given value are automatically detected by electronic sensors which cause doors mounted at the exit ends of the passages to swing downwardly and deflect the minerals into an inner annular receiving chamber. In the case of other minerals, the deflecting doors remain in retracted positions en-

abling the minerals to pass into an outer receiving chamber concentrically aligned with the inner one. Oversized minerals are crushed by a rotatable inertial plate positioned above the table.

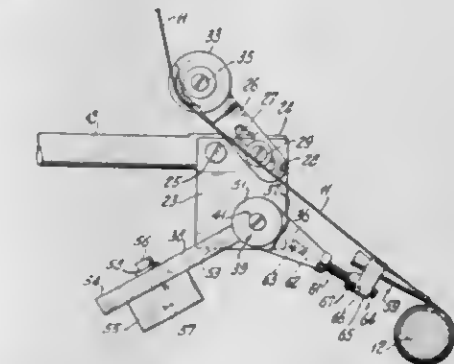
3,424,389 STOCK WINDING APPARATUS

John Lyons, Scituate, Mass., assignor to Buzzards Corp., Marloa, Mass., a corporation of Massachusetts

Filed May 1, 1967, Ser. No. 635,083

U.S. Cl. 242—25
Int. Cl. B65h 57/12, 57/28

8 Claims



A winding machine for feeding continuous flexible wire to a spool and winding the wire on the spool and including a rotatably mounted spool, a carriage spaced from the spool and movably mounted for reciprocal rectilinear movement between a pair of spaced determined limit points and a guide for guiding the continuous flexible wire to the spool. The guide comprises a support plate having mounted thereon an adjustable tensioning device and a counterbalanced adjustable guide finger.

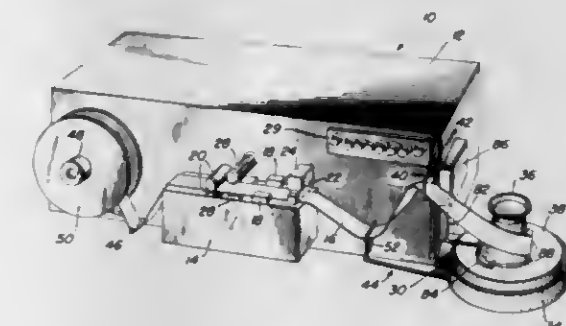
3,424,390 CENTER UNWIND WEB SUPPLY

Arlan J. Lyhus, Seabrook, Md., assignor to Digl-Data Corporation, Bladensburg, Md., a corporation of Maryland

Filed Nov. 29, 1966, Ser. No. 597,673

U.S. Cl. 242—55
Int. Cl. B65h 75/02, 17/48; G11b 23/04

7 Claims



A center unwind web supply is shown having a reel with a central hub pivotally mounted for dispensing the web from the center of its stack. A first and second guide provide web guiding, while the second guide pivots for removing a friction brake from the reel as the tension within the web increases. A bifurcated web arm with fingers extending between the web and central hub prevents the web from tightening about the hub.

3,424,391 FREE-POSITIONING ALIGNMENT BOBBIN

Hillard R. Di Veto, Plymouth, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

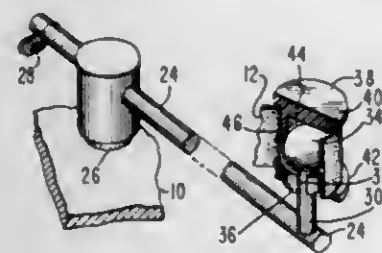
Filed Feb. 23, 1967, Ser. No. 617,942

U.S. Cl. 242—55.12
Int. Cl. G01b 15/44; B65h 27/00, 49/00

8 Claims

The invention disclosed herein is a magnetic tape guiding apparatus having a freely positioning bobbin which is

positioned by the conformation and tracking of the tape. Although the bobbin can be positioned in two degrees of freedom, it precisely constrains the tape against a tape takeup reel means for disengaging said pressure roller means and said capstan means when the end of the supply of a said tape on said tape supply reel means is reached



lateral shift relative to the direction of tape travel. The bobbin is further mounted on an arm pivoted and resiliently biased to keep the tape under a constant controlled tension at all times.

3,424,392

SERVO LOOP CONTROL APPARATUS FOR MONITORING AND MAINTAINING WEB TENSION

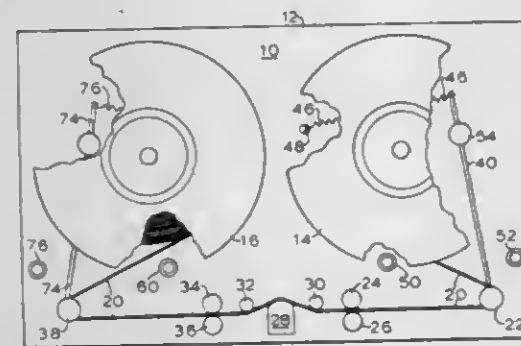
Hilliard R. Di Veto, Plymouth, and Allan W. Hough, Detroit, Mich., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Mar. 30, 1967, Ser. No. 627,139

U.S. Cl. 242-55.12

Int. Cl. G11b 15/44; H02p 7/00

3 Claims



An apparatus for maintaining continuous tension control of a web by monitoring the change in length of the web between a pair of known points and translating that change into electrical signals. The length of the web is maintained between a fixed drive roller, a free-positioning alignment bobbin and the web reel. The amount of displacement and the direction of displacement are translated into electrical signals which are applied to the windings of a split-field series motor.

3,424,393

MAGNETIC TAPE MAGAZINE CHANGER MECHANISM

John D. Goodell, Greenwich, Barbara Ivins, Milford, John C. Wistrand, Stamford, and Vasil Tasi, Bridgeport, Conn., assignors to Minnesota Mining & Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Original application Sept. 2, 1959, Ser. No. 837,716, now Patent No. 3,100,090, dated Aug. 6, 1963. Divided and this application May 27, 1963, Ser. No. 301,688

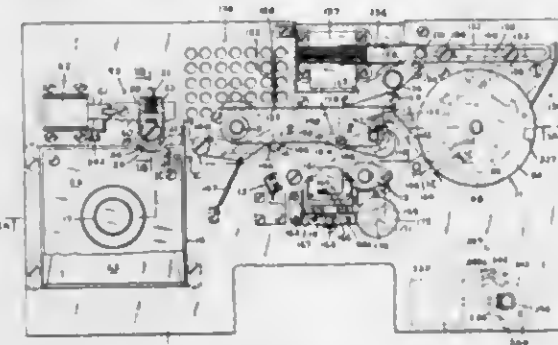
U.S. Cl. 242-55.13

Int. Cl. G11b 15/32

8 Claims

1. In tape recording-reproducing apparatus, the combination of tape supply reel means, tape takeup reel means, capstan means, pressure roller means engageable with said capstan means to effect transport of a tape, and means responsive jointly to said tape supply reel means and said

and including switch means actuated by relative rotational movement of said tape supply reel means and said tape takeup reel means.



3,424,394

UNWINDING STAND AND ARM POSITIONER THEREFOR

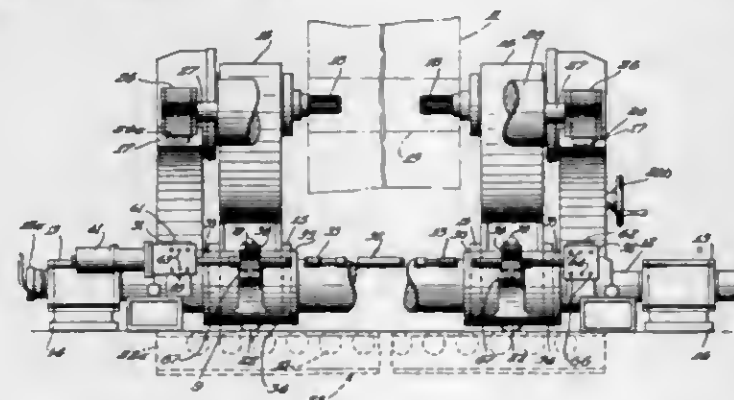
Lawrence A. Moore, King of Prussia, Pa., assignor to Beloit Eastern Corporation, Downingtown, Pa., a corporation of Delaware

Filed Oct. 12, 1966, Ser. No. 586,060

U.S. Cl. 242-58.6

Int. Cl. B65h 19/02; B21c 47/22

15 Claims



Shaftless unwinder for rolls of paper and the like, in which angularly movable retractable supporting arms are provided to engage opposite ends of a roll of paper for unwinding. The arms are supported on base arms pivoted to the support shaft for the support and positioner arms and supported for movement along the ground on rollers. A pre-tension adjustment screw is provided for moving the base arms and support and positioner arms toward and from each other to bring the support arms into and out of engagement with a roll of paper. The adjustment screw is driven by a stalling motor maintaining the support and positioner arms in engagement with the roll of paper.

3,424,395

METHOD AND APPARATUS FOR WINDING UP TAPES OR FILAMENTS

Willi J. Schmidt, Kelkheim, Taunus, and Stephan Schuck, Wiesbaden-Frauenstein, Germany, assignors to Kalle Aktiengesellschaft, Wiesbaden-Biebrich, Germany, a corporation of Germany

Filed Feb. 8, 1966, Ser. No. 525,948

Claims priority, application Germany, Feb. 11, 1965, K 55,252

U.S. Cl. 242-67.1

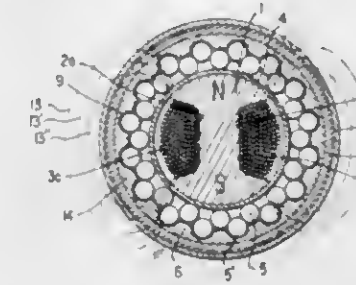
Int. Cl. B65h 19/04; F16d 27/02

8 Claims

A winding shaft is provided with longitudinally extending recess means therein. Coil windings are positioned in the recess means and extend longitudinally of the shaft for generating a magnetic field along a substantial length of the shaft. A winding core is disposed in surrounding relationship to the shaft and supported thereby, an annular

space being provided between part of the winding core and part of the winding shaft. A plurality of magnetizable rollers are movably mounted within the annular space for

towelling is wound and a guide bar which is capable of controlling the position along the length of the mandrel at which the towelling is wound.



3,424,398

APPARATUS FOR CHANGING SPOOLS ON A SHAFT

Jean Pierre Gabriel Ernest Garnier Bellevue, France, assignor to Novacel S.A., Paris, France, a corporation of France

Filed Dec. 14, 1966, Ser. No. 601,585

Claims priority, application France, Dec. 16, 1965, 42,521

U.S. Cl. 242-81

Int. Cl. B21c 47/28

7 Claims

transferring torque from the shaft to the core. A plurality of winding cores may be disposed about longitudinally spaced portions of the shaft.

3,424,396

RELEASABLE TAPE-REEL SECURING MEANS

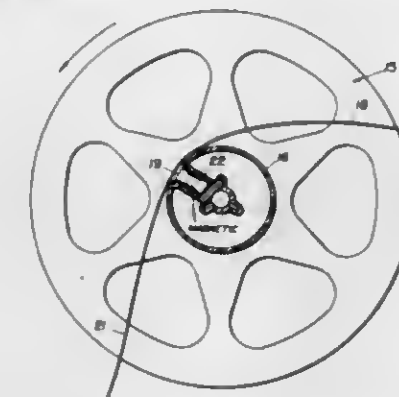
Patrick A. Kane, Hartline, Wash. 99135

Filed May 8, 1967, Ser. No. 636,907

U.S. Cl. 242-74

Int. Cl. B65h 75/28

9 Claims



The invention consists in a tape having a rigid magnetic substance attached to a selected point spaced from the end of the tape and shaped to present a hook edge to cooperate with a hook-shoulder formed in a reel hub. A magnetic substance is located in the reel relative to said shoulder and one or both of said substances are magnetized to yieldably hold them in hooked engagement against centrifugal force and gravity as the reel rotates.

3,424,397

APPARATUS FOR WINDING FLEXIBLE SHEET MATERIAL INTO A ROLL

Walter David Kennedy, % David Kennedy Engineers Limited, Charlwoods Road, East Grinstead, Sussex, England

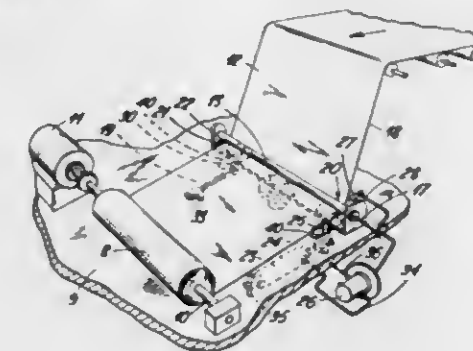
Filed May 12, 1967, Ser. No. 637,967

Claims priority, application Great Britain, May 17, 1966, 21,794/66

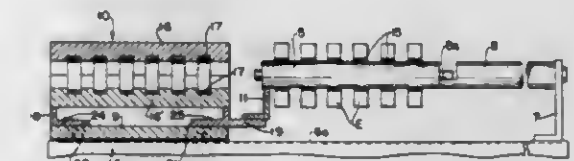
U.S. Cl. 242-76

Int. Cl. B65h 27/00

6 Claims



Apparatus for winding a length of towelling into a roll which comprises a driven mandrel onto which the



Apparatus for changing a set of spools on a take-up shaft in which the spools are mounted on spaced carrying rings on the shaft, a set of empty spools is placed in spaced recesses in a shell and the shaft carrying a set of filled spools is placed in axial alignment therewith. The shell together with a stripping plate is advanced to strip the filled spools from said shaft onto a receiving arm while the free end of the shaft enters the empty spools in the shell.

3,424,399

INTERNAL COILING MACHINE

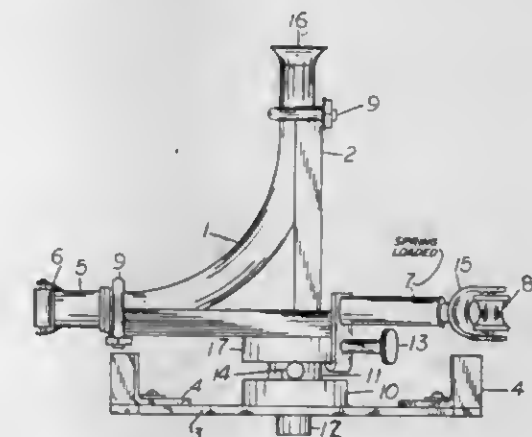
John C. Knox, 5830 Bellflower Drive, Littleton, Colo. 80120

Filed May 10, 1967, Ser. No. 637,479

U.S. Cl. 242-83

Int. Cl. B21c 47/28

8 Claims



An internal coiling machine having a frame supporting a curved deflector. A cup-shaped member is rotatably mounted on the frame and supports spring-loaded arms to hold the material in place after coiling in a container.

3,424,400

SONIC BOOM AND SHOCK WAVE ELIMINATOR

John P. Le Bel, 238 1/2 S. Vendome St., Los Angeles, Calif. 90057

Filed June 25, 1965, Ser. No. 466,879

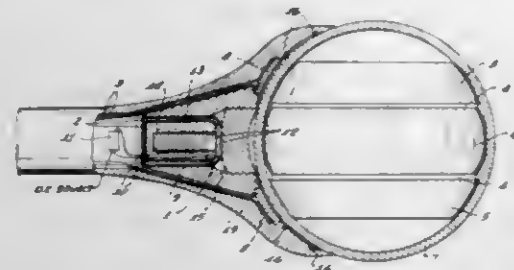
U.S. Cl. 244-1

Int. Cl. B64c 21/02, 3/28

6 Claims

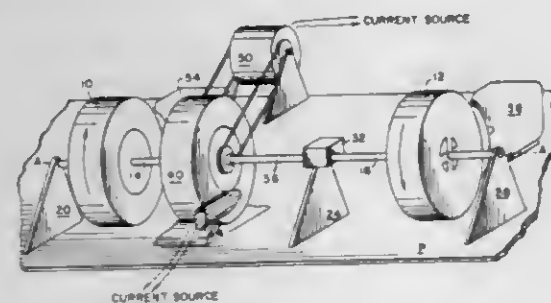
A means to eliminate or buffer the shock waves and sonic booms generated by supersonic aircraft with elon-

gate, forwardly tapered atmosphere piercing noses comprising a rotary front section in said nose and a split



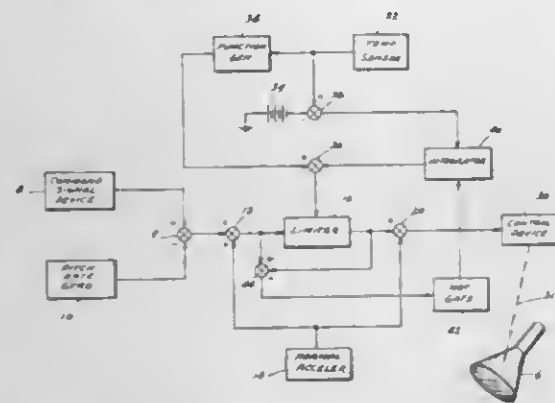
sphere with counter rotary hemispherical sections at the terminal end of the nose.

3,424,401
METHOD AND MEANS FOR ATTITUDE CONTROL OF SPACE VEHICLES
Kent M. Maurer, 1726 17th St. NW., Washington, D.C. 20009
Filed Oct. 18, 1966, Ser. No. 591,389
U.S. Cl. 244-1 13 Claims
Int. Cl. B64g 1/00; G01c 19/02



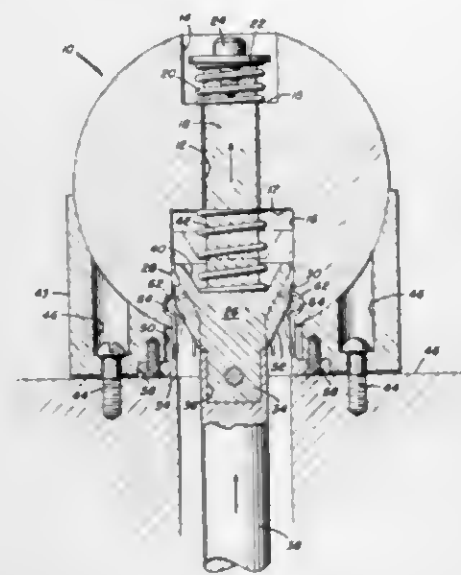
A space vehicle is controlled about each of its major axes by mounting, along each axis, a pair of oppositely rotating masses interconnected by a motor driven differential mechanism and clutches, with a brake applicable to each mass. Application of the brake to one mass and disengagement of its clutch causes the speed of the other mass to increase because of the differential resulting in rotation of the vehicle. To avoid precessional effects, two pairs of oppositely driven masses are mounted on each major axis.

3,424,402
FLIGHT CONTROL SYSTEM FOR A SPACE VEHICLE
James E. Bulloch, Macon, Ga., and Walter A. Platt, Fairlawn, N.J., assignors to The Bendix Corporation, a corporation of Delaware
Filed Nov. 23, 1966, Ser. No. 600,687
U.S. Cl. 244-1 9 Claims
Int. Cl. B64g 1/00; B64c 13/50; H02p 1/04



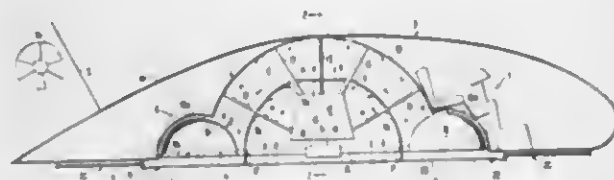
A system for controlling a space vehicle during re-entry into the earth's atmosphere including means for maintaining structural loading of the vehicle below a safe limit.

3,424,403
MASS RELEASE MECHANISM FOR SATELLITES
Wilson E. Hull, Washington, D.C., assignor to the United States of America as represented by the Secretary of the Navy
Filed Feb. 14, 1967, Ser. No. 616,447
U.S. Cl. 244-1 10 Claims
Int. Cl. B64g 9/00; F16b 17/00



The invention relates to a ball-shaped mass and means for releasably holding said mass to a satellite. The ball-shaped mass is attached to the end of a generally cylindrical actuating shaft which has an enlarged, inverted frusto-conical portion secured to the end of an extendible boom. With the boom in a retracted position, the ball-shaped mass is received in a cup-like support. A spring collar, fixedly positioned within said support member, surrounds the frusto-conical portion of the actuating shaft and is provided with a plurality of spring fingers having outwardly bowed end portions which engage in an annular groove of the ball-shaped mass to releasably latch said mass to the cup-like support. The spring fingers are purposely preformed so that, when the boom begins to move toward an extended position, they will move radially toward one another and disengage from the ball-shaped mass, thereby unlatching said mass from the cup-like support and permitting said mass to be extended at the end of the extendible boom.

3,424,404
AIRCAR
Wallace D. Rea, 5414 Ye Old Post Road, Apt. 2, Louisville, Ky. 40219
Continuation-in-part of application Ser. No. 565,971, July 18, 1966. This application Dec. 6, 1967, Ser. No. 688,601
U.S. Cl. 244-12 10 Claims
Int. Cl. B64c 19/04; B60v 1/00



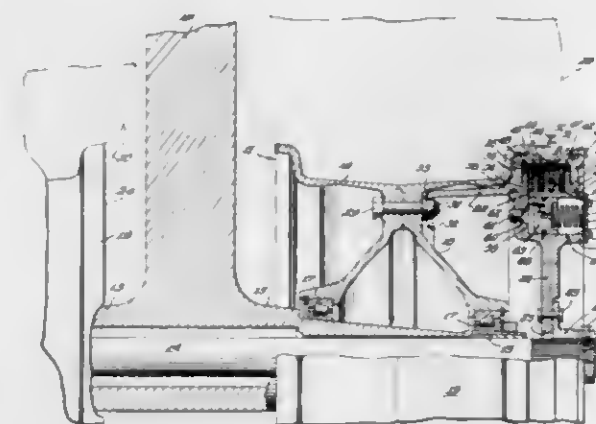
A vertical take-off and landing aircraft having a spherical shell-like housing including a centrifugal blower and lifting blades for lifting the aircraft vertically and for effecting cruise propulsion.

3,424,405
BALLOON LOCOMOTION
Arthur D. Struble, Jr., 1754 Crenshaw Blvd., Torrance, Calif. 90501
Filed Jan. 4, 1965, Ser. No. 423,010
U.S. Cl. 244-31 9 Claims
Int. Cl. B64b 1/40, 1/62



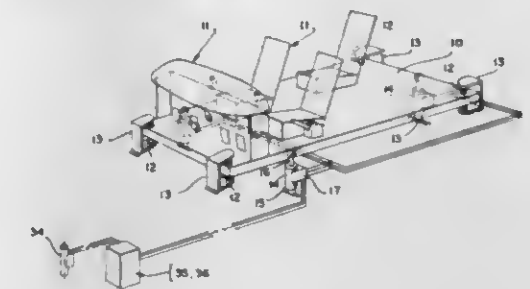
1. An untethered free-floating system comprising a plurality of gas containing chambers that are movable with respect to each other and that are interconnected to each other in a generally vertical array by means of elongated conduits, at least one of said gas chambers having a constant volume and at least one of said chambers having a variable volume, said system initially containing an excess of buoyancy gas each of said elongated conduits being longer than the maximum width of either of the chambers which it interconnects.

3,424,406
SHIMMY DAMPER FOR AIRCRAFT DUAL NOSEWHEELS
Rollin Douglas Rumsey, Buffalo, and Robert E. King, Orchard Park, N.Y., assignors to Houdaille Industries, Inc., Buffalo, N.Y., a corporation of Michigan
Filed Nov. 4, 1966, Ser. No. 592,074
U.S. Cl. 244-103 12 Claims
Int. Cl. B64c 25/58



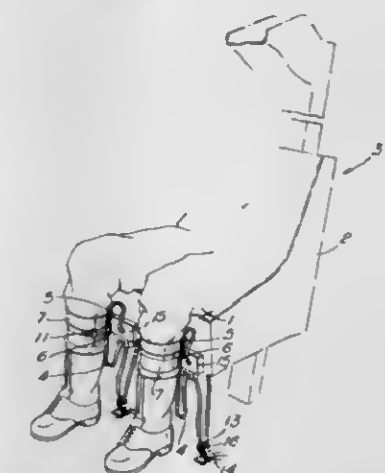
A shimmy damper assembly is constructed as a fully bench-assembled unit having a first member which is mounted on the end portion of a shaft corotative with one of the wheels and has yieldably coupled therewith a second member which as an incident to axially inward mounting of the wheels and has yieldably coupled therewith a second outwardly projecting portions of fasteners on the outer side of the wheel for corotation therewith.

3,424,407
ACCELERATION LOAD COMPENSATING MECHANISM
Wilfred C. J. Garrard, Rte. 3, Marietta, Ga. 30060, and William F. Lynes, Sr., 3380 Forest Hills Road, Powder Springs, Ga. 30073
Filed Mar. 16, 1966, Ser. No. 534,793
U.S. Cl. 244-118 10 Claims
Int. Cl. B64d 9/00, 11/00; B64c 13/04



A mechanism is provided to counteract for both positive and negative acceleration forces imposed on the pilot's compartment in a low altitude, high speed aircraft by irregular air currents through which the aircraft flies and over which the pilot has no control by any movement of the primary or secondary control systems. This is accomplished by a servoed platform that, in its control, anticipates the accelerations that would be felt in the crew compartment and starts movement of the platform in the direction of the accelerations prior to those loads reaching that section of the aircraft.

3,424,408
VEHICLE EJECTION SEATS
James Martin, Southlands Manor, Southlands Road, Denham, near Uxbridge, Middlesex, England
Filed Oct. 31, 1966, Ser. No. 590,895
Claims priority, application Great Britain, Nov. 1, 1965, 46,253/65
U.S. Cl. 244-122 5 Claims
Int. Cl. B64d 25/10; A62b 35/00



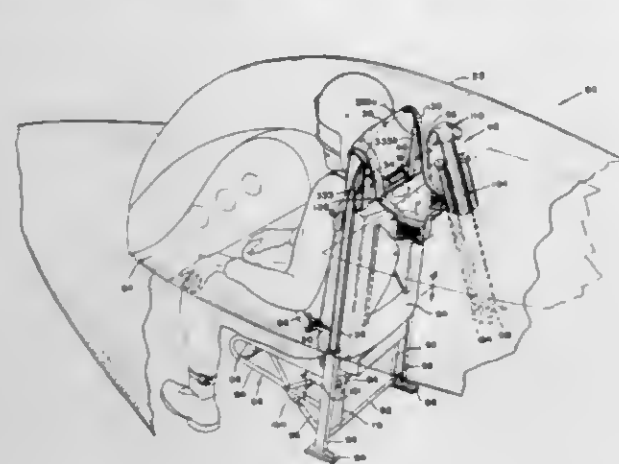
The tensioning lines associated with the ejection seat and the aircraft so that upward movement of the seat with respect to the aircraft causes their tensioning are attached to a pair of anchorages associated with each leg of the airman. The anchorages are below the airman's knees and spaced from each other.

3,424,409
OCCUPANT ESCAPE APPARATUS FOR AN AIRCRAFT OR THE LIKE
Robert M. Stanley, Denver, Colo., assignor to Stanley Aviation Corporation, Denver, Colo., a corporation of New York
Continuation of application Ser. No. 390,709, Aug. 19, 1964. This application Dec. 12, 1966, Ser. No. 605,121
U.S. Cl. 244-122 20 Claims
Int. Cl. B64d 25/10; F41f 3/06; F42b 13/56

As escape apparatus for forcibly removing an occupant or other load from an air or space vehicle comprising a

rocket carried by the vehicle, a motion transmitting towline connected to the rocket, and means connecting the towline to the occupant at a point remote from the con-

door during its opening cycle, and has side doors which fold inboard on top of the center door prior to the opening cycle. The folding side doors reduce the overall door width



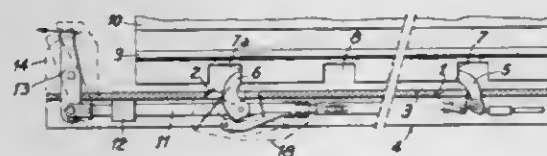
nection of the towline to the rocket. The rocket is launched from the vehicle and ignited for flight away from the vehicle to tension the towline and thereby forcibly extract the occupant or load therefrom.

3,424,410

DEVICE FOR GUIDING AND SECURING PARACHUTING PLATFORMS IN AIRCRAFT

Henri Galaup, Toulouse, France, assignor to French State, represented by the Minister of Armed Forces, Ministerial Delegation for Munitions, Technical Direction of Land Munitions, Toulouse, Haute Garonne, France
Filed Jan. 17, 1967, Ser. No. 609,928
Claims priority, application France, June 7, 1966, 64,391, Patent 1,492,163

U.S. Cl. 244-137 6 Claims
Int. Cl. B64c 1/22, 1/24; B64d 9/00



In this device the loaded platforms are guided laterally between two parallel rails secured to the aircraft frame structure; these rails carry two series of pawls of which one series locks the platforms against forward motion and the other series locks the platforms against backward motion in relation to the aircraft. A parachute-controlled system is provided at the rear of the aircraft for unlocking the release locks and a manual control provided at the forward end of the device permits of locking either all the platforms or only some of them.

3,424,411

DOOR ASSEMBLY FOR CARGO AIRCRAFT

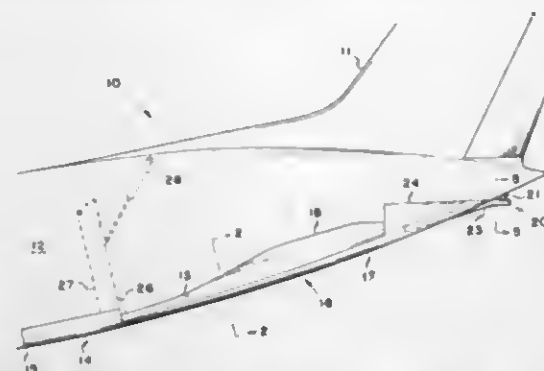
Willard S. Blunschl, Sr., Powder Springs, and Augustus H. Chapman, Atlanta, Ga., assignors to Lockheed Aircraft Corporation, Burbank, Calif.

Filed Aug. 22, 1967, Ser. No. 662,508

U.S. Cl. 244-137 10 Claims
Int. Cl. B24c 1/22; B24d 9/00; E05f 17/00

A method of opening the aft fuselage of an aircraft for airdrop without exposing doors to the airstream and the attendant problems of flutter and sonic vibrations is provided by a center opening door mounted on a translating roller and track assembly. The forward end of this door is hinged to the bottom edge of the pressure door allowing it to be raised up and aft by the actuation of the pressure

door during its opening cycle, and has side doors which fold inboard on top of the center door prior to the opening cycle. The folding side doors reduce the overall door width

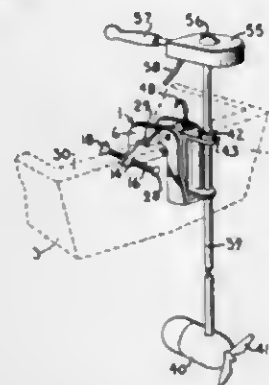


3,424,412 MOUNTING BRACKET FOR OUTBOARD MOTORS

Robert E. Gayle, Shawnee Mission, Kans., assignor to Phantom Products, a Division of Pfueger Corporation, Akron, Ohio, a corporation of Ohio

Filed Mar. 28, 1967, Ser. No. 626,555

U.S. Cl. 248-4 3 Claims
Int. Cl. B63h 21/30



The present invention relates to a mounting bracket for motors adapted to secure the motor to the outside of the stern of a boat wherein the motor may be held in a vertical position or an adjusted position off of vertical, and also may be held in a horizontal position when not in use to propel the boat by other means. Motors of the type herein described are usually used for trolling purposes.

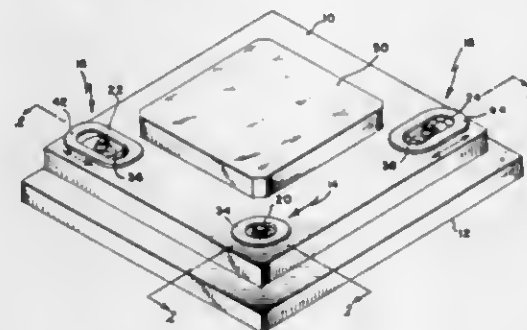
3,424,413

ADJUSTABLE SUPPORT

Howard W. Applegate, Westbury, N.Y., assignor to Bulova Watch Company, Inc.

Filed May 26, 1967, Ser. No. 643,024

U.S. Cl. 248-23 3 Claims
Int. Cl. F16m 11/14



A platform capable of angular adjustment with respect to its supporting base by virtue of adjustment in any one or a combination of three supporting posts having fixed

positions with respect to the base. The supporting posts elevate from the base and attach to the mount by three spherical type (swiveling) bearings. Two of the swivel bearings allow lateral movement of the race block in a direction toward or away from the third which has the relationship of the vertex of a right triangle described on the mount with the movable blocks located on its legs.

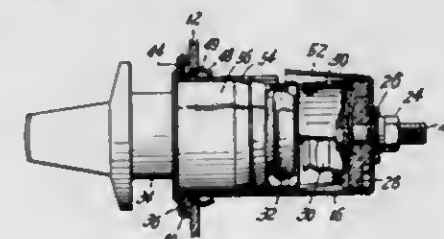
3,424,414

CIGAR LIGHTER RECEPTACLE

Laurence G. Hurwitz, New Haven, Conn., assignor to Casco Products Corporation, Bridgeport, Conn., a corporation of Connecticut

Continuation-in-part of application Ser. No. 436,060, Mar. 1, 1965. This application Nov. 3, 1966, Ser. No. 600,322

U.S. Cl. 248-27 4 Claims
Int. Cl. G12b 9/02; F23q 7/22; H01r 13/46



A cigar lighter receptacle is provided with yieldable means so that it may be inserted in and removed from a hole in a supporting panel from the front of the panel, the yieldable means comprising an annulus having a succession of resilient detent fingers to releasably hold the receptacle in the hole against casual removal and being formed to present a cutting edge adapted to engage the inner edge of the panel hole and cut through an electrically insulating coating thereon.

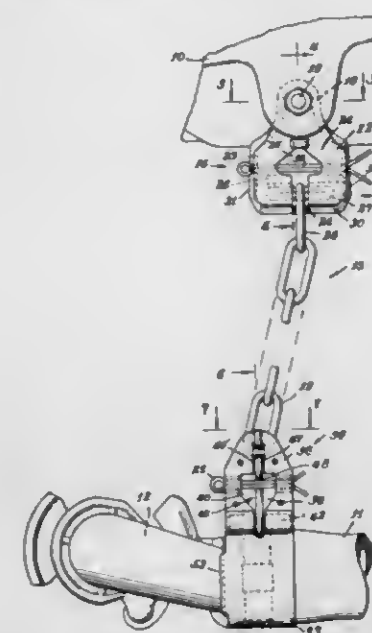
3,424,415

CHAIN LOCKS AND CHAIN DETACHABLE THEREFROM FOR SUPPORTING A RAILWAY CAR AIR BRAKE HOSE

Rudolph E. Nadherny, Naperville, Ill., assignor to Illinois Railway Equipment Company, Chicago, Ill., a corporation of Illinois

Filed Feb. 3, 1967, Ser. No. 613,803

U.S. Cl. 248-53 18 Claims
Int. Cl. F16l 3/16; B61h 13/38



A chain lock is secured to a railway car and another chain lock is secured to the distal end of the air brake hose to and from which end links of a support chain can be readily attached and detached without requiring special tools. The chain lock on the car has a T-shaped slot with

the head portion receiving one link of the chain horizontally and the stem portion receiving the next link vertically. Shelves extend below the head portion and below and above the horizontal link. The chain lock at the distal end of the air hose includes a clamping band with a longitudinally slotted radially extending portion at one end to receive therethrough a keeper rotatably mounted on the other end.

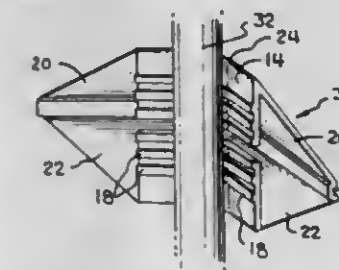
3,424,416

STRAIN RELIEF

Harry John Dell, Mechanicsburg, Earl Earnest Folkenroth, Paxtang, and William Joseph Garver, Harrisburg, Pa., assignors to AMP Incorporated, Harrisburg, Pa.

Filed Feb. 21, 1967, Ser. No. 617,613

U.S. Cl. 248-56 7 Claims
Int. Cl. F16l 5/00



A device for surrounding a wire conductor or similar rod-like member to prevent strain thereon. The device serves to distribute the stress on the conductor over a relatively large area and further to serve as a means for mounting a conductor within a panel aperture and for preventing axial movement of the conductor relative to the aperture. The device is formed of an elastomeric material and comprises a body member having an interior surface and an exterior surface, the exterior surface being joined at its opposite ends to the interior surface and being spaced at its intermediate position from the interior surface.

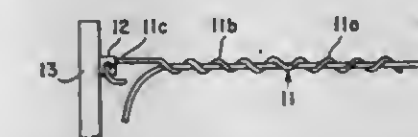
3,424,417

HELICAL CABLE GRIP

George Wesley Taylor, P.O. Box 573, Cupertino, Calif. 95014

Filed Mar. 8, 1966, Ser. No. 532,790

U.S. Cl. 248-63 2 Claims
Int. Cl. F16l 3/12



A cable grip made of wire provided with a hook at one end for attaching the grip to a rigid support. The cable grip is provided with two helical portions, one of which is a right hand helix and the other of which is a left hand helix. One of the helixes is positioned between the hook and the other of the helixes so that these helical portions of the cable grip extend end-on and the gripping action of the helixes on the cable tend to turn the cable in opposite directions when pull is exerted on the cable and, thus, the cable is prevented from slipping through the grip and the insulation of the cable is not damaged.

3,424,418

AUTOMATICALLY RETRACTABLE COAT HOOK

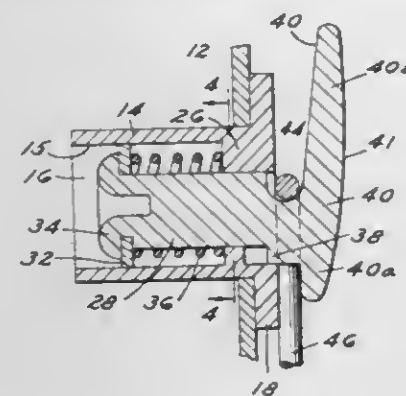
Jerome D. Freedman, Dearborn, and Julius Rado, Birmingham, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Feb. 14, 1967, Ser. No. 616,030

U.S. Cl. 248-216 1 Claim
Int. Cl. B60r 27/00

A coat hook assembly mounted on a vehicle body interior panel. The coat hook assembly has a hollow housing

slidingly receiving a shaft terminating in a protruding hook end. The shaft is axially spring biased into the housing wherein the hook end when not in use is substantially flush



with the panel surface. The hook end includes a cam surface through which a force may be exerted to overcome the spring force to urge the shaft into an extended position.

3,424,419

BLOCK HOLDER

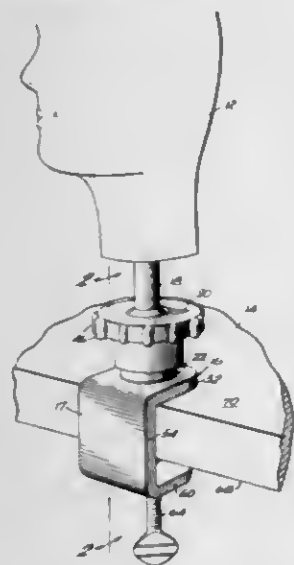
Sheldon K. Siegel, 1885 NE. 121st St., North Miami, Fla. 33161

Filed Aug. 3, 1967, Ser. No. 658,137

U.S. Cl. 248—226

Int. Cl. A41h 5/00; A41g 3/00

4 Claims



An improved block holder for simulated or artificial heads, called blocks, which are used as a mount for wigs being styled. The holder includes a bracket member adapted to be secured to the edge of a table. The bracket member is jacketed with a protective plastic coating and is provided with a threaded upstanding stud having a terminal socket. The simulated head or block is supported on a standard receivable in a bore in the head and the standard is provided with a balled end to nest in the socket. The standard is held in adjustable relation to the bracket by means of an adapter and is adjustable by adjustment of the ball in the socket into various attitudes to facilitate the styling.

3,424,420

DETACHABLE MOUNT FOR TELESCOPIC GUN SIGHTS

Abe Seiderman, Coral Gables, Fla. (3740 E. 10th Court, Hialeah, Fla. 33013)

Filed Oct. 16, 1967, Ser. No. 675,548

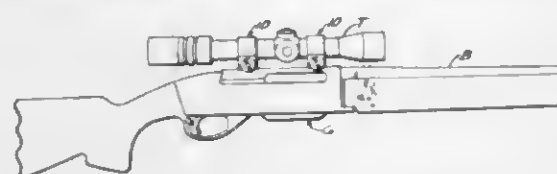
U.S. Cl. 248—229

Int. Cl. F41g 1/38

10 Claims

A telescopic gun sight mounting device comprising a pair of relatively movable bottom clamp members having opposed, substantially quarter-round surface areas for seating and clampingly engaging the underside of a gun sight barrel, and a substantially semicircular resilient sad-

dle member interhooked in straddling relation to the outer ends of the bottom clamp members and operative to be radially retracted upon relative inward adjustment of the



bottom clamp members, thereby to effect substantially uniformly distributed compressional force about a sight barrel to be clamped for mounting.

3,424,421

CONTAINER MOUNTING DEVICE

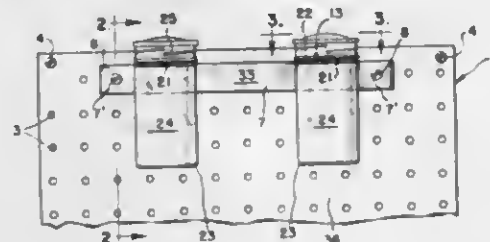
William H. Kalbow and Wayne R. Kalbow, both of 3318 Pearl St., Franklin Park, Ill. 60131

Filed Nov. 1, 1966, Ser. No. 591,192

U.S. Cl. 248—312

Int. Cl. A47j 45/02

7 Claims



A container mounting device having a wire hoop for encircling the neck of the container and a hook portion of quadrilateral shape having a leg releasably connected to the hoop portion to release the hoop portion and to secure it with respect to the container.

3,424,422

ADJUSTABLE SUPPORT

George Klangos, 6004 Amberwood Road, Baltimore, Md. 21206

Filed Jan. 16, 1967, Ser. No. 609,412

U.S. Cl. 248—330

Int. Cl. A61m 5/14; B65h 75/48

6 Claims



A portable suspension support for a fountain syringe or similar device, which includes an upper and a lower hook, the upper hook being adapted for engagement with any fixture available at the site where the device is to be used and the lower hook being attached to the device, said hooks being attached in a direct adjustable manner by a threaded shank on the lower hook fitting in a threaded socket in the upper hook and being attached in an indirect vertically adjustable manner by a housing containing a spring retractable reel having a flexible element coiled thereon with the housing having a threaded stud fitting in the socket in the upper hook and the flexible element having a threaded socket on its outer end within which the threaded shank of the lower hook is secured.

3,424,423

FURNITURE SUPPORT ASSEMBLY

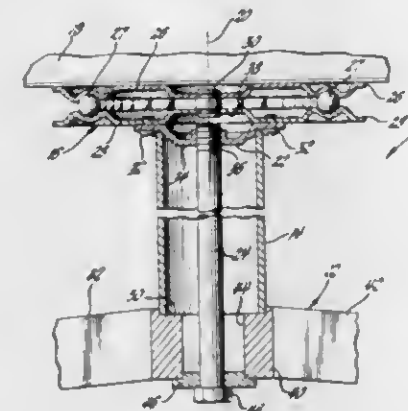
Edward L. Hampton, Louisville, Ky., assignor, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware

Filed Oct. 6, 1966, Ser. No. 584,789

U.S. Cl. 248—415

Int. Cl. A47c 3/18

7 Claims



An assembly including a swivel means for supporting a piece of furniture for rotation about an axis with an adapter plate secured to the swivel means and disposed upon a hollow member which in turn is disposed upon a base, and a single tie rod coaxial with the axis of rotation and interconnecting the base and the adapter plate to clamp the hollow member therebetween.

3,424,424

DOUBLE REAR VIEW MIRROR FOR VEHICLES

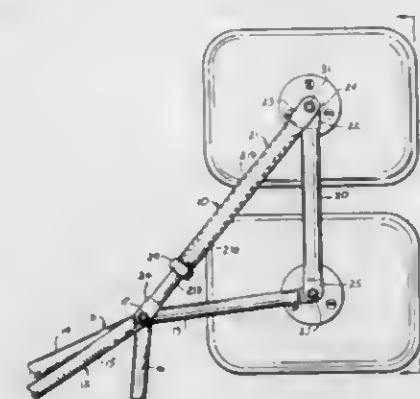
Ralph C. Kelley, 207 South Ave., Tallmadge, Ohio 44278

Filed July 31, 1967, Ser. No. 657,323

U.S. Cl. 248—486

Int. Cl. B60r 1/08; A47g 1/24

7 Claims



Combination with outside rear view mirror device having supporting frame means, attachable to vehicle body, including rigidly positioned member and a first mirror angularly adjustably mounted on member, of a pair of elongated elements angularly adjustably connected at ends to form knee joint, other ends of elements being affixed to member at selected angle of elements to present knee joint in requisite spaced relation to first mirror. Second mirror on knee joint adjustable independently of first mirror.

3,424,425

MOLD FOR ARTICLES HAVING SIDE HOLES
Calvin J. Holtkamp, Mansfield, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Oct. 7, 1965, Ser. No. 493,844

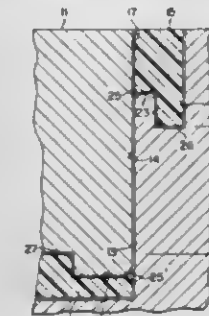
U.S. Cl. 249—145

Int. Cl. B22c 9/24; B29c 1/14

3 Claims

1. In a mold for making a unitary structure with a side hole, in combination, a male die comprising a projection

in the bottom wall thereof, a female die comprising a punch element in the inner surface of a vertical wall thereof, the leading edge of said punch element having a



stepped area comprising at least two steps, said punch being so positioned that it overlaps said projection with a minimum of clearance when the mold is closed.

3,424,426

ELECTRICALLY-OPERATED VALVE

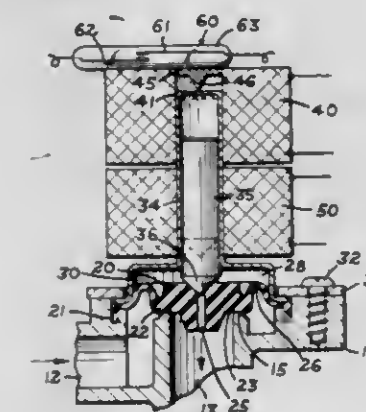
Robert J. Neff, R.R. 1, Medway, Ohio 45341

Filed July 19, 1965, Ser. No. 473,021

U.S. Cl. 251—30

Int. Cl. F16k 31/12, 31/08

5 Claims



A diaphragm-type solenoid flow-control valve requiring low power for operation on dry cells or the like embodies a permanent magnet valve member, a soft iron retainer for holding the valve member in the moved position, a pair of oppositely-effective electric coils for raising and lowering the valve member, and a magnetically operated reed switch in the magnetic field of the valve member and of one of the coils with its contacts in the circuit to the other coil.

3,424,427

FLUID-PRESSURE VALVE

Erich Rubser, Stetten-Remstal, Germany, assignor to Erich Herion, Sen., Stuttgart-Frauenkopf, Germany

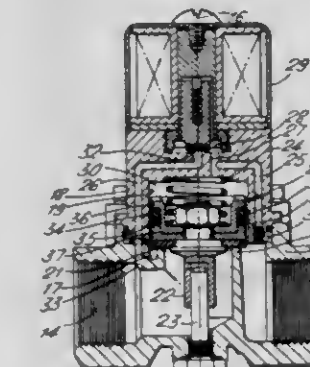
Filed Dec. 1, 1967, Ser. No. 687,263

Claims priority, application Germany, Dec. 6, 1966, H 61,204

U.S. Cl. 251—30

Int. Cl. F16k 31/12, 31/143; F16j 9/20

10 Claims



A fluid-pressure valve, such as a hot water valve, to be controlled electromagnetically, for example, so that

a fluid under pressure can act on the valve to open the latter. The valve has a valve housing provided with an inlet and an outlet and fixedly carrying in its interior a valve seat which is engaged by a movable valve closure when the latter is in its closed position, this closure being displaceable to an open position spaced from the valve seat. The valve closure is carried by a control piston which is received in the hollow interior of a control cylinder which is carried by a valve housing, this cylinder having an inner cylindrical surface which surrounds the piston. The piston is formed with an outer groove which receives a sealing means which engages the inner surface of the control cylinder, and this sealing means includes a semi-hard plastic sealing ring having an outer lip which is formed with a plurality of interruptions circumferentially distributed therealong so that this outer lip can more easily be deflected outwardly into engagement with the inner surface of the cylinder. A spreader spring is situated in a groove of the sealing ring and engages the outer lip to urge the latter outwardly into engagement with the inner surface of the control cylinder.

3,424,428

X-RAY SPECTROSCOPE ASSEMBLY HAVING AN ANALYZER BLOCK COMPOSED OF ANNEALED PYROLYTIC GRAPHITE ON AN OPTICALLY ACCURATE SURFACE

Max D. Canon, Brigham City, Utah, assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

Filed Aug. 9, 1965, Ser. No. 478,311

U.S. Cl. 250-51.5
Int. Cl. G01n 23/20

9 Claims



An X-ray spectroscopic system and process for analyzing selected material specimens wherein polycrystalline pyrolytic graphite is the X-ray analyzing means.

3,424,429

SOLENOID OPERATED VALVE

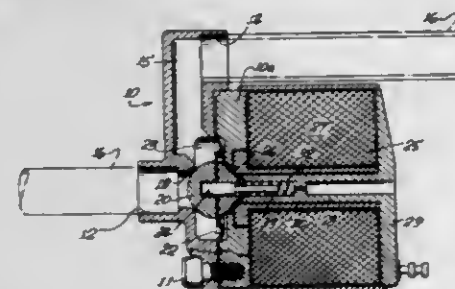
Carl Eugene Monnich, Granada Hills, Calif., assignor to Sterer Engineering and Manufacturing Company, Los Angeles, Calif., a corporation of California

Filed Oct. 23, 1965, Ser. No. 502,988

U.S. Cl. 251-129

Int. Cl. F16k 31/02, 1/42

5 Claims



A solenoid operated valve has an all-metal construction making it especially suitable for handling corrosive liquids or gases. A laterally rigid diaphragm guides the poppet and eliminates the need for sliding contacts for guiding the poppet toward the valve seat. Heretofore, such contacts have been subject to becoming stuck or corroded and thus causing malfunction. The poppet is preferably of hemispheric shape to seal against the valve seat with maximum use and certainty.

3,424,430

SWINGABLY SUPPORTED VALVE

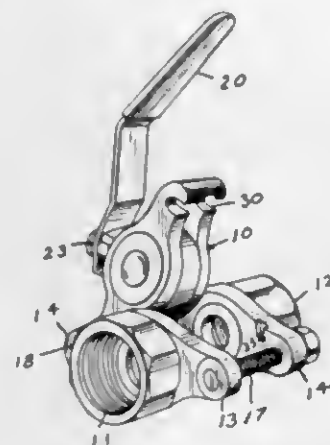
Edward S. Hoelsch, deceased, late of Worcester, Mass., by Madeleine M. Hoelsch, administratrix, Worcester, Mass., assignor to Hays Manufacturing Company, Erie, Pa., a corporation of Pennsylvania

Filed Oct. 31, 1966, Ser. No. 591,013

U.S. Cl. 251-148

Int. Cl. F16k 1/16, 51/00; F16l 29/00

7 Claims



A valve made up of two fittings that may be supported in a fluid line and a valve body that is swingably supported between the two fittings. The valve body and fittings are secured by a pair of bolts extending through flanges on the fittings and a pair of ears on the valve body. One ear has a bore therethrough which serves as a pivot when the bolts are loosened. The other ear is notched, allowing the valve body to be swung out of the flow line for repair or replacement.

3,424,431

FUEL CONTROL VALVE

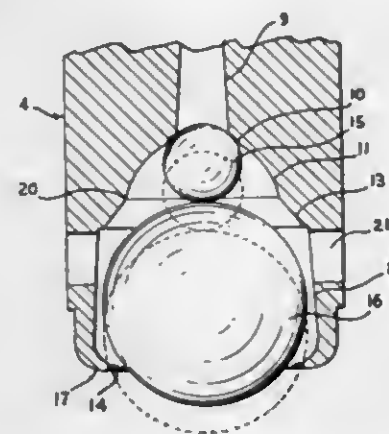
Ansel B. Grase, 8 Mount Vernon St., Stoneham, Mass. 02180

Filed Sept. 25, 1967, Ser. No. 670,140

U.S. Cl. 251-333

Int. Cl. F16k 1/06, 15/04, 31/18

6 Claims



A fuel control valve having an internally disposed chamber, a fuel inlet passageway, a pair of ball members in said chamber, one functioning as valve means for opening and closing said passageway against an annular curved seat disposed between said chamber and passageway.

3,424,432

FLUID-ROTATED FLUID DISTRIBUTORS

Donald R. Humphreys, Topsfield, Mass., assignor to USM Corporation, Flemington, N.J., a corporation of New Jersey

Filed Nov. 16, 1966, Ser. No. 594,740

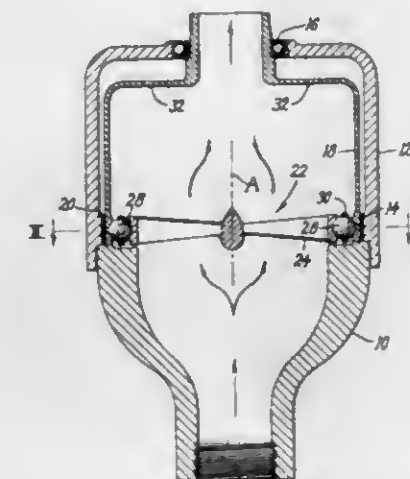
U.S. Cl. 253-31

Int. Cl. F03b 1/00

4 Claims

An elliptoidal wave generator for imparting a circumferential wave of radial deflection to a flexspline is provided with radial vanes responsive to axial fluid flow whereby the flexspline is relatively driven in rotation with respect to a splined coaxial reaction member or housing in which the flexspline is journaled. Accordingly, for ex-

vided with radial vanes responsive to axial fluid flow whereby the flexspline is relatively driven in rotation with respect to a splined coaxial reaction member or housing in which the flexspline is journaled. Accordingly, for ex-



ample, the flexspline may rotatably carry a nozzle outlet, or be formed with an auxiliary inlet for metering auxiliary fluid to be proportionally introduced into a main outlet of the reaction member.

3,424,433

TRAILING EDGE CONSTRUCTION IN A RADIAL TURBINE

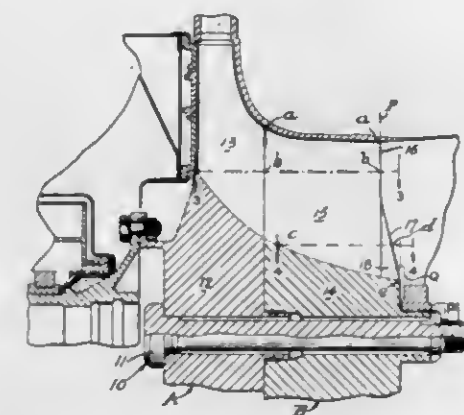
Herbert Hugh Langshur, St. Lambert, Quebec, Canada, assignor to United Aircraft of Canada Limited, Longueuil, Quebec, Canada

Filed Oct. 7, 1966, Ser. No. 585,013

U.S. Cl. 253-39

Int. Cl. F01d 1/06, 5/04; F04d 29/26

10 Claims



A rotor for a radial turbine wherein the rotor has blades with the root portion of each blade extending further axially rearwardly than the tip portion of the blade and with the trailing edge of each blade being tapered in thickness.

3,424,434

BLADED ROTOR FOR A FLUID FLOW MACHINE, E.G. A GAS TURBINE ENGINE

Jack Palfreyman, Tansley, near Matlock, and Norman Willie Shepherd, Shelton Lock, England, assignors to Rolls-Royce Limited, Derby, England, a company of Great Britain

Filed Sept. 12, 1967, Ser. No. 667,168

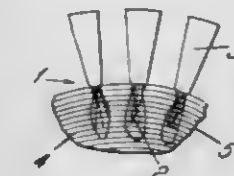
Claims priority, application Great Britain, Apr. 3, 1967, 15,221/67

U.S. Cl. 253-77

Int. Cl. F01d 5/28; F04d 29/26

14 Claims

A compressor rotor of a gas turbine engine, or other bladed rotor, comprises a rotor hub member having



radially inwardly of the outer periphery of the hub and which overlap the circumferentially extending fibres in the hub. The fibres of blades are united with the fibres of the hub.

3,424,435

FISH TAPE REEL ASSEMBLY

Juergen Niemann, Sycamore, Ill., assignor to Ideal Industries, Inc., Sycamore, Ill., a corporation of Delaware

Filed Oct. 7, 1966, Ser. No. 585,035

U.S. Cl. 254-134.3

Int. Cl. B65h 75/16; E21b 31/00

21 Claims



An electrician's fish tape reel assembly including an electrician's fish tape, a reel adapted to receive and hold the electrician's fish tape and to permit unwinding and rewinding of the tape relative thereto and a winder for the tape. The reel includes a pair of generally annular-shaped sections, each of which is generally flat and has upstanding inner and outer peripheral walls with similar walls of each section adapted to contact one another when the sections are connected together.

3,424,436

HOIST CHAIN GUIDE

Thomas E. Grego, Waverly, N.Y., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey

Filed Sept. 21, 1967, Ser. No. 669,522

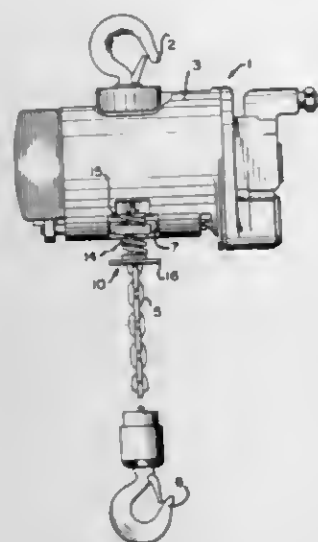
U.S. Cl. 254-190

Int. Cl. B66d 1/36

4 Claims

A hoist chain guide including a guide body containing a cruciform shaped bore receiving the chain and mounted on a coil spring which allows the guide body to resiliently tilt, twist and move to automatically clear kinks and other

tangles in the chain as it flows through the guide body. The spring is mounted on the hoist frame or casing so



the guide body is resiliently supported relative to the hoist casing.

3,424,437

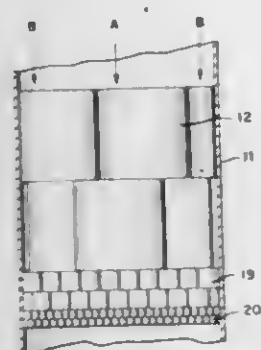
APPARATUS FOR MIXING VISCOUS FLUIDS
Charles J. Shearer, Yonkers, N.Y., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Aug. 28, 1967, Ser. No. 663,797

U.S. Cl. 259—4

Int. Cl. B01f 7/24; F15d 1/00

5 Claims



Apparatus for providing better mixing of viscous fluids by passing the fluids through a plurality of stacked hollow ducts having fixed, helical baffles or flights in each duct, thereby intertwining the fluid streamlines of the flowing fluids as the fluids flow through the hollow ducts and about the fixed helical baffles. The ducts are disposed in staggered rows and can vary in size and placement depending on the viscosity of the fluids being processed.

3,424,438

BULK STORAGE, TRANSPORT, MIXING AND DELIVERY APPARATUS

George F. Knotts, Coopersburg, and Herbert K. Beyer, Royersford, Pa., assignors to Amerind Incorporated, Royersford, Pa., a corporation of Pennsylvania

Filed Oct. 6, 1967, Ser. No. 673,389

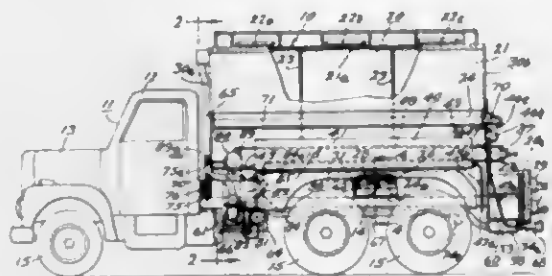
U.S. Cl. 259—4

Int. Cl. B01f 15/02; B28c 5/06

11 Claims

Bulk transport, storage, mixing, and delivery apparatus which includes a truck having a storage tank mounted thereon for carrying ammonium nitrate prills and at least one other storage tank for carrying fuel oil to a blast area. The apparatus is adapted to mix predetermined quantities

of the ammonium nitrate prills and oil at the blast area and discharge the same into, for example, bored holes (blow holes) for detonation. At the lower portion of the ammonium nitrate prill tank is a feed conveyor which moves the ammonium nitrate prills out of the tank into an air lock which is geared for rotation with the screw type conveyor. A second feed conveyor in the form of a positive displacement fuel oil pump is positioned to draw a suction from the fuel oil tank and deliver the fuel oil



into a mixing chamber, into which the air lock opens. The mixing chamber is in turn connected to a pneumatic discharge line for carrying the mixture directly into the bored shot hole. The fuel oil pump and the screw type conveyor are connected together for simultaneous operation, both being operated from and actuated by a hydraulic drive system having a single control which permits accurately predetermined mixes to be carried by the discharge conduit into the bored hole.

3,424,439

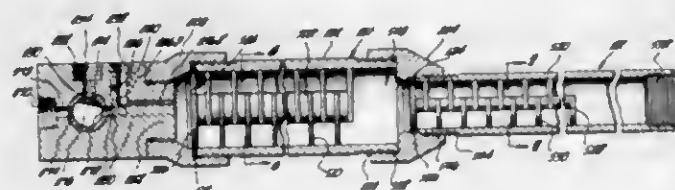
DEVICE FOR MIXING AND APPLYING FOAMS
Bert Baker, 15882 Wicklow Lane, Huntington Beach, Calif. 92647

Filed Nov. 29, 1967, Ser. No. 686,539

U.S. Cl. 259—4

Int. Cl. B01f 13/02

12 Claims



A foam generating device or "gun" having metering means to which the sources of foam generating components are connected. The metering means, when actuated, applies the components to a first mixing chamber within which a series of baffles are disposed in alternate offset arrangement. The first mixing chamber is connected to a second mixing chamber of smaller cross-sectional area, also having baffling similarly disposed to control back-pressure, into which the component mixture passes and from which foam is emitted in a stream.

3,424,440

MIXING APPARATUS

George B. Upham, Fernand Mayer, and Georges Louis, Paris, France, assignors to Recherches et Mecanique (R.E.M.) Societe Anonyme, Sucy-en-Brie, Val-de-Marne, France

Filed Apr. 20, 1964, Ser. No. 361,108

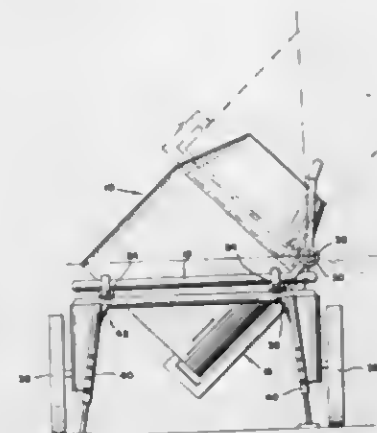
U.S. Cl. 259—171

Int. Cl. B28c 5/18; 7/16

29 Claims

1. Apparatus of the type described comprising a container having a mouth, a supporting chassis having an

interior opening, said chassis having a first portion supported above a ground plane and a second portion rotatable in azimuth upon said first portion, means for supporting said container on said second portion for tiltable movement about an axis adjacent to said mouth



between a lower, loading position, at which the container is suspended through said opening with the bottom of the container near said ground plane and an upper, unloading position, at which the bottom of the container is relatively remote from said ground plane.

ERRATUM

For Class 261—29 see:
Patent No. 3,425,059

3,424,441

AIR VALVE LIFT CONTROL IN CARBURETTERS
Charles F. Caisley, Watford, and Luigino Mario Flnos, London, England, assignors to The Zenith Carburetter Company, Limited, Stanmore, Middlesex, England

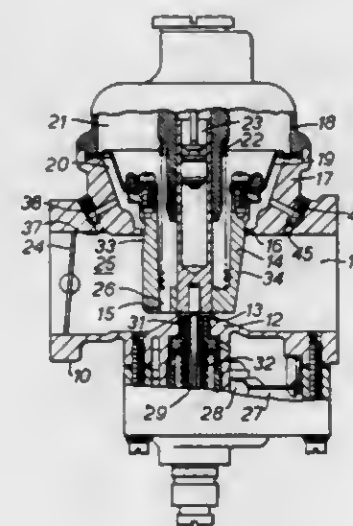
Filed June 5, 1967, Ser. No. 643,469

Claims priority, application Great Britain, June 8, 1966, 25,559/66

U.S. Cl. 261—44

Int. Cl. F02m 7/12

10 Claims



The air valve of an air valve type carburettor, which is a slide movable transversely of the induction passage and controlled as to its position by differential pressures acting on a movable wall, coupled to it, has one of the said chambers connected both to the induction passage downstream of the air valve and to a source of air at substantially atmospheric pressure, at least one of the connections varying in effective area with the position of the slide.

3,424,442

COOLING TOWER WATER DISTRIBUTOR

John B. Greenfield, Jackson, Mich., assignor to Acme Industries, Inc., Jackson, Mich., a corporation of Delaware

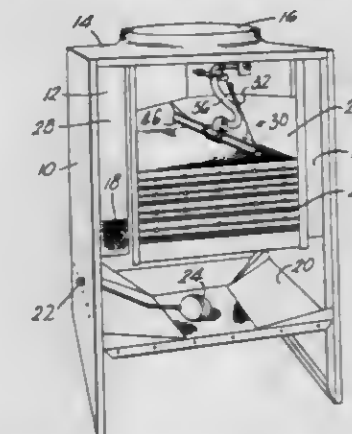
Filed Sept. 6, 1966, Ser. No. 577,272

U.S. Cl. 261—81

Int. Cl. B05h 3/16

11 Claims

Heat exchanger apparatus of the gas-liquid contact type such as the type generally referred to as cooling towers utilizing a water reaction powered water distributor which oscillates about a horizontal axis above water and air contact members. The angular relationship of orifices emitting water defined on the distributor being changed by simplified apparatus at the terminal portions of the arcuate swing through which the distributor passes said



apparatus including a flexible hose forming a torsion member.

3,424,443

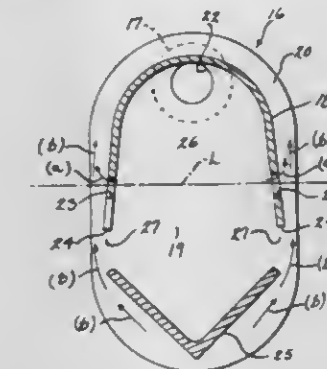
APPARATUS FOR DIFFUSING GAS INTO A LIQUID
Paul M. Thayer, Milwaukee, Wis., assignor to Water Pollution Control Corp., Milwaukee, Wis., a corporation of Wisconsin

Filed Apr. 11, 1967, Ser. No. 630,129

U.S. Cl. 261—123

Int. Cl. C10j 1/08

2 Claims



An elongated hood-like diffuser having an open bottom and adapted to be disposed horizontally in a fluid tank, the diffuser having an inlet at one end for gas under pressure and having gas release ports on opposite sides, the upper portion of the interior of the hood, which is in communication with and above the ports, being a gas chamber, and there being an elongated deflector spaced below but extending parallel to the open bottom.

3,424,444

BELL FURNACES FOR HEAT-TREATING COILED STRIP METAL AND THE LIKE

Jean Raymond Guingaud, Paris, France, assignor to Societe Anonyme Heurtey, Paris, France

Filed Apr. 29, 1966, Ser. No. 546,301

Claims priority, application France, May 6, 1965, 15,984; Aug. 27, 1965, 29,601 (addition)

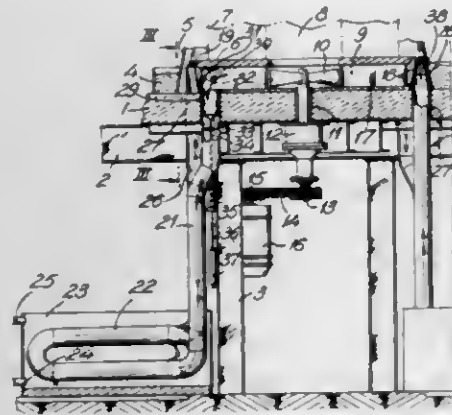
U.S. Cl. 266—5

Int. Cl. C21d 1/06; F23m 9/00; F28d 15/00

16 Claims

An apparatus for cooling an atmosphere gas circulating, in response to a recycling fan, between a base and a pro-

protective cover of a heating bell furnace used for heat-treating products such as spools of strip-metal. The apparatus includes at least one atmosphere gas heat exchanger having at least one gas inlet located beneath said cover in a position where an overpressure prevails, and at least one



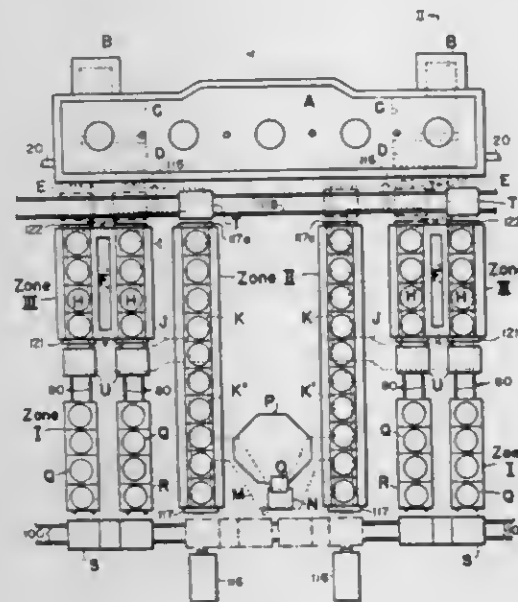
gas outlet likewise located beneath said cover in a position where a negative relative pressure prevails, the gas flow through said heat exchanger being effected by said single fan, a gas duct element being retractable into said base mechanically associated with said inlet.

3,424,445 OPEN HEARTH HAVING PREHEAT AND CHARGE MEANS

Levi S. Longenecker, 61 Mayfair Drive, Pittsburgh, Pa. 15228

Original application Sept. 28, 1962, Ser. No. 226,920, now Patent No. 3,219,439, dated Nov. 23, 1965. Divided and this application Aug. 13, 1965, Ser. No. 479,509
U.S. Cl. 266—24
Int. Cl. C21b 7/00; B66c 17/08

6 Claims



A furnace constructed for melting solid scrap metal on an open hearth is provided with an enclosing arched roof and side walls for defining a melting and refining chamber on the hearth, with a group of spaced roof openings and cooperating lids for charging preheated scrap material on the hearth, and with openings in its front wall for charging other material incident to the melting operation. Cold solid scrap is handled in containers of a type that may be utilized for introducing an individual scrap charge through one of the roof openings. The containers are moved in a gas tunnel system on trucks. Hot gases from the furnace are taken off therefrom and passed downwardly through a tunnel system, and the hottest gases or those immediately leaving the furnace are passed up-

wardly through preliminarily preheated scrap before the scrap is introduced into the furnace. The scrap has an energy conserving preheat imparted thereto that is tempered to maintain it below a temperature at which it becomes tacky or sticky. In the same tunnel system, the now partially cooled exhaust gas is passed through newly introduced or cold scrap material to impart preheat thereto before the gases are exhausted. This serves two important purposes of reducing the temperature of the exhaust gases to the maximum before they are exhausted to the atmosphere and of recovering a maximum amount of their heat by imparting it to the scrap material that is to be melted and refined.

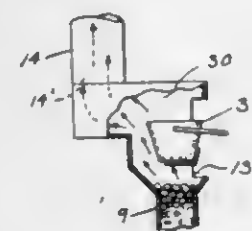
3,424,446 CUPOLAS

Robert R. Schanen, Port Washington, Wis., assignor to Modern Equipment Co., Port Washington, Wis., a corporation of Wisconsin
Continuation-in-part of application Ser. No. 400,673, Oct. 1, 1964. This application Feb. 2, 1966, Ser. No. 524,526

U.S. Cl. 266—31

Int. Cl. C21b 7/08; F27b 5/12

3 Claims



A cupola having a charging section on its upper end which is substantially larger than said cupola in cross section and which extends laterally thereof, there being a charge-receiving door opening on one side of said charging section and an exhaust gas stack communicating therewith at a point spaced laterally from said charge-receiving door and also offset relative to the cupola, whereby cupola gases drawn through said exhaust stack will flow upwardly at an angle away from said charge-receiving door to prevent the escape of said gases through the charge door.

3,424,447 RESILIENT BUSHING WITH IMPROVED VIBRATION ATTENUATING PROPERTIES

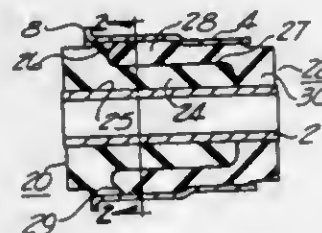
Harvey E. Miller, Logansport, Ind., assignor to The General Tire & Rubber Company, a corporation of Ohio

Filed Oct. 7, 1966, Ser. No. 585,169

U.S. Cl. 267—1

Int. Cl. F16f 1/36; B60g 11/22

7 Claims



This invention relates to a resilient bushing having improved properties and designed to meet the higher performance demands required in modern automotive applications. More specifically, it relates to an elastomeric insert held under radial compression between a pair of rigid sleeves, said insert comprising a pair of inter-engaged concentric elastomeric components having differing transmission characteristics, said bushing possessing good vibration isolation properties over a wide range of frequencies.

3,424,448 SPRINGS AND/OR SHOCK ABSORBERS

Francis Tin Chak Ma, 33 Village Road, London, N.3, England

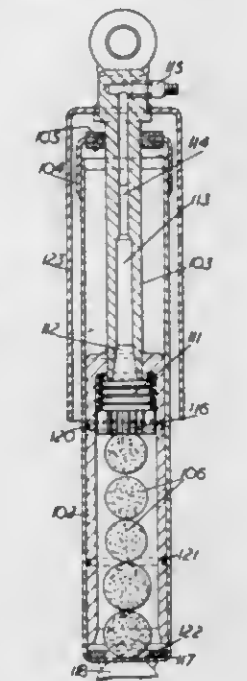
Filed June 6, 1966, Ser. No. 555,403

Claims priority, application Great Britain, June 18, 1965, 25,858/65; May 17, 1966, 21,923/66

U.S. Cl. 267—35

Int. Cl. B60g 11/02, 11/26; F16f 1/18

9 Claims



A spring device or shock absorber comprises one or more spheres of micro-cellular resilient material immersed in oil in a chamber provided with a piston by which the forces to be taken up or absorbed are applied, and a sintered porous partition serves to damp out movements and vibrations of the oil in the chamber. The spheres are provided with an oil-resistant coating. The piston may be moved axially by an axially-applied force, or by a torque applied by screw means. The damping partition may be movable within the chamber, and may have an applied spring load. The resilient spheres may be of different sizes.

3,424,449 HYDROPNEUMATIC SPRING FOR VEHICLES, ESPECIALLY COMMERCIAL TYPE VEHICLES

Paul E. Strifer, Dettingen, Teck, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany

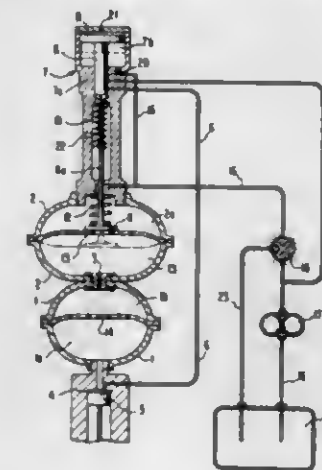
Filed Dec. 9, 1966, Ser. No. 600,602

Claims priority, application Germany, Dec. 11, 1965, D 48,896

U.S. Cl. 267—64

Int. Cl. B60g 11/26; F16f 3/00, 13/00

5 Claims



A hydropneumatic spring system, especially for commercial type vehicles, in which a reserve air space is coordinated by way of a throttled passage to the working

air space and a body level adjusting system is provided to maintain substantially constant the height of the body by pumping oil from the hydraulic pressure system into the hydraulic section of the reserve air space in case of increases in the load and vice versa, and in which oil losses at the working piston are replenished from the hydraulic pressure system by a control device which selectively controls the supply of hydraulic pressure medium to the working piston in dependence on the oil losses as represented by the volume of the air in the reserve air space. The control device may be in the form of a slide valve whose position changes in accordance with changes of the position of the diaphragm in the reserve air space. Additionally, a further control, for example, in the form of an electromagnet may be provided which permits a replenishing of oil losses only when the vehicle is in the unloaded condition.

3,424,450 SHAPING TEMPLATE CLAMP

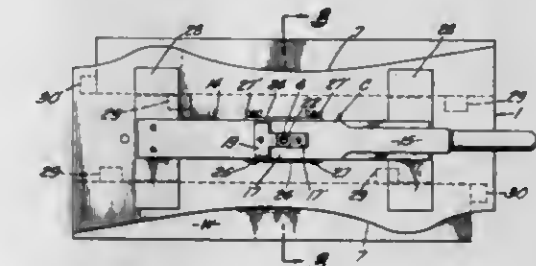
Leroy T. Atkins, 1892 N. Ave. 51, Los Angeles, Calif. 90042

Filed Jan. 10, 1966, Ser. No. 519,681

U.S. Cl. 269—87.1

Int. Cl. B25b 1/08; B23g 27/00

7 Claims



A clamp for workpieces comprises an upper plate and a lower plate interconnected by a central bolt with a cam pivotally mounted on the bolt for operation by a handle for the clamping action. Attached to at least one of the plates is jig means for guidance in shaping workpieces.

3,424,451 APPARATUS FOR FEEDING BLANKS

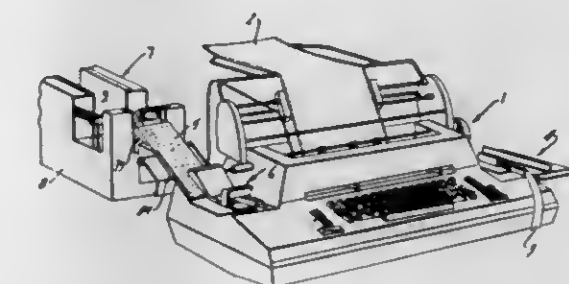
Francis P. Hyland, Wauwatosa, Wis., assignor to Hy-Grip Products Co., Wauwatosa, Wis., a partnership

Filed Mar. 6, 1967, Ser. No. 621,000

U.S. Cl. 271—11

Int. Cl. B65h 5/08

5 Claims



This invention relates to a mechanism for feeding individual cards or blanks to the reader of an automatic typewriter. The mechanism includes a storage bin where the cards are stored in a vertical stack, and a vacuum lifting unit elevates the uppermost card in the stack, and thereafter moves the card forwardly to insert the card between cooperating rollers of a conveying unit which delivers the card to the reader.

3,424,452

SHEET-HANDLING APPARATUS

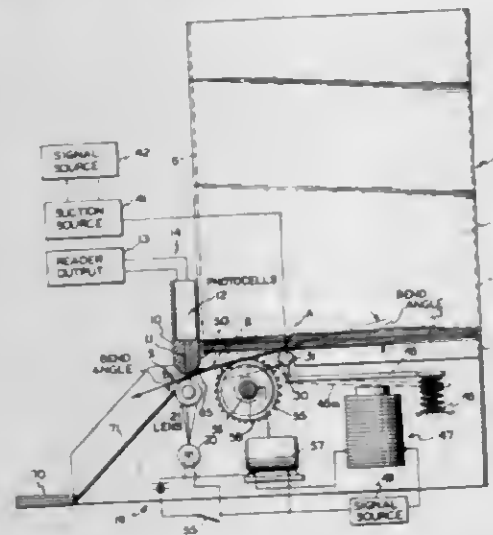
John P. Jones, Jr., Wynnewood, Pa., assignor to Navigation Computer Corporation, a corporation of Pennsylvania

Filed Sept. 22, 1965, Ser. No. 489,171

U.S. Cl. 271—29

Int. Cl. B65h 3/08, 1/06; G03b 1/24

7 Claims



A sheet feeder for small coded cards similar to portions of punch paper tape having sprocket holes along the card length is fashioned to feed wrinkled or distorted cards in alignment at constant speed past an electronic reading station. The ends of the cards are bent from their place on the bottom of a stack by means of a pneumatic picker to engage a continuously rotating sprocket wheel which engages the card sprocket holes to orient the card feed and convey the cards past a reading station at constant speed. The cards are not conveyed from the stack by the picker means but by the rotating sprocket wheel. Individual cards may be fed by programming the position of the pneumatic picker relative to the bottom of the card stack, and certain bending angles are introduced for straightening wrinkles in the cards.

3,424,453

CARD PICKER MECHANISM

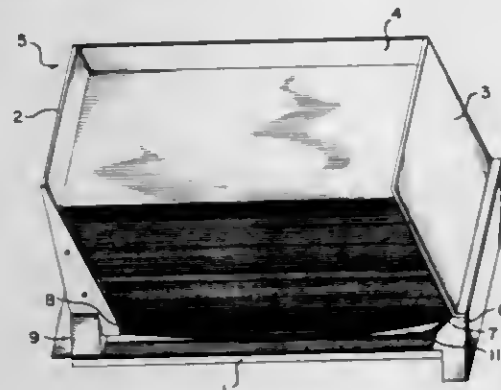
Silas R. Halbert, Palm Bay, Fla., assignor, by mesne assignments, to Mobawk Data Sciences Corp., Herkimer, N.Y.

Filed Aug. 30, 1965, Ser. No. 483,530

U.S. Cl. 271—35

Int. Cl. B65h 1/06, 3/04

19 Claims



A bin for holding a stack of cards in a card picker mechanism having a pair of end walls extending from a baseplate, the endwalls sloping so as to provide three distinct regions: one region, adjacent the baseplate, wherein the end walls are separated by at least the length of a card; a second region above said first region wherein the end walls are separated by a distance less than the length of a flat card but greater than the length of a card bowed under its own weight, the second region being

separated from the baseplate by at least the vertical height of a card bowed by its own weight; and a third region, above the second region, in which the end walls are separated by at least the length of a card. Also provided is a gate structure for a card picker mechanism having a baseplate for supporting a stack of cards wherein a recessed surface of the baseplate extends generally under a gate wall and is separated therefrom by a distance sufficient to permit passage of only a single card at a time.

3,424,454

HIGH SPEED STATIONARY PIN ALIGNER

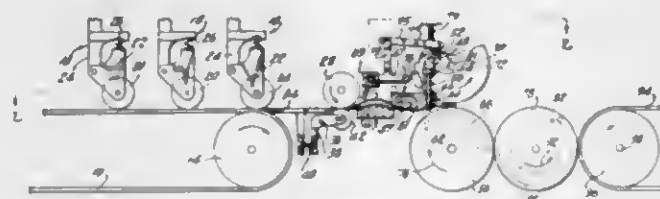
Ernest H. Treff, Port Washington, N.Y., assignor to F. L. Smithe Machine Co., Inc., Duncansville, Pa., a corporation of New York

Filed May 20, 1966, Ser. No. 551,778

U.S. Cl. 271—53

Int. Cl. B65h 3/30, 9/06

11 Claims



An apparatus for advancing blanks of flexible sheet metal and means to properly align the blanks with respect to the path along which they are advanced.

3,424,455

BALANCE GAME APPARATUS

Philip M. Dunson, 1446 Friar Lane, Columbus, Ohio 43221

Filed Aug. 30, 1965, Ser. No. 483,760

U.S. Cl. 273—1

Int. Cl. A63f 9/08; A63b 67/00; G09b 23/10

8 Claims



Apparatus for use in a balancing game. There are a plurality of cover members of identical construction each arbitrarily marked so as to be distinguishable from other cover members. There are also a plurality of body members having the same external appearance when attached to a cover member, but having indicia indicative of their relative weights. When a body member is attached to a cover member, the weight indicia is concealed and each of the combined cover and body member units looks the same as each other unit except for the arbitrary markings on the cover members. A balance scale is also included. In one embodiment the body members are hollow and differently weighted inner members are inserted in the hollows.

3,424,456

BALL GAME WITH BLOCKING MEANS AND MAGNETIC DEFLECTOR

Eugene Daddis, Pequannock, N.J., assignor to American Shuffleboard Co., Inc., Union City, N.J., a corporation of New Jersey

Filed July 5, 1966, Ser. No. 562,660

U.S. Cl. 273—11

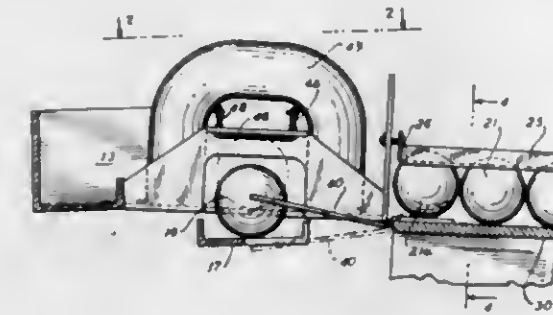
Int. Cl. A63d 15/00; A63f 7/00

5 Claims

A billiard table has means for directing balls falling into pockets of the table to receptacles, the cue ball moving along one path to one receptacle and the others along another path to another receptacle. The means for

determining the path of the cue ball from the others is preferably a magnetic means located at a dividing point of the two paths, one of the paths being at a right angle to the other, the cue ball having magnetic properties and

mounted thereto, at least one elevated cross bar extending between said upright members, and a plurality of dummy members secured to said cross bar; said dummy members being rigidly fixed against movement in the direction of extension of said runners while being laterally movable along the length of said cross bar.



3,424,459

GOLF CLUB INCLUDING INTERCHANGEABLE HEADS

Robert G. Evancho, 8 John St., Simpson, Pa. 18407

Filed Feb. 15, 1966, Ser. No. 527,447

U.S. Cl. 273—80.1

Int. Cl. A63b 53/06

1 Claim

rolling about the magnetic means to be directed to the second path. Additional means may be provided for arresting the motion of the cue ball to its receptacle until all of the other balls played have been released for movement to their receptacle.

3,424,457

GOLF TEE

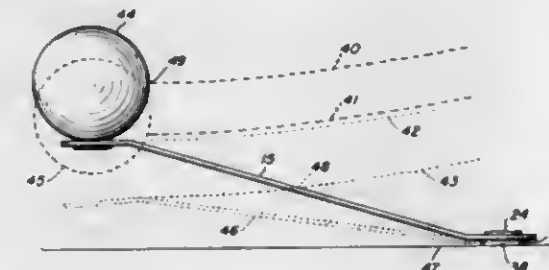
Joseph P. Robertson, 10511 Havenlake Circle, Dallas, Tex. 75238

Filed Dec. 20, 1965, Ser. No. 515,519

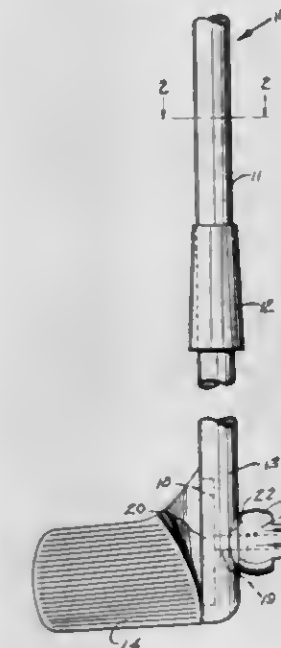
U.S. Cl. 273—33

Int. Cl. A63b 57/00

3 Claims



A golf ball tee having a sloping support and aligned with the intended line of flight of a golf ball. The upper end of the arm has a ball seat ring. The lower end of the arm is held in place on the ground by a spike having a neck portion. There is a resilient washer placed adjacent the support arm and in underlying relation thereto and both engage the neck portion of the spike. When the spike is inserted in the ground the resilient washer acts as a spacer between the ground in the support arm.



Golf club heads having different lofts are interchangeably securable to a single club shaft. An extension on each club head fits into a slot in the club shaft. A screw centrally secured to the extension passes through the shaft centrally of the slot. A fastening nut has a spherical portion which mates with a spherical depression on the shaft.

3,424,460

DART BOARD GAME

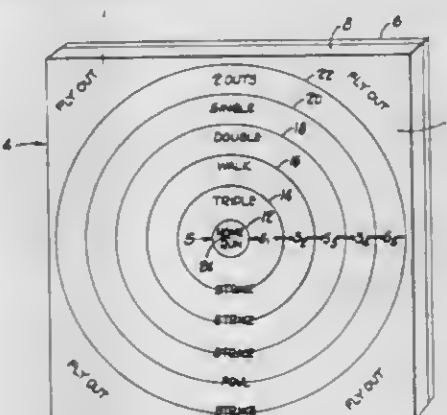
Virt A. Simpson, 388 Maple Drive, Crestline, Ohio 44827

Filed Apr. 1, 1966, Ser. No. 539,401

U.S. Cl. 273—95

Int. Cl. A63b 65/02; A63f 9/02

9 Claims



A game of baseball played by throwing aerial projectiles such as darts with rubber suction cups against a target having different play combinations for producing scores.

FOOTBALL BLOCKING TRAINING APPARATUS

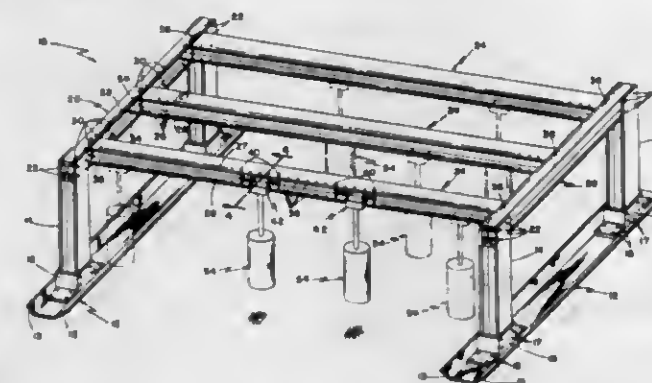
John Henry Hopps, Jr., Peaslee Road, South Merrimack, N.H. 03083

Filed Aug. 2, 1966, Ser. No. 569,684

U.S. Cl. 273—55

Int. Cl. A63b 69/34

4 Claims

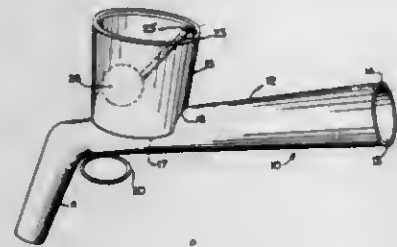


1. A football training apparatus comprising a plurality of elongated sled runners having upright members

3,424,461

TOY BALL GUN DEVICE

Norbert A. Kirk, 1048 W. Byron St., Chicago, Ill. 60613
 Filed Feb. 28, 1966, Ser. No. 530,278
 U.S. Cl. 273—96
 Int. Cl. F41b 3/00; A63b 65/12



A gun shaped, toy device having a hollow barrel and hand grip wherein a hopper is affixed to and in communication with the barrel. The device is so constructed that, for example, a ping pong ball can be caught in the hopper, allowed to descend therethrough to the barrel, and be subsequently emitted from the open end of the barrel, through a swinging type hand motion of the user.

3,424,462

PUTTER AND BACKSWING GAUGE THEREFOR

James E. Driscoll, 314 Maple Ridge Drive, Waterbury, Conn. 06705
 Filed Sept. 28, 1965, Ser. No. 490,855
 U.S. Cl. 273—162
 Int. Cl. A63b 69/39, 53/00

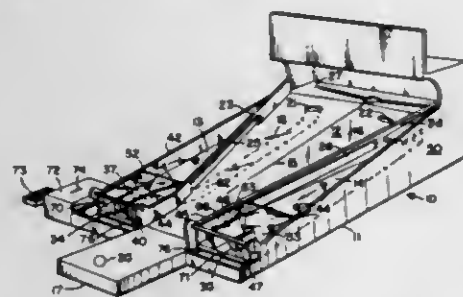


An indicator, for assisting in determining the extent of the optimum backstroke of a putter with relation to the distance between the lie of the ball and the cup, has a straight edge scale mounted on the shaft of the club between the striking head and the handle to extend horizontally when the shaft is vertical in addressing the ball in the direction of the cup. Visually aligning the ball with the point of the scale indicating the distance of the ball from the cup in taking the backstroke indicates the optimum length of the backstroke.

3,424,463

GOLF BALL PUTTING GAME

Gerald G. Matthews, 1120 N. Shore Drive, St. Petersburg, Fla. 33701
 Filed Dec. 29, 1966, Ser. No. 605,786
 U.S. Cl. 273—176
 Int. Cl. A63b 67/02, 69/36



An upwardly extending putting surface having an elevated central portion and side portions which slope

60613
1 Claim

sidewise, as well as upwardly, to communicate with upwardly extending ball return surfaces including ball deflecting hazards and ball receiving compartments at their lower ends. Conduits return golf balls from ball receiving openings in the putting surface to separate compartments adjacent the first mentioned compartments. An additional surface beyond the putting surface includes a ball receiving opening which communicates with the upper ends of the return surfaces.

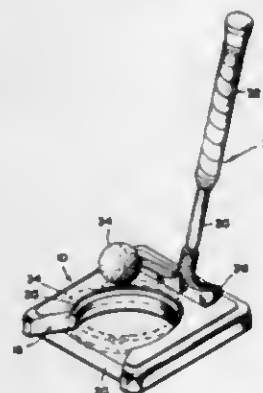
3,424,464

GOLF PRACTICE APPARATUS

David Greenhouse, Warren, N.J., assignor to Arlen Trophy Company, Inc., North Plainfield, N.J., a corporation of New York

Filed Dec. 12, 1966, Ser. No. 600,966
 U.S. Cl. 273—178
 Int. Cl. A63b 57/00, 53/16; A47g 29/00

1 Claim



A peripherally extending vertical wall having a passage therethrough communicating with a circular opening simulating a putting cup. The top surface of the wall has a first aperture for removably supporting a golf ball and a second aperture for removably supporting the head of a golf club having an extensible shaft. An article such as a clock or an ash tray may be supported in the opening simulating a putting cup.

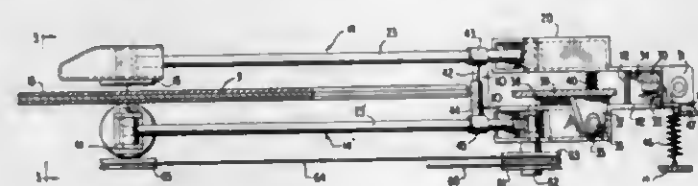
3,424,465

SOUND REPRODUCTION APPARATUS

Henry Hartog, 38 Gulzi, Psychico, Athens, Greece
 Filed Jan. 13, 1967, Ser. No. 609,189

U.S. Cl. 274—1
 Int. Cl. G11b 3/34

9 Claims



Sound reproduction apparatus in which a record disc is rotated at a constantly varying angular rate while being radially traversed by a record cutting or pick-up stylus. The angular rate of the disc and the radial rate of the stylus produces a constant linear rate between the disc and the stylus at the point of contact therebetween.

3,424,466

GRAMOPHONE PICKUPS

George O. Foot, Waltham Cross, England, assignor to Cosmocord Limited

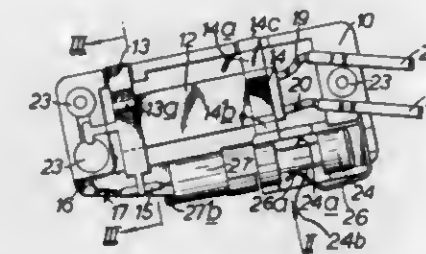
Filed Jan. 13, 1966, Ser. No. 520,403
 Claims priority, application Great Britain, Jan. 14, 1965, 1,677/65

U.S. Cl. 274—36
 Int. Cl. G11b 3/02

7 Claims

Gramophone pickup means including a replaceable stylus unit including stylus carrier means, an attachment

member, and compliance means connecting said stylus carrier means with said attachment member. The unit is adapted for replaceable mounting in a stylus holder that is in turn mounted in a casing for rotation about its longitudinal axis, whereby a selected one of a pair of stylus means associated with said stylus carrier is arranged in an operative condition.



tudinal axis, whereby a selected one of a pair of stylus means associated with said stylus carrier is arranged in an operative condition.

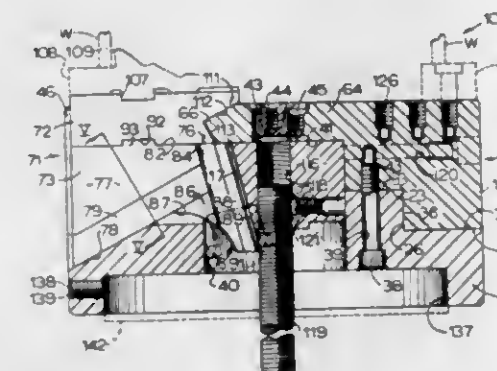
3,424,467

CHUCK CONSTRUCTION

Russell E. Buck, Scotts, Mich., assignor to Buck Tool Company, Kalamazoo, Mich., a corporation of Michigan

Filed Aug. 25, 1966, Ser. No. 575,183
 U.S. Cl. 279—2
 Int. Cl. B23b 31/40, 31/16

8 Claims



A chuck construction comprising a chuck body having guideways radially disposed therein with the guideways including guide surfaces which are sloped rearwardly and outwardly. Jaw carriers are disposed in the guideways and move outwardly and rearwardly along the sloped guide surfaces in response to rearward movement of a drawbar actuated drive member reciprocally disposed in a rearwardly opening central recess in the chuck body. Jaws mounted on the jaw carriers are adapted to internally grip a hollow workpiece as the jaw carriers move outwardly and rearwardly and, in so doing, move the workpiece rearwardly into firm engagement with the forward face of the chuck body or with suitable abutment means disposed thereon.

3,424,468

POWER-OPERABLE MULTIJAW CHUCK

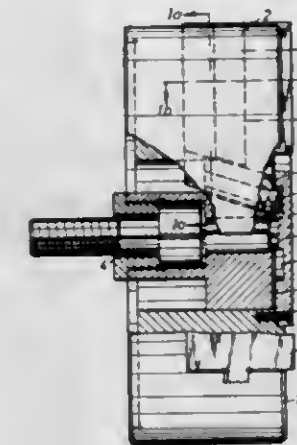
Josef Steinberger, Dusseldorf, and Heinz Beckers, Dülken, Germany, assignors to Paul Forkardt K.G., Dusseldorf, Germany

Filed Nov. 9, 1966, Ser. No. 593,117
 Claims priority, application Germany, Nov. 11, 1965, F 47,656

U.S. Cl. 279—121
 Int. Cl. B23b 31/16

4 Claims

A chuck having radially reciprocable jaws actuated by an axially movable wedge member. Each jaw has a forwardly projecting protuberance positioned within a recess in the chuck front cover plate so that the protuber-



of either of the cooperating jaw or wedge member portions employed for actuating the jaws.

3,424,469

PROTECTIVE DEVICE ADAPTABLE FOR USE ON SNOW SKIS

Albert S. Hooker, 9000 Reading Ave., Los Angeles, Calif. 90045

Filed Mar. 22, 1967, Ser. No. 625,206
 U.S. Cl. 280—11.13
 Int. Cl. A63c 5/04

6 Claims



A device for protecting the upper edges of snow skis which comprises a protective strip composed of a strong, resilient material bonded to the top edge corners of the skis. The strip is substantially elongated and being L-shaped when viewed from a cross-section thereof and may have a diagonal chamfer on one end thereof.

3,424,470

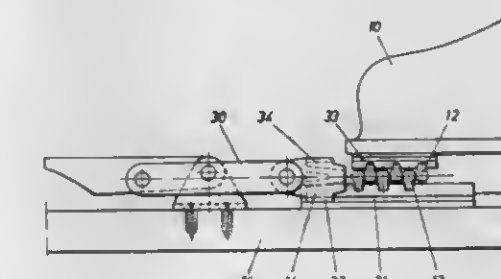
SAFETY SKI BINDING

Reinhold Voster, 31 Jahnstrasse, 7 Stuttgart-Degerloch, Germany

Filed Sept. 30, 1966, Ser. No. 583,198
 Claims priority, application Germany, Nov. 11, 1965, V 29,704

U.S. Cl. 280—11.35
 Int. Cl. A63c 9/086

20 Claims



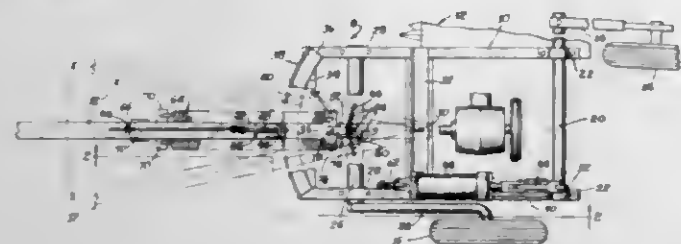
A safety ski binding for binding a shoe to a ski which includes a first series of teeth on the shoe and a second

series of teeth on the ski. There are included means which releasably secure the teeth on the shoe to the teeth on the ski.

3,424,471 COUNTERBALANCE MECHANISM FOR HARVESTERS

James H. Bornzin, La Grange, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware

Filed Oct. 9, 1967, Ser. No. 673,591
U.S. Cl. 280—43.18 14 Claims
Int. Cl. B62b 3/02

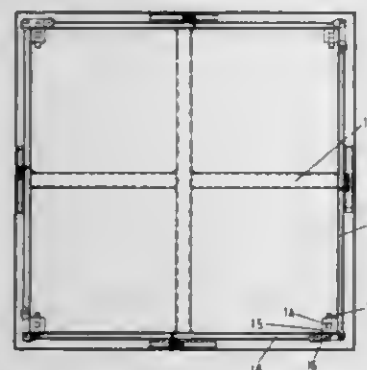


Forage harvester with wheel mounted frame, springs floatingly suspending the frame on the wheels, one spring connected between articulated parts of the frame, and including means for maintaining constant tension on the latter spring during turning.

3,424,472 WHEEL POSITIONING ARRANGEMENT FOR PALLET VEHICLE

David James Townsend, Birmingham, England, assignor to C.D.T. Design Consultants Limited, Edgbaston, Birmingham, England, a British company

Filed Sept. 21, 1966, Ser. No. 581,062
U.S. Cl. 280—47.11 2 Claims
Int. Cl. B62b 3/00



A load-carrying pallet comprises a frame upon which are individually pivotally mounted at least three rolling friction reducing units, the frame carrying operating bars connected to one another around the frame, the junction of each adjacent pair of operating bars being also connected to one of the rolling friction reducing units and the frame carrying a plurality of actuating means connected to the operating bars respectively, actuation of any one of said actuating means controlling all of the operating bars to move all of the rolling friction reducing units between first and second angularly spaced positions.

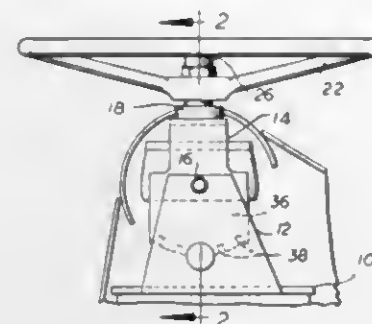
3,424,473 UNIFORM RESPONSE TILTABLE STEERING ARRANGEMENT

Jerry E. Morgan, Clarendon Hills, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware

Filed Jan. 5, 1967, Ser. No. 607,407
U.S. Cl. 280—87 5 Claims
Int. Cl. B62d 5/06; F16d 3/30

A tilttable steering wheel for use with a hydrostatic steering system which incorporates a constant velocity

universal joint between the steering wheel and the impeller shaft of a rigidly mounted control pump in order to provide a steering response or sensitivity which is the same in all positions of the wheel.

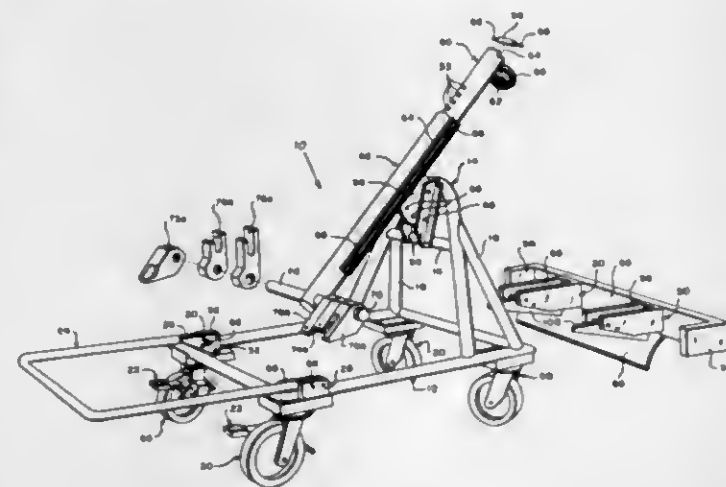


vide a steering response or sensitivity which is the same in all positions of the wheel.

3,424,474 AIRCRAFT EJECTION SEAT DOLLY

Paul Karnow, Glenside, and Blanchard S. Hutchins, Warrenton, Pa., assignors to the United States of America as represented by the Secretary of the Navy

Filed Jan. 6, 1967, Ser. No. 607,862
U.S. Cl. 280—79.2 13 Claims
Int. Cl. B62b 5/00; A47f 7/00; A47g 29/00



A dolly having a plurality of selectively positionable fittings each adapted for securement to a respective configuration of aircraft ejection seat for supporting and transporting any one of a number of different configurations of aircraft ejection seats. The dolly is usable in combination with a bulkhead mounted keeper for stowing an aircraft ejection seat.

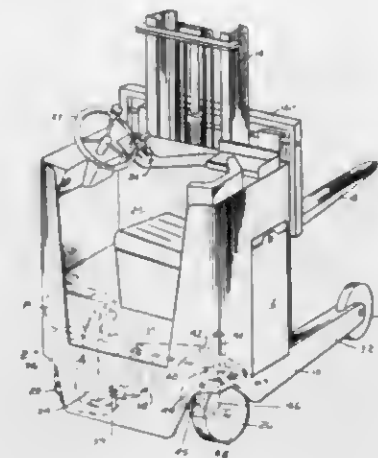
3,424,475 LIFT TRUCK SUSPENSION SYSTEM

Christian D. Gibson, Greene, N.Y., assignor to The Raymond Corporation, Greene, N.Y., a corporation of New York

Continuation of application Ser. No. 392,529, Sept. 27, 1964. This application Nov. 15, 1967, Ser. No. 683,381
U.S. Cl. 280—124 8 Claims
Int. Cl. B60g 11/14; B60k 17/30

A compact articulating lift-truck idler wheel arrangement of reduced height having a spreader to communicate wheel forces to compression springs mounted adjacent rather than above the idler wheel king pin, the axis of

which may or may not be offset from the idler wheel floor contact point, with three separate and independent means for adjusting the basic height of the idler wheel pension of casing in a well with a fluted dog cage carrying radially expandable and contractable dogs for locking the hanger to an outer surrounding pipe, and latching

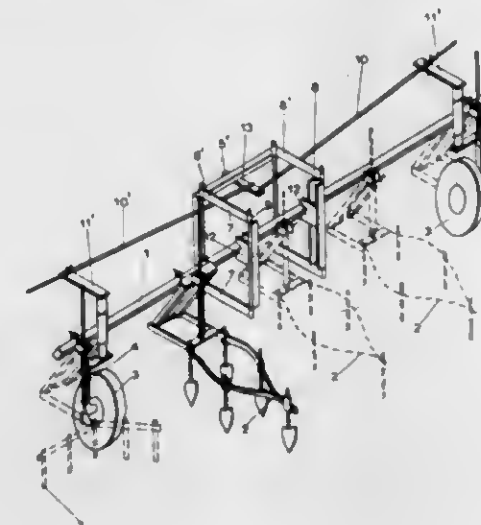


assembly relative to the truck frame, the spring rate of the compression springs, and the limit of travel of the articulating idler wheel relative to the main frame of the truck.

3,424,476 TOOL BAR HITCH

Pieter J. Greyling, 19 Berlyn St., Heidelberg, Transvaal, Republic of South Africa

Filed Dec. 19, 1966, Ser. No. 602,777
Claims priority, application Republic of South Africa, Dec. 22, 1965, 65/6,874; Feb. 17, 1966, 66/889
U.S. Cl. 280—443 4 Claims
Int. Cl. B62d 7/00, 13/00; A01b 69/00



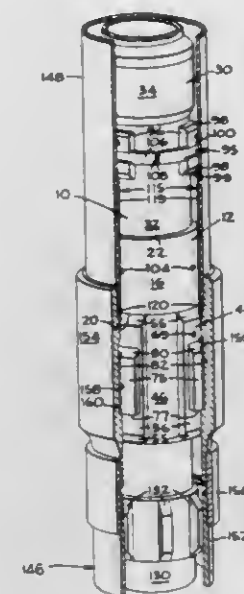
The agricultural implement support coupling comprises two pairs of links, each pair including upper and lower links, with each of the links pivotally attached at one end to a rigid frame member carrying a three-point tractor hitch. The links are pivotally connected at their other end to a rigid implement support including a landwheel, kingpin and lever arm. The means for steering the landwheel comprises a rearwardly projecting arm rigidly connected to the rigid frame member and a link connecting the rear end of the arm to the lever arm of the landwheel.

3,424,477 WELL APPARATUS

Samuel W. Putch and Lawrence A. Eckert, Houston, Tex., assignors to FMC Corporation, San Jose, Calif., a corporation of Delaware

Filed June 16, 1965, Ser. No. 464,431
U.S. Cl. 285—18 9 Claims
Int. Cl. F16l 7/00; E21b 19/10, 43/01

A pipe hanger particularly suited for on-bottom sus-

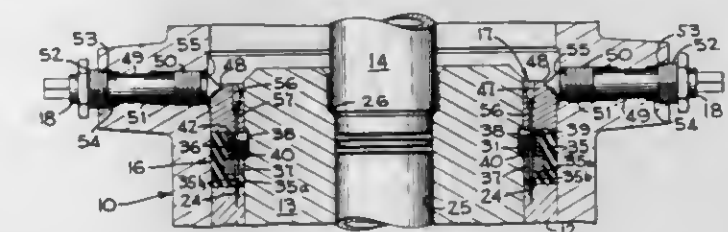


rods extending through the dogs to releasably hold the dogs in contracted position.

3,424,478 WELLHEAD APPARATUS

Carl R. Hutchinson, Houston, Tex., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware

Filed June 27, 1966, Ser. No. 560,539
U.S. Cl. 285—90 8 Claims
Int. Cl. F16j 15/00; F16l 21/08, 19/00



A well completion apparatus including a combined pipe hanger bushing and packoff with a system for locking a pipe hanger to the bushing and the bushing to a wellhead, and a sealing system for providing a fluid seal between the hanger and wellhead, the two systems interrelated such that locking the bushing to the wellhead establishes the fluid seal and locks the hanger to the bushing.

3,424,479 COUPLING AND ROD SYSTEM FOR ROCK DRILLS

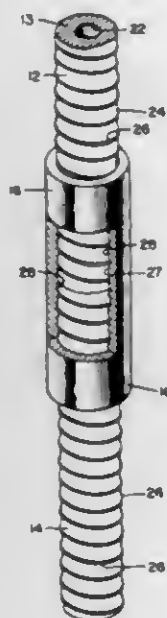
J. D. Ditson, West Portal, N.J., and James F. Cantrel, Easton, Pa., assignors to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey

Continuation-in-part of application Ser. No. 455,098, May 12, 1965. This application Jan. 11, 1966, Ser. No. 525,009

U.S. Cl. 285—94 6 Claims
Int. Cl. F16l 21/00, 15/00, 55/00

A rock drill coupling and rod system comprising a coupling member having a bore provided with a pair of circumferentially offset, overlapping threads adapted for

connecting a plurality of rods in aligned relationship. In addition, a drill rod provided with a circumferential



attachment thread which extends continuously throughout the length of the drill rod.

3,424,480 CLOSURE CONNECTION MEANS FOR A HEAT EXCHANGER

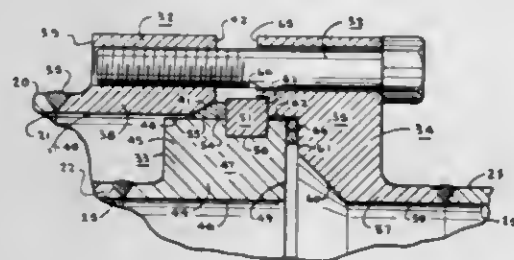
Richard W. Holland, 6950 Jay Drive,
Elyria, Ohio 44035

Filed Mar. 30, 1966, Ser. No. 538,750

U.S. Cl. 285—111

Int. Cl. F16f 17/06, 35/00, 19/02

5 Claims



A heat exchanger closure connection to close the end of an outer tube and connect the end of an inner tube to an external fluid tube. This comprises flanges on the connecting ends of all three tubes and fastened in an integral manner such as by welding. The flange on the inner tube has a split ring in a groove on the outer surface thereof which secures a sealing ring between one side thereof and an internal flare sealing surface on the inner surface of the flange of the outer tube. The other side of the split ring engages the front face of the flange of the external tube and a second sealing member fits between the front faces of the flanges of the inner tube and external tube. The assembly is held together by bolts extending between and connected to the flanges of the outer tube and the external tube.

3,424,481 CLOSURE FITTING FOR DRUMS

Roland A. Fulghum, St. Louis, Mo., assignor to Strection Industries Incorporated, Millbrae, Calif.

Filed Mar. 29, 1967, Ser. No. 626,863

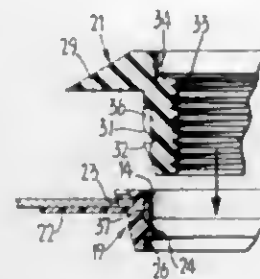
U.S. Cl. 285—162

Int. Cl. B65d 25/38, 41/08

7 Claims

A plastic fitting for the bung hole of a drum which may be installed subsequent to assembly of the drum. The fit-

ting includes a female part engaged with the periphery of the bung hole in a snap fit, and a male part engaging the female part with a forced fit to establish a positive seal



between the fitting and drum head. The fitting is also suited to use in the support of a plastic film liner within the drum.

3,424,482 PIPE COUPLING CLAMP

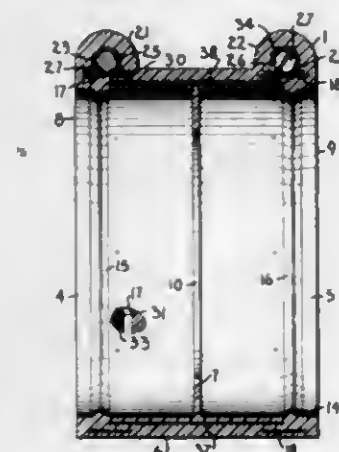
Elmer R. Ligon, Pittsburg, Kans., assignor to W. S. Dickey Clay Manufacturing Company, Kansas City, Mo., a corporation of Missouri

Filed Jan. 22, 1968, Ser. No. 699,586

U.S. Cl. 285—230

Int. Cl. F16f 49/00, 21/00; B65d 63/00

10 Claims



A coupling for connecting adjacent ends of two sections of pipe in substantially end-to-end abutment comprising an elongate sleeve formed of resilient compressible material having a centrally located inwardly directed annular flange positioned to be engaged by the adjacent pipe ends, a pair of tightening members within and surrounded by the sleeve material to tighten the sleeve portions into sealing engagement with the pipe ends, the tightening members include bands with each band being in an overlying relation to a respective pipe end, and adjusting member associated with each of said bands for reducing the circumferential lengths and tightening the sleeve about the respective pipe ends. All metal portions are enclosed and protected by the compressible material which is inert and capable of long life embedded in soil and the like and thereby particularly adapted for sewer pipes.

3,424,483 ROTATABLE ELEMENT

Henry Harrison, 18 Frost Creek Drive,
Locust Valley, N.Y. 11560

Filed Oct. 7, 1965, Ser. No. 493,790

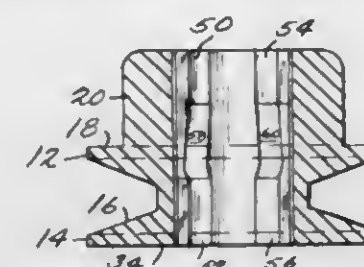
U.S. Cl. 287—52.08

Int. Cl. B60b 27/06; F16d 1/06; F16c 3/10

2 Claims

The rotatable element has a multi-point mounting including a plurality of axially spaced pairs of arcuately spaced cylindrically curved shaft engaging pads in the radially inward peripheral surface of the element and a radially movable fastener in the element substantially

diametrically opposed to the longitudinally directed symmetry line of said pads. An arcuately extending recess is provided facing radially inwardly between the shaft engaging mounting pads of the element in order to fore-



stall rocking of the rotatable element on its shaft. The element may be cast in a two part mold having a core, and the core withdrawn at an oblique angle to free it from the casting.

3,424,484 BALL JOINT WITH RESILIENT PRESSURE PLATE

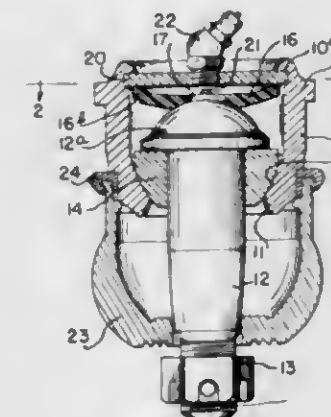
Charles J. Andexler, Twinsburg, Ohio, assignor to Barmatic Machines, Inc., Cleveland, Ohio, a corporation of Ohio

Filed Feb. 21, 1968, Ser. No. 707,045

U.S. Cl. 287—87

Int. Cl. F16c 11/06; F16b 7/00; B25g 3/38

9 Claims



A resilient pressure plate of synthetic resin is disclosed holding the parts of a ball and socket joint assembled under tension. The pressure plate is of a shallow cup-shape held in compression by a top seat engaging the rim of the cup and the rounded head of a ball stud engaging the central bottom portion of the plate. There is a central through opening through the bottom of the cup-shape member and a radially extending slot from that central opening outwardly entirely through the cup-shape member to permit the resilient pressure plate to compress under tension. Other features may include openings through the resilient plate for the passage of lubricant and stop members on the interior surface of the bottom of the cup-shape member to limit the compression thereof.

3,424,485 CABLE ATTACHING ASSEMBLY

Armais Arutunoff, Bartlesville, Okla., assignor to Reda Pump Company, Bartlesville, Okla., a corporation of Delaware

Filed Apr. 24, 1967, Ser. No. 633,012

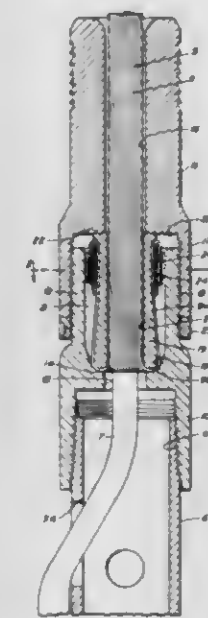
U.S. Cl. 287—116

Int. Cl. F16b 7/18; F16f 21/00

7 Claims

An assembly for attaching an end of a multi-strand cable to an element to be supported, wherein the cable is inserted through a clamping sleeve and its strands are bent in reverse to overlap the periphery of the sleeve.

The sleeve is then inserted in a cup connected to the element to be supported, with the bends of the strands engaging the base of the cup. The sleeve is of such a length that its upper end projects above the upper end of the cup. An inverted clamping socket, having an axial



3,424,486 CONTACT LENS HANDLING APPARATUS

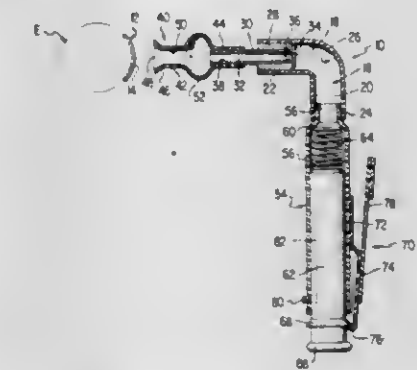
Clifton Corley, 232 Brazilian Ave.,
Palm Beach, Fla. 33480

Filed Nov. 29, 1966, Ser. No. 597,627

U.S. Cl. 294—64

Int. Cl. A61f 9/00

7 Claims



A device for handling contact lenses, particularly for extracting such lens, including a suction cup at one end and a handle incorporating vacuum creating means at the other end. The handle is disposed laterally of the lens engaging suction cup out of the path of vision and enabling the operator to view the operation in a mirror.

3,424,487 GLASS TRANSPORTING RACK

Harold Pector, Hayward, and Russell W. Tausbeck, San Lorenzo, Calif., assignors to American Plate and Window Glass Distributors, Hayward, Calif., a corporation of California

Filed Apr. 27, 1967, Ser. No. 634,241

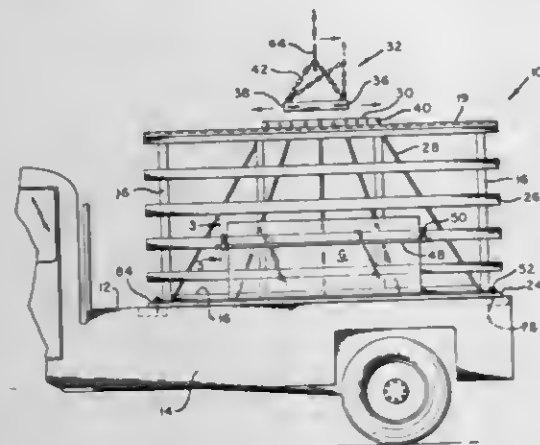
U.S. Cl. 294—67

Int. Cl. B60p 1/64, 3/00; B66c 1/00

7 Claims

An A-frame glass transporting rack with adjustable bearing means for clamping glass sheets against an inclined surface. The ends of a chain are secured to a bar which is releasably secured in selected positions along the top of the rack in order to balance the load and to

facilitate moving it by lifting on the chain. Complementary securing means, such as bolt or hook members, are



provided to releasably secure the rack to the bed of a truck or other portable member.

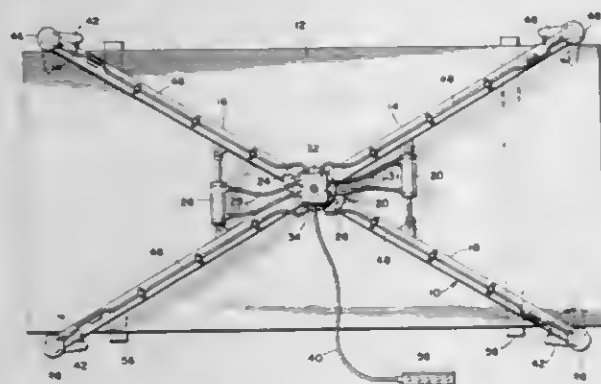
3,424,488

MODIFIED X-FRAME LIFTING APPARATUS
Raymond L. Renfro, Grass Valley, Calif., assignor to J. C. Renfro & Sons, Inc., Jacksonville, Fla., a corporation of Florida

Filed July 26, 1967, Ser. No. 656,167

U.S. Cl. 294-67
Int. Cl. B66c 1/32

6 Claims



An apparatus for lifting a stack of sheets comprising a master leg, a pair of half legs pivotally connected at the inner ends thereof to the master leg and disposed on opposite sides of the master leg to form therewith a substantially X-shaped lifting frame, each of said half legs being movable with respect to the master leg independently of the movement of the other half leg, and a plurality of lifting feet operatively connected to the ends of the master leg and the outer ends of the half legs, whereby when the X-shaped frame is positioned over a stack of sheets to be lifted the lifting feet may be positioned under the bottom-most sheet in the stack for supporting and carrying the stack when the apparatus is lifted.

3,424,489

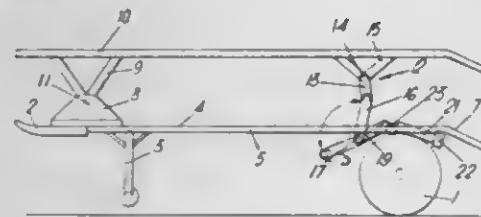
LOAD TRANSPORTING VEHICLES

Gordon Hoy, Chelmsford, England, assignor to Hoynor Limited, Danbury, England, a corporation of Great Britain

Filed Oct. 6, 1966, Ser. No. 584,908

U.S. Cl. 296-1
Int. Cl. B60p 3/08, 1/28

5 Claims



The upper deck of a double deck transport vehicle is pivoted at its front end to the lower deck and is connected

at its rear end to the lower deck through power operated toggle linkage so that the rear of the upper deck may be lowered to a position in which it may be loaded in a fashion similar to and as easily as the lower deck is loaded, and when raised provide clearance for loading the lower deck.

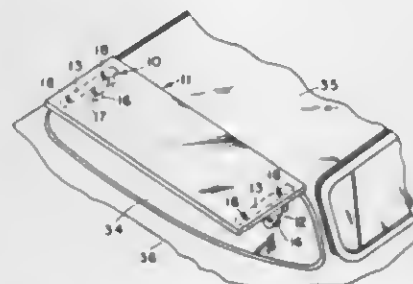
3,424,490

SUPPORTING MEANS FOR AUTOMOBILE WINDSHIELD WEATHER VISOR

John P. Francis, 20 Boston St., Haverhill, Mass. 01830
Continuation-in-part of application Ser. No. 571,816, Aug. 11, 1966. This application July 31, 1967, Ser. No. 657,107

U.S. Cl. 296-95
Int. Cl. B60j 1/20

8 Claims



This invention provides weather protection to the windshield area, or any other transparent area of an automobile, when the vehicle is in a parked position. The visor supporting means are adapted to removably engage the surface of the windshield for supporting engagement thereto. The visor panel is removably attached to the visor supporting means, or, removably attached as a complete unit to the windshield area. The windshield area of all types of automobiles, including convertibles, are thus capable of being protected from any weather condition.

3,424,491

SUN VISOR

Joseph Cecil Brown, Loughton, England, assignor to Homerton Engineering Company Limited, London, England, a British company

Filed May 6, 1966, Ser. No. 548,238

Claims priority, application Great Britain, May 13, 1965, 20,230/65

U.S. Cl. 296-97
Int. Cl. B60j 3/02

2 Claims



The invention relates to a mounting for a sun visor and comprises a frame formed from a resilient metal strip bent to conform to the outline of the visor and being deformable upon impact by the head of a person.

3,424,492

SEAT BACK ADJUSTER LINK

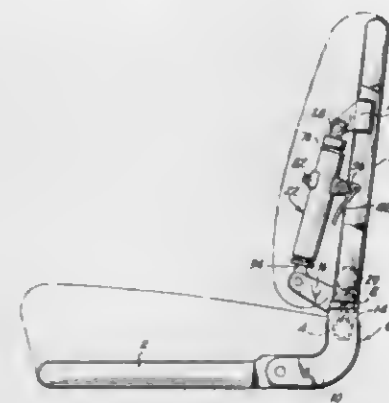
Paul C. Tabor, Clawson, Mich., assignor to Meteor Research Limited, Roseville, Mich., a partnership between Wally H. Kozlowski and Paul C. Tabor

Filed Sept. 18, 1967, Ser. No. 668,331

U.S. Cl. 297-361

Int. Cl. B60m 1/02; A47c 3/00

7 Claims



An extensible and contractible link one portion of which is tubular and the other being telescopically slidable therein, spring means between the portions normally urge the link to contract. A plurality of friction plates is fixed to each portion of the link within the tube and extend longitudinally toward the other portion in interleaved frictional relation with the corresponding plates on that other portion. A selectively releasable spring biased cam and an opposing abutment apply clamping pressure to the interleaved stack of plates to frictionally lock the link in any selected position of adjustment.

3,424,493

BABY CHAIR WITH RELEASABLE SIDE GUARDS

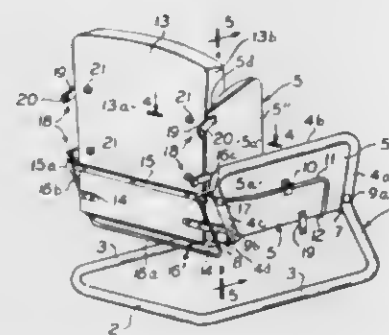
Louis Gottfried, 515 West End Ave. 10024, and Jacob Berger, 600 W. 246th St., New York, N.Y. 10471

Filed May 26, 1967, Ser. No. 641,591

U.S. Cl. 297-384

Int. Cl. A47d 15/00; A47c 7/40

11 Claims



A baby chair which comprises a frame including a supporting base. A seat is connected to and between the frame and includes first longitudinal sides spaced from the frame. A back rest is disposed between the frame adjacent the rear of the seat and includes second longitudinal sides spaced from the frame. Two side panels each having an upholstered center portion and a marginal flattened portion, the latter of a thickness complementary to the space between the first and second longitudinal sides and the frame, and received in the space by engagement substantially along the length of the second longitudinal side. The side panels are each independently removable from and insertingly held securely in the space and extend abuttingly along the second longitudinal side of the back rest and constitute side guards for the back rest.

3,424,494

SEAT BELT POSITIONING MECHANISM

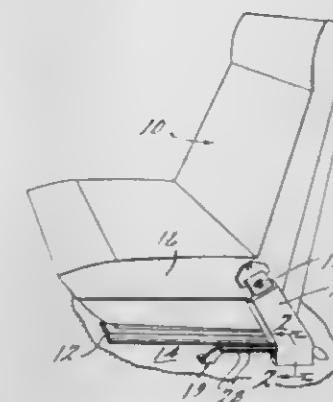
Raymond David McIntyre and Frederick W. Woodward, Livonia, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Sept. 5, 1967, Ser. No. 665,577

U.S. Cl. 297-385

Int. Cl. B60r 21/10; A47f 5/00

8 Claims



A positioning mechanism for a motor vehicle seat belt segment that allows movement of the effective anchoring point of the seat belt segment to the vehicle body structure to accommodate variances in the horizontal positioning of an adjustable passenger seat. The seat belt segment anchoring point is locked automatically against movement when the belt is drawn taut to secure a passenger seat occupant and is unlocked automatically when no external force urging the seat belt segment into a taut position is applied.

3,424,495

SEAT BELT CONSTRUCTION

Nicholas Cherup, 24215 Hill St., Warren, Mich. 48091
Filed Apr. 11, 1966, Ser. No. 541,649

U.S. Cl. 297-386

Int. Cl. A62b 35/00

4 Claims



A seat belt for automobiles and the like in which the strap portion is constructed of an elasticized woven fabric containing both elastomeric and nonelastomeric threads or cords and characterized by a convex stress-strain curve over at least a portion thereof.

3,424,496

VEHICLE PASSENGER SAFETY DEVICES

Wendell Arthur Prough, 326 N. Laurel Ave., Ontario, Calif. 91764

Continuation-in-part of application Ser. No. 485,632, Sept. 7, 1965. This application Feb. 16, 1967, Ser. No. 616,684

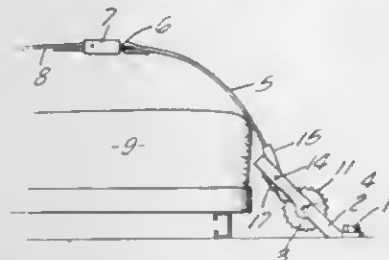
U.S. Cl. 297-388

Int. Cl. A62b 35/02

12 Claims

A vehicle passenger safety device having two single run belt portions detachable joined by a buckle. Each belt portion is spring-wound on a drum adjacent to where a supporting structure for the belt is secured to the vehicle

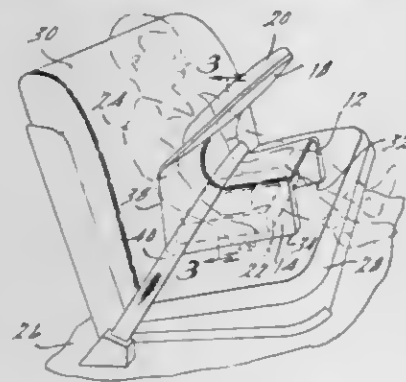
means to prevent rotation of the drum and to prevent floor. The safety device includes an adjusting or locking



loosening of the belt on the passenger after it has been adjusted by the locking or adjusting means.

3,424,497

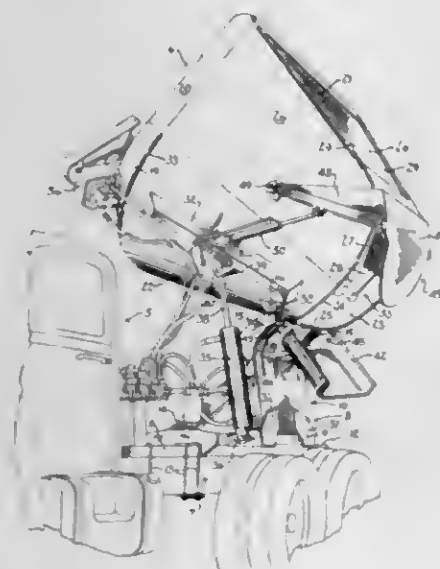
SAFETY DEVICE FOR RESTRAINING PASSENGERS
Harold G. Brilmyer, Grosse Pointe, and Samuel A. Heap, Taylor Township, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Sept. 25, 1967, Ser. No. 670,194
U.S. Cl. 297—390 12 Claims
Int. Cl. B60r 21/10; A63b 35/00; A47d 1/12



A safety device for restraining an occupant of a vehicle seat during sudden deceleration of the vehicle. The device includes a rigid frame partially surrounding the seated horizontal seat cushion, a second portion bearing on the vehicle seat back and a crash panel spaced from the passenger and extending upwardly so that it is positioned forward of the upper torso and face of the passenger. The rigid frame is held in position by a conventional vehicle lap belt.

3,424,498

DUMP TRUCK BODY
Glenway Maxon, Jr., 1744 N. Farwell Ave., Milwaukee, Wis. 53202
Filed Dec. 5, 1966, Ser. No. 599,155
U.S. Cl. 298—7 11 Claims
Int. Cl. B60p 1/16; B65g 67/24



An open top high discharge tilt body having a width and height substantially equal to its length. The side and

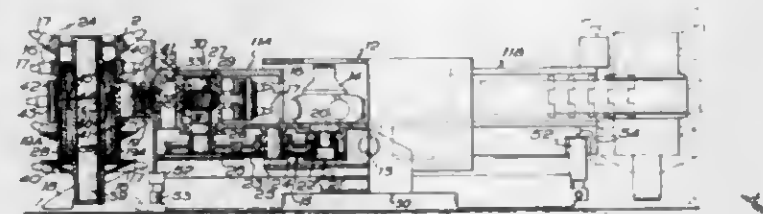
bottom edges of a rear discharge opening located below a rear wall on the body are defined by the rear of an upwardly and rearwardly convergent trough-like bottom wall which bellies downwardly between a pair of opposite longitudinal reinforcing rails on its sides so as to be in tension under the weight of the body contents. Lugs on the rails receive the thrust of lift cylinders by which the body is tilted to discharge its contents.

3,424,499

LONGWALL MINING MACHINE HAVING TWO VERTICAL AXIS CUTTING DRUMS
Frederick Webster, Sheffield, England, assignor to Webster Machine Development Limited
Filed Nov. 14, 1966, Ser. No. 594,037
Claims priority, application Great Britain, May 13, 1966, 21,316/66

U.S. Cl. 299—51
Int. Cl. E21c 27/22, 25/08

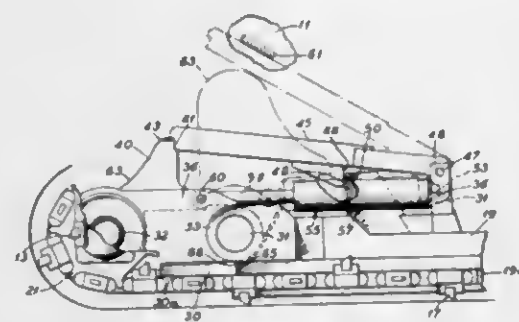
6 Claims



A cutting machine of the type intended to be guided by and movable in both directions of an armoured face conveyor, and provided with two vertical axis cutting drums, the drums being directly driven by a train of gears within the machine frame. The overall lengthwise dimension of each drum exceeds that of the frame of the machine by which the drums are supported and from which they are driven so that the machine effects cutting of the coal by whichever is the leading drum in the particular direction of movement.

3,424,500

CORNER SPROCKET RETAINER AND RELEASE
Vincent A. Dekan, Chicago, and Walter Silks, Downers Grove, Ill., assignors to Westinghouse Air Brake Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 16, 1967, Ser. No. 623,701
U.S. Cl. 299—59 6 Claims
Int. Cl. E21c 1/00

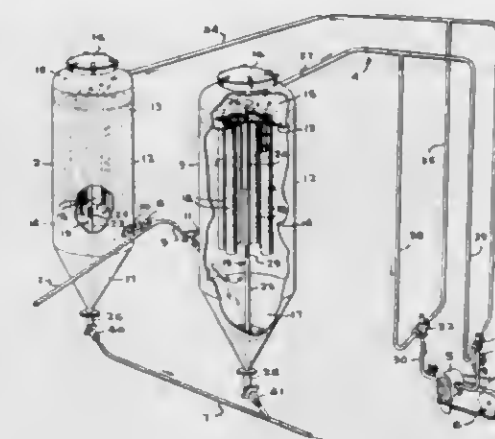


Retraction and locking device for trimmer chain corner sprocket of a continuous mining machine. The device comprises a lock arm having a lifting end and a locking end. The lifting end of the lock arm is connected to a power jack. The opposite end of the jack is pivotally connected to a corner sprocket mounting arm, which forms a continuation of the guide for the trimmer chain and is transversely pivoted thereto. A stop on the trimmer chain support is engaged by the lock arm when in its locking position.

tion, to transfer the loads from the lock arm pivot to the guide for the trimmer chain, when the sprocket is in its operative position. The admission of fluid under pressure to retract the jack first raises the lock arm out of locking engagement with the corner sprocket mounting arm to the full extent of its travel. The lock arm then forms a reaction member for the jack effecting retraction of the jack and retractable movement of the corner sprocket.

3,424,501

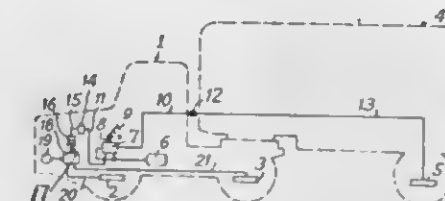
CONVEYING SYSTEM
Henry T. Young, R.D. 2, Muncy, Pa. 17756
Filed July 11, 1967, Ser. No. 652,514
U.S. Cl. 302—21 5 Claims
Int. Cl. B65g 53/04, 53/40



A double tank system for continuous unloading of particulate matter under negative pressure and conveying under positive pressure, with each tank containing a filter assembly. Material is sucked into a first tank and filtered, the separated material collecting in the first tank and the entraining fluid being pressurized and used to entrain and convey collected material in the second tank. The pressurized fluid entering the second tank passes through the filter assembly in reverse direction, back-washing the filter elements. Periodically the flow cycle is reversed, the second tank becoming the filtering and material storage tank, and the first tank becoming the filter back-washing and material conveying tank. The disclosure also includes a single tank reversely operated to provide for intermittent flow.

3,424,502

BRAKING SYSTEM FOR TRACTOR AND TRAILER ASSEMBLY
Edmond Henry-Biabaud, Paris, France, assignor to Societe Anonyme Andre Citroen, Paris, France, a French society
Filed Aug. 22, 1967, Ser. No. 662,424
Claims priority, application France, Sept. 30, 1966, 78,446
U.S. Cl. 303—7 6 Claims
Int. Cl. B60t 13/58

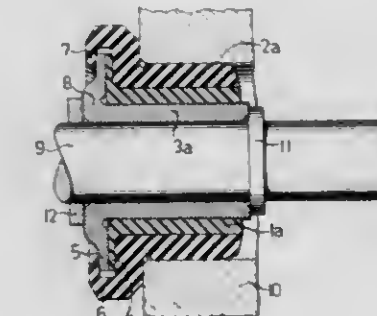


This disclosure describes a braking system for a tractor and trailer assembly in which the tractor brakes are hydraulically operated whilst the trailer brakes are pneumatically operated. To this end, the tractor includes

sources of compressed air and pressurized liquid, a two-channel pneumatic distributor which supplies compressed air from the appropriate source to its two channels in response to actuation of the brake pedal of the tractor, and a two-channel hydraulic distributor which supplies pressurized liquid to its two channels in response to operation of a pneumatic actuator controlling the hydraulic distributor. One of the channels of the pneumatic distributor is provided with a detachable connector for connecting the channel to the pneumatic brake system of the trailer and its other channel is connected to the pneumatic actuator controlling the hydraulic distributor. The two channels of the latter are respectively connected to hydraulic brake actuators for operating the front and rear brakes of the tractor.

3,424,503

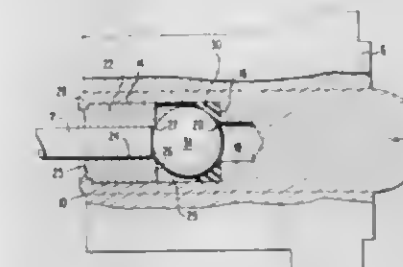
SLIDING BEARING WITH YIELDABLY JOURNALLED BUSHING
Karl Schulz, Hannover, Germany, assignor to Continental Gummi-Werke Aktiengesellschaft, Hannover, Germany
Filed June 29, 1965, Ser. No. 467,891
Claims priority, application Germany, July 3, 1964, C 33,316
U.S. Cl. 308—26 2 Claims
Int. Cl. F16c 27/00, 35/00, 33/72



The present invention relates to a sliding bearing having a housing into which is inserted a tubular rubber body which has a bushing of glass fiber reinforced polyamide arranged therein and connected to said rubber body, while a sleeve of porous sinter metal saturated with one or more lubricants so as to form a sleeve of porous self-lubricating sinter metal is arranged with slide fit in said bushing for receiving therein a member to be rotatably journaled in said bearing.

3,424,504

THRUST BEARING INCORPORATING A RESILIENT, FRICTIONAL MEMBER AND METHOD OF ASSEMBLY THEREOF
Robert B. Emery and Horace J. Homrig, Duncan, Okla., assignors to Halliburton Company, Duncan, Okla., a corporation of Delaware
Filed Nov. 9, 1966, Ser. No. 593,068
U.S. Cl. 308—37 5 Claims
Int. Cl. F16c 17/04, 19/04, 19/10



A bearing for a rotary shaft which is mounted in a housing. The housing includes an elongated bore with a

shoulder adjacent the bottom of the bore. A sleeve is retained in the bore as a radial bearing for the shaft. A thrust member is positioned in the bore between the sleeve and the shoulder. A resilient, frictional member is deformingly interposed between the thrust member and the shoulder. The resilient member frictionally prevents rotation of the thrust member and provides cushioning against axially directed external loads on the thrust member.

3,424,505 FLUID BEARING

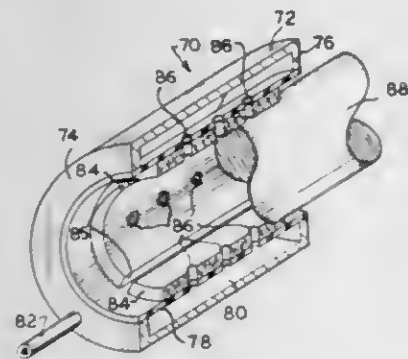
Vito J. Pizzitola, Deer Park, N.Y., assignor to Eastern Bearings & Manufacturing Co., Inc., Uniondale, N.Y., a corporation of New York

Filed Oct. 10, 1966, Ser. No. 585,585

U.S. Cl. 308—73

Int. Cl. F16c 17/06, 17/08

6 Claims



A bearing in which a housing includes a flexible diaphragm that supports a plurality of bearing elements that define a support surface in the rest condition and in a condition of rotation create a decreased pressure area between such elements and a cooperating bearing surface into which area fluid moves to afford a fluid bearing barrier.

3,424,506 DEVICE FOR OILING BEARINGS

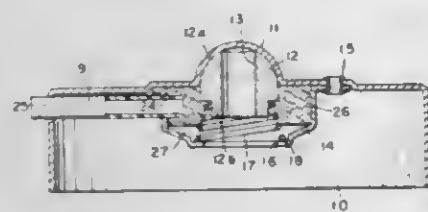
Gordon G. Korinek, Menominee, Mich., assignor to Vernco Corporation of Tennessee, Newport, Tenn.

Filed Jan. 13, 1967, Ser. No. 614,764

U.S. Cl. 308—132

Int. Cl. F16c 1/24, 33/66, 13/02

6 Claims



A device for oiling a bearing contained in a bearing housing having a bifurcated oil receiving member and an oil supply tube which extends through the housing for supplying oil to the bearing. The oil supply tube has an abutment on the outer extremity thereof which is the sole means for limiting travel of the tube outwardly from the bearing housing.

3,424,507 WATER PUMP BEARING

James W. Rollins, Winsted, and John J. Moroney, Torrington, Conn., assignors to The Torrington Company, Torrington, Conn., a corporation of Maine

Filed Aug. 2, 1966, Ser. No. 569,662

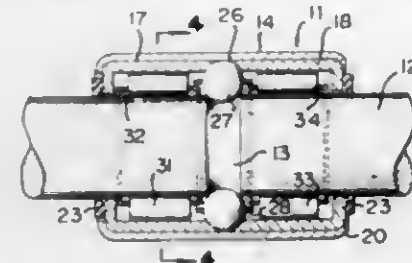
U.S. Cl. 308—174

Int. Cl. F16c 19/04, 19/10, 19/14

8 Claims

This disclosure particularly relates to a bearing and shaft assembly adapted for heavy radial or couple loads

accompanied by a light axial thrust load. The bearing is one which is particularly adapted for use as a water pump bearing. The bearing includes a shaft which is mounted in a housing by means of two roller bearing assemblies for supporting the shaft under the radial loads, with there being an intermediate bearing assembly defined by groove-like raceways having balls seated therein, the balls



providing for a relatively small radial load and at the same time acting as an axial thrust bearing. If desired, the housing may be economically formed of a sheet metal sleeve and two sheet metal cups, the cups cooperating to provide the necessary outer raceways and being retained in opposed end to end relation by the simple crimping of the opposite ends of the sleeve.

3,424,508

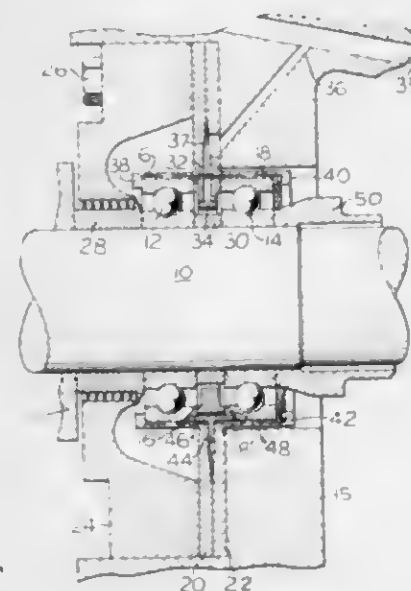
MOUNTING MEANS FOR HIGH SPEED BEARINGS
Richard W. Kizer, Morton, and Kenneth D. Probert, Peoria, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

Filed Aug. 30, 1966, Ser. No. 576,001

U.S. Cl. 308—184

Int. Cl. F16c 27/00

4 Claims



Improved support means for the outer races of bearing assemblies on a shaft which is subject to vibration in certain speed ranges includes resilient mounting arrangements and provides space for lubricant to dampen excessive vibrations in such speed ranges.

3,424,509

TRAFFIC SIGNAL HANGER

Gregory Siklos, Bronx, N.Y., assignor to The Marbelite Company, Inc., Brooklyn, N.Y.

Filed Oct. 18, 1967, Ser. No. 676,209

U.S. Cl. 312—223

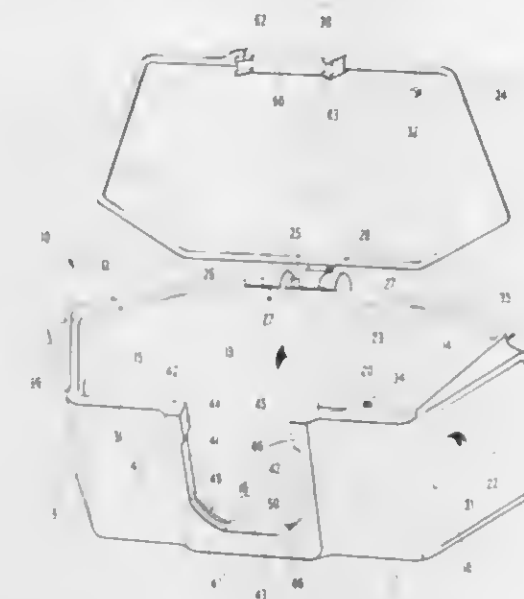
Int. Cl. G08g 1/095

7 Claims

A traffic signal hanger is provided having a housing for removably suspending a traffic signal therebeneath. The bottom wall of the housing has a cutout section into which an insert fits. The insert is directly connected to the traffic signal and carries upper flange means overlying a portion of the bottom wall with a collar below the upper flange means received by edge walls of the cutout section.

The collar carries means for interengaging the edge walls to prevent upward and downward movement of the insert

for panoramic stereo re-creation coacting with wide-angle oculars having divergent optical axes which enables substantially distortion-free wide-angle viewing.



and locking means are provided for locking the insert in the cutout section against movement in a horizontal plane.

3,424,510

DISPLAY CARTS WITH BUBBLE TOPS

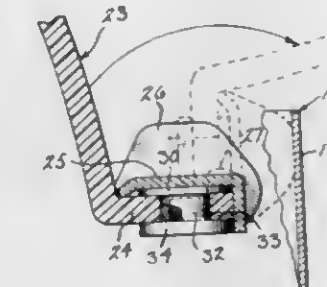
Herbert J. Moon, Milwaukee, Wis., assignor to Lakeside Manufacturing, Inc., Milwaukee, Wis., a corporation of Wisconsin

Filed June 5, 1967, Ser. No. 643,692

U.S. Cl. 312—284

Int. Cl. A47j 47/14

5 Claims



A display cart having an upper supporting surface with a transparent plastic bubble top therefore, said bubble top have a rearwardly projecting plastic flange, a metal reinforcing and supporting strip covering and secured over said flange and having hinge trunnions at its ends for coaction with hinge ears at the ends of the rear of the supporting surface whereby the plastic material is relieved of local hinging stresses, the hinge members including means for limiting upward folding movement of the bubble top to 90° while relieving the plastic of stress as it is supported in this position.

3,424,511

WIDE-ANGLE STEREOVIEWER

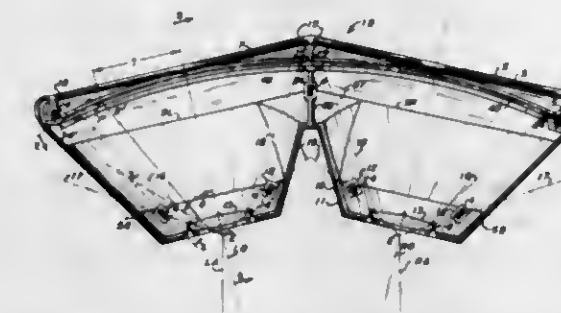
Harvey L. Ratliff, Jr., Oxon Hill, Md., assignor to Jetru Inc., Amarillo, Tex.

Filed June 27, 1966, Ser. No. 560,531

U.S. Cl. 350—135

Int. Cl. G02b 27/22

3 Claims



A panoramic viewer with a large curved picture slot

3,424,512 OPTICAL SPATIAL FILTERING WITH ENLARGED FREQUENCY SPECTRUM PLANE

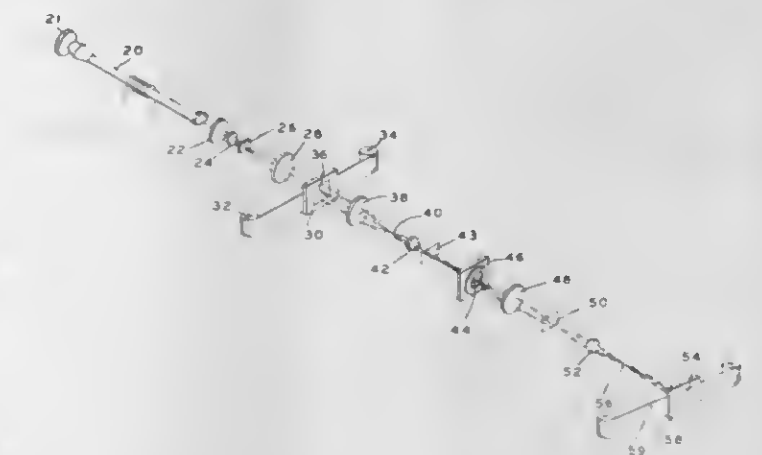
Arthur L. Ingalls, Ann Arbor, Mich., assignor to Conduction Corporation, Ann Arbor, Mich., a corporation of Delaware

Filed Apr. 27, 1964, Ser. No. 362,800

U.S. Cl. 350—162

Int. Cl. G02b 5/18

4 Claims



An improved optical system for two-dimensional filtering utilizing a coherent light source to create a plane wave front and an optical system to create a transform of input data illuminated by the light source, wherein the transform of the data is enlarged to facilitate a filtering operation to remove selected frequencies and orientations and subsequently the reconstruction image is enlarged to provide a practical reconstruction size, the entire system being constructed to provide an optimum size spectral area with a minimum optical path length.

3,424,513

ELECTRO-OPTIC VARIABLE FOCAL LENGTH LENS

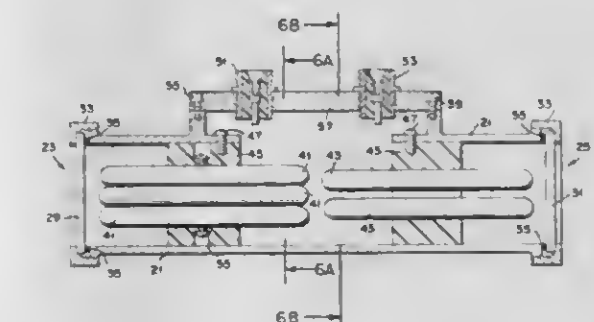
James F. Lotspeich, Malibu, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed June 20, 1966, Ser. No. 558,802

U.S. Cl. 350—180

Int. Cl. G02b 1/06

6 Claims



1. An electro-optic variable focal length lens, comprising:

(A) means including a Kerr effect medium transparent to optical frequency energy and adapted to intercept a narrow beam of substantially parallel and monochromatic light and transmit said beam therethrough along a beam axis;

(B) first and second parallel arrays of quadrupolar cylindrical rods arranged in tandem and disposed in

said medium, each of said arrays comprising four of said rods evenly spaced about and parallel with said beam axis, one of said arrays being rotated about said axis 45 degrees with respect to the other of said arrays; and
(C) means for placing a controllable positive and negative direct-current charge alternately on said rods for causing said beam to be conically diverged dependent on the magnitude of the charge placed on said rods.

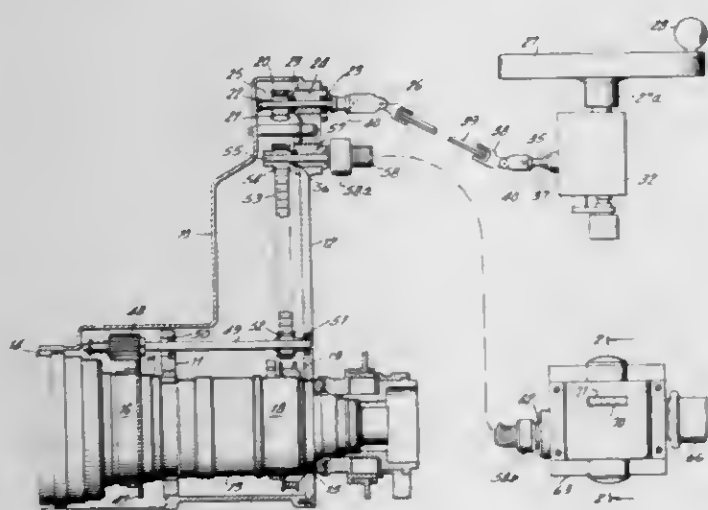
3,424,514

REMOTE CONTROL MECHANISM FOR A VARIFOCAL LENS

Frank G. Back, Glen Cove, and Ludwig Sterflinger, Syosset, N.Y., assignors to Zoomar, Inc., Glen Cove, N.Y., a corporation of New York
Filed Apr. 25, 1966, Ser. No. 544,737

U.S. Cl. 350-187
Int. Cl. G02b 15/16

6 Claims



1. A control mechanism for a varifocal lens system having a rotatable ring for focusing and a rotatable barrel for driving the movable lens elements comprising, a main housing supporting said lens system and the elements of said control mechanism situated adjacent to said system, a first gear means fixed to said ring for focusing, a pinion meshing with said first gear means and serving as the driver for the focusing barrel, a first shaft supported by bearings within said housing for retaining said pinion in mesh with said first gear means, a first sprocket means fixed to said first shaft, a second sprocket means mounted on a second rotatable shaft supported in bearings retained by a bushing fixed to said housing, means for drivably linking said first and second sprocket means, a focus control housing separated from said main housing, an input shaft supported in bearings held by said focus control housing, a worm mounted on said input shaft, a worm gear meshing with said worm, an indicator shaft for supporting said worm gear, an indicating scale on said indicator shaft to display the focusing distance, a limit stop associated with said indicating scale to prevent rotation of the latter when the limits of the focusing range are reached, flexible means for coupling said input shaft to said first shaft, a third sprocket means fixed to said barrel for driving the movable zoom lens elements, a fourth sprocket carried by the housing and means for linking it to said third sprocket, an intermediate shaft for supporting said fourth sprocket within said main housing, a universal joint coupled to said intermediate shaft, a handwheel for moving the lens system to the desired point within the zoom range, gear means interconnecting the universal joint and handwheel, and a limit stop associated with said handwheel to pre-

vent the latter from exceeding the limits of the zoom range.

3,424,515

WINDOW CONSTRUCTION HAVING CONTINUOUSLY VARIABLE TRANSVERSE LIGHT TRANSMISSION

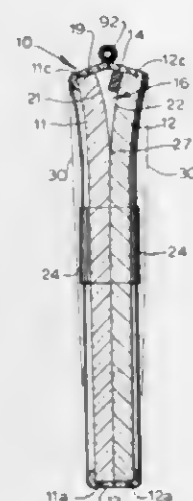
George Risk, Columbus, Nebr., assignor to George Risk Industries, Inc., Columbus, Nebr., a corporation of Colorado

Filed Aug. 23, 1965, Ser. No. 481,790

U.S. Cl. 350-258

Int. Cl. G02b 17/00, 27/00

8 Claims



This invention relates to dual-panel window systems wherein a layer of colored fluid can be introduced between non-opaque panels so as to alter the color and transverse light transmission of the window construction. In particular, this invention relates to a dual-panel window construction wherein the transverse light transmission can be quickly, continuously, controllably and reversibly varied from "Tn," e.g. the inherent or unadulterated transverse transmission of the naked non-opaque panels, to virtual opacity.

3,424,516

PRISM SYSTEM COMPRISING JOINED PENTAPRISMS

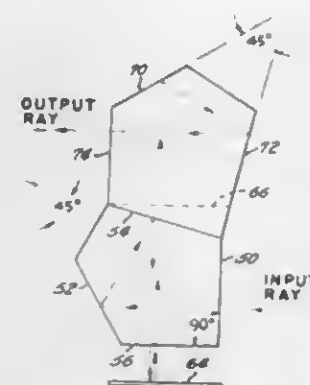
John L. Snyder III, Garland, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed May 28, 1964, Ser. No. 371,070

U.S. Cl. 350-286

Int. Cl. G02b 5/04

9 Claims



A piston system is shown which comprises two pentaprisms joined at one of their surfaces. Light rays entering the prism system emerge from the system parallel to the direction of the entering rays, and the path of the rays emerging from the system is invariant to the movement of the prism system about either of two perpendicular axes.

3,424,517

TWIN REAR VISION MIRROR ASSEMBLY

Frances Budreck, Chicago, Ill., assignor to Monarch Tool & Machinery Co., Chicago, Ill., a corporation of Illinois

Filed Dec. 8, 1965, Ser. No. 512,443

U.S. Cl. 350-293

Int. Cl. G02b 17/00

1 Claim



A rear vision mirror designed especially for trucks and including a planar direct rear view mirror proper and a wide angle viewing mirror proper of frusto-spherical design. A novel anchor strap within the mirror housing affords a reinforcement for the back wall of the housing and also relieves such back wall from having to bear the entire weight of the frusto-spherical mirror which is adjustably mounted on the anchor strap.

3,424,518

DEVICE FOR PROJECTING AND OBSERVING IMAGES OF EXTERNAL OBJECTS UPON THE RETINA OF THE EYE

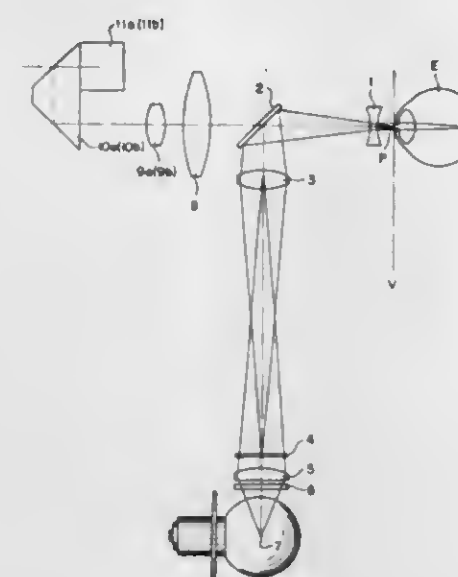
Tikasi Sato, Tai Sato, Tutomu Sato, and Kenzo Sato, Yokohama-shi, Japan, assignors to Nippon Kogaku, K.K., Tokyo, Japan, a corporation of Japan

Filed Oct. 29, 1964, Ser. No. 407,489

Claims priority, application Japan, Dec. 21, 1963, 38/68,847

U.S. Cl. 351-6
Int. Cl. A61b 3/10

2 Claims



This invention relates to a device for objectively observing the overlapped image of an external object and a retinal image, wherein an afocal optical system cooperating with a divergent lens placed just in front of the eyeball broadens the diameter of the parallel bundles of light rays which pass into the pupil of the eye, a reflecting

mirror of a projection system being placed at a certain point in the broadened light path and a pattern preparation projected upon the retinal area of the eyeball, an observing optical system receiving side bundles of light rays being provided to observe the images.

3,424,519

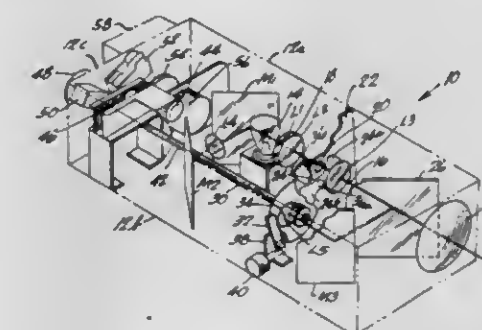
VISUAL PARAMETER TESTER

William J. White, Santa Monica, Calif., assignor, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland

Filed Feb. 15, 1967, Ser. No. 616,289

U.S. Cl. 351-17
Int. Cl. A61b 3/02

10 Claims



Visual parameter testing apparatus including a light source and optical elements arranged to produce primary and secondary light beams which are selectively controlled to form an appropriate image of variable characteristics on a screen for observation by subject. Flicker shutter and light attenuator are selectively operated in the beam paths to produce variation of image characteristics. Subject's test response causes recording of encoder output which is related to instantaneous condition of characteristic, and also causes reversal of variation thereof after a random time delay controlled by random time delay circuit.

3,424,520

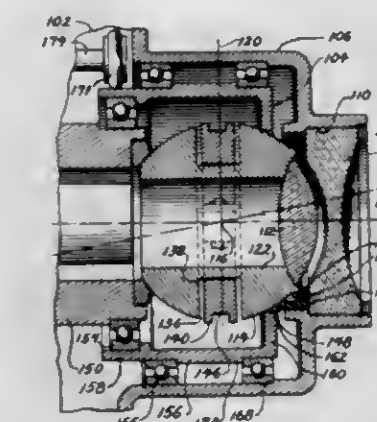
PRECESSION INHIBITOR

Daniel D. Call, Mount Prospect, Ill., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois

Filed Oct. 24, 1965, Ser. No. 504,507

U.S. Cl. 352-243
Int. Cl. G03b 17/00

17 Claims



A movie camera has an optical wedge having one lens thereof spin stabilized within the camera's housing. A soft friction element having a high coefficient of friction is mounted in the path of relative motion between the spin stabilized lens and the housing so that undesirable motion due to precession of the stabilized lens is inhibited when the stabilized lens contacts the friction element.

3,424,521

STABILIZED OFFSET LENS SYSTEM

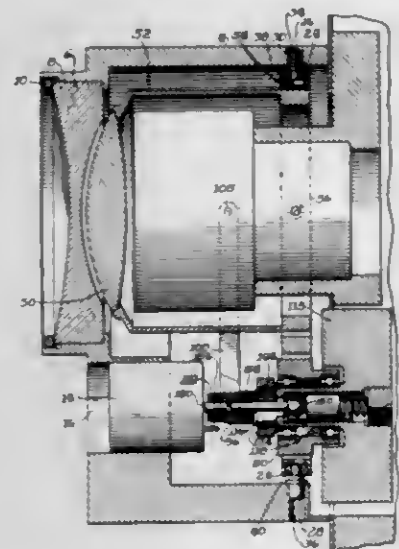
Alfred H. Koppensteiner, Torrance, Calif., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois

Filed Sept. 7, 1965, Ser. No. 485,456

U.S. Cl. 352-140

Int. Cl. G03b 3/10

10 Claims



A rotor is mounted on a spherical drive means so that the spin axis of the rotor is free to pivot about a point on the drive axis of the drive means. A transfer member is mounted so that it follows the motion of the rotor about the pivot point on the drive axis, but is stationary with respect to the rotor's rotation about its spin axis. A lens to be stabilized is suspended within a housing by a gimbal suspension system so that the lens' axis is offset from the rotor's spin axis. The gimbal suspension system is in turn coupled to the transfer member so that the lens follows the motion of the rotor about its pivot point on the drive axis, but at an axis offset from the rotor's spin axis. The stabilized lens is mounted adjacent a lens of an optical instrument to form a Boscovich type of wedge, so that the image at the focal plane of the wedge remains stable even though the instrument housing is subjected to undesirable vibrations.

3,424,522

STABILIZED OPTICAL SYSTEM

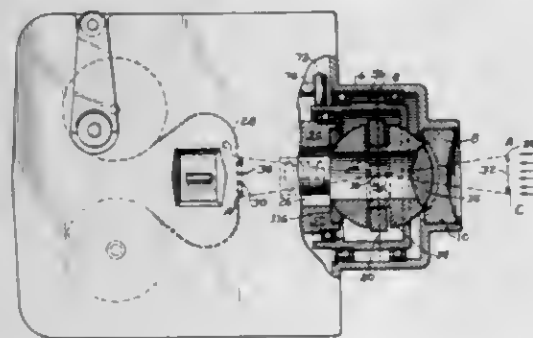
Daniel Dale Call, Elk Grove Village, Ill., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois

Filed July 29, 1965, Ser. No. 475,634

U.S. Cl. 352-140

Int. Cl. G03b 3/10

26 Claims



A lens is mounted on a hollow spherical member which also has an adjustable inertia ring mounted thereon for counter balancing the weight of the lens. A rotatable drive means is in frictional contact with the spherical surface so that rotation thereof causes the lens, the inertia ring and the spherical member to rotate therewith. The lens is thereby spin stabilized so that its angular momentum tends

to resist motion away from its spin axis, but when the axis of the drive means changes its position relative to the spin axis of the lens the frictional forces between the drive means and the spherical surface cause the sphere, the lens, and the inertia ring—acting as the rotor of a gyroscope—to precess so that the spin axis of the lens realigns itself with the axis of the drive means.

3,424,523

MOTION PICTURE CAMERA HAVING A ROTATING GYROSCOPICALLY STABILIZED LENS AND A VARIABLE ERECTION RATE MEANS

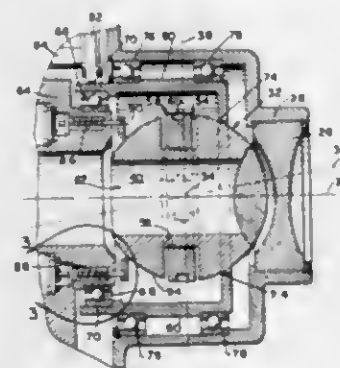
Alan E. J. Branigan, Arlington, Va., assignor to Bell and Howell Company, Chicago, Ill.

Filed Oct. 24, 1965, Ser. No. 504,722

U.S. Cl. 352-243

Int. Cl. G03b 17/00

22 Claims



A movie camera has a lens thereof supported on a spinning spherically surfaced member which is self-erected by means of variable friction erection forces applied thereto in proportion to the camera's panning rate. In this manner low panning rates result in small friction erection forces and high lens stabilization sensitivities; whereas, rapid panning rates are accompanied by rapid erection of the spinning lens.

3,424,524

MICRO-IMAGE DISPLAY APPARATUS

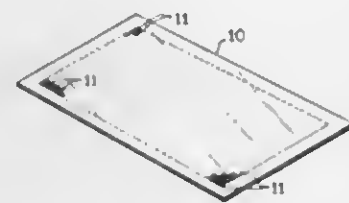
Hideo Akiyama, Los Angeles, and David G. Stockwell, Compton, Calif., assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Filed May 31, 1966, Ser. No. 554,001

U.S. Cl. 353-22

Int. Cl. G03b 21/14

14 Claims



1. In apparatus for displaying a reduced image recorded on a transparency, a projection lens assembly, a light source, retaining means for retaining a transparency between said projection lens assembly and said light source, said retaining means including a pivotable member disposed over and in contact with the transparency on the projection lens assembly side thereof, means for urging said projection lens assembly against said pivotable member, and means for moving said retaining means to a position so that the urging of said projection lens assembly against said pivotable member causes pivoting thereof, whereby a transparency can be inserted or removed.

3,424,525

MICROFILM COPIER ATTACHMENT

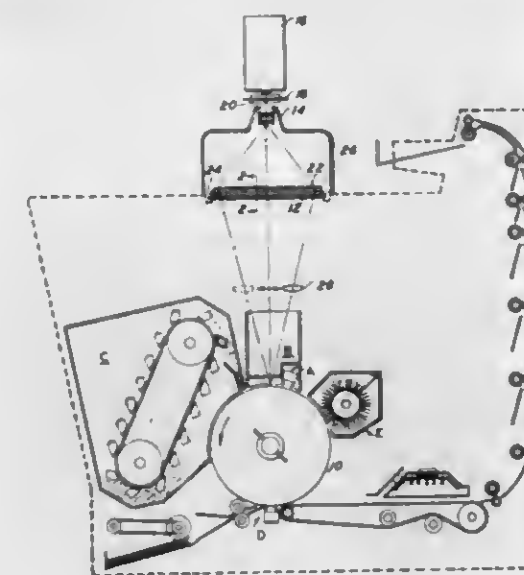
Harvey S. Towers and John E. Blackert, Webster, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed May 20, 1966, Ser. No. 551,584

U.S. Cl. 355-3

Int. Cl. G03b 21/00, 27/32

3 Claims



1. A system for reproducing micro-data from microfilm, such system having a photosensitive surface adapted for receiving image rays of the micro-data and a processing system for reproducing copies therefrom, comprising:

- a first projection system,
- a light receiving member having a Fresnel lens in the image focal plane of said first projection system,
- a second projection system adapted to direct the image on said light receiving member simultaneously, as the same is produced onto a photosensitive surface and thereby effect the reproduction of the copies of the enlarged micro-data images by the processing system thereof,
- said light receiving member being located at the object plane of said second projection system,
- said Fresnel lens of said light receiving member having a number of grooves per inch at least equal to the resolution capabilities of the photosensitive surface whereby the grooves of said lens are not imaged thereon.

3,424,526

PHOTOCOPY MACHINE HAVING MOVING CARRIER FOR ORIGINAL

Leo D. Sacre, Prospect Heights, Ill., assignor to American Photocopy Equipment Company, Evanston, Ill., a corporation of Illinois

Filed Sept. 15, 1965, Ser. No. 487,496

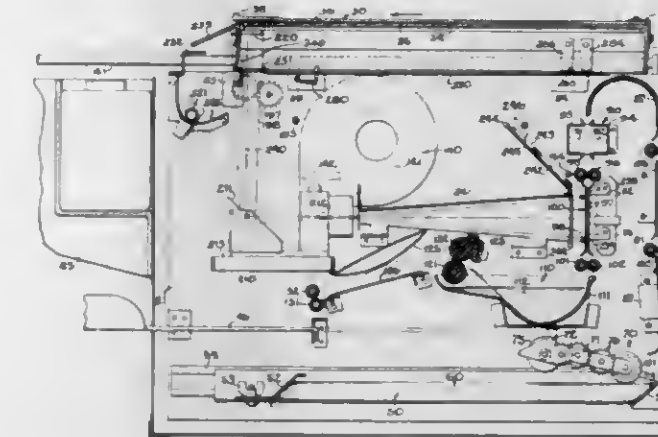
U.S. Cl. 355-10

Int. Cl. G03g 1/22

19 Claims

An office type photocopy machine which includes a transparent original carrier at the top of the machine housing and mounted for reciprocating movement relative to an illuminating station. A copy sheet dispenser includes a dispensing motor for automatically advancing photosensitive copy sheets to a ready position, from which a transport mechanism moves the copy sheets through charging, exposing, and developng stations. Forward and reverse driving trains, including forward and reverse clutches, are connected to the carrier for reciprocating it. The forward clutch is energized to initiate movement of the carrier by switch means responsive to the arrival of the leading edge of a copy sheet at the exposing station. A stationary optical means optically couples the original

on the carrier at the illuminating station with the copy sheet at the exposing station so that the image of the moving original is cast upon the moving copy sheet. The switch means includes means for de-energizing the forward clutch and energizing the reverse clutch following departure of the trailing edge of the copy sheet from the



exposing station for reverse movement of the carrier, and a repeat switch operated incident to the reverse movement of the carrier energizes the dispensing motor for feeding the next copy sheet from the ready position to the sheet transport mechanism for making multiple copies. A counting means is included for counting the multiple copies.

3,424,527

METHOD AND APPARATUS FOR PHOTOGRAPHIC PRINTING

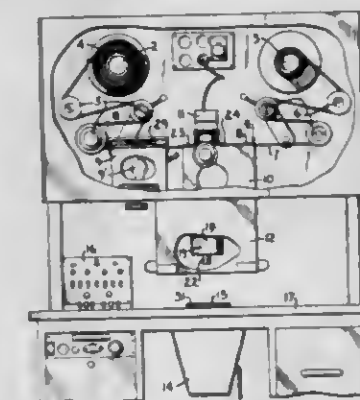
Robert S. Bremson, Jr., Mission Hills, Kans. (16 E. 43rd St., Kansas City, Mo. 64111)

Filed Dec. 27, 1966, Ser. No. 604,837

U.S. Cl. 355-19

Int. Cl. G03b 27/02, 27/32

4 Claims



A projection type roll paper photographic printer having a contact line printer associated therewith is combined with a cluster type projection lens whereby multiple identical projected images of different sizes are formed on an elongated rectangular portion of the paper roll together with contact printed matter during a single operational cycle of the apparatus. The contact printed matter includes instructions extending along borders of the respective projected images relating to the use of the images upon separation.

3,424,528

DOCUMENT CONVEYOR UNIT

Ralph R. Tilly, Webster, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 335,158

Jan. 2, 1964. This application Mar. 4, 1966, Ser. No. 531,710

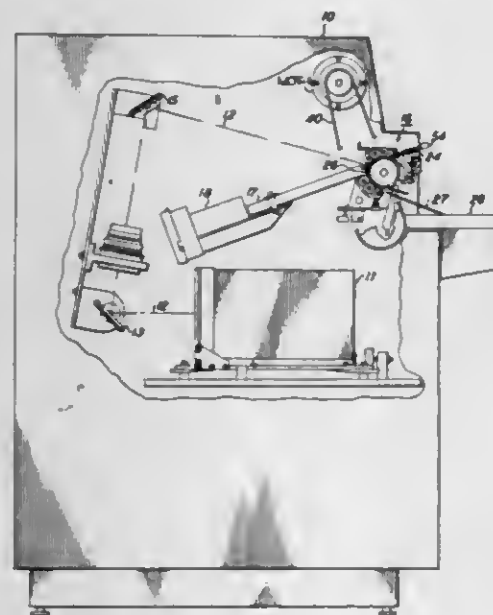
U.S. Cl. 355-49

Int. Cl. G03b 27/70, 27/50

6 Claims

Document conveying apparatus for transporting documents to be scanned past a scanning station in which a

rotatable cylindrical drum member is juxtapositioned to the scanning station to support the documents in scanning relation therewith. The documents are uniformly supported on the periphery of the cylindrical member by means of a plurality of soft deformable resilient guide



roller members circumferentially positioned in rolling engagement with the cylindrical member in a staggered interlaced relation. The cylindrical drum member is pivotably mounted in relation to the scanning station to provide ready access thereto.

3,424,529

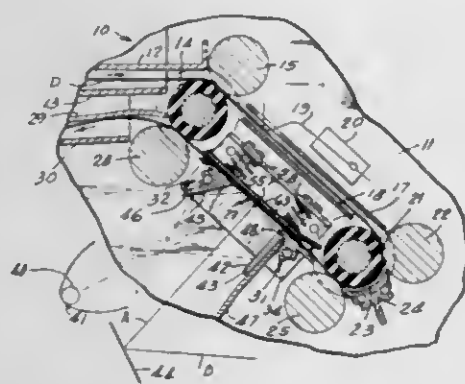
PAPER GUIDE FOR ELECTROPHOTOGRAPHIC COPYING MACHINES AND THE LIKE

Emil Tiger, Highland Park, Erskine G. Corman, Forest Park, and Kenneth R. Reick, Downers Grove, Ill., assignors to Formfoto Manufacturing Company, Villa Park, Ill., a corporation of Illinois
Continuation-in-part of application Ser. No. 410,549, Nov. 12, 1964. This application Oct. 23, 1965, Ser. No. 503,748

U.S. Cl. 355-51

20 Claims

Int. Cl. G03b 27/50, 27/70



A paper guide for electrophotographic copying machines and the like has rollers arranged to feed in document sheets from an entrance and to feed out the document sheets to an exit after the sheets have moved through a turn-around guide and across a scanning aperture after leaving the guide. The scanning aperture comprises spaced bars attached at their ends to brackets which are secured to supports in the machine. A floatingly supported hold-down plate confronts the aperture bars. In one form the plate is guided by pins attached thereto and engaging the brackets and biasing springs about the pins thrust the plate toward the aperture. In another form the plate is gravitationally biased and has flanges thereon which cooperate with guide pins serving also as bracket-securing

screws. The aperture-opposing face of the hold-down plate has a light color to enhance delineation of scanned markings on the document paper, and to eliminate edge drop-off or darkness on the copies made from the document where the document is narrower than the copy sheet.

3,424,530

PHOTOGRAPHIC MACHINE

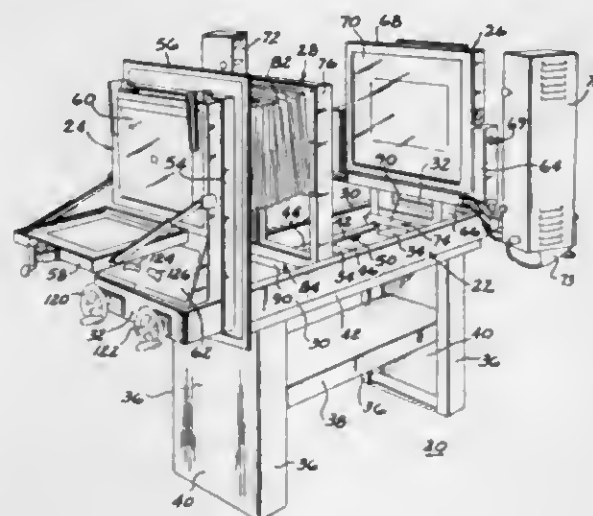
Charles J. Leonhart, Carol Stream, Ill., assignor to The Nuarc Company, Chicago, Ill., a corporation of Illinois

Filed Oct. 22, 1965, Ser. No. 500,791

U.S. Cl. 355-61

6 Claims

Int. Cl. G03b 21/00, 27/32



A photographic machine includes a horizontal supporting bed having several crosspieces and an upstanding film holder at one end of the bed. A pair of horizontal parallel shafts are supported over the bed by adjustment bolts carried by the crosspieces. A lens and a copy holder are supported on upstanding frames, each carried by a carriage member slidable along the shafts. Each carriage member includes four ball bushings, two slidable on each shaft, formed of a generally cylindrical body and ball bearings rollable between the shaft and the body. The bodies are slotted to permit the ball bushings to move past the adjustment bolts, and rotatable threaded shafts engage the carriage members for adjustment of the lens and copy holder.

3,424,531

DISTANCE MEASURING INSTRUMENT USING A PAIR OF MODULATED LIGHT WAVES

Peter L. Bender and James C. Owens, Boulder, Colo., assignors to the United States of America as represented by the Secretary of Commerce

Filed Sept. 17, 1965, Ser. No. 489,099

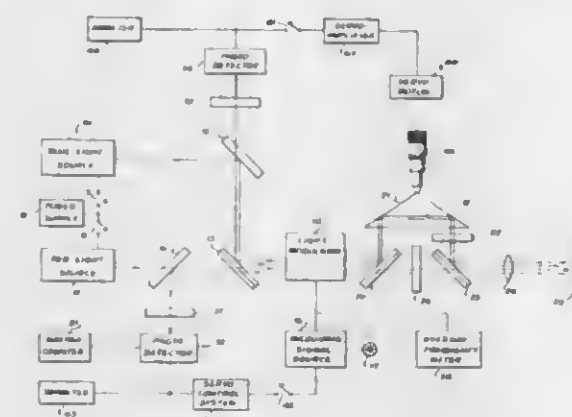
U.S. Cl. 356-4

6 Claims

Int. Cl. G01c 3/08

A first light beam passes through a modulator and over the path to be measured and returns over this path to the modulator. The value of the modulation frequency is varied until the length of the round-trip path is an integral number of modulation wavelengths. The number and the value of the modulation period are employed to calculate the apparent length of the path for the first beam. Simultaneously, a second light beam of another wavelength, modulated with the latter frequency, travels over substantially the entire path to be measured and a variable light path, and returns over these paths to the modulator. The length of the variable path is adjusted until the round-trip path of the second beam is an integral number of modulation wavelengths. The magnitude of this adjustment and the value of the modulation period, together with the atmospheric refractive index at the instru-

ment, are used to calculate the difference in the apparent paths for the light beams. Finally, the information com-



puted is utilized, along with certain published data, to determine the length of the measured path.

3,424,532

ANGLE-LAP TECHNIQUES FOR MEASURING LAYER THICKNESSES

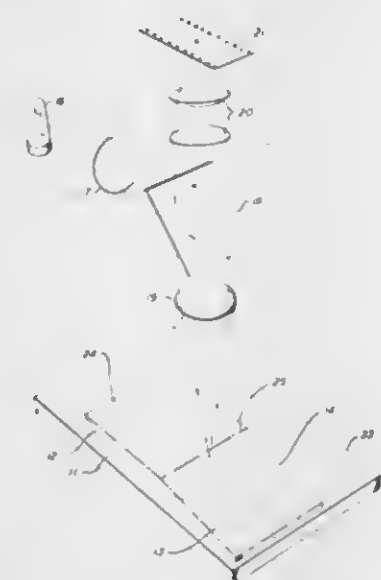
Thomas H. Briggs, Allentown, and Richard H. Dudley, Westcoastville, Pa., said Briggs assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York, and said Dudley assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 29, 1964, Ser. No. 421,784

U.S. Cl. 356-36

7 Claims

Int. Cl. G01b 9/02; G01n 1/00



1. A method for measuring thin layers comprising the steps of:

- cutting the layer at a small bevel angle with respect to a horizontal reference surface of the layer to expose a surface thereof;
- staining the exposed beveled surface;
- photographing from a first location the beveled surface;
- locating a flat partially transparent surface over the exposed layer surface such that the partially transparent surface and the layer surface define an angle substantially equal to the bevel angle;
- reflecting substantially monochromatic light from the beveled surface and from the flat partially transparent surface to establish interference fringes;
- photographing from substantially the first location the interference fringes;
- scanning the two photographs separately with a scanning densitometer and recording on separate graphs variations with distance of photographic density on the photographs;

determining from the graphs the horizontal distance l_n' included by a number n of orders of interference defined by said interfering fringes, and the horizontal width b' of the exposed surface; and computing the thickness of said layer in accordance with the relationship

$$t = \frac{b'n\lambda}{2l_n'}$$

where λ is the wavelength of said light.

3,424,533

SPECTROGRAPHIC ANALYSIS

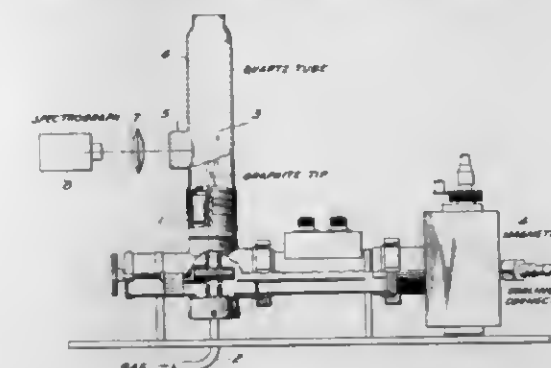
Ray C. Hughes, Ardsley, and Radu Mavrodineanu, Yonkers, N.Y., assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Feb. 28, 1963, Ser. No. 261,773

U.S. Cl. 356-85

3 Claims

Int. Cl. G01n 21/00; G01j 3/00; H01j 7/24



A method for spectrographically analyzing a specimen by introducing the specimen into an R-F torch employing an atmosphere of hydrogen or helium which permits detection of elements in the specimen with a minimum of background radiation interference.

3,424,534

MICRODENSITOMETER

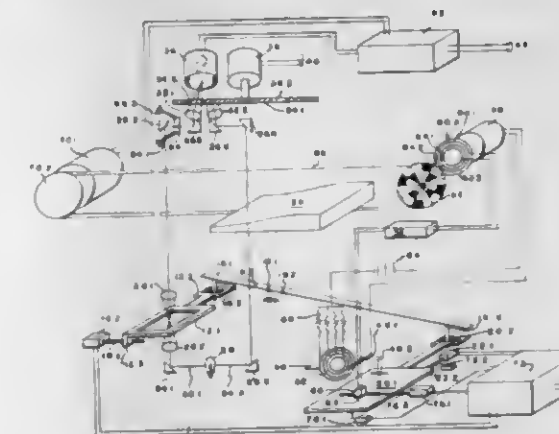
Carlton S. Miller, Bedford, and Frederick G. Parsons, Natick, Mass., assignors to Technical Operations, Incorporated, Burlington, Mass., a corporation of Delaware

Filed June 3, 1964, Ser. No. 372,239

U.S. Cl. 356-203

6 Claims

Int. Cl. G01j 3/00; G01n 21/00

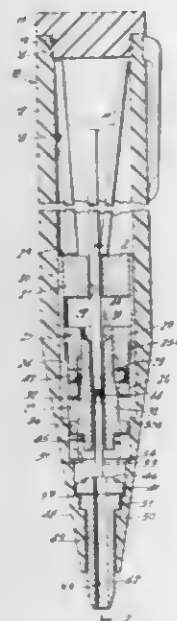


This disclosure depicts a method for producing isophote records from a photograph transparency record or the like. The disclosure further depicts novel apparatus for assisting in practicing the described method, comprising a microdensitometer for optically scanning a specimen carrying information in terms of density differences combined with a write-out device responsive to the microdensitometer for forming an isophote record characterizing the density variations in the scanned specimen. The disclosure further depicts an exemplary isophote record.

3,424,535
SELF-FEEDING PENCIL
 Konstantin F. Schischkow, 154-41 9th Ave.,
 Whitestone, N.Y. 11357

Filed Oct. 18, 1966, Ser. No. 587,546
 U.S. Cl. 401-53
 Int. Cl. B43k 21/20

10 Claims



A self-feeding writing instrument is disclosed in which the elongated marking members are received within the central bore of a clutch guide freely carried within a casing. Lateral clutch plates receive the marking members within the guide and restrict the movement of the marking members to the feed direction through the instrument. A clutch jaw responsive to pressure upon the point of the writing instrument slides within the clutch plates and along the marking member therein. Release of the pressure upon the instrument tip permits the clutch guide, plates and jaw to fall toward the writing tip carrying the marking member into writing position.

3,424,536
PLUNGER ASSEMBLY AND WRITING INSTRUMENT

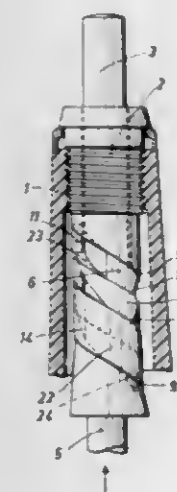
Alfred Dottlinger, Waldstrasse 41, Brensbach,
 Odenwald, Germany

Filed Dec. 19, 1966, Ser. No. 602,906
 Claims priority, application Austria, Dec. 21, 1965,
 A 11,471/65

U.S. Cl. 401-112

Int. Cl. B43k 7/12, 5/16, 24/06

13 Claims



A plunger assembly, which has special utility in writing instruments, such as ball-point pens, having an extensible and retractable writing tip carrier consists of a

plunger and a guide sleeve. At least one of the parts is made of elastic material to permit radial movement between the parts. At least one of said parts has a buttress thread, which cooperates with the other of said parts. Said buttress thread has a trailing flank which has an angle of lead which is so small that said trailing flank is self-locking when it engages said other part. The buttress thread has also a pressure face, which has an angle of lead which is larger than any angle of lead that would render said pressure face self-locking when engaging said other part. The self locking action prevents rotation of the plunger in the sleeve during forward movement of the plunger. When the plunger is released, a retracting spring causes the plunger to rotate to a forward or rear locked position along the pressure flank of the buttress thread.

3,424,537
FOUNTAIN PEN STRUCTURES
 Ernst Johan Jens Henriksen, Lucerne, Switzerland
 Continuation of application Ser. No. 199,829, June 4, 1962, which is a continuation-in-part of application Ser. No. 705,927, Oct. 26, 1946. This application July 23, 1964, Ser. No. 384,716
 Claims priority, application Denmark, Jan. 5, 1946, 1,355/46; Jan. 10, 1946, 1,358/46
 U.S. Cl. 401-142
 Int. Cl. B43k 7/08; 7/10

16 Claims



A ball point pen having an ink reservoir provided with a writing tip at one end and open to atmosphere at the other end. A non-solid follower plug is positioned in the reservoir at the ink surface and follows along as ink is used. The plug conforms to the reservoir walls, is immiscible with the ink, is impervious to and unaffected by air and is sufficiently stiff so that ink will not flow when the pen is on its side. Some disclosed materials for the plug are greasy substances, greasy derivatives of mineral oil and compositions of paraffin.

3,424,538
PEN
 Friedrich-Wilhelm Rausch, Hannover, Germany,
 assignor to Wagner Guenther Pelikan-Werke,
 Hannover, Germany
 Filed Sept. 12, 1966, Ser. No. 578,578
 Claims priority, application Germany, Aug. 16, 1966,
 W 39,925

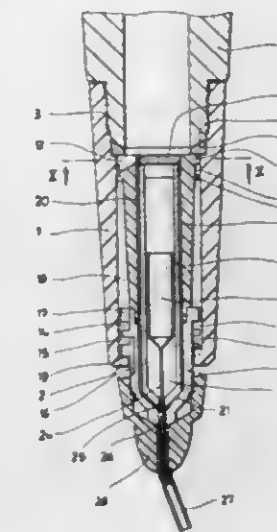
U.S. Cl. 401-259

Int. Cl. B43k 5/00; 1/06

10 Claims

A pen includes a barrel having a central bore at its front end and rearwardly thereof a centrally arranged closed cylindrical chamber having a narrow opening at its front end coaxial with the bore. An ink reservoir is located rearwardly of the cylindrical chamber. The ink reservoir and the cylindrical chamber are separated by wall means. Passage means extends in the barrel alongside the cylindrical chamber and communicates with the

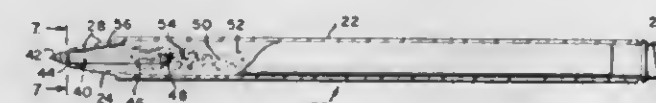
ink reservoir and with the bore. An ink applicator is removably mounted on the front end of the barrel and provided with a central passage coaxial with the bore and the narrow opening. A cleaning unit comprises a piston



element slidably arranged in the cylindrical chamber and a pin secured to and extending forwardly of the piston element so that, when the latter is in advanced position the pin projects through the narrow opening and the bore into the central passage in the ink applicator.

3,424,539
FOUNTAIN PEN
 Roy M. Jenkins, Burbank, Calif., assignor to Lindy Pen Company Incorporated, North Hollywood, Calif.
 Filed Feb. 9, 1965, Ser. No. 431,377
 U.S. Cl. 401-292
 Int. Cl. A46b 11/00; B43k 1/02

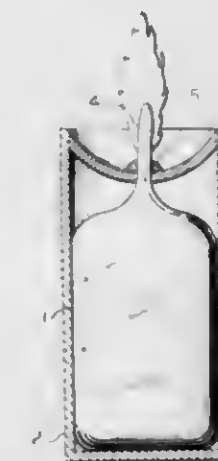
13 Claims



A fountain pen is formed of a plurality of elongated elements in which adjacent surfaces have applied thereto different texture patterns to provide capillary ink passages. In a preferred embodiment, elongated elements are molded as one integral unit which is "rolled up" to form the writing assembly.

3,424,540
COLORED FLAME CANDLE
 Clyde Johnson Swedenberg, La Plata, Md.
 (P.O. Box 186, Indian Head, Md. 20640)
 Filed Mar. 15, 1967, Ser. No. 623,424
 U.S. Cl. 431-126
 Int. Cl. F23d 3/16, 1/02; C11c 5/00

4 Claims

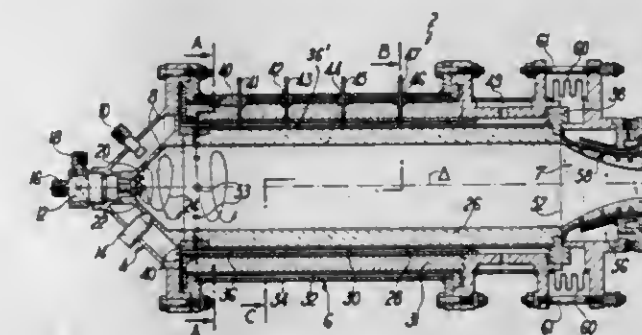


A single or multicolored flame candle is produced by enclosing a jelly composed of ethylene glycol and cotton

fiber in a rigid, nonflammable casing. A portion of the cotton fiber extends from an opening at the top of the casing and acts as a wick. One or more metal salts are placed in a partitioned cup at the base of the wick. These metal salts react with the flame producing a single or multicolored flame.

3,424,541
FLUID FUEL BURNER
 Robert Wang, Varsovie, Poland, and David Yerouchalmi, Issy-les-Moulineaux, France, assignors to Commissariat à l'Energie Atomique, Paris, France
 Filed July 28, 1967, Ser. No. 656,888
 Claims priority, application France, Aug. 10, 1966, 72,736
 U.S. Cl. 431-158
 Int. Cl. F23r 1/08

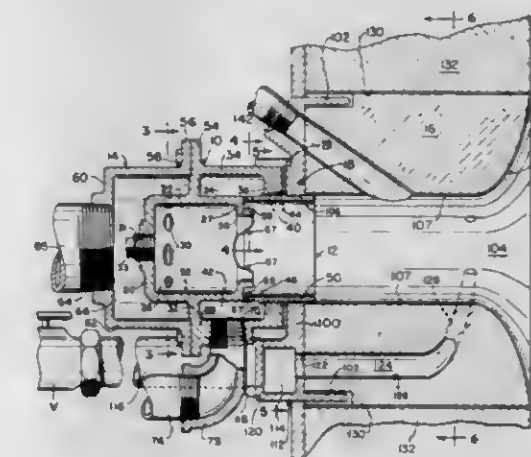
3 Claims



A fluid fuel burner using a combustion-supporting agent formed by heated air enriched with oxygen, is adapted to deliver combustion gases at elevated temperature and high outlet speed, the burner being formed by a conical head, a cylindrical combustion chamber and a convergent member, the head of the burner comprising an injector disposed in the burner axis to feed fuel and primary combustion-supporting agent (oxygen).

3,424,542
RADIANT SPIRAL FLAME GAS BURNER
 Erwin E. Hirschberg and Edward E. Moore, Rockford, Ill., assignors to Eclipse Fuel Engineering Co., Rockford, Ill., a corporation of Illinois
 Filed Feb. 27, 1967, Ser. No. 618,756
 U.S. Cl. 431-348
 Int. Cl. F23d 13/12; B05b 7/10

4 Claims



A radiant gas burner having special means for accommodating large quantities of excess air or gas. A series of passages formed in the combustion block to which the burner proper is applied conduct the excess air or gas to a region of well established combustion where such air or gas may be assimilated without danger of flame extinction.

CHEMICAL

3,424,543

PROCESS FOR DYEING OR PRINTING POLYHYDROXYLATED MATERIALS

Peter Stabel and Jacques Wegmann, Basel, and Bernhard Ruetimeyer, Neu-Altschwil, Switzerland, assignors to Ciba Limited, Basel, Switzerland
No Drawing. Filed Aug. 5, 1957, Ser. No. 676,393
Claims priority, application Switzerland, Aug. 14, 1956, 36,517/56

U.S. Cl. 8—54.2

10 Claims

Int. Cl. D06p 3/66

Cellulosic textile material is impregnated on a foulard or by direct dyeing from a long liquor with a dyestuff which contains at least one water-solubilizing group and at least one $\text{—SO}_2\text{NHC}_2\text{H}_4\text{Cl}$ or $\text{—SO}_2\text{NHC}_2\text{H}_4\text{Br}$ group, and then the thus-treated textile material is subjected to heat treatment in the presence of an acid-binding agent to fix the dyestuff on the material. A wide variety of dyestuffs can be used, especially good results being obtained with soluble dyes which normally possess little or no affinity for cotton.

3,424,544

PROCESS FOR THE COLORATION OF CELLULOSIC TEXTILE MATERIALS WITH REACTIVE PHthalOCYANINE DYESTUFFS AND THE DYES THEREFOR

James Wardleworth and Victor David Poole, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Dec. 9, 1957, Ser. No. 701,346
Claims priority, application Great Britain, Dec. 14, 1956, 38,195/56

U.S. Cl. 8—54.2

13 Claims

Int. Cl. C07d 27/76; C09b 47/04

9. Process for the coloration of a cellulosic textile material which comprises applying to these materials a water-soluble phthalocyanine dyestuff containing at least one group of the formula $\text{—SO}_2\text{NHC}_2\text{H}_4\text{X}$ where X is taken from the group consisting of bromine, chlorine, and sulfoxyl and then heating said treated material in the presence of an acid-binding agent.

3,424,545

LAUNDERING ADJUNCT AND METHOD OF PREPARING

Robert Andrew Bauman, New Brunswick, N.J., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 9, 1966, Ser. No. 532,902
U.S. Cl. 8—137
Int. Cl. C02b 5/06; D06f 35/00

3 Claims

A home laundering process using an aqueous detergent which provides the presence of phosphorylated cellulose (containing about 5.3% phosphorus) in the wash cycle to sequester the calcium and magnesium ions in the water.

3,424,546

METHOD FOR TREATING WASHABLE GOODS

Lee R. Schiltz, Harvey, and Russell H. Rogers, Palos Park, Ill., assignors to Swift & Company, Chicago, Ill., a corporation of Illinois

No Drawing. Original application Sept. 17, 1959, Ser. No. 840,537. Divided and this application Feb. 2, 1965, Ser. No. 436,980

U.S. Cl. 8—137

4 Claims

Int. Cl. C11d 3/48; A61l 13/00

Method of inhibiting the growth of staphylococcal bacterial growth on fabric which method comprises contacting the fabric with a washing compound or clean-

ing agent containing a mixture of the lauryl-pyridinium salt of 5-chloro-2-mercaptobenzothiazole and 2,2'-dihydroxy 3,5,6-3',5',6' hexachlorodiphenyl methane.

3,424,547

STEAM STERILIZING AND HEATING DEVICE

George Winniett, % Colwell, R.D. 1, Bloomingburg, N.Y. 12721
Filed Nov. 13, 1964, Ser. No. 411,048

U.S. Cl. 21—92

1 Claim

Int. Cl. A61t 3/00, 3/02



A steam sterilizing device comprising a container, a container cap, a U-shaped tube extending through the container cap, the exterior end of the tube having a nozzle with openings therein and a heating element in the container and a platform supported on the cap.

3,424,548

PROCESS AND APPARATUS FOR REMOVING AMINES FROM STEAM VAPORS

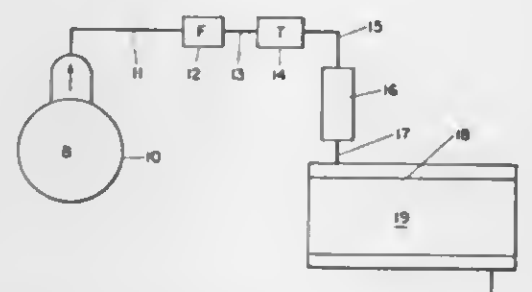
Donald A. Gunther, Erie, Pa., assignor to American Sterilizer Company, Erie, Pa., a corporation of Pennsylvania

Filed Dec. 30, 1965, Ser. No. 518,971

U.S. Cl. 21—94

4 Claims

Int. Cl. A61l 3/00



1. A method of removing amines from steam in the vapor phase comprising the step of bringing the steam into contact with a hydrous oxide material.

3,424,549

MULTISTAGE SEPARATION OF COMPONENTS OF A SOLUTION

Wesley L. Godfrey, Pasco, Wash., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Sept. 27, 1965, Ser. No. 490,753

U.S. Cl. 23—22

6 Claims

Int. Cl. C22b 59/00; C01f 7/66

A "batch-continuous" process for the separation of constituents of a solution is disclosed which utilizes a

JANUARY 28, 1969

CHEMICAL

1241

series of vessels arranged to overflow from one to the other in both directions and to discharge liquid from both ends of the series. Feed solution is introduced at one end (the "feed end") and wash solvent at the other end (the "wash end") of the series. Conditions are changed so that one solute (solute A) is transferred to an immobile (usually solid) phase in all vessels while a second solute (solute B) is left in solution. An increment of wash solvent is introduced, and solution is allowed to overflow from the "feed end" of the series, removing solute B in solution. Conditions are then changed to return solute A to solution and an increment of feed solution is introduced, with the overflow being at the "wash end" of the series, removing solute A in solution. This sequence of steps is repeated continuously, with solute A being discharged from the "wash end" of the series and solute B from the "feed end."

3,424,550

PROCESS FOR THE MANUFACTURE OF MONOFLUOROPHOSPHORIC ACID AND ITS MONOESTERS

Rolf Wittmann, Darmstadt, Germany, assignor to E. Merck A.G., Darmstadt, Germany

No Drawing. Filed Jan. 20, 1966, Ser. No. 521,804
Claims priority, application Germany, Jan. 27, 1965, M 63,945

U.S. Cl. 23—50

14 Claims

Int. Cl. C01b 25/22; C08b 15/06, 19/00

In a process of monofluorinating a phosphoric acid compound with hydrogen fluoride, the improvement of conducting the reaction in the presence of (1) an acid-binding agent, e.g. a tertiary amine, and (2) a dehydrating compound, specifically a trihaloacetoneitrile, a disubstituted carbodiimide, or mixtures thereof.

3,424,551

COLORING TITANIUM PIGMENT MATERIALS HAVING A SPINEL STRUCTURE AND METHOD OF PREPARING SAME

James E. Owen, South Euclid, Ohio, assignor, by mesne assignments, to Kewanee Oil Company, Bryn Mawr, Pa., a corporation of Delaware

Filed Dec. 18, 1964, Ser. No. 419,356

U.S. Cl. 23—51

10 Claims

Int. Cl. C09c 1/02; C01g 1/02

This invention comprising colored titanium pigment materials having a wide variety of colors, improved color stability, and various other desirable properties, consisting essentially of a pigment of spinel structure comprising co-calcined compounds of titanium, magnesium, cobalt, and zinc selected from the oxides of said metals or compounds adapted to form such oxides upon calcining, the molar amount of each metal being within a specified range.

3,424,552

PROCESS FOR PRODUCTION OF MERCURIC CHLORIDE AND RED OXIDE OF MERCURY

Eugene L. Cadmus, Glen Ridge, N.J., assignor to Wood-Ridge Chemical Corporation, Wood-Ridge, N.J., a corporation of Nevada

No Drawing. Filed Apr. 5, 1967, Ser. No. 628,533

U.S. Cl. 23—87

10 Claims

Int. Cl. C01g 13/04

In the process for the production of mercuric chloride by reacting chlorine and mercury, the improvement wherein chlorine is reacted with mercury dispersed in sodium chloride brine. A process for the production of red oxide of mercury in which the reaction product of the chlorination of mercury dispersed in sodium chloride brine is added with caustic soda to an agitated sodium chloride brine having an alkalinity maintained at from about 0.01 N to about 1.25 N.

3,424,553

METHOD AND APPARATUS FOR CARRYING OUT EXOTHERMIC GAS REACTIONS

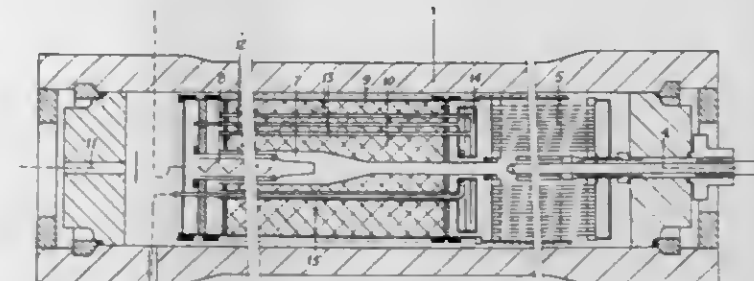
Anton A. H. Preusser, Haarlem, and Hendrik Sipkes, Velsen-Noord, Netherlands, assignors to Verenigde Kunstmesfabrieken Mekog-Albatros N.V., Maliebaan, Utrecht, Netherlands, a company of Netherlands

Filed Oct. 12, 1965, Ser. No. 495,078
Claims priority, application Netherlands, Oct. 21, 1964, 6412227

U.S. Cl. 23—199

3 Claims

Int. Cl. C01c 1/04



A catalyst mass used in forming ammonia from a gaseous mixture of nitrogen and hydrogen is effectively cooled by passing the gaseous mixture in both parallel and countercurrent flow with respect to the direction of flow of the mixture when in contact with the catalyst for reaction purposes, through heat exchange means in contact with the catalyst mass. Such a cooling process is accomplished by an apparatus which includes a catalyst bed through which two groups of tubes run, a gas collecting chamber at one end of the bed to which both groups of tubes are connected, the tubes of one group having open ends at the other end of the catalyst bed, so as to provide an open connection between the tubes of said one group and the catalyst bed, the tubes of the other group being connected at said other end of the catalyst bed through a heat exchanger in which heat can be exchanged with the gaseous effluent from the catalyst bed at said one end thereof; and a separate direct connection to the collecting chamber for the supply of an extra quantity of synthesis gas.

3,424,554

CO-PRODUCTION OF COKE AND AMMONIA SYNTHESIS GASES

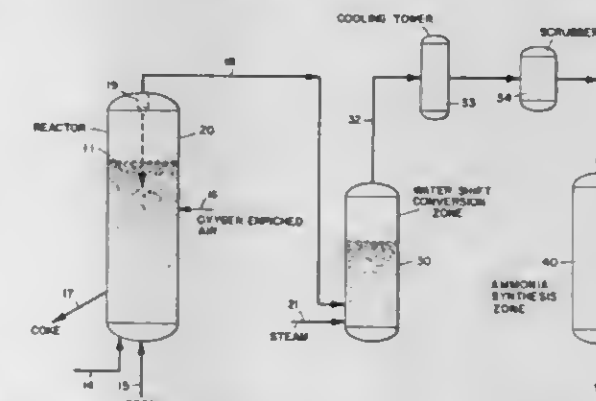
Charles E. Jahnig, Rumson, and Warren K. Lewis, Jr., Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Oct. 26, 1966, Ser. No. 589,746

U.S. Cl. 23—199

6 Claims

Int. Cl. C01c 1/04; C10g 37/04



This invention relates to a process combination for the co-production of coke and by-product gases suitable for use in the synthesis of ammonia. Hydrocarbons can be continuously cracked by contact within a bed of hot particulate fluidized coke solids, while oxygen-enriched gas is simultaneously injected into the bed in quantity sufficient to provide process heat and to maintain the required

operating temperatures while simultaneously forming a gaseous effluent which is suitable for ammonia synthesis. Oxygen-enriched air in concentration providing an air:oxygen ratio ranging from about 0.3:1 to about 5:1 is suitable to maintain an operating temperature ranging from about 1400° F. to about 3000° F., and preferably from about 1800° F. to about 2600° F., while generating an effluent which includes hydrogen and nitrogen in hydrogen:nitrogen ratio ranging from about 2.8:1 to about 4.5:1. In a preferred combination, the gas is further reacted in a water-gas shift conversion zone, and then reacted at suitable temperature and pressure to synthesize ammonia.

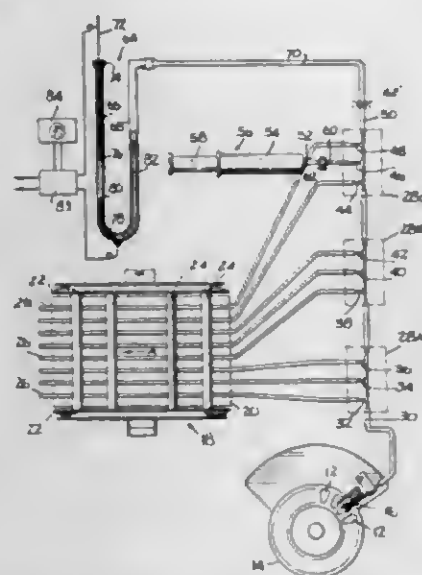
3,424,555
PROCESS FOR CONVERTING ALKALI METAL TITANATES INTO THEIR PURE TITANIUM DIOXIDE PSEUDOMORPHS
Foord von Bichowsky, 1620 Harvey Road, Wilmington, Del. 19803
No Drawing. Filed May 11, 1966, Ser. No. 550,082
U.S. Cl. 23—202 5 Claims
Int. Cl. C01g 23/04

Alkali metal titanates are converted into pseudomorphs of titanium dioxide useful as thermal insulators, extenders and pigments by a reaction of said titanates with ammonium salts of monobasic acids at temperature not over about 250° C.

3,424,556
PRODUCTION OF CARBON BLACK FROM COAL
Glenn E. Johnson, Pittsburgh, Pa., assignor to the United States of America as represented by the Secretary of the Interior
Filed July 27, 1966, Ser. No. 568,353
U.S. Cl. 23—209.4 9 Claims
Int. Cl. C01b 31/00

Coal particles are dropped through a heating zone where the particles are heated to a temperature of 900–1800° C. in less than 5 seconds. Gaseous products are removed and cooled immediately after formation. Entrained carbon black is then removed from the cooled gaseous products.

3,424,557
AUTOMATIC ANALYSIS APPARATUS CONTROL MEANS
Leonard T. Skeggs, Kirtland, Ohio, assignor to Technicon Corporation, Chauncey, N.Y., a corporation of New York
Filed Aug. 17, 1965, Ser. No. 480,456
U.S. Cl. 23—253 6 Claims
Int. Cl. G01m 1/02, 33/16

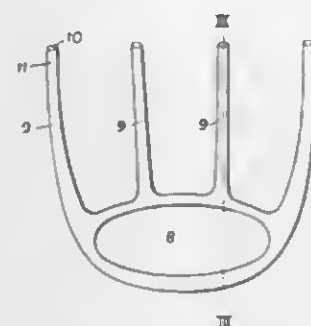


An automatic, multiple channel, sequential sample, analysis system includes a sample off-take tube coupled to a sample stream dividing conduit which in turn is

coupled to a plurality of peristaltic pump tubes. A monometer is coupled to the conduit to detect and signal fall in pressure due to a stoppage in the off-take tube. A source of wash liquid is also coupled to the conduit for back flushing a stoppage to the off-take tube.

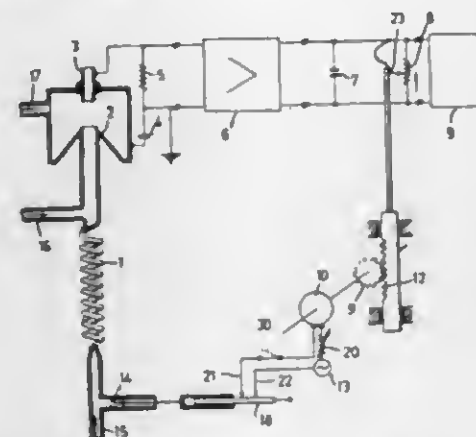
3,424,558
INSTRUMENT FOR BLOOD GROUPING ON BLOOD GROUPING CARDS
Knud E. H. Eldon, Gentofte, Denmark, assignor to Nordisk Insulinlaboratorium, Gentofte, Denmark, a corporation of Denmark
Filed Dec. 5, 1966, Ser. No. 599,023
Claims priority, application Denmark, Dec. 8, 1965, 6,317/65 5 Claims

U.S. Cl. 23—253
Int. Cl. G01n 33/16



Apparatus for making blood grouping tests. Four blood-grouping tests are made simultaneously, without danger of cross-contamination, by supporting drops of blood or other test liquid on four prongs extending from a common handle, and transferring the drops to, and stirring the resulting test mixture at, separate test areas of a standard test card simultaneously by manipulation of the handle. Optionally, a preliminary stirring step to dissolve the dried test reagent in water is avoided by using a high salt concentration in the dried reagent to cause the water to absorb, without stirring, sufficient salt to prevent adverse effect on subsequently-added blood samples.

3,424,559
GAS CHROMATOGRAPHY DETECTORS FOR PRODUCING ELECTRICAL SIGNALS THROUGH A TIME-CONSTANT NETWORK
Johan Felix Jozef Krugers, Walnut Creek, Calif., assignor to North American Phillips Company, Inc., New York, N.Y., a corporation of Delaware
Filed May 17, 1965, Ser. No. 456,358
Claims priority, application Netherlands, May 29, 1964, 6406029 6 Claims
U.S. Cl. 23—254
Int. Cl. G01n 31/08



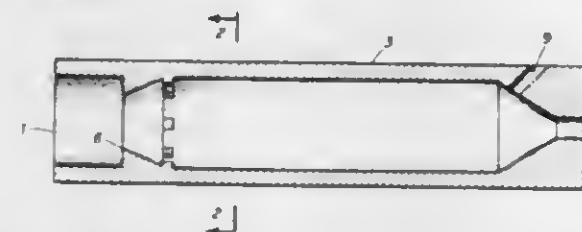
1. Apparatus for measuring the relative component concentrations in a gas mixture comprising a chromatographic column, first means for introducing said gas mixture to said column, second means coupled to said column for providing signals representative of said component concentrations, and third means, responsive to

said first means, for varying the frequency response of said second means.

3,424,560
PROCESS AND APPARATUS FOR THE OPTIMIZATION OF CHEMICAL REACTION UNITS
Michel Carmassi, Billere, and Georges Vandesande, Mourenx, France, assignors to Societe Anonyme dite: Societe Nationale des Petroles d'Aquitaine, Courbevoie, France, a corporation of France
Filed June 21, 1966, Ser. No. 559,154
Claims priority, application France, Mar. 8, 1966, 52,500 2 Claims

U.S. Cl. 23—278
Int. Cl. B01j 1/00; C01b 17/04
Apparatus for regulating the flow of oxidation air to an oxidation reactor by burning the outlet gases over a catalyst and combining two signals based on the temperature rise over the catalyst and analysis of the combustion product to provide a control signal of definite magnitude and direction.

3,424,561
APPARATUS FOR MAKING TITANIUM DIOXIDE PIGMENT
George Leathwhite Roberts, Lynchburg, Va., Harold Ewald Hoelscher, Baltimore, Md., and Winfred Joseph Cauwenberg, Amherst, Va., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
Original application Sept. 24, 1964, Ser. No. 399,054, now Patent No. 3,359,070, dated Dec. 19, 1967. Divided and this application Feb. 1, 1967, Ser. No. 627,235
U.S. Cl. 23—286 5 Claims
Int. Cl. B01j 2/12



An apparatus for converting titanium sulfate to anatase or rutile comprising an elongated rotatable kiln inclined at an angle of about 0.5 to 10° from a horizontal position having a solids feed inlet and outlet and a dam positioned within the kiln and spaced from the discharge end thereof. The dam has an opening of between about 60 and 90% of the cross-sectional area of the kiln and is positioned from the outlet about 5–20% of the length of the kiln. Means are provided for feeding hot gases through the solids outlet into the kiln counter-current to the flow of solids and means are provided for removing the gases from the kiln at or adjacent to the solids inlet means.

3,424,562
SEPARATING ALKALI METAL HALATES FROM HALIDES BY ADDITION OF A WATER-SOLUBLE ALCOHOL
Remigius A. Gaska and Robert D. Goodenough, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Apr. 8, 1966, Ser. No. 541,062
U.S. Cl. 23—296 10 Claims
Int. Cl. B01d 9/02; B01j 17/06; C01b 7/00

1. A method of separating alkali metal halates selected from the group consisting of lithium iodate, sodium iodate, sodium bromate, potassium chlorate, potassium bromate, potassium iodate, rubidium chlorate, rubidium bromate, rubidium iodate, cesium chlorate, cesium bromate and cesium iodate from their corresponding halides, the said halates being less soluble in water than the said halides, comprising admixing an aqueous solution containing said halates and said halides with between about 10 to 50% by weight based on the combined weight of

water, the dissolved salts and alcohol of a water-soluble alcohol selected from the group consisting of methanol, ethanol, propanol, ethylene glycol, propylene glycol, butylene glycol, glycerol, pentaerythritol, erythritol, sorbitol, mannitol and mixtures thereof to effect precipitation of a major proportion of the dissolved alkali metal halate and at most only a small proportion of the said alkali metal halide, and separating the precipitated alkali metal halate from the mother liquor.

3,424,563
SELECTIVE EXTRACTION OF BORON FROM AQUEOUS SOLUTIONS
Robert R. Grinstead, Walnut Creek, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Feb. 3, 1966, Ser. No. 538,111
U.S. Cl. 23—312 24 Claims
Int. Cl. C01b 15/12; B01j 9/12

1. A process for the selective extraction of boron values from aqueous solutions thereof which comprises intimately contacting at a pH of from 3 to 7 said aqueous solution with a substantially water-immiscible organic extractant which comprises a mixture of one or more organic diols selected from the group consisting of substituted catechols and substituted hydroxy benzyl alcohols containing from 7 to 20 carbon atoms with one or more water-immiscible alkyl ammonium salts containing from 12 to 30 carbon atoms wherein said organic diol is employed in a ratio of at least 2 moles of such diol per mole of boron values present and wherein the mole ratio of said organic diol to alkyl ammonium salt is from 1.0:0.2 to 1.0:5.0, separating the organic and aqueous phases and separating the boron values from the organic phase.

3,424,564
METHOD FOR THE EXTRACTION OF MATERIALS EMBEDDED IN A GRAPHITE BODY
Hubert Bildstein and Gerhard Stolba, Vienna, and Karl Knotik, Siegendorf, Austria, assignors to Osterreichische Studengesellschaft fur Atomenergie Ges.m.b.H., Vienna, Austria
Filed June 28, 1966, Ser. No. 561,109
Claims priority, application Austria, July 2, 1965, A 6,055/65 11 Claims
U.S. Cl. 23—324
Int. Cl. C01b 31/04

A method for the extraction of materials from a graphite body, such as the recovery of fissile material and fission products from an irradiated graphite fuel element, is comprised of the steps of thermally shocking the graphite as required for removing any coating layers, heating the graphite body to below 350° C. and subjecting the graphite body to a vapor of a halogen or halogen compound for disintegrating or loosening the graphite body, preferably a vapor of bromide is used for this purpose, removing the halogen vapor and then subjecting the graphite body to another halogen or halogen compound vapor, preferably a vapor of chlorine for separating the material from the graphite. It is possible to utilize a vapor of an interhalogen compound, such as bromine chloride or iodine chloride, for both disintegrating the graphite body and removing the material from the graphite.

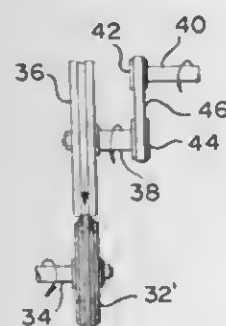
3,424,565
GASOLINE INHIBITED AGAINST EMULSION FORMATION
Edward A. Ptacek, Chicago, and David E. Garrett, Harvey, Ill., assignors to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware
No Drawing. Filed Jan. 5, 1968, Ser. No. 695,874
U.S. Cl. 44—62 8 Claims
Int. Cl. C10I 1/06

This invention is directed to a gasoline to which has been added certain chemicals to prevent emulsion forma-

tion. The chemicals used to treat the gasoline are lower aliphatic polycarboxylic acids used alone or in combination with nonionic surface active agents.

3,424,566

METHOD OF DRESSING GRINDING WHEELS
Joseph Franz Kuenstle and John Emanuel Rosen, Seattle, Wash., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Apr. 15, 1965, Ser. No. 448,520
U.S. Cl. 51-293 10 Claims
Int. Cl. B24d 11/00, 17/10



A method of forming diamond grinding wheels to a predetermined shape wherein the abrasive particles, being retained about the periphery of the wheel in a bonding material, drop out due to a removal of the bond about the particles. A form wheel, configured to the desired contour of the finished grinding wheel, is brought close to, but not touching, the rotating grinding wheel and a lapping compound is applied between the two wheels. The rotary motion of the grinding wheel is imparted to the form wheel through the medium of the lapping compound. The compound attacks the bonding material such that certain of the diamonds fall out leaving a contoured wheel shaped to the predetermined configuration of the form wheel.

3,424,567

METHOD OF STAINING GLASS AND GLASS STAINING COMPOSITION
Allison L. Smith, Vineland, N.J., assignor to Owens-Illinois, Inc., a corporation of Ohio
No Drawing. Filed May 20, 1964, Ser. No. 368,984
U.S. Cl. 65-30 4 Claims
Int. Cl. C03c 17/06, 17/26; C03b 25/00

1. A method of staining glass containing an alkali metal oxide which comprises applying to the glass a staining composition comprising 60 to 80% cuprous sulfide, 5 to 20% by weight of silver oxide, 5 to 12% vanadium pentoxide, 5% zinc sulfide and 5% calcium sulfite, and firing the glass and applied staining composition to a temperature sufficiently high to effect the staining of the glass.

3,424,568

METHOD OF SEALING AND RESILIENT SEAL FOR ELEMENTS HAVING DIFFERENT COEFFICIENTS OF EXPANSION
Francis W. Martin, Painted Post, and William C. Smith, Corning, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Sept. 9, 1965, Ser. No. 486,074
U.S. Cl. 65-59 5 Claims
Int. Cl. C03c 27/02; B32b 17/06

Method of forming a resilient seal between a first glass element and a second glass or crystalline element having different coefficients of linear expansion comprising attaching a ductile metal foil to a surface of the first glass element at one portion of the foil and attaching the ductile metal foil at another portion to a surface of said second

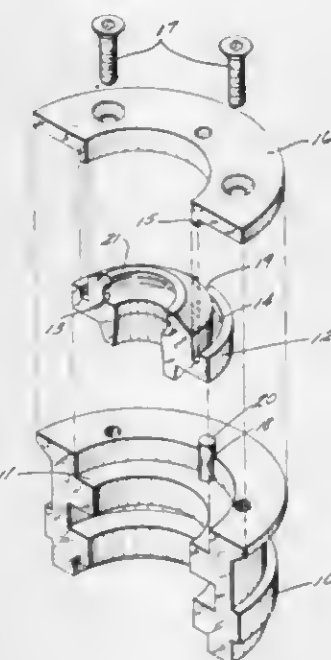
element, the foil being shaped such that a movable intermediate zone capable of withstanding stresses arising



from thermally caused dimensional changes of said elements is formed between said portions.

3,424,569

GLASS FORMING CONTAINER NECK RING
Robert J. Huebner, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed Nov. 8, 1965, Ser. No. 506,767
U.S. Cl. 65-172 10 Claims
Int. Cl. C03b 11/14



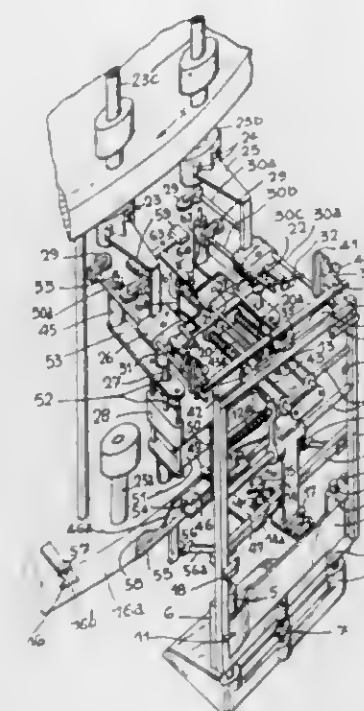
Neck ring or mold apparatus for glass forming machines in which the main body portion of the neck ring is formed of a hardened tool steel with an insert of bronze, cast iron or beryllium-nickel alloy carried by the main body portion, with the insert having good glass forming characteristics.

3,424,570

MACHINE FOR THE MANUFACTURE OF GLASS HOLLOW WARE
Dleudonné Marie Couquelet, 51 Ave. Montefiore, Esneux, Belgium
Filed Jan. 21, 1966, Ser. No. 522,270
Claims priority, application Belgium, Feb. 4, 1965, 659,297 5 Claims

U.S. Cl. 65-276 5 Claims
Int. Cl. C03b 23/10
A machine for the manufacture of bottles with a neck from glass tubes comprises a stator, a continuously rotating vertical-axis rotor provided with gripper heads at its periphery and two neck-forming systems disposed side by side and each composed of two forming rollers and a mandrel, said neck-forming systems being supported on

two slidable support elements which are supported on a bearer element sliding on a straight guide track mounted



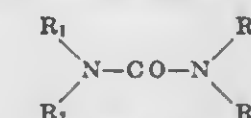
on a supporting element which can be moved away from the rotor.

3,424,571

HERBICIDAL COMPOSITION AND METHOD
André Bondouy, 87 Blvd. Suchet, and François-Joseph Blechler, 366 ter rue de Vaugirard, both of Paris, France
No Drawing. Filed July 14, 1964, Ser. No. 382,667
Claims priority, application France, July 26, 1963, 942,748; Feb. 3, 1964, 962,411 13 Claims
U.S. Cl. 71-92 13 Claims
Int. Cl. A01m 5/00, 9/02

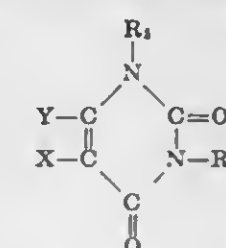
1. A herbicidal composition comprising essentially a persistent organic herbicide in a phytotoxic amount in a solution in at least one organic solvent therefor, said persistent organic herbicide being selected from the group consisting of:

(a) N-substituted urea derivatives of the formula



in which R_1 , R_2 , R_3 and R_4 are each selected from the group consisting of hydrogen, lower alkyl, lower alkylol, mononuclear aryl, halo- and nitro-substituted aryl, and acyl and halo-substituted acyl radicals; and

(b) N-substituted uracil derivatives of the formula



in which R_5 and R_6 are each selected from the group consisting of hydrogen and lower alkyl, and one of X and Y is lower alkyl and the other of X and Y is halogen;

and said solvent is an oxygen-containing polar organic solvent selected from the group consisting of nitrobenzene, cresols, nonylphenol, cresylic acid, dimethylformamide and dimethylacetamide, and mixtures thereof with an aromatic hydrocarbon.

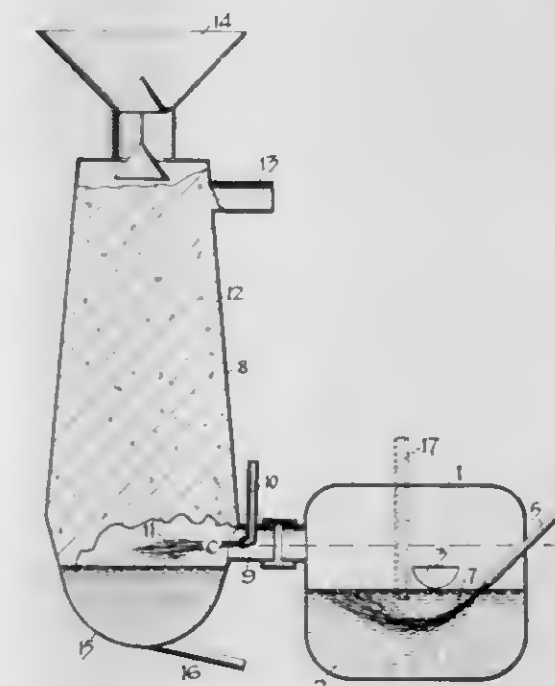
3,424,572
ALLOYED METALLIC POWDER PROCESS
Niranjan M. Parikh, 412 Watseka St., Park Forest, Ill. 60466

No Drawing. Continuation-in-part of application Ser. No. 244,887, Dec. 17, 1962. This application Sept. 13, 1966, Ser. No. 578,990
U.S. Cl. 75-5 3 Claims
Int. Cl. C22c 1/06; B22f 1/00

1. A process of preparing a spongy iron of low alloy content comprising the steps of mixing finely comminuted iron oxide with the oxides of the other metals desired in the alloy, subjecting the mixture to a diffusing heat treatment in an elongated furnace under non-reducing conditions at a temperature of between 980° and 1200° C. for about one hour to cause a homogenization of the composition of the mixture by diffusion wherein only one solid phase is present, and then subjecting the thus heat treated mixture to a reduction at a temperature below the melting point of the starting materials and of the homogenized oxide material and finally grinding said material.

3,424,573

PROCESS FOR COMBINED OXYGEN IRON REFINING AND PRODUCING OF FERROUS MELTS
Rocco Catoggio de Villiers, 249 Murray St., Brooklyn, Pretoria, Transvaal, Republic of South Africa
Filed Oct. 22, 1965, Ser. No. 501,562
Claims priority, application Republic of South Africa, Nov. 2, 1964, 64/5,215 10 Claims
U.S. Cl. 75-43 10 Claims
Int. Cl. C21c 5/40, 5/32



A system for refining ferrous metal with oxygen in which the gases from the refining chamber are directed to a second chamber containing a pile of scrap or pig iron and mixed with oxygen-containing gas so that the constituents that are not entirely combusted will further oxidize to provide and transfer sufficient heat to the scrap or pig iron to melt same.

3,424,574

FERROUS METAL REFINING
Meherwan C. Irani, 41 Vernon Drive, Pittsburgh, Pa. 15228
No Drawing. Filed Oct. 22, 1965, Ser. No. 502,572
U.S. Cl. 75-53 12 Claims
Int. Cl. C21c 7/04

A process is provided for removal of copper from molten iron consisting of crystallizing a sulfate, sulfide or sulfite containing aqueous material such as waste pickle liquor, adding the dried or crystallized product to molten

iron containing copper and removing the resulting slag from the surface of the molten iron after allowing sufficient time for the molten slag to dissolve the copper in the iron.

3,424,575

RECOVERY OF COPPER FROM ACID COPPER SULFATE SOLUTIONS

John T. Long, Jr., Phoenix, Ariz., assignor to Chemetals Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Aug. 10, 1965, Ser. No. 478,747

U.S. Cl. 75—109

3 Claims

Int. Cl. C22b 15/12

The extraction and the recovery of copper from an acid copper sulfate solution containing an oxidizing agent is accomplished by boiling the acid solution for a sufficient time to inactivate the oxidizing agent, cooling the acid solution, adding a metal above copper in the displacement series to the cooled acid solution in sufficient amount to precipitate the desired amount of copper and removing therefrom the precipitated copper.

3,424,576

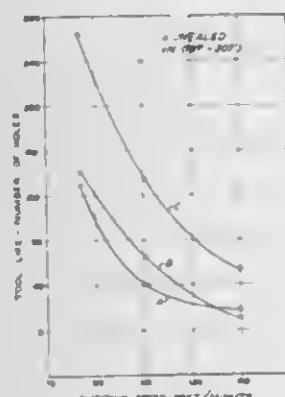
FREE MACHINING STEELS

Edgar L. Fogleman, Downingtown, and Robert H. Sterne, Jr., West Chester, Pa., assignors to Lukens Steel Company, Coatesville, Pa., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 474,053, July 22, 1965. This application Apr. 23, 1968, Ser. No. 729,871

U.S. Cl. 75—123

4 Claims

Int. Cl. C22c 39/28, 39/52



The machinability of fine-grain low alloy steel having about 0.13–0.65% C, 0.45–1.2% Mn, 0.04% P (max.), 0.05% S (max.), 0.1–0.5% Si, 2% Ni (max.), 1.5% Cr (max.), 0.05–0.6% Mo, the balance Fe is increased by incorporating therein about 0.01–0.15% of a deoxidizer from the group consisting of V, Nb and Ta and also about 0.05–0.35% Pb. The content of aluminum should be less than about 0.01%.

3,424,577

METAL ALLOY COMPOSITION

John P. Nielsen, New York, N.Y., and Joseph J. Tuccillo, Norwalk, Conn., assignors to J. F. Jelenko & Co., Inc., New Rochelle, N.Y., a corporation of New York

No Drawing. Filed May 25, 1966, Ser. No. 552,694

U.S. Cl. 75—134

5 Claims

Int. Cl. C22c 5/00

A non-tarnishing gold alloy by weight consists of 50–60% silver and copper; at least 3–6% palladium; and the balance gold. The palladium serves to minimize the tarnishing of the silver content of the alloy.

3,424,578

METHOD OF PRODUCING PERMANENT MAGNETS OF RARE EARTH METALS CONTAINING CO, OR MIXTURES OF CO, Fe AND Mn

Karl J. Strnat and Gary I. Hoffer, Fairborn, and John C. Olson, Dayton, Ohio, and Werner Ostertag, Painted Post, N.Y., assignors to the United States of America as represented by the Secretary of the Air Force

Filed June 5, 1967, Ser. No. 644,460

U.S. Cl. 75—213

5 Claims

Int. Cl. B22f 3/12; H01f 1/08

A method of making permanent magnets comprising the steps of pulverizing an alloy consisting of (a) selected rare earth metals and (b) cobalt (or mixtures of Co with Fe and Mn) characterized by high crystal anisotropy in specific atomic percent ratios, mixing the pulverized alloy with a binding agent, subjecting said powder to a magnetic field of sufficient magnitude so as to align the alloy particles with their direction of easiest magnetization parallel to the applied magnetic field, and thereafter permanently bonding together the aligned powdered alloy, and the article resulting therefrom.

3,424,579

METHOD AND APPARATUS FOR ELIMINATING TEARS AND STREAKS IN ELECTROSTATOGRAPHY

Andrew Balint, Park Ridge, William E. Bixby, Deerfield, and Len A. Tyler, Evanston, Ill., assignors to Bell & Howell Company, Chicago, Ill., a corporation of Illinois

Filed Nov. 25, 1964, Ser. No. 413,784

U.S. Cl. 96—1

16 Claims

Int. Cl. G03g 13/22

A method and apparatus for eliminating the presence of tears and streaks in development of an electrostatographically reproduced microimage by directing toner particles across a previously charged and exposed photoconductive surface, from a plurality of directions.

3,424,580

PHOTOGRAPHIC PROCESS FOR THE DIRECT PRODUCTION OF POSITIVE IMAGES ON METAL

Eugene Wainer, Shaker Heights, Ohio, assignor to Horizons Incorporated, a corporation of Ohio

No Drawing. Filed Sept. 7, 1965, Ser. No. 485,627

U.S. Cl. 96—29

18 Claims

Int. Cl. G03c 5/54

A photographic process for the direct production of nonerasable positive images on metal, particularly aluminum, the surface of which has been anodized, including modification of known anodizing processes to eliminate sulfate ions, or the use of novel anodizing processes, and including the use of novel aluminum alloys.

3,424,581

PHOTOGRAPHIC EMULSION OF SILVER HALIDE AND DERIVATIZED GELATIN CAPABLE OF CONDUCTING ELECTRICAL CURRENT

George H. Nawn, Westwood, and William J. Timson, Belmont, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

No Drawing. Filed Jan. 25, 1966, Ser. No. 522,827

U.S. Cl. 96—38.4

8 Claims

Int. Cl. G03c 5/00

1. A method of conducting electrical energy which comprises impressing an electrical current on a circuit comprising an electrically conducting silver image prepared by exposing a silver halide element which comprises a dispersion of silver halide crystals distributed in a colloid binder comprising a derivatized gelatin possessing localized net negative electrostatic charge in a quantum sufficient to prevent substantially complete adsorption of said gelatin to the active face of said crystals and develop-

ing said exposed silver halide emulsion with silver halide developing agent for a time sufficient to provide development of the latent image to a silver image and formation of silver filaments interconnecting the silver grains constituting said developed image.

3,424,582

DATA PROCESSING SYSTEM

Elliot Berman, Braintree, and Carl F. W. Ekman, Bedford, Mass., assignors to Itek Corporation, Lexington, Mass., a corporation of Delaware

Filed May 20, 1964, Ser. No. 368,885

U.S. Cl. 96—48

7 Claims

Int. Cl. G03c 5/40

The invention relates to a data storage process wherein a photoconductive medium is exposed to an image and developed by sequential contact with a first solution containing metallic ions and then a second solution containing a reducing agent for said ions. Background discoloration is substantially reduced by drying the medium after contact with the first solution and prior to contact with the second solution.

3,424,583

PHOTOGRAPHIC COLOR REVERSAL FILMS

Eugene Dwight Seiter, Westfield, and Jacob Quentin Umberger, Holmdel, N.J., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 301,964, Aug. 14, 1963. This application Aug. 7, 1964, Ser. No. 388,282

U.S. Cl. 96—74

10 Claims

Int. Cl. G03c 7/00

Multilayer color films comprising a film support bearing, in order, a red-sensitive silver halide layer containing a cyan color former, a green-sensitive silver halide layer containing a magenta color former, a yellow filter layer, a blue-sensitive silver halide layer containing a yellow color former, the color formers being nondiffusing, and an antiabrasion layer, there being present in one of the contiguous layers a bisulfite ion, salts thereof or complexes thereof with a water-soluble organic carbonyl compound and a water-soluble silver halide developing agent of the hydroxybenzene or organic amine type.

3,424,584

ABRASION OF THE OUTER SURFACES OF FILM SUPPORTS AND RUPTURABLE CONTAINERS TO REDUCE BLOCKING

Russell P. Cook, Marlboro, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed June 10, 1964, Ser. No. 374,021

U.S. Cl. 96—76

11 Claims

Int. Cl. G03c 1/48

Photographic film supports and photographic rupturable containers and the like, which are treated by a process comprising abrading the outer surface thereof to prevent blocking during storage.

3,424,585

PHOTOSENSITIVE DIAZOTYPE MATERIALS

Ignaz Binzer, New York, N.Y., assignor to Fairmont Chemical Co., Inc., Newark, N.J., a corporation of New Jersey

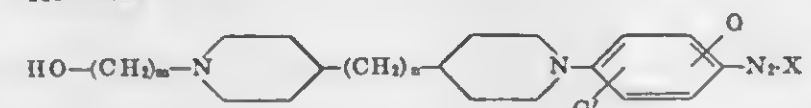
No Drawing. Filed Feb. 10, 1966, Ser. No. 526,367

U.S. Cl. 96—91

6 Claims

Int. Cl. G03c 1/52

1. A photosensitive diazonium compound of the general formula:



wherein m and n each is an integer from 1 to 4, G and G' each is selected from the group consisting of hydrogen and lower alkoxy radicals, and X is an anion.

3,424,586

SILVER HALIDE EMULSIONS SENSITIZED WITH CYANINE DYES CONTAINING A HYDROXY-PROPYL SULFONIC ACID RADICAL

Johannes Götze, Bergisch-Neukirchen, Germany, assignor to Agfa Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

Filed June 1, 1964, Ser. No. 371,250

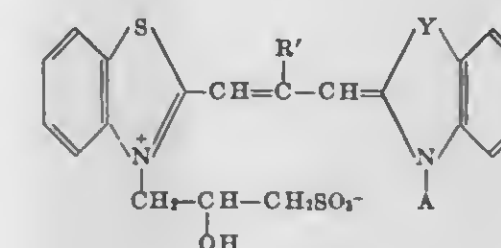
Claims priority, application Germany, June 10, 1963, A 43,300

U.S. Cl. 96—106

7 Claims

Int. Cl. G03c 1/10

1. In a silver halide gelatine emulsion sensitized with a dye, the improvement according to which the dye has the formula:



wherein

R' represents a lower alkyl;

Y stands for a member of the group consisting of sulfur and selenium;

A represents a lower alkyl radical if Y stands for selenium and represents a member of the group consisting of lower alkyl and hydroxypropylsulfonic acid if Y stands for sulfur.

3,424,587

METHOD OF TREATMENT OF CRUDE ANIMAL FAT

Alois Mayer, Weisse Lillenstrasse 5, Regensburg, Germany

No Drawing. Continuation-in-part of application Ser. No. 202,076, June 13, 1962. This application Jan. 12, 1965, Ser. No. 425,067

Claims priority, application Germany, July 14, 1961, M 49,666

U.S. Cl. 99—7

9 Claims

Int. Cl. A23k 1/10

Treating crude animal fats to produce animal feed concentrates by drying, comminuting, freezing and pulverizing such fats followed by the addition of salt and other additives.

3,424,588

CHILLPROOFING FERMENTED BEVERAGES WITH POLYVINYL RESIN MODIFIED CLAYS

Eugene J. Dohman and William A. Rinehlmer, Las Vegas, Nev., assignors to National Lead Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed June 2, 1964, Ser. No. 372,098

U.S. Cl. 99—48

19 Claims

Int. Cl. C12b 1/04

Removal of proteinaceous complexes, tannins, and other elements which are harmful to flavor and clarity from beverages such as beer to "chillproof" the beverages by contacting the beverage with an inorganic clay such as hectorite modified with a polyvinyl resin such as a polyvinyl acetate or a poly N-vinyl pyrrolidone.

3,424,589

PROCESS FOR AGGLOMERATING COFFEE
 Billy Kan, Scarsdale, and Saul N. Katz, Yonkers, N.Y., assignors to General Foods Corporation, a corporation of Delaware
 No Drawing. Filed Feb. 21, 1966, Ser. No. 528,770
 U.S. Cl. 99—71 4 Claims
 Int. Cl. A23f 1/08

Strong, fused agglomerates of soluble coffee particles are formed by adding sufficient moisture to porous agglomerates to lower the thermoplastic point of the coffee at the contact points to a level which will not degrade the essential coffee flavor but insufficient to dissolve said contact points, and heating the agglomerates to above the thermoplastic point of the coffee during drying to obtain a fused agglomerate.

3,424,590

BREADMAKING PROCESS
 Peter J. Booras, 19 Gurnsey St., Keene, N.H. 03431
 Continuation-in-part of application Ser. No. 405,324, Sept. 24, 1964. This application Feb. 28, 1966, Ser. No. 530,694
 U.S. Cl. 99—90 14 Claims
 Int. Cl. A21c 3/00

A method for the continuous manufacture of bread, wherein the leavened dough product is continuously produced as an endless leavened dough bar within a continuous confining arrangement surrounding a substantial portion of the periphery of the dough bar and heat capable of quickly baking the dough is supplied while advancing and shaping the dough bar within the confining arrangement so as to bake the dough as it is advanced and shaped.

The continuous confining arrangement is preferably in the form of a continuous, moving, multi-sided, non-collapsible, vapor porous, flexible, conveyor-shaper which advances the dough bar with a pulling action and permits the dough to be shaped, and the rate of rise of the dough to be controlled, by a predetermined, varying pressure applied thereto.

Also, preferably, the heat is supplied by applying a heat dissipative conductance to the confining arrangement and producing a dielectric field transversely thereof, the dielectric field energizing the heat dissipative conductance so as to emit radiant heat, whereby the dough is baked by the dielectric field and browned by the radiant heat emitted from the heat dissipative conductance.

3,424,591

HYDROCOLLOID SURFACE TREATMENT TO YIELD FRENCH FRIED POTATO PRODUCTS
 William L. Gold, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
 No Drawing. Filed June 9, 1965, Ser. No. 462,715
 U.S. Cl. 99—100 8 Claims
 Int. Cl. A231 1/12

Surface treatment of potato pieces with a synthetic or chemically modified natural hydrocolloid prior to deep fat frying yields French fried potato products having a lighter more even color, a firmer texture, a higher residual moisture content, and a reduced oil content.

3,424,592

PROCESS FOR PREPARING A FRIED ONION FLAVORING
 Heinz Huth, Holzminden, Germany, assignor to Dragoco Gerberding & Co. G.m.b.H., Holzminden, Weser, Germany, a corporation of Germany
 No Drawing. Filed Oct. 9, 1964, Ser. No. 402,926
 Claims priority, application Germany, Oct. 12, 1963, D 42,698
 U.S. Cl. 99—140 5 Claims
 Int. Cl. A211 1/26

Prepare an emulsion of onion juice, nutritive oil and a fat emulsifier and heat said emulsion in a closed vessel to produce a fried onion flavor.

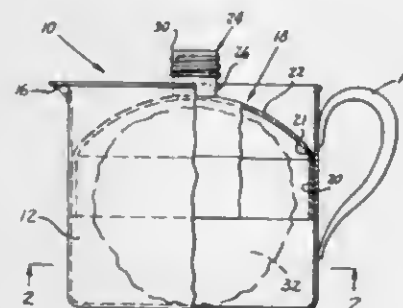
3,424,593

METHOD OF PRODUCING MODIFIED ALLIUM CONDIMENTS
 Carl Bockman, 6909 Minstrel Ave., and Ronald S. Nelson, 7460 Capistrano Ave., both of Canoga Park, Calif. 91304, and Walter A. Kleln, 5119 N. Saddle Rock Lane, Phoenix, Ariz. 85018
 No Drawing. Filed Feb. 26, 1965, Ser. No. 435,681
 U.S. Cl. 99—154 13 Claims
 Int. Cl. A231 1/22, 1/26

Treating plants of the allium family, i.e., garlic, onion, leek, to effect a controlled formation of the constituent alliin formed from alliin by the enzymatic action of alliinase by macerating said plants in the presence of citrus juice.

3,424,594

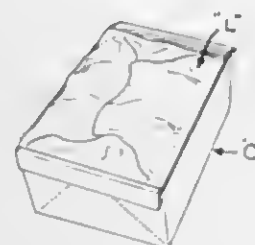
LETTUCE CRISPER AND METHOD UTILIZING SAME
 Doyle M. Medford, 4155 Krupp Drive, Apt. B, El Paso, Tex. 79902
 Filed Mar. 16, 1965, Ser. No. 440,204
 U.S. Cl. 99—154 4 Claims
 Int. Cl. A231 1/02



A lettuce crisper including the combination of a container and a lid having a downwardly extending flange sized to fit the interior shape of said container, a truncated spherical upper secured to the periphery of said flange and a spout on the apex of said upper for the introduction of water.

3,424,595

PACKAGE FOR AND METHOD OF SHIPPING COMESTIBLES
 Charles H. Tolman, Dallas, Tex., assignor to Owens-Illinois, Inc., a corporation of Ohio
 Filed Apr. 26, 1965, Ser. No. 450,619
 U.S. Cl. 99—171 6 Claims
 Int. Cl. B65b 55/00

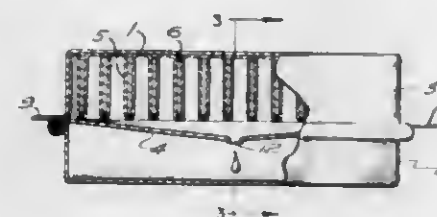


This invention is concerned with a package for the shipment of comestibles and a method for shipping comestibles. The package in question is a fibreboard carton which is capable of retaining liquid, a sheet of heavy paper toweling and an appropriate lid for the fibreboard carton. In operation, water is placed in the bottom of the fibreboard carton and the toweling is placed therein. A comestible product is then positioned on the damp toweling, whereupon the toweling is folded over the comestible. A lid is then placed on the composite carton, whereupon

the temperature of the composite carton is lowered to an appropriate temperature for transit of the comestible product.

3,424,596

PACKAGE FOR STORING AND COOKING BACON SLICES
 Robert E. Sullivan, 128 Cliff Road, Wellesley, Mass. 02181
 Filed Oct. 22, 1965, Ser. No. 501,671
 U.S. Cl. 99—174 1 Claim
 Int. Cl. B65b 25/06



A package for storing and cooking bacon strips, in which the bacon slices are individually held in separate pockets within the package. The package includes a cover above the pockets and a drainage pan and basin below the pockets to catch drippings during cooking, each pocket having an opening to permit drippings to drain during cooking.

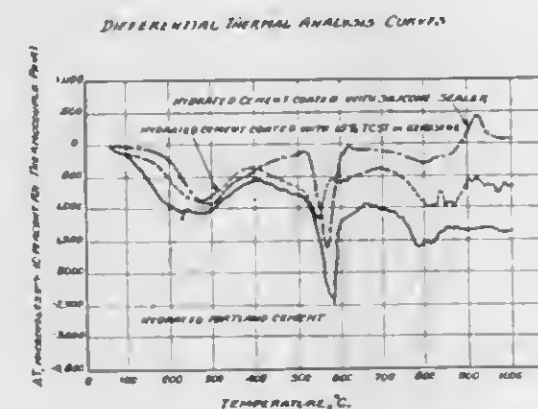
3,424,597

ELECTROLESS NICKEL PLATING
 Charles R. Shipley, Jr., Newton, Mass., assignor to Shipley Company, Inc., Newton, Mass., a corporation of Massachusetts
 No Drawing. Filed Apr. 8, 1966, Ser. No. 541,059
 U.S. Cl. 106—1 7 Claims
 Int. Cl. C23c 17/02

An electroless nickel plating composition of the nickel cation-hypophosphite anion type characterized by the addition of an effective amount of a solution soluble polymer. Nickel deposited from solution is readily plated without treatment to remove oxide coatings. It is believed that the addition to the plating solution provides a thin, protective layer over the nickel plated surface which is readily redissolved in a subsequent plating bath, thereby preventing oxidation of the nickel in water or in the atmosphere.

3,424,598

COATING FOR SILICEOUS MATERIALS
 Milton J. Snyder and Edward S. Lipinsky, Columbus, and Joseph E. Burch, Dublin, Ohio, assignors, by mesne assignments, to Fats and Proteins Research Foundation, Inc., Des Plaines, Ill., a corporation of Illinois
 Filed Sept. 29, 1966, Ser. No. 583,049
 U.S. Cl. 106—2 17 Claims
 Int. Cl. C09d 5/00; C08h 9/00



A coating composition that is suitable for waterproofing concrete and analogous materials of a cementitious

or calcerous nature comprises the reaction product of a silane having at least one hydrogen atom, the remaining substituents being hydrolyzable halogen atoms, and a fatty substance comprising an ester of a trihydric alcohol having an internally unsaturated acyl group. The coating composition also includes a volatile vehicle that is inert with respect to the defined reaction product.

3,424,599

WAX MIXTURES AND PROCESS FOR THE PRODUCTION OF WAX MIXTURES, FOR FLUID, WATER-FREE POLISH MASSES

Josef Kaupp and Werner Strassberger, Gersthofen, near Augsburg, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed May 7, 1965, Ser. No. 454,165
 Claims priority, application Germany, May 22, 1964, F 42,950

U.S. Cl. 106—10 9 Claims
 Int. Cl. C09g 1/08; C09d 3/60; C08h 9/06

A process for producing waxes suitable for fluid, water-free polish masses by admixing

(1) wax acids obtained from Guerbet alcohols of 24–60 carbon atoms or the corresponding soaps obtained by neutralizing the wax acids with oxides or hydroxides of a metal of Groups I–III of the Periodic Table with

(2) at least one of a paraffin, polyethylene wax or ozocerite; effecting the admixture in the molten state.

3,424,600

LIQUID MIXES FOR FOUNDRY CORES AND MOULDS AND METHOD OF MANUFACTURING FOUNDRY CORES AND MOULDS FROM SAME

Abram Moiseevich Liass, ulitsa Karla Marxa 7, Apt. 8, and Pavel Afanasievich Borsook, Nijhnaja Pervomaiskaja ulitsa 59, Apt. 13, both of Moscow, U.S.S.R.

No Drawing. Continuation-in-part of application Ser. No. 243,967, Nov. 26, 1962. This application May 26, 1965, Ser. No. 459,090

U.S. Cl. 106—38.35 10 Claims
 Int. Cl. C04b 25/06; B28b 7/34

This invention relates to a fluid self-hardening mixture for making foundry cores and molds containing a filler (silica sand, olivine sand, etc.); a binder which is an aqueous solution of sodium silicate (having a SiO₂ to Na₂O ratio of about 2 to 3); bicalcium silicate to promote self-hardening; and 0.05–0.4 part by weight of neutralized sulfonic acid. The binder may be synthetic urea formaldehyde-furfural resin and an aqueous solution of oxalic acid as a catalyst.

3,424,601

GELLED TRICRESYL PHOSPHATES
 James P. Hamilton, Pasadena, Md., assignor to FMC Corporation, a corporation of Delaware

No Drawing. Filed June 6, 1966, Ser. No. 555,278
 U.S. Cl. 106—177 3 Claims
 Int. Cl. C08b 21/06, 27/58, 27/62

A triorganic phosphate composition suitable for coating viscous-impingement air filters characterized by high thixotropy and desirable resistance to syneresis at ordinary ambient temperatures, which consists essentially of 96–99.6% of a triaryl phosphate, from about 0.2–2% of a cellulose acetate butyrate, having a high ratio of butyryl to acetyl and soluble in the triaryl phosphate at ambient temperatures, and from about 0.2–2% of cellulose acetate butyrate gelling agent with a high ratio of acetyl to butyryl

and which is soluble in the triaryl phosphate when hot, but insoluble at ordinary ambient temperatures, said gelling agent being dispersed through the composition in finely divided form.

3,424,602

PROCESS FOR PRODUCING SODIUM ALUMINUM SILICATE PIGMENTS

Peter Naurath, Wesseling, Bezirk, Cologne, Germany, assignor to Deutsche Gold- und Silber-Scheldenstalt vormals Roessler, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed June 24, 1966, Ser. No. 560,099

Claims priority, application Germany, July 9, 1965, D 47,694

U.S. Cl. 106—288

5 Claims

Int. Cl. C09c 1/40, 1/28; C01b 33/26

Amorphous almost neutral reacting sodium aluminum silicate pigments of superior opacifying properties are produced by adding over a period of about 30 minutes to 10 hours aluminum sulfate to an aqueous solution maintained at a high temperature (e.g., 50 to 100° C.) and a pH above 10 and reacting it therein with alkali silicate. Following the precipitation the suspension is brought to a pH of about 1.5 to 8 using aluminum sulfate and/or mineral acid.

3,424,603

METHOD FOR THE MANUFACTURE OF PYROLYTICALLY COATED FILAMENTS

Herbert S. Schwartz, Trotwood, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force

Filed Oct. 6, 1965, Ser. No. 493,587

U.S. Cl. 117—4

7 Claims

Int. Cl. C23c 13/02, 17/02; B44c 1/22



A method of manufacturing (a) graphite coated and (b) boride coated tungsten filaments by vapor coating with (a) a methane series gas and (b) a mixture of boron halide and hydrogen, respectively, a longitudinally grooved strip, and then separating the coated strip along the grooves to produce the filaments is disclosed.

3,424,604

METHOD FOR MANUFACTURING SYNTHETIC LEATHER

Osamu Fukushima, Hiroshi Hayanami, and Kazuo Nagoshi, Kurashiki, Japan, assignors to Kurashiki Rayon Company Limited, Kurashiki, Japan

No Drawing. Filed Nov. 9, 1964, Ser. No. 409,997

Claims priority, application Japan, Nov. 15, 1963, 38/61,338; Dec. 11, 1963, 38/66,746; Jan. 29, 1964, 39/3,956

U.S. Cl. 117—11

28 Claims

Int. Cl. B32b 5/02; D06m 15/00

A method for making an air and moisture-permeable sheet material comprising impregnating a fibrous substrate of mix-spun fibers with an impregnant comprised of a high molecular weight polymeric material having rubber-like elasticity, coagulating the impregnant, and extracting one of the polymers in the mix-spun fibers by means of a solvent which is a non-solvent for at least one other polymer in the said mix-spun fibers.

3,424,605

LAMP PHOSPHOR ADHERENCE

David H. Beaumont, Lyndhurst, and Arnold I. Friedman, South Euclid, Ohio, assignors to General Electric Company, a corporation of New York

Filed Apr. 14, 1966, Ser. No. 542,582

U.S. Cl. 117—33.5

9 Claims

Int. Cl. C09k 1/00; F21k 2/00; B05c 3/06

In the making of fluorescent tubes, it has been found that the bonding of the halophosphate phosphors to the glass is improved with the use of barium nitrate as a bonding agent. This suspension is applied to the glass with a temporary binder which is burned off in the lehr.

3,424,606

LAMP PHOSPHOR ADHERENCE

Livio L. Gludici, Mentor, Ohio, assignor to General Electric Company, a corporation of New York

Filed June 16, 1966, Ser. No. 558,093

U.S. Cl. 117—33.5

6 Claims

Int. Cl. C09k 1/00; F21k 2/00; B05c 3/06

In the making of fluorescent tubes, it has been found that the bonding of the halophosphate phosphors to the glass is improved with the use of barium nitrate and ammonium nitrate as the permanent bonding agent. This suspension is applied to the glass with a temporary organic binder which is burned off in the lehr.

3,424,607

ATACTIC POLYOLEFIN RELEASE AGENTS

Salvatore G. Coscia, Philadelphia, Pa., assignor to De Kalb Industries, Inc., King of Prussia, Pa., a corporation of Pennsylvania

No Drawing. Filed June 15, 1964, Ser. No. 375,285

U.S. Cl. 117—5.1

4 Claims

Int. Cl. B29c 1/04

A release agent which is used in a mold to prevent adhesion between the object molded and the surface of the mold. This release agent consists essentially of a mixture of about 0.5–40% by weight atactic polyolefin and about 99.5–60% by weight of a liquid vehicle which may be a saturated or unsaturated aliphatic or aromatic hydrocarbon.

3,424,608

GLASS FIBER REINFORCED ELASTOMERS

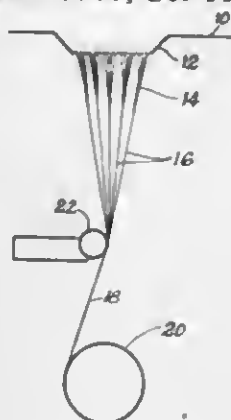
Alfred Marzocchi, Cumberland, R.I., and Albert E. Tamaszkas, Ben Avon, Pa., assignors to Owens-Corning Fiberglass Corporation, a corporation of Delaware

Continuation of applications Ser. No. 400,517, Sept. 30, 1964 and Ser. No. 494,654, Oct. 11, 1965. This application Mar. 22, 1967, Ser. No. 633,654

U.S. Cl. 117—72

6 Claims

Int. Cl. B44d 1/14; C02c 25/00; C09 11/08



This invention is addressed to the preparation of glass fiber bundles for use as a reinforcement or in other com-

binations with elastomeric material wherein the glass fibers of the bundle are sized or the bundle of glass fibers is impregnated with a composition formulated of a resorcinol formaldehyde resin, a vinyl pyridine terpolymer, neoprene rubber and butadiene rubber with the elastomeric components present in the form of a latex.

3,424,609

METHOD FOR PREVENTING ACCUMULATION OF ELECTROSTATIC CHARGES ON SHAPED ARTICLES

Wolfgang Carl, Martin Wendel, and Alfred Reichle, Dormagen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed May 12, 1965, Ser. No. 455,328

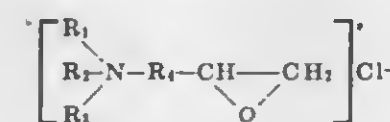
Claims priority, application Germany, May 23, 1964, F 42,973/64

U.S. Cl. 117—139.5

4 Claims

Int. Cl. D06m 13/02; C08j 1/44

A method of preventing the accumulation of electrostatic charges on shaped articles by treating with an active compound of the formula



in which

R₁ and R₃ denote independently from each other a member of the group consisting of aliphatic radicals with at most 6 carbon atoms and aliphatic radicals with at most 6 carbon atoms substituted by nitrile groups, while

R₂ means an aliphatic radical with at least 6 carbon atoms, and

R₄ stands for an alkylene radical with 1–3 carbon atoms; drying the treated article and thereafter heating at about 100–150° C.

3,424,610

VAPOR DEPOSITING INFRA-SENSITIVE ANTIMONY TRITELLURIDE

Stanley V. Forgue, Cranbury, N.J., assignor to the United States of America as represented by the Secretary of the Air Force

No Drawing. Filed Oct. 14, 1965, Ser. No. 496,747

U.S. Cl. 117—201

2 Claims

Int. Cl. H01l 7/36

1. The process of reacting together stoichiometric weights of antimony and of tellurium for two hours in making antimony tritelluride, growing a crystal vertically from the reaction product of stoichiometric weights of antimony and of tellurium, depositing upon a substrate a porous layer of antimony tritelluride by placing the grown crystal of antimony tritelluride in a tantalum boat within a chamber having an air atmosphere and a pressure of from 1 to 2 millimeters of mercury and maintained at about 660° C., evaporating for about three minutes the antimony tritelluride for accomplishing its deposition as a porous layer on the substrate, and subsequently baking the porous layer at 100° C. for one-half hour in an air atmosphere at a pressure of about 1 to 2 millimeters of mercury.

3,424,611

SUGARCANE PROCESSING AND APPARATUS

Robert B. Miller, 12540 126th Ave., Edmonton, Alberta, Canada

Filed July 22, 1964, Ser. No. 384,410

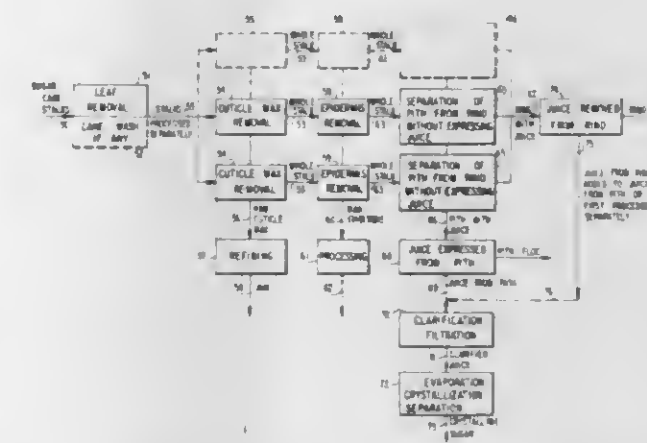
U.S. Cl. 127—2

9 Claims

Int. Cl. C13d 1/06

Methods and apparatus for separating the pith and

rind components of sugarcane involving the separation of



3,424,612

SUGARCANE PROCESSING AND APPARATUS

Robert B. Miller, 12540 126th Ave.,

Edmonton, Alberta, Canada

Continuation-in-part of application Ser. No. 384,410, July 22, 1964. This application July 1, 1965, Ser. No. 468,692

U.S. Cl. 127—2

10 Claims

Int. Cl. C13d 1/06



Methods and apparatus for obtaining sugar from sugarcane involving the separation of sugarcane pith from sugarcane rind and the expulsion of juice from the rind-free pith.

3,424,613

CONTINUOUS PRODUCTION OF INDUSTRIAL STARCH PASTES

Kenneth J. Huber and Jack F. Johnston, Granite City, Ill., and Edward K. Nissen and De Witt R. Pourie, St. Louis, Mo., assignors to Union Starch and Refining Co., Inc., Columbus, Ind., a corporation of Indiana

Continuation-in-part of application Ser. No. 290,099, June 24, 1963. This application Nov. 18, 1965, Ser. No. 508,513

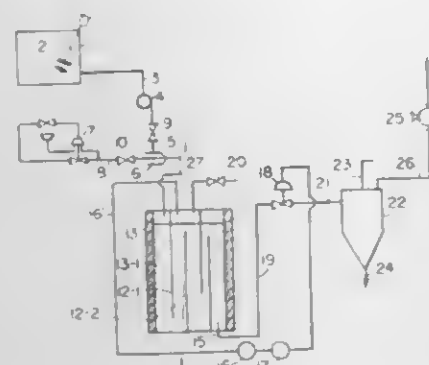
U.S. Cl. 127—28

2 Claims

Int. Cl. C13l 1/00

1. A continuous starch converting apparatus comprising means for forming a starch slurry, a steam-injection heater comprising means for injecting steam under pressure into a stream of slurry introduced therein, means for feeding a continuous stream of slurry to said steam-injection heater, pressure converting means comprising an insulated, closed tank containing transverse baffles arranged to provide a continuous path for the paste therein without channelling, while maintaining the paste under pressure, pipe means connecting the steam-injection heater to said pressure converting means whereby to supply said paste to said tank under pressure, paste collecting means open to the atmosphere,

pipe means connecting the pressure converting means to the past collecting means,



valve means connected to the upper portion of said pressure cooking means for regulating release of non-condensable gases.

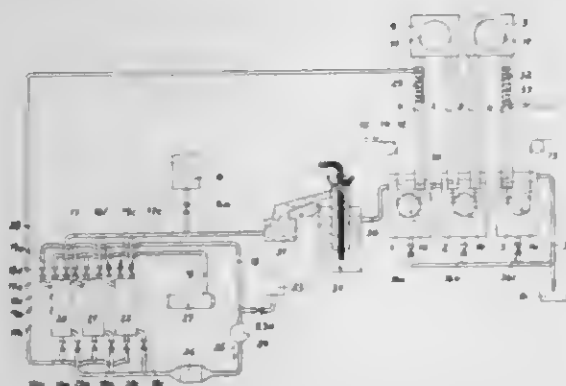
3,424,614

CLEANING, PARTICULARLY DE-SCALING, OF METAL ARTICLES

Albert Lichte, Wuppertal-Elberfeld, Germany, assignor to Schloemann Aktiengesellschaft, Düsseldorf, Germany, a corporation of Germany
Continuation-in-part of abandoned application Ser. No. 347,569, Feb. 26, 1964. This application Oct. 30, 1967, Ser. No. 679,116
Claims priority, application Germany, Feb. 28, 1963, Sch 32,851

U.S. Cl. 134—2
Int. Cl. C23g 1/22

3 Claims



A method of cleaning metallic articles from oxidic surface contaminations by spraying the articles, in a treatment chamber shut off from the atmosphere and freed from atmospheric oxygen, with a mist of an alkali metal melt enriched with sufficient alkali metal hydride to descale the contaminations, and then removing the reduced scale by spraying the articles with a neutral liquid.

Excess alkali metal hydride may be added to the melt to maintain an oxygen-free atmosphere by reacting with any atmospheric oxygen present; and the product of this reaction may be collected and employed as a liquid seal for the treatment chamber.

3,424,615

METHOD AND APPARATUS FOR CLEANING XEROGRAPHIC PLATES

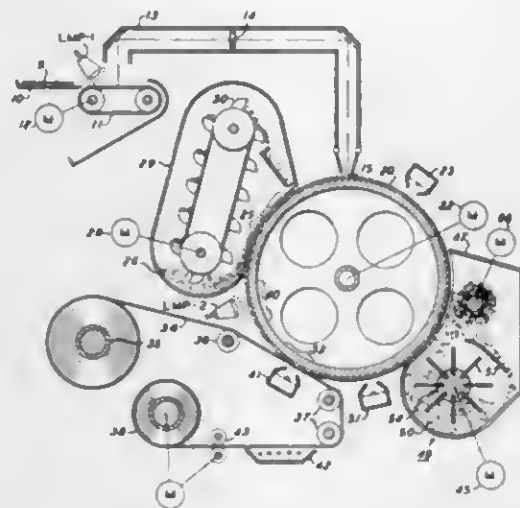
Roger H. Eichorn, Webster, and Norbett H. Kaupp, Newark, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Jan. 3, 1966, Ser. No. 518,335

U.S. Cl. 134—7
Int. Cl. B08b 7/00

10 Claims

10. A method of removing residual developing powder from an electrophotographic member comprising

propelling a granule particle having triboelectric properties sufficient to attract residual powder against an electrophotographic plate so that said granules are placed in contact with said residual powder, interrupting the flight of the propelled cleaning granules leaving the electrophotographic member with an electrically insulated conductive grid,



separating the residual powder triboelectrically held to said granules by electrically attracting said powder from the granules to said grid, collecting the regenerated cleaning granules for reuse in the cleaning process.

3,424,616

METHOD OF REMOVING COATINGS CAUSED BY STORAGE OF MEAL OR FLOUR IN DRY BULK FORM AND PARTICULARLY FOR PREPARING FOR RE-USE LINED RAILROAD HOPPER CARS

Robert W. Townsend, 3908 Rugby Drive, Toledo, Ohio 43614
No Drawing. Filed May 3, 1966, Ser. No. 547,148
U.S. Cl. 134—7
Int. Cl. B08b 9/08

3. A method of removing a coating selected from the group consisting of residual meal deposits, flour deposits, and mold, said coating being caused by condensation on the interior surfaces of an enclosed compartment which has been used for the transportation or storage of meal or flour in bulk form, comprising directing onto the interior coated surfaces a stream of compressed air and granulated non-toxic cellulose material.

3,424,617

SEALED BATTERY WITH CHARGE-CONTROL ELECTRODE

Phillip F. Grieger and Sol S. Jaffe, West Orange, N.J., assignors to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Filed Dec. 15, 1965, Ser. No. 514,071

U.S. Cl. 136—6
Int. Cl. H01m 45/04

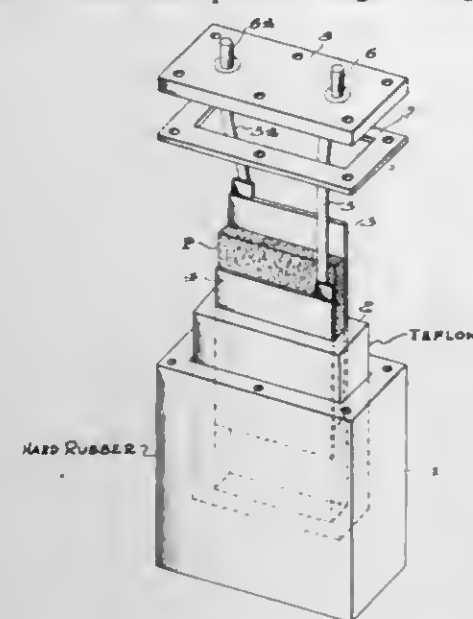
4 Claims

A sealed storage battery is provided with an auxiliary electrode for charge control purposes. The battery is of the type having positive electrodes which are oxidized as they are charged and which evolve oxygen on overcharge and having negative electrodes which are reduced as they are charged and which are oxidizable when not fully discharged. The auxiliary electrode includes a carbon cloth electroplated with a catalyst selected from the group consisting of platinum, palladium and silver. A relay connected between the auxiliary electrode and the negative electrode controls a charge circuit for the battery.

3,424,618

PROCESS FOR THE FORMING OF SEALED ALKALINE SINTERED ELECTRODE ACCUMULATORS HAVING A LOW SELF-DISCHARGE

electrolyte. These cells provide high energy output per



pound of active materials at a high rate of discharge over a wide range of temperatures.

3,424,622

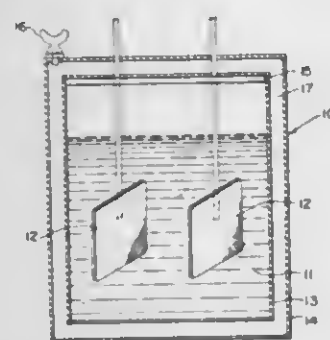
FUSED-SALT BATTERY WITH SELF-REGULATING INSULATING SYSTEM

Douglas M. Deibert, Bay Village, Ohio, assignor to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio

Filed Feb. 10, 1966, Ser. No. 526,613

U.S. Cl. 136—161
Int. Cl. H01m 1/02

5 Claims



An electrical energy storage device operable in a range of low to high temperatures, and utilizing a system which insulates the device from the ambient atmosphere at low temperatures of operation, and dissipates heat from the device into the ambient atmosphere at higher temperatures of operation.

3,424,623

BLOW MOLDED BATTERY

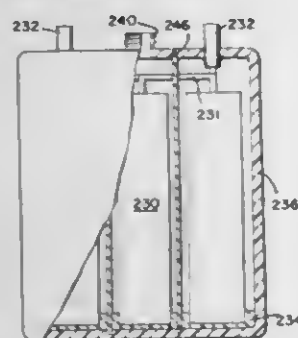
Michael J. Oakley, and Monica V. Oakley, both of 5536 Sierra Vista, Los Angeles, Calif. 90038

Filed June 28, 1966, Ser. No. 561,249

U.S. Cl. 136—176

Int. Cl. H01m 1/00; B29c 17/07

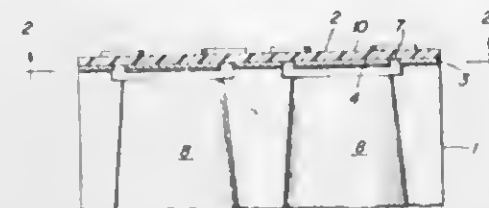
1 Claim



A battery is fabricated by blow molding a case around the several cells comprising the battery, to provide a unitary, integral case and cover.

3,424,624
THERMOPILE RADIATION DETECTOR SYSTEM
Philippe Villers, Wilton, and Gerald Falbel, Stamford, Conn., assignors to Barnes Engineering Company, Stamford, Conn., a corporation of Delaware
Filed May 25, 1965, Ser. No. 458,737
U.S. Cl. 136—213
Int. Cl. H01u 1/32; G01k 7/12

11 Claims



Thermopiles are prepared with a heat sink of material of high heat conductivity, such as aluminum, having holes or openings with a thin film of electrically insulating material stretched across the heat sink and bridging the openings. On one side of the electrically insulating film is a thin film of metal such as gold with an annular gap separating a portion of each hole from the remainder. The gold in the middle of the opening is provided with a radiation-absorbing black coating. On the other side of the electrically insulating film, junctions of thermopiles are deposited with the active junctions over the portion of the gold film which has been blackened and the reference junctions over a portion of the film which is in contact with the heat sink. The active junctions receive uniform heating from radiation striking the blackened portions of the gold film.

3,424,625

PROCESS FOR WELDING LEAD ONTO LEAD UTILIZING A SPECIAL FLUX COMPOSITION

Ernest G. Tiegel, Redwood City, Calif.
(Bragato Road, Belmont, Calif. 94002)

No Drawing. Filed Nov. 9, 1965, Ser. No. 507,059

U.S. Cl. 148—23

Int. Cl. B23k 35/36; H01m 35/32

8 Claims

A process for welding lead onto lead particularly adapted for welding lead battery elements such as connector straps and plate lugs by either the cast on process or lead burning process, but utilizing a special flux composition by applying the composition prior to welding; said composition comprising as the active ingredient a dicarboxylic acid of the formula



where n is an integer from 3 to 10. The active ingredient is preferably dissolved in a suitable solvent in order to render the material liquid, but with a major portion of the active ingredient; the preferred solvent being dimethyl sulfoxide.

3,424,626

LOW SILICA WELDING COMPOSITION

Thomas L. Coless, Maplewood, and Kenneth Woodrow Rimer, Newark, N.J., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Jan. 5, 1965, Ser. No. 423,600

U.S. Cl. 148—26

Int. Cl. B23k 35/36

14 Claims

1. A fused welding composition consisting essentially of from about 30 percent by weight up to about 65 percent by weight of at least one oxide taken from the class consisting of Al_2O_3 , MgO , TiO_2 , ZrO_2 and CaO and the balance being a fluorine bearing compound taken from the class consisting of calcium fluoride, sodium fluoride, magnesium fluoride, lithium fluoride, potassium fluoride and cryolite, said composition being substantially free of silica.

3,424,627 PROCESS OF FABRICATING A METAL BASE TRANSISTOR

Hartmut Michel, Vaihingen, Enz, and Gerd Selter, Frankenburg, Germany, assignors to Telefunken Patentverwertungsgesellschaft m.b.H., Elisabethenstrasse, Ulm (Danube), Germany

Filed Dec. 10, 1965, Ser. No. 512,889

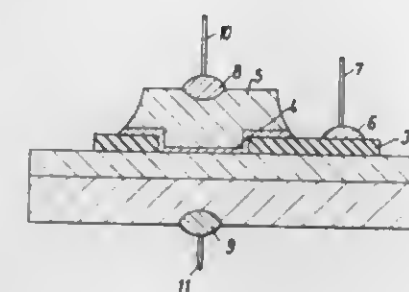
Claims priority, application Germany, Dec. 15, 1964,

T 27,622

U.S. Cl. 148—174

Int. Cl. H01l 7/50

20 Claims



1. A method for producing a transistor comprising the steps of:

- (a) providing a first semiconductor body which constitutes a first region for said transistor;
- (b) depositing a metal layer which constitutes a second region for said transistor and depositing an etchant-resistant metallic coating in contact with one another on said first body;
- (c) covering the exposed surfaces of said metal layer and said coating with a second semiconductor body which constitutes a third region for said transistor; and
- (d) etching away a portion of at least said second body for exposing an electrode contacting surface on said metallic coating.

3,424,628

METHODS AND APPARATUS FOR TREATING SEMI-CONDUCTIVE MATERIALS WITH GASES

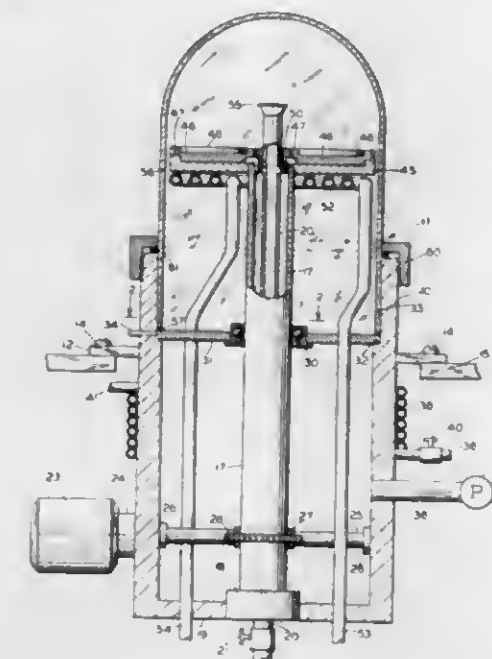
Richard H. Winings, Fleetwood, Pa., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Jan. 24, 1966, Ser. No. 522,506

U.S. Cl. 148—175

Int. Cl. H01l 7/36

17 Claims



8. Apparatus for treating semiconductor materials with gases at elevated temperatures, which comprises:

- a gas treatment chamber;
- a generally horizontally disposed susceptor plate mounted for rotation within said chamber;

a work holder mounted eccentrically on said susceptor plate for rotation with respect thereto, said work holder being designed to support a body of semiconductive material in heat transfer relationship with respect to said susceptor plate;
means for heating said susceptor plate to heat the body;
means for rotating said susceptor plate to cause the body to revolve about the axis of said susceptor plate;
means for rotating said work holder to cause the body to rotate about its own axis while revolving about the axis of said susceptor plate; and
means for introducing treatment gases into said chamber to treat the body.

3,424,629

HIGH CAPACITY EPITAXIAL APPARATUS AND METHOD

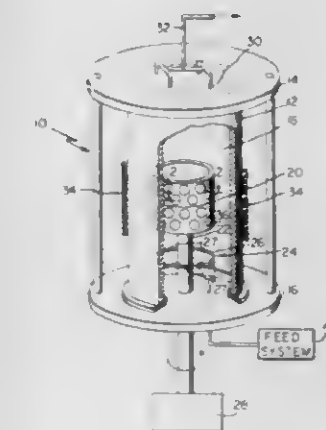
Eric O. Ernst, Wappingers Falls, N.Y., Donald J. Hurd, Huntington Center, Vt., and Gerard Seeley, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Dec. 13, 1965, Ser. No. 513,427

U.S. Cl. 148—175

Int. Cl. H01l 7/36

9 Claims



An epitaxial deposition chamber including preferably a cylindrical rotatable substrate holder having a plurality of circumferential recesses in which the substrates are positioned, means for heating the substrate holder to a desired reaction temperature, a halo-shaped inlet port adjacent one end of the substrate holder for introducing reactant gases into the chamber and outlet ports through which the gas exits from the chamber.

3,424,630

COMPOSITE PROPELLANT COMPOSITION OF VINYL POLYMER WITH ADDED POLYISOBUTYLENE

Boyce M. Corley, Waco, Tex., assignor to North American Rockwell Corporation

No Drawing. Filed Oct. 1, 1965, Ser. No. 492,337

U.S. Cl. 149—19

Int. Cl. C06b 1/04

6 Claims

A gas generator composition comprising a solid inorganic oxidizer salt and a fuel binder of butadiene-methyl vinylpyridine copolymer having polyisobutylene intimately mixed in said composition.

3,424,631

METHOD OF PROVIDING SHEATHED CABLES WITH CONTROLLED INSULATION STRIPPABILITY

Glenn S. Peacock, Somerville, N.J., assignor to Union Carbide Corporation, a corporation of New York

Filed Oct. 15, 1965, Ser. No. 496,625

U.S. Cl. 156—51

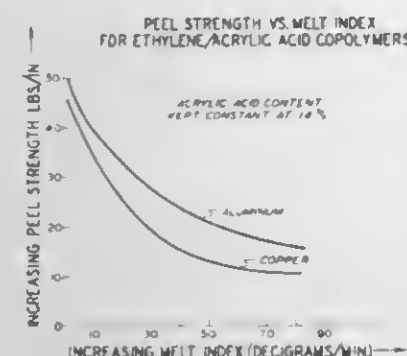
Int. Cl. H01b 13/14, 13/24

20 Claims

1. A method of providing cables having protective

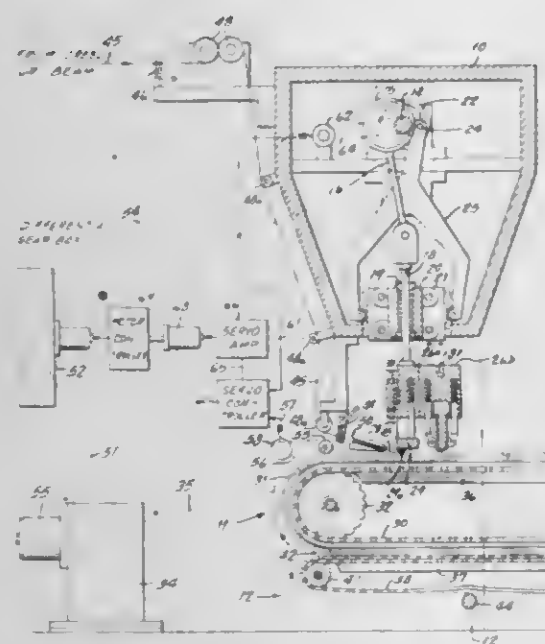
metal sheaths with controlled insulation strippability which method comprises:

- (a) providing said metal sheathed cable with a covering of a fabricated film of ethylene copolymer of ethylene monomer polymerized with a copolymerizable polar monomer wherein said ethylene copolymer contains from about 0.5 percent to about 45 percent polymerized polar monomer, and



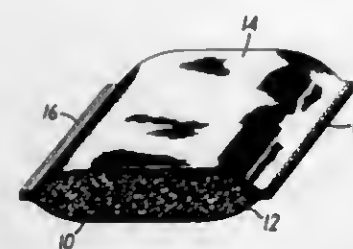
- (b) applying a polyolefin outer jacket to said ethylene copolymer whereby said polyolefin outer jacket firmly adheres to but is strippable from said metal sheath, the degree of adhesion of said polyolefin outer jacket to said metal sheath being proportional to the amount of said copolymerized polar monomer and the molecular weight of said copolymer.

3,424,632
METHOD AND APPARATUS FOR PRODUCTION OF PILE CARPETING AND THE LIKE
Ralph Michael Adler, Kew Gardens, N.Y., assignor to Adler Process Corp., New York, N.Y., a corporation of New York
Filed Jan. 13, 1966, Ser. No. 520,402
U.S. Cl. 156-72 19 Claims
Int. Cl. D04h 11/04



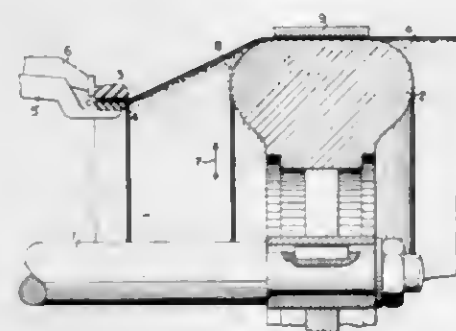
1. A method for producing a pile fabric, such as carpeting, rugs and the like, which comprises disposing yarns on loop-forming members, said loop-forming members being positioned transversely with respect to said yarns, depressing said yarns between said loop-forming members to form loops of yarn therebetween, said loop-forming members being magnetically attracted to each other and held together magnetically in side-by-side contacting relationship such that when said loops of yarn are formed between said loop-forming members said loops of yarn tend to be locked between said loop-forming members due to the magnetic forces acting therebetween.

3,424,633
METHOD OF MAKING STRAP MATERIAL
James Stephen Corrigan, Greenwich, Raymond R. Waterman, Easton, and Kenneth M. Deal, Norwalk, Conn., assignors to R. T. Vanderbilt Company, Inc., New York, N.Y., a corporation of New York
Original application July 10, 1964, Ser. No. 381,630, now Patent No. 3,295,529. Divided and this application Sept. 9, 1966, Ser. No. 592,242
U.S. Cl. 156-79 5 Claims
Int. Cl. B32b 5/18, 31/06; B29d 27/00



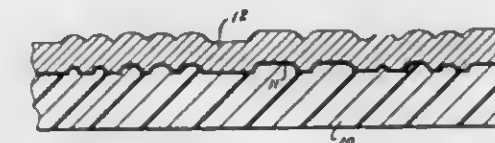
A method of making laminated fully air-breathable foam-fabric articles comprising the steps, in the order given, of supporting a first breathable fabric web on a forming surface, applying a layer of air-frothed polyvinyl chloride liquid foam on the first web, laying in a second breathable fabric web over the foam layer to form a laminate and heating the laminate to gel and fuse the foam. The laminate is then cooled to a temperature substantially below its fusion temperature. Thereafter, it is heat and pressure formed along narrow bands to collapse the foam cell structure into a dense film-like layer and is severed along the bands, the film-like layer constituting a closed, mechanically-bonded edge or border of the article.

3,424,634
TIRE BUILDING MACHINE
Hans Menell, Ahlem, Hannover, Germany, assignor to Continental Gummi-Werke Aktiengesellschaft, Hannover, Germany
Filed Mar. 22, 1965, Ser. No. 441,459
Claims priority, application Germany, Mar. 20, 1964, C 32,463
U.S. Cl. 156-133 7 Claims
Int. Cl. B29h 17/10



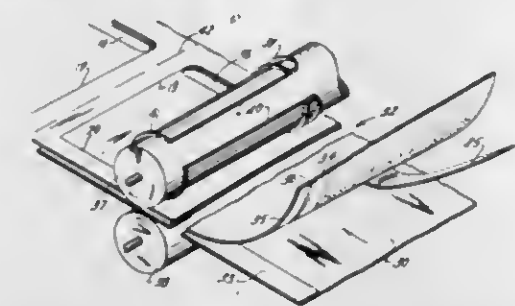
The method and apparatus for making a tire having threads in the zenith portion at an acute angle to the circumference and with radial thread in the side walls by placing the fabric plies so that the threads extend laterally at said acute angle and so that marginal portions extend beyond the tire drum surface an equal distance on each side and while fixing their position on the drum contacting portion, rotating the tire with respect to the edges of the margins, thus effecting a change of the angle of the margin to the final radial direction, and turning down the margins to form the side walls of the tire.

3,424,635
METHOD OF MAKING COMPOSITE PRINTING PLATE
Attilio Grandinetti, Villa Park, Ill., Ralph B. Curd, Orange, Conn., and James Dime, Woodmere, N.Y., assignors to Electrographic Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 28, 1966, Ser. No. 537,941
U.S. Cl. 156-150 3 Claims
Int. Cl. B41n 3/00; C23b 7/00



1. A process of making a composite printing plate which comprises molding a relief printing plate into a mass of a thermosetting resin, curing the resin under heat and pressure to provide a flat electrotype mold, separating the mold from the printing plate, electrodepositing a thin electrotype shell on the face of the mold, coating the back of the shell with an adhesive, covering the back of the shell with a layer of an acrylonitrile-butadiene-styrene thermoplastic resin, subjecting the cured mold, shell and thermoplastic resin layer to heat and pressure to bond said thermoplastic resin to the shell, separating the backed shell from the mold, and adhesively securing the backed shell to a rigid metal base under heat and pressure.

3,424,636
METHOD OF MAKING POCKET-FORMING DEVICE FOR LIBRARY CARDS
Arthur Brody, 465 Melrose Place, South Orange, N.J. 07079
Original application Mar. 31, 1965, Ser. No. 444,201, now Patent No. 3,372,858, dated Mar. 12, 1968. Divided and this application Dec. 18, 1967, Ser. No. 691,264
U.S. Cl. 156-201 4 Claims
Int. Cl. B42d 3/18; B42b 7/00

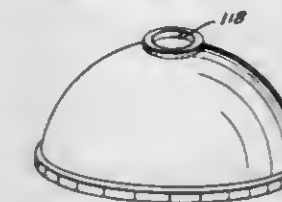


Two continuous strips with pressure sensitive adhesive between them are advanced to a bonding station. One strip is of release material. Both strips cut through to form longitudinal opening. Only release material cut through along periphery of area adjacent to the opening, so that release material covers adhesive in this area even if balance of release material is removed. Both strips cut in regions between those treated as above to form individual pocket-forming devices.

3,424,637
METHOD OF MAKING A SAFETY SHIELD FOR ELECTRIC HEATING MANTLE
Glen H. Morey, Terre Haute, Ind., assignor to Templeton Coal Company, Terre Haute, Ind., a corporation of Indiana
Original application Jan. 18, 1962, Ser. No. 167,108, now Patent No. 3,177,343, dated Apr. 6, 1965. Divided and this application Dec. 5, 1962, Ser. No. 242,473
U.S. Cl. 156-242 1 Claim
Int. Cl. B29d 31/00; B29c 17/02

A method for making a flexible fluid-impervious shield for a flask in which high temperature textile material is

worked smooth on a form, clamped at its margin to the form, and coated on the form with a coating composition. The coating composition is then cured, the shield is re-

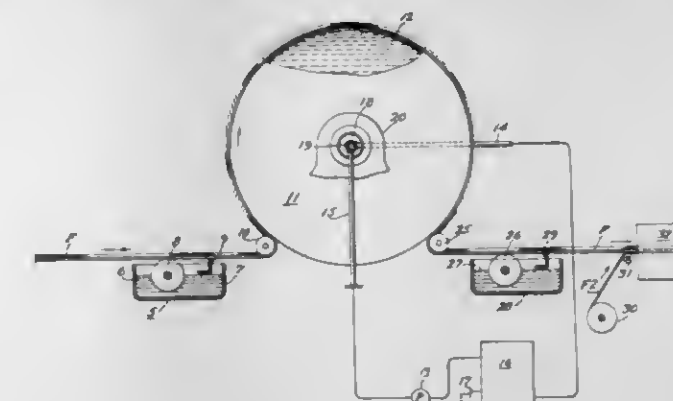


moved from the form, the uncoated margin is trimmed off, and a hole for the flask neck is then formed in the shield at the appropriate place.

3,424,638
CHEMICAL PROCESS
Nelson S. Marans, Silver Spring, Md., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
No Drawing. Filed Nov. 2, 1964, Ser. No. 408,342
U.S. Cl. 156-272 6 Claims
Int. Cl. C09j 3/14; B01j 1/10

1. A method for bonding which comprises applying a layer of acrylic acid between layers of material to be bonded, and polymerizing said acrylic acid by irradiation with high energy ionizing irradiation whereupon said layers become spontaneously and securely bonded.

3,424,639
METHOD FOR PRESSING AND LAMINATING A PILE FABRIC
Robert G. Levitch, Lexington, Va., assignor, by mesne assignments, to Burlington Industries, Inc., Greensboro, N.C., a corporation of Delaware
Filed May 12, 1965, Ser. No. 455,260
U.S. Cl. 156-314 2 Claims
Int. Cl. B32b 31/08, 31/12

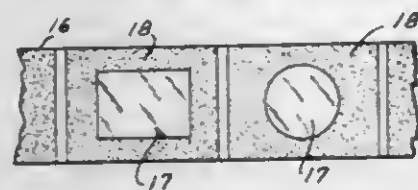


This invention relates to the manufacture of pile fabrics and more particularly to an improved method for treating the base or back of a pile fabric after the pile has been incorporated in the base. The pile fabric is fed preferably through a precoating mechanism and thence around a large cylinder or can containing a heating fluid. After leaving the cylinder, the back of the pile fabric is given a second adhesive treatment just prior to the application of a secondary backing.

3,424,640
METHOD AND ARTICLE OF CREATING OPAQUE SURFACE ON TRANSPARENT FILMS
Walter Hines, Roselle, William E. Bixby, Deerfield, and Joseph I. Quateman, Evanston, Ill., assignors to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed Aug. 20, 1964, Ser. No. 390,887
U.S. Cl. 161-6 9 Claims
Int. Cl. B44f 1/00; B44d 1/00; D06p 1/00

A method and the resulting article of treating a trans-

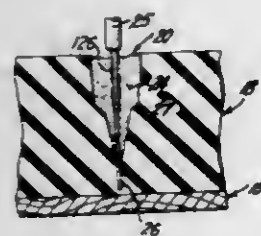
parent cellulose ester film with a swelling agent compris-



ing a chlorofluoroethane with subsequent treatment of water vapor to render the surface of said film opaque.

3,424,641 MEANS FOR SUPPORTING FLOWERS

Theodore W. Separa, 320 E. Breckenridge, Ferndale, Mich. 48220
Continuation of application Ser. No. 482,821, Aug. 26, 1965. This application Apr. 14, 1967, Ser. No. 635,945
U.S. Cl. 161—27 4 Claims
Int. Cl. A41g 1/00; A01n 3/00



An elastomeric floral support including at least one aperture surrounded by strained elastomeric material adapted to grip and hold a flower stem when inserted thereinto.

3,424,642 LAMINATED WINDOW PANELS

Dee R. Orcutt, Natrona Heights, Pa., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania
Original application Aug. 2, 1963, Ser. No. 299,582. Divided and this application Aug. 19, 1966, Ser. No. 573,506
U.S. Cl. 161—45 8 Claims
Int. Cl. B32b 3/02; D03d 11/00

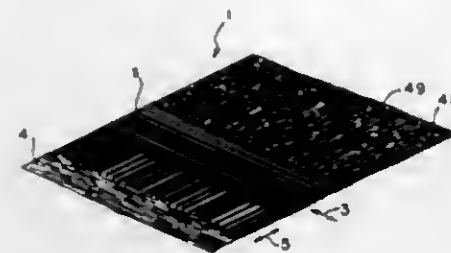


A laminated window panel including edge framing means comprising a glass fiber reinforced thermosetting resin.

3,424,643
SHEET MATERIAL CREPED TISSUE PRODUCT
Frank M. Lewis, Jr., Winnebago, and Ronald H. Wideman, Menasha, Wis., assignors to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Nov. 8, 1965, Ser. No. 506,797
U.S. Cl. 161—57 4 Claims
Int. Cl. B32b 5/12; B32b 3/30; D04h 3/02

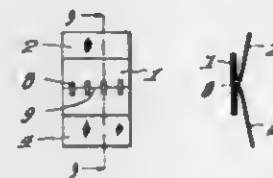
A crepe tissue product having particular utility as a cleaning medium as in washcloths, towels and the like

where a capacity for fluid retention and toughness are important. Crepe tissue sheets bound interior plies of cross-laid relatively inextensible synthetic fibers forming striated webs. Each striated web is bonded to a tissue to bridge valleys of the crepe tissue and each crepe tissue



ply is creped substantially perpendicularly with respect to the striation of the web to which it is adhered and substantially perpendicularly also to the crepe direction of the tissue bonded to the other layer of striated web material.

3,424,644
FILM SPLICE PATCH
Eiko Nakagome, Kofu-shi, Japan, assignor to Yugen Kaisha Luxe, Tokyo, Japan, a corporation of Japan
Filed Sept. 22, 1965, Ser. No. 489,301
Claims priority, application Japan, Sept. 30, 1964, 39/77,082
U.S. Cl. 161—102 4 Claims
Int. Cl. G03d 15/04



A folding splice patch for securing together a pair of motion picture film strips having single rows of perforations along one edge of the film comprises a rectangular transparent backing sheet having one face coated with pressure-sensitive adhesive material and being fitted with a pair of folded protective strips each having a first panel portion substantially conforming to and adhering to one half of the coated face of said sheet on one side of a median folding line of the sheet, with the folding edges of the strips abutting one another along said line and second panel portions of the strips overlying said first portions forming finger-gripping flaps. The assembled sheet protective strips are provided with a single row of perforations spaced along and symmetrically to said line, said perforations being spaced by intervals equal to the perforation spacing intervals of said film strips and having a length at right angle to said line in excess of twice the length and a width slightly greater than the width of the film perforations.

3,424,645
EXTRUDED FOAMED FIBERS
Ernest O. Ohsol, Wilmington, Del., assignor to Haveg Industries, Inc., Wilmington, Del., a corporation of Delaware
Original application Apr. 30, 1963, Ser. No. 276,708, now Patent No. 3,275,720, dated Sept. 27, 1966. Divided and this application July 30, 1964, Ser. No. 392,368
U.S. Cl. 161—175 9 Claims
Int. Cl. D01f 04; D01f 02

A drawn longitudinally oriented fiber of a thermoplastic resin foam is provided with a warm feel and

insulating values equivalent to natural fibers, a foam resin core having elongated luminae and an impervious outer skin integrally united to said core, said core comprising 50 to 95% of the diameter of said fiber, said fiber having a density between 14 and 45 lbs./cu. ft., said resin being selected from the group consisting of styrene polymers,

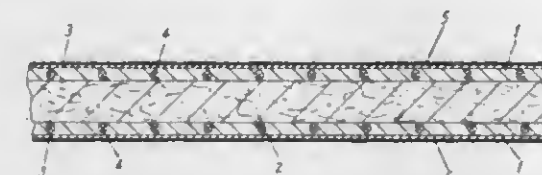


polyethylene, polypropylene, ethylene-propylene copolymer, polychlorotrifluoroethylene, polymethyl methacrylate, vinyl chloride polymers and polyurethanes and the drawing being to an extent of at least 2 times whereby there are highly longitudinally oriented, elongated luminae in the foamed core.

3,424,646
LAMINATED SAFETY GLASS AND PROCESS FOR MAKING SAME
Fritz Winkler, Kelkheim, Taunus, Franz Pohl, Frankfurt am Main, and Hermann Stärk, Bad Soden, Taunus, Germany, Helmut Kessler, Cernobbio, Como, Italy, and Werner Grundmann, Hofheim, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Filed Aug. 13, 1965, Ser. No. 479,604
U.S. Cl. 161—199 6 Claims
Int. Cl. B32b 17/10; C03c 27/12

An improved method for controlling the splinter adhesion and breaking resistance of safety glass containing a polyvinyl butyral sheet as an interlayer has been provided which comprises supplementing a moisture conditioning of the interlayer prior to the lamination of said interlayer with glass sheets by adding 0.005 to 0.5% by weight, calculated on the polyvinyl butyral, of lecithin serving as anti-adhesion agent. The improved laminated safety glass is within the scope of the invention.

3,424,647
LAMINATED VAPOR BARRIER SHEET MATERIAL
Howard Edward Callahan and Ralph John O'Connor, Cincinnati, Ohio, assignors to the Phillip Carey Corporation, Cincinnati, Ohio, a corporation of Ohio
Filed Dec. 20, 1963, Ser. No. 332,065
U.S. Cl. 161—205 12 Claims
Int. Cl. B32b 19/08, 13/02, 13/04



1. A laminated vapor barrier sheet material having high resistance to moisture vapor transmission and to deterioration by moisture and moist earth, comprising a layer of bituminous mastic encased between sheets of bitumen-saturated asbestos felt, the outer exposed surfaces of said asbestos felt sheets being coated and sealed with a thin layer of a bituminous coating, and said coated surfaces having a thin layer of anti-stick material thereon, said vapor barrier sheet being characterized by high strength, toughness, sufficient pliability to conform to

irregularities of earth contours, and high retention of moisture vapor transmission resistance, integrity and strength during prolonged exposure to moisture and to contact with moist soil.

3,424,648
FILMS OF LAMINATED PROTEIN
Harland H. Young, Western Springs, Ill., assignor to Swift & Company, Chicago, Ill., a corporation of Illinois
No Drawing. Filed May 11, 1964, Ser. No. 366,655
U.S. Cl. 161—214 5 Claims
Int. Cl. B32b 9/04, 15/08

Film material comprising laminates of non-bonded protein fabrics or felts superficially bonded to continuous proteinaceous film, said laminates being substantially impermeable to high fugacity gases. Laminates containing metallic foil are also set forth as well as methods for forming the various laminates.

3,424,649
DIENE-MONOVINYLAENE BLOCK COPOLYMER-POLYOLEFIN LAMINATES
David D. Nyberg, San Pedro, and Willis R. Hendricks, Palos Verdes Estates, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 24, 1965, Ser. No. 490,119
U.S. Cl. 161—253 3 Claims
Int. Cl. B32b 27/08; C08f 45/68

1. A composite structure which comprises, in intimate joined lamination

(a) a substrate layer of a normally solid polyolefin, and
(b) a tightly adhered superficial layer of a composition comprising:

(1) 20-100 parts by weight of a thermoplastic polyolefin of at least one olefin having 2-3 carbon atoms per molecule and having a melt index at 190° C. between about 0.2 and 0.4; and
(2) 100 parts by weight of an elastomeric block copolymer having the configuration:
poly(monovinylarene)-poly(conjugated diene)-poly(monovinylarene)

wherein each poly(monovinylarene) block has an average molecular weight between about 8000 and 45,000; and the poly(conjugated diene) block has an average molecular weight between about 35,000 and 150,000.

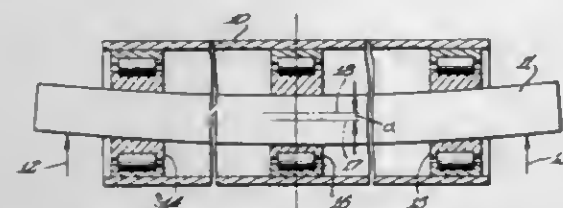
3,424,650
METHOD OF IMPROVING DRY STRENGTH OF PAPER
Myron J. Jursich and Thomas Altken, Chicago, Ill., assignors to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware
No Drawing. Filed Nov. 5, 1965, Ser. No. 506,593
U.S. Cl. 162—175 4 Claims
Int. Cl. D21h 3/28

A starch composition comprising 60-98% by weight of starch which has been reacted with 2-40% by weight of a formaldehyde-guanidine-melamine resin. The starch compositions are useful for treating paper.

3,424,651
TABLE ROLL MOUNTING
Donald B. De Noyer and Loyal H. Hess, Beloit, Wis., assignors to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Filed Oct. 22, 1965, Ser. No. 500,631
U.S. Cl. 162—354 9 Claims
Int. Cl. D21h 1/00

A table roll assembly for a Fourdrinier wire having an outer cylindrical roll shell for supporting a load along its

axial length, an inner solid shell supporting shaft means extending through the shell adapted to be non-rotatably mounted at its ends, end bearing means between the shaft and the roll shell for rotatably supporting the ends of the roll shell, and intermediate rotatable bearings mounted between the end bearings and positioned between the shaft



and the intermediate surface of the roll shell with the end bearing and the intermediate rotatable bearings being eccentric relative to each other an amount which supports the roll shell so that its outer surface remains substantially axially straight and the internal shaft bends due to the forces on the roll shell.

3,424,652

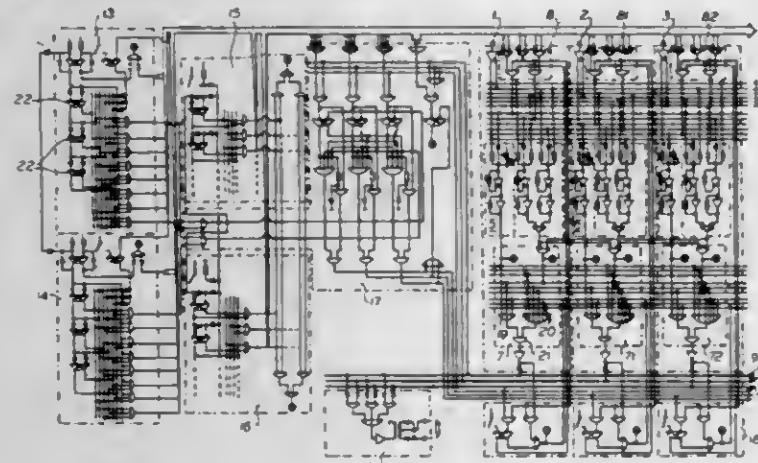
METHOD AND DEVICE FOR THE SUPERVISION OF INSTALLATIONS, IN PARTICULAR SAFETY SWITCHING SYSTEM OF NUCLEAR REACTORS
Manfred Oehmann, Wattwil, Switzerland, assignor to Gesellschaft für Kernforschung mbH, Postfach, Germany

Filed Apr. 26, 1966, Ser. No. 546,141

U.S. Cl. 176-19

8 Claims

Int. Cl. G21c 7/00, 17/00



Safety system for supervising installations, including multiple separate safety channels having test signal generators, test signal receivers, means for producing output test signals from the system being monitored, means for comparing the input and output test signals to produce a composite disturbance signal, means for producing a correction signal responsive to the disturbance signal, and means responsive to the correction signal whereby correction of a defect or error resulting in the disturbance signal is automatically eliminated. The system is an *m*-out-of-*n* system which automatically converts to a *p*-out-of-*q* system upon an error being present, and which operates in such a manner that the self-repair time is shorter than the minimum permissible monitoring off-line time of the system.

3,424,653

METHOD FOR START-UP OF A NUCLEAR REACTOR UTILIZING A DIGITAL COMPUTER
Charles E. Cohn, Clarendon Hills, Ill., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed June 8, 1967, Ser. No. 645,569

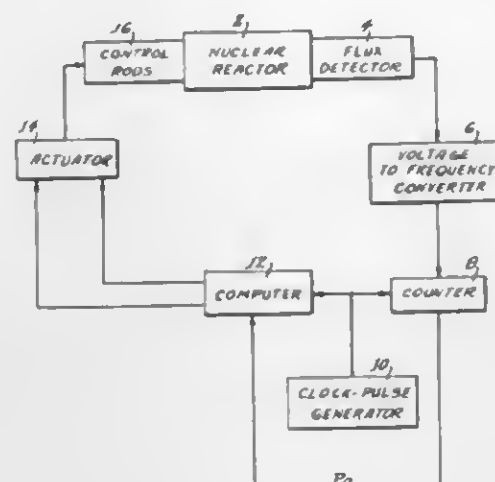
U.S. Cl. 176-22

3 Claims

Int. Cl. G21c 7/06

A method of control for the start-up of a nuclear reactor employing a digital computer in the feedback loop

by sampling of the reactor flux at predetermined time intervals, step adjustment of the reactor control rod in response to the difference between a computed desired flux value and an extrapolated flux value on the logarithmic



mic slope between the two most recent flux samples, and adjustment of the deadband of the control system, as equilibrium is approached, to maintain the amount of rod jitter, or random motion, within predetermined limits.

3,424,654

RECOVERY OF MICROCOCCAL NUCLEASE
Robert William Hansen, South Bend, Ind., assignor to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana

No Drawing. Filed Apr. 4, 1966, Ser. No. 539,648

U.S. Cl. 195-66

4 Claims

Int. Cl. C12d 1/00

1. A process for the recovery of micrococcal nuclease which comprises contacting a liquid containing micrococcal nuclease activity with perchloric acid to form a perchloric acid molar concentration of from about 0.25 to about 0.75 to form an enzyme precipitate and then separating said enzyme precipitate from the remaining liquid.

3,424,655

MUTANT DETECTION DEVICE

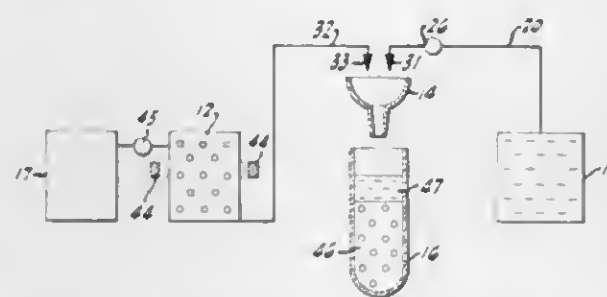
Jacques L. Ricard, Sacramento, Calif., assignor of forty percent to Martin C. Baer, Placerville, Calif.

Original application Oct. 8, 1962, Ser. No. 228,865, now Patent No. 3,255,095, dated June 7, 1966. Divided and this application Apr. 9, 1965, Ser. No. 456,876

U.S. Cl. 195-127

2 Claims

Int. Cl. C12k 1/10



Adjacent a conventional fraction collector having a plurality of culture tubes is a vessel containing a liquid culture medium in which is growing a large population of selected microorganisms undergoing mutation. Predetermined quantities of the culture medium are successively withdrawn from the vessel and mixed with predetermined amounts of a selective medium, the mixtures being introduced into successive culture tubes for incubation. The selective medium is chosen to provide an environment which allows a desired mutant to develop a sizeable

progeny while the non-mutants deteriorate, the selective medium having characteristics capable of being altered by the desired mutant but not by the non-mutants.

3,424,656

METHOD FOR RECOVERING ORGANOALKOXY-SILANES BY DISTILLATION WITH A BASE CATALYST

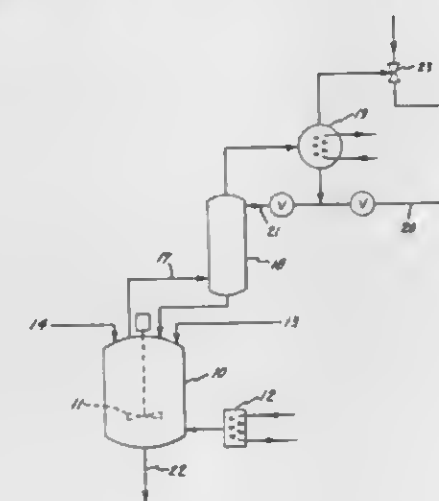
Abe Berger, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Mar. 25, 1966, Ser. No. 537,274

U.S. Cl. 203-36

Int. Cl. B01d 3/34

9 Claims



A method is provided for recovering certain organo-functional alkylalkoxysilanes such as cyanoalkylalkoxysilanes and aminoalkylalkoxysilanes from alkoxysilane mixtures contaminated with carbalkoxyalkylalkoxysilanes. An alkoxysilane mixture contaminated with a carbalkoxy-alkylalkoxysilane and comprising an organofunctional alkylalkoxysilane such as a cyanoalkylalkoxysilane is distilled in the presence of a base catalyst and the cyanoalkyl-alkoxysilane is recovered as an overhead fraction.

3,424,657

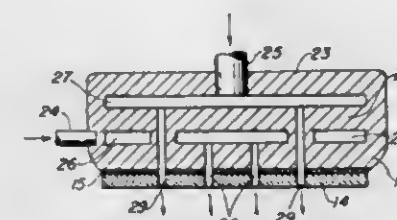
PROCESS FOR MAKING METALLIC STRUCTURE
Samuel Fialkoff, Roslyn, N.Y., assignor to Camlin Laboratories Inc., Brooklyn, N.Y., a corporation

Filed Oct. 13, 1965, Ser. No. 495,632

U.S. Cl. 204-9

Int. Cl. C23b 7/00

12 Claims



1. A process for making a metallic structure with a wall having a multiplicity of orifices opening onto an exposed surface of said wall, said orifices including a first group of orifices terminating at a manifold within said structure and a second group of orifices terminating beyond said manifold, comprising the steps of:

providing a base with a multiplicity of first and second pins projecting therefrom;
electroforming a first metallic layer on said base around all said pins with the latter projecting on both sides of said layer;
trimming said first pins to the level of an exposed surface of said first metallic layer;

depositing a destructible masking layer on said exposed surface to a depth less than the length of the projecting portions of said second pins, said masking layer having apertures centered on but wider than said second pins;

electroforming a second metallic layer on said masking layer around the tips of said projecting portions of said second pins, said layer being formed integral with tubular bosses extending through said apertures around said second pin into firm contact with said first metallic layer;

removing said base and said pins; and
destroying said masking layer, thereby leaving a manifold space communicating with orifices left in said first metallic layer upon withdrawal of said first pins.

3,424,658

METHOD OF PRODUCING A PRINTED CIRCUIT BOARD ON A METALLIC SUBSTRATE

Clyde A. Norton, deceased, late of Greenwich, Conn., by Eva Norton, administratrix, Sachem Lane, Greenwich, Conn. 06830

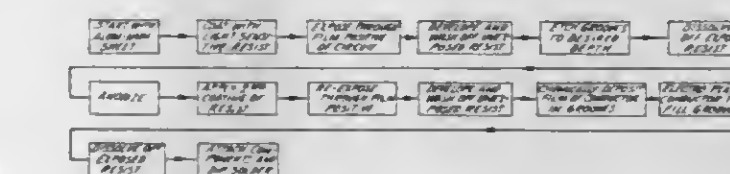
Original application Ser. No. 387,269, July 28, 1965.

Divided and this application Oct. 21, 1965, Ser. No. 500,379

U.S. Cl. 204-15

Int. Cl. C23b 5/48

11 Claims



1. The method of making a circuit board which consists in selecting an aluminum or aluminum-containing plate capable of being anodized, applying a resist to the face of said plate, exposing said resist through a positive film except where the conductor pattern is to be, removing the unexposed resist, etching the plate in areas unprotected by the resist to provide grooves therein, anodizing said plate, chemically applying a conducting coating to the interior of said grooves, and electroplating a conductor into said grooves to build up the conducting pattern therein.

3,424,659

ELECTROLYTIC REDUCTION PROCESS USING SILICIC ACID COATED MEMBRANE

Phillip Ward Staal, Elkhart, Ind., assignor to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana

No Drawing. Filed Mar. 14, 1966, Ser. No. 533,871

U.S. Cl. 204-74

Int. Cl. B01k 3/10

12 Claims

1. In an electrolytic process for reducing a reducible aromatic nitro compound in a cell having an anolyte bath and an acidic catholyte bath separated by a semipermeable membrane, the improvement comprising employing as the membrane an acid and alkali corrosion resistant porous material having an air permeability of less than about 7 cubic feet per square foot of fabric area measured under a 0.5 inch water pressure drop with air at 21° C. and 65% relative humidity, and using as said anolyte an aqueous solution containing a silicate compound which forms silicic acid upon neutralization in a concentration of about from 15 to 36 weight percent based upon the weight of the water and containing an alkaline compound in an amount sufficient to maintain a pH of at least about pH 12.

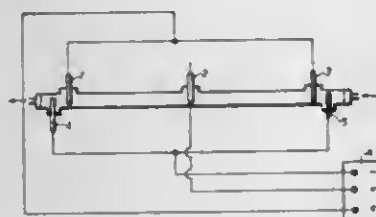
3,424,660

PROCESS FOR CHEMICAL PLATING

Heinz-Günter Klein, Cologne-Deutz, Konrad Lang, Cologne-Stammheim, Edith-Luise Schmeling, Cologne-Dellbrueck, and Helmut Weissbach, Opladen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
 Filed Jan. 8, 1965, Ser. No. 424,264
 Claims priority, application Germany, Jan. 14, 1964, F 41,743

U.S. Cl. 204—147
 Int. Cl. C23b 5/18

22 Claims



Process for electroless metal plating of metallic and non-metallic articles with plating baths of chemical reducing agents in which the article is contacted with the chemical reducing agent plating bath such that metal is deposited from the bath onto the article to plate such article, in which particular metallic surfaces in contact with the chemical reducing agent bath are protected against chemical plating by such bath, wherein:

(a) The metallic surfaces to be protected are connected in an electric circuit which contains additionally the plating bath as electrolyte, which bath contains a chemical reducing agent such as alkali metal borohydride, sodium hypophosphite, a borazane or a borazole, as well as at least one counterelectrode and at least one voltage source of direct current, such that

(b) An electric potential is applied to the metallic surfaces to be protected as the anode and to the counterelectrode as the cathode, which potential corresponds to the protection potential region lying between the mottling potential and the transpassivity on the current density/potential curve (or which corresponds to the rest potential on such curve), and

(c) Adjusting the current density to a value of not more than about 10^{-4} a./cm.².

3,424,661

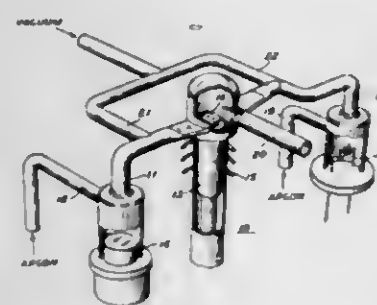
METHOD OF CONDUCTING CHEMICAL REACTIONS IN A GLOW DISCHARGE

Alex Androshuk, Bethlehem, Pa., Arpad A. Bergh, Murray Hill, N.J., and William C. Erdman, Bethlehem, Pa., assignors to Bell Telephone Laboratories, Incorporated, Berkeley Heights, N.J., a corporation of New York

Continuation-in-part of application Ser. No. 576,654, Sept. 1, 1966. This application Apr. 28, 1967, Ser. No. 641,094

U.S. Cl. 204—164
 Int. Cl. B01k 1/00

7 Claims



The disclosure is directed to chemical reactions between gas phase reactants promoted by a DC discharge plasma.

Of special interest are reactants such as silicon tetrachloride and nitrogen for depositing thin films of silicon nitride. Plasmas containing such highly corrosive reactants are contained by a special method and apparatus which involve the continuous isolation of the electrodes from the corrosive species in the plasma by a relatively inert, flowing, gas envelope.

3,424,662

USE OF ELECTRO-OSMOSIS PLUS FREEZING IN CONSTRUCTION OF UNDERGROUND STORAGE TANKS

Charles M. Hudgins, Jr., Burton M. Casad, and Elard L. Haden, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

Filed Oct. 15, 1965, Ser. No. 496,644

U.S. Cl. 204—180
 Int. Cl. B01k 5/00

12 Claims

1. A method of stabilizing soil for excavation which comprises introducing into said soil a plurality of freeze pipes circumscribing the area to be excavated, introducing intermediate said freeze pipes perforated pipes, passing current from a portion of said pipes to at least part of said perforated pipes to establish electro-osmotic stabilization and passing refrigerant through said freeze pipes until the area to be excavated is circumscribed by a frozen cylinder.

3,424,663

PROCESS FOR ELECTROPHORETIC DEPOSITION USING COMPLEXING AGENTS

Jürgen Welgel, Hamburg-Bergedorf, Germany, assignor to Hamburger Flugzeugbau G.m.b.H., Hamburg-Finkenwerder, Germany, a corporation of Germany

Filed June 10, 1964, Ser. No. 373,970

Claims priority, application Germany, June 15, 1963, H 49,471

U.S. Cl. 204—181
 Int. Cl. C23b 13/00

9 Claims

To produce an adherent coating of synthetic resin on a metallic substrate, the resin is dispersed in an aqueous solution to form negatively polarized particles therein which are attracted toward a surface of an anodically connected metallic substrate; in order to prevent the interaction of these particles with metal ions released by the anode into the solution, these cations are converted into anions by a chemical reaction with a complexing agent having the necessary affinity for the metal involved.

3,424,664

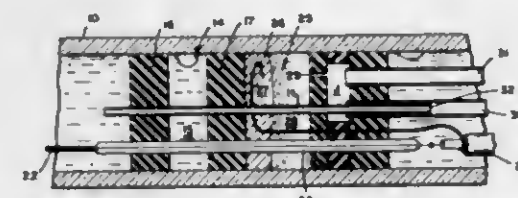
pH ELECTRODE

John W. Severinghaus, Ross, Calif., assignor to The Regents of the University of California

Filed Jan. 6, 1966, Ser. No. 519,048

U.S. Cl. 204—195
 Int. Cl. B01k 3/00

11 Claims



A capillary pH electrode having an enclosed liquid junction permitting horizontal orientation of the capillary glass membrane relative to the liquid junction with a vertical interface. The liquid junction is open and unrestricted

with respect to fluid communication with the reference electrode and further includes inlet and outlet conduits for easy flushing and replacement of electrolyte solution in the liquid junction.

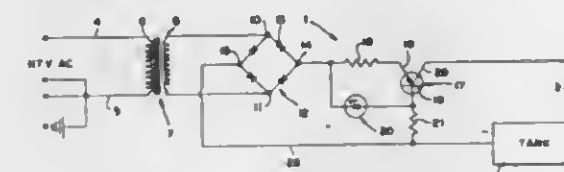
3,424,665

CATHODIC PROTECTION SYSTEM

James A. Mathews, Parma, Ohio, assignor to Harco Corporation, Cleveland, Ohio, a corporation of Ohio
 Filed Oct. 22, 1965, Ser. No. 500,765

U.S. Cl. 204—196
 Int. Cl. C23f 13/00

8 Claims



1. A protective system for objects subject to corrosion comprising at least one anode adapted to be submerged in an electrolyte in which such object is located closely adjacent but out of contact with such object, a transistor comprising an emitter, a base, and a collector, said collector being directly connected to said anode, an emitter bias resistor connected to said emitter, said base being connected through a Zener diode across said emitter resistor, and an electric cable adapted to be connected to such object as the cathode, said base being connected to ground through a Zener diode reference resistor, said Zener diode also being connected to ground through said Zener diode reference resistor.

3,424,666

Al-Hg-Bi ALLOY GALVANIC ANODE

John T. Reding, Freeport, and John J. Newport III, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Apr. 15, 1966, Ser. No. 542,728

U.S. Cl. 204—197
 Int. Cl. C23f 13/00

4 Claims

1. An aluminum alloy having a high oxidation potential and a high electrical equivalent which comprises: from about 0.003 to about 0.04 weight percent mercury, from about 0.015 to about 2 weight percent bismuth, and balance aluminum, said alloy being further characterized in that the weight proportion of bismuth/mercury ranges from about 5/1 to about 50/1.

3,424,667

APPARATUS FOR ELECTROPLATING APERTURED AND IRREGULARLY SHAPED SUBSTRATES

Gerard A. Frank, Allentown, Pa., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

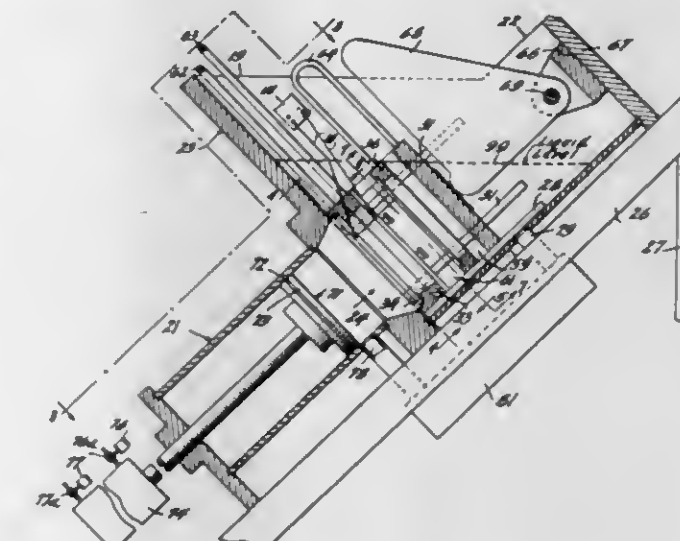
Filed Apr. 5, 1966, Ser. No. 540,287

U.S. Cl. 204—237
 Int. Cl. C23b 5/48

7 Claims

1. In an apparatus for electroplating an article having apertures therethrough:
 a tank for supporting said article immersed in electrolyte,
 a pair of anodes of plating material immersed in said tank on opposite sides of said article,
 means for applying plating energy through said anodes, said electrolyte, and said article,

means periodically operated for cyclically forcing said electrolyte back and forth through the apertures in said article at a first rate sufficient to obtain a plating of the article, and



means rendered effective between said periodic operation of said electrolyte forcing means for forcing said electrolyte through said apertures in said article at a second rate sufficient to obtain a purging of gases generated during the plating of said article.

3,424,668

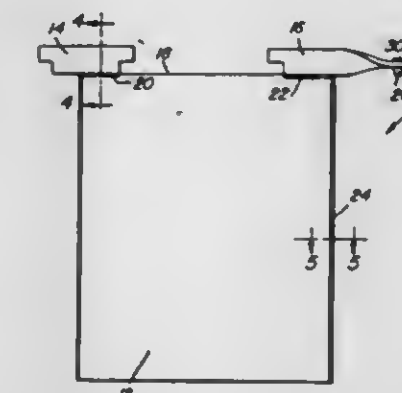
CATHODE FOR USE IN RECOVERY OF NONFERROUS METALS

Francis H. Fischer, 121 Janin Circle W., Portland, Tex. 78374

Filed Mar. 8, 1965, Ser. No. 437,849

U.S. Cl. 204—281
 Int. Cl. B01k 3/04

7 Claims



A cathode used for electrolytic recovery of metals is made from a sheet of rolled aluminum having edge protectively coated by polyethylene bonded to the sheet in its molten state. Rolled aluminum hanger bars are welded to a portion of a suspension edge of the sheet, with one of the bars twisted to present an aperture into which a copper contact button is shrunk fit.

3,424,669

REFORMING-AROMATIZATION PROCESS WITH SULFIDED CATALYST

James L. Carter, Chatham, and John H. Sinfelt, Berkeley Heights, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Jan. 3, 1967, Ser. No. 606,591

U.S. Cl. 208—65

Int. Cl. C10g 39/00, 35/08

4 Claims

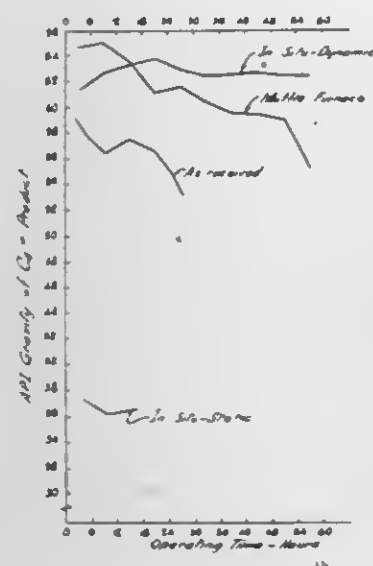
A naphthenic gasoline is reformed in at least two stages over catalysts of platinum on a refractory support such as silica or alumina. The first stage catalyst is free of sulfur while the second stage catalyst is sulfided.

3,424,670

HYDROCRACKING CATALYST

Donald A. Messing, Poughkeepsie, and Edward T. Child and Reese A. Peck, Fishkill, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 22, 1966, Ser. No. 603,885
U.S. Cl. 208—111
Int. Cl. C10g 13/04

4 Claims



Improvements in both aging rate and hydrogenation activity of a hydrocracking catalyst of nickel oxide on silica-alumina are achieved by in situ calcination of fresh catalyst prior to the start of a run. The calcination is achieved by passing a flowing stream of air through the catalyst bed for several hours while maintaining the bed temperature at about 1000° F.

3,424,671

HYDROCRACKING PROCESS WITH PRECONDITIONED ZEOLITE CATALYST

Nicholas L. Kay, Fullerton, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California

Filed Mar. 20, 1967, Ser. No. 624,453

U.S. Cl. 208—111
Int. Cl. C10g 11/04

20 Claims

A process is disclosed for the catalytic hydrocracking of hydrocarbons using zeolite catalysts which have been preconditioned by accelerated coking with a hydrocarbon feedstock at elevated temperatures. The accelerated coking step partially deactivates the catalyst but is found to precondition it so that its deactivation rate during hydrocracking is substantially nil, thereby enabling the catalyst to be used at relatively high hydrocracking temperatures conducive to the production of high-quality gasoline products over extremely long run lengths without catalyst regeneration.

3,424,672

FLUID CATALYTIC STRIPPING

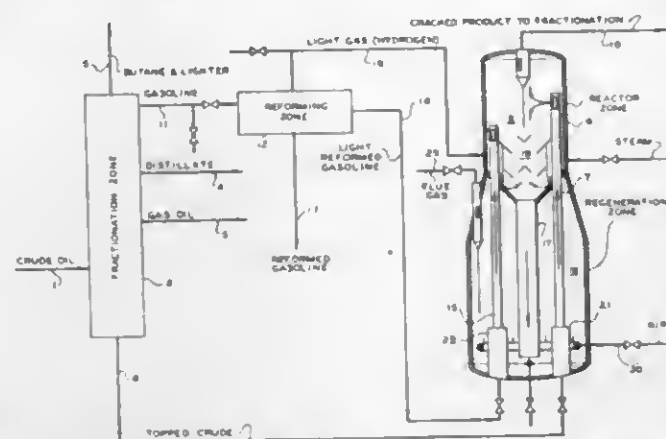
Norris W. Mitchell, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Jan. 9, 1967, Ser. No. 608,018

U.S. Cl. 208—164
Int. Cl. C01g 13/18

2 Claims

A catalytic conversion process for oils producing high coke laydown comprising contacting oil with a cracking catalyst to produce lighter hydrocarbon products and a coke deposit on the catalyst which catalyst is discharged above and allowed to fall into a fluidized bed of catalyst which, in turn, is contacted with the effluent from a distillate oil cracking process whereby hydrogen in the latter

causes further cracking of the coke on the catalyst in the fluidized bed and coke is stripped from the spent



catalyst by contacting with at least one of steam and hydrogen.

3,424,673

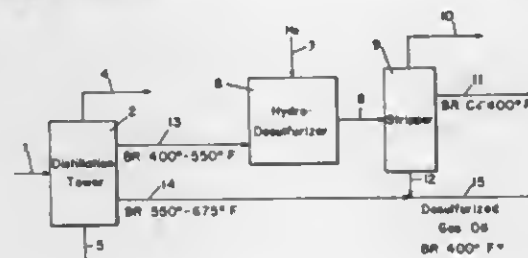
PROCESS FOR HYDRODESULFURIZING THE LOWER BOILING FRACTION OF A CRACKED GAS OIL BLEND

Merritt C. Kirk, Jr., Claymont, Del., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

Filed Mar. 7, 1966, Ser. No. 532,298

U.S. Cl. 208—218
Int. Cl. C10g 31/00

8 Claims



Cracked gas oil boiling mainly in the range of 400–675° F. is partially hydrodesulfurized to effect removal of not more than 70% of the sulfur content by a process comprising (1) separating the cracked gas oil into lower and higher boiling fractions, the lower boiling fraction containing in the range of 40–80% of the total sulfur in the cracked gas oil, (2) hydrodesulfurizing only the lower boiling fraction in the dehydrodesulfurizer, and (3) blending hydrodesulfurized product with the higher boiling fraction.

3,424,674

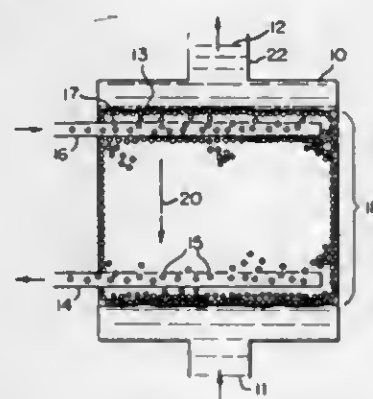
UPFLOW FILTRATION OF FLUIDS

Paul J. Webber, Lake Pine, Marlton, N.J., assignor to Ritter Pfaunder Corporation, Rochester, N.Y., a corporation of New York

Filed May 10, 1966, Ser. No. 548,953

U.S. Cl. 210—20
Int. Cl. B01d 23/24

6 Claims



An apparatus and method for the upflow filtration of fluids, wherein a particulate filter material having a density

less than that of the fluid being filtered, such as polyethylene beads, is floated in the fluid, the filter material being collected from the upstream side or lower precincts of the filter bed, cleaned and then returned to the downstream side or upper precincts of the filter bed, one aspect in cleaning the filter material being agitating the filter material to separate heavy filtered material from the lighter filter material.

3,424,675

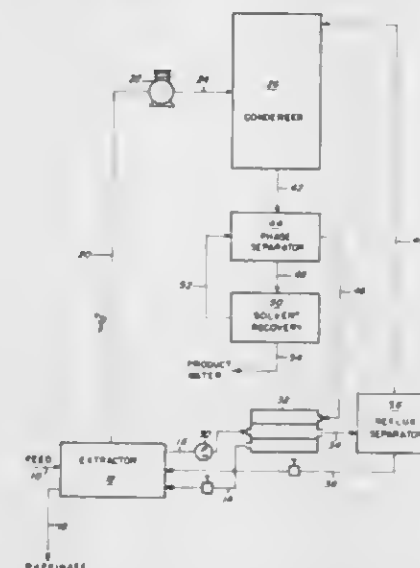
VAPOR COMPRESSION SOLVENT EXTRACTOR DESALINATION

Richard R. Davison, Bryan, Tex., and Donald W. Hood, College, Alaska, assignors to the United States of America as represented by the Secretary of the Interior

Filed Aug. 25, 1965, Ser. No. 482,642

U.S. Cl. 210—22
Int. Cl. C02 1/02; B01d 11/04

8 Claims



Efficiency of a water extraction process using an amine solvent is increased by vaporizing part of the fluids in the extraction zone, compressing those vapors and utilizing the latent heat of vaporization and the heat of compression to effect a separation of the extract into water-rich and solvent-rich phases.

3,424,676

PROCESS FOR REMOVING ORGANIC CONTAMINANTS USING COAL ADSORBENTS

Glenn E. Johnson, Pittsburgh, Albert J. Forney, Coraopolis, and Joseph H. Field, Pittsburgh, Pa., assignors to the United States of America as represented by the Secretary of the Interior

No Drawing. Filed Aug. 25, 1965, Ser. No. 482,640

U.S. Cl. 210—40
Int. Cl. B01d 15/00; C02b 1/14

5 Claims

Effluent from a sewage treatment plant is contacted with particulate coal to adsorb residual organic contaminants including ABS and COD.

3,424,677

METHOD OF REMOVING WATER FROM SALT SOLUTIONS

Peter van der Heem, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware

No Drawing. Filed Sept. 24, 1965, Ser. No. 490,058

U.S. Cl. 210—59
Int. Cl. C02b 1/18

1 Claim

Water is removed from an aqueous salt solution by forming a solid hydrate comprising one mole of gaseous trichlorofluoromethane and two moles of gaseous carbon dioxide with seventeen moles of water, and decomposing the hydrate to remove the gaseous products and produce potable water.

3,424,678

LUBRICANT CONTAINING ALKALINE EARTH METAL MIXED SALT THICKENERS AND COLLOIDAL ASBESTOS

Arnold J. Morway, Clark, and Albert J. Bodoer, Watchung, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Apr. 20, 1967, Ser. No. 632,174

U.S. Cl. 252—13
Int. Cl. C10m 5/16

7 Claims

This invention relates to lubricating oils, including mineral oil, polyphenyl oils, and polysilicone oils, etc., containing alkaline earth metal mixed salts of 5 to 50 molar proportions of C₂ to C₈ fatty acid per molar proportion of C₇ to C₃₀ fatty acids, and containing colloidal asbestos having particle outer diameters of 1 to 80 millimicrons and particle lengths of 2,000 to 30,000 millimicrons as an improving agent.

3,424,679

NONVICINAL GLYCOLS IN OVERBASED PHENATE PREPARATION

Nylen L. Allphin, Jr., Pinole, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed Aug. 15, 1966, Ser. No. 572,177

U.S. Cl. 252—33
Int. Cl. C10m 1/38; 3/34; 7/38

6 Claims

Improved process for preparing sulfurized overbased phenates, employing nonvicinal glycols of from 3 to 4 carbon atoms.

3,424,680

SOIL RETARDANT COMPOSITIONS AND TEXTILE MATERIALS

William Julius van Loo, Jr., Middlesex, and George Robert De Paolo, Whitehouse Station, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Aug. 5, 1965, Ser. No. 477,575

U.S. Cl. 252—8.8
Int. Cl. D06m 13/40

19 Claims

Compositions effective for imparting soil retardance to textiles which comprise a compound of the formula



wherein R is selected from the group consisting of alkyl, alkenyl and alkadienyl having from about 12 to 22 carbon atoms, said compound being dispersed in an alcoholic solution or in an aqueous solution with an imidazolium compound such as N-(2,3-dihydroxypropyl)-N-(2-hydroxyethyl)-2-heptadecylimidazolium chloride. The invention also includes a method of imparting soil retardance to carpets by application of the composition and carpet fabrics having thereon the dry residue of the composition.

3,424,681

CORROSION INHIBITION

James R. Stanford, Houston, Tex., assignor to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Nov. 3, 1965, Ser. No. 506,262

U.S. Cl. 252—8.55
Int. Cl. C23f 9/02

11 Claims

Corrosion inhibiting compositions for flooding waters which are blends of (a) 90–20% of the reaction product of an organic amine and an aliphatic monohydric alcohol-epichlorohydrin reaction product; (b) 10–80% of a polyoxyalkylated (oxyethylene or both oxyethylene and oxypropylene) organic carboxylic acid having 8–36 carbons and 1–2 carboxyl groups and (c) 1–10% of free fatty acids having 8–36 carbon atoms.

tive nonsoap detergent is combined with inorganic sodium salt detergent builders.

3,424,691

STABILIZER FOR POLYOLS

Robert A. Newton, Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Oct. 21, 1965, Ser. No. 500,250
U.S. Cl. 252—188.3 11 Claims
Int. Cl. C08g 51/58; C08f 45/58

The interaction and deterioration of compositions comprising an aliphatic polyol and a halocarbon or halo-hydrocarbon are inhibited by the presence of a non-terminal alkylene oxide; e.g., 2,3-butylene oxide.

3,424,692

METHOD FOR PREPARING VANADATE PHOSPHORS

Sam Z. Toma, Towanda, James E. Mathers, Ulster, and Felix F. Mikus, Towanda, Pa., assignors to Sylvania Electric Products Inc., a corporation of Delaware

No Drawing. Filed Apr. 22, 1966, Ser. No. 544,390
U.S. Cl. 252—301.4 5 Claims
Int. Cl. C09k 1/44

The particle size of a vanadate phosphor can be controlled by adding potassium cations to the blend of raw materials used to make up the phosphor.

3,424,693

MIXTURE OF SURFACE-ACTIVE COMPOUNDS AND PROCESS FOR PREPARING SAME

Werner Stein, Erkrath-Unterbach, and Horst Baumann and Manfred Voss, Hilden, Rhineland, Germany, assignors to Henkel & Cie. G.m.b.H., Dusseldorf-Holt-hausen, Germany, a corporation of Germany

No Drawing. Filed July 15, 1964, Ser. No. 382,925
Claims priority, application Germany, Aug. 1, 1963, H 49,878

U.S. Cl. 252—355 12 Claims
Int. Cl. C11d 1/37, 1/12, 1/14

The present invention relates to a process for the preparation of mixtures of surface-active compounds containing aliphatic sulfonates and sultone reaction products by reacting an α -olefin with from 1 mol to 1.7 mols of gaseous sulfur trioxide at a temperature below 70° C., neutralizing the crude sulfonation mixture with from 50% to 95%, based on the amount of sulfur trioxide reacted, of an alkaline neutralization agent, reacting the sultones present in the partially neutralized mixture with a sultone-reacting reagent, bleaching the mixture and recovering said mixture.

3,424,694

MIXTURE OF SURFACE-ACTIVE COMPOUNDS AND PROCESS FOR PREPARING SAME

Werner Stein, Erkrath-Unterbach, and Horst Baumann and Manfred Voss, Hilden, Rhineland, Germany, assignors to Henkel & Cie., G.m.b.H., Dusseldorf-Holt-hausen, Germany, a corporation of Germany

No Drawing. Filed July 15, 1964, Ser. No. 382,930
Claims priority, application Germany, Jan. 30, 1964, H 51,535

U.S. Cl. 252—355 12 Claims
Int. Cl. C11d 1/37, 1/12, 1/14

The present invention relates to a process for the preparation of mixtures of surface-active compounds containing sulfonates and sultone reaction products by reacting a non- α -olefin with from 1 mol to 1.7 mols of gaseous sulfur trioxide at a temperature below 70° C., neutralizing the crude sulfonation mixture with from 50% to 95%, based on the amount of sulfur trioxide reacted, of an alkaline neutralization agent, reacting the sultones present in the partially neutralized mixture with a sultone-reacting reagent, bleaching the mixture and recovering said mixture.

3,424,695

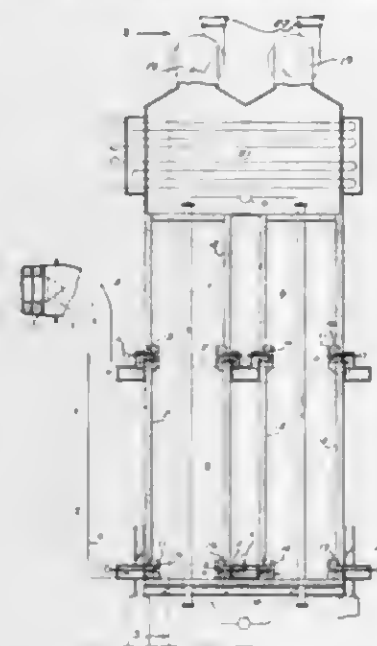
IMPROVING REFORMER-FURNACE PERFORMANCE BY USING GAS-TURBINE EXHAUST

Peter von Wlesenthal, 17 E. 89th St., New York, N.Y. 10028

Filed Sept. 28, 1965, Ser. No. 490,920

U.S. Cl. 252—373 4 Claims
Int. Cl. C07c 1/02

This disclosure teaches the use of gas-turbine exhaust as a combustion-supporting gas in hydrocarbon reformers. Gas-turbine exhausts containing from 16 to 19 percent by volume of O₂ and at from 700° F. to 1000° F. are preferred. An apparatus especially suited to this task is



also disclosed. Multiple levels of burners accommodate duct work under burner platforms.

3,424,696

METHOD FOR REGENERATING CATALYSTS USED FOR RECONVERTING WORN SOLUTIONS IN THE CYCLIC METHOD OF MANUFACTURE OF HYDROGEN PEROXIDE

Michel Colngt, Vizille, France, assignor to Oxysynthese

No Drawing. Filed Nov. 22, 1965, Ser. No. 509,208
Claims priority, application France, Dec. 30, 1964, 359
U.S. Cl. 252—412 7 Claims
Int. Cl. B01j 11/02

A method is provided for regenerating catalysts based on sodium aluminosilicate used for reconverting worn solutions of an anthraquinone in an organic solvent, which have been used in the cyclic method of manufacture of hydrogen peroxide, wherein the sodium aluminosilicate reconversion catalysts are treated with a diluted solution of hydrogen peroxide.

3,424,697

PROCESS FOR PREPARING CATALYSTS FOR THE ISOMERIZATION OF LOWER SATURATED HYDROCARBONS

Bruno Notari, San Donato Milanese, and Giovanni Manara, Savona, Italy, assignors to Snam S.p.A., Milan, Italy, a company of Italy

No Drawing. Filed Oct. 19, 1965, Ser. No. 498,114
Claims priority, application Italy, Nov. 3, 1964, 23,587/64

U.S. Cl. 252—430 3 Claims
Int. Cl. B01j 11/06

There is disclosed herein a catalyst for the isomerization at low temperatures of n-paraffins having 5 or 6 carbon atoms which is prepared by treating alumina that contains a small percentage, preferably 0.02% to 4% by weight, of platinum with the vapors which sublime from hexachloroethane, the treatment being performed at a temperature between 180° C. and 500° C.

3,424,698

ELECTRONICALLY CONDUCTIVE POLYMERIC COMPOSITIONS

John H. Lupinski, Scotia, N.Y., and Jerome J. Hertz, Lanesboro, Mass., assignors to General Electric Company, a corporation of New York

Continuation-in-part of application Ser. No. 391,765, Aug. 24, 1964. This application June 29, 1966, Ser. No. 561,487

U.S. Cl. 252—500 10 Claims
Int. Cl. H01 1/06

Electronically conductive compositions comprise nitrogen-containing polymers, e.g., polymeric urethanes, polymers of vinylpyridines, polymers of acrylonitrile and polymers of methacrylonitrile, containing dissolved therein a salt of 7,7,8,8-tetracyanoquinodimethan anions, soluble in the polymer and 7,7,8,8-tetracyanoquinodimethan. These compositions can be formed into objects, for example, fibers or other objects which are themselves electronically conductive or the compositions may be used to form a conductive surface on a non-conductive substrate.

3,424,699

HARDENABLE COMPOSITIONS OF 1,2-POLYEPOXIDES AND METAL CHELATE COMPOUNDS

Bernard Peter Stark, Cambridge, and Michael Edward Benet Jones, Chester, England, assignors to Ciba Limited, Basel, Switzerland, a company, of Switzerland

No Drawing. Continuation-in-part of application Ser. No. 227,703, Oct. 2, 1962. This application July 5, 1966, Ser. No. 562,464

Claims priority, application Great Britain, Oct. 5, 1961, 35,883/61

U.S. Cl. 260—2 10 Claims
Int. Cl. C08g 30/10

Hardenable compositions comprising at least one epoxide compound containing one or more 1,2-epoxide groups and at least one chelate compound in which the coordinating atom is bound by one or more of its valencies to a halogen atom and by one or more of its valencies to an oxygen or sulphur atom.

3,424,700

POLYURETHANE FOAM

Robert E. Booth and Edward R. Deglinger, Syracuse, N.Y., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Original application May 21, 1965, Ser. No. 457,861, now Patent No. 3,332,934, dated July 25, 1967. Divided and this application Mar. 14, 1967, Ser. No. 635,284

U.S. Cl. 260—2.5 5 Claims
Int. Cl. C08g 22/44, 22/14

This invention relates to novel rigid closed cell polyurethane foams prepared by reacting an organic polyisocyanate, a blowing agent, and a polyether polyol composition comprising the condensation product of propylene oxide and triethanolamine with a coinitiator selected from the group consisting of sucrose, sorbitol, and alpha-methyl glucoside.

3,424,701

POLYURETHANE COMPOSITIONS

Francis M. Kujawa, Tonawanda, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 340,776, Jan. 28, 1964. This application Aug. 29, 1967, Ser. No. 663,955

U.S. Cl. 260—2.5 15 Claims
Int. Cl. C08g 22/10, 22/44; C08k 3/28

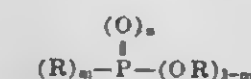
Polyurethane compositions, and particularly polyurethane foams, having superior properties especially when formed on a substrate by spraying a prefoam

composition thereon are prepared by reacting:

(I) An alkyd resin having a hydroxyl number in the range of about 25 to 900 and comprising the reaction product of components comprising (a) an adduct of hexahalocyclopentadiene wherein the halogen is selected from the group consisting of fluorine, chlorine, bromine and mixtures thereof, and a polycarboxylic compound containing aliphatic carbon-to-carbon unsaturation, and (b) a polyhydric alcohol containing at least three hydroxyl groups;

(II) an alkylene oxide addition product of a phenol-aldehyde condensation product;

(III) a neutral phosphorus compound having the formula:



wherein m is an integer from 0 to 3, n is an integer from 0 to 1, and R is selected from the group consisting of alkyl, halogen-substituted alkyl, aralkyl, alkylaryl, and aryl;

(IV) an N,N,N',N'-tetrakis(2-hydroxypropyl)alkylene diamine;

(V) an organic polyisocyanate; and

(VI) a foaming agent.

3,424,702

PROCESS OF DISSOLVING CELLULOSIC MATERIALS AND/OR SYNTHETIC POLYMERS IN LIQUID SULFUR DIOXIDE

Kunio Hata, 6—55 Araya-Hinai-cho, and Kingo Yokota, 8—2 Araya-Okawa-cho, both of Akita-shi, Akita-ken, Japan

No Drawing. Continuation-in-part of application Ser. No. 451,337, Apr. 27, 1965. This application Aug. 22, 1967, Ser. No. 666,537

Claims priority, application Japan, Apr. 28, 1964, 39/23,972

U.S. Cl. 260—17.4 6 Claims
Int. Cl. C08b 23/00; C08f 24/30, 29/50

Process for preparing a cellulose solution and a composite solution of cellulose and synthetic polymers.

It has been found that cellulose and synthetic polyalcohols are readily dissolved in liquid sulfur dioxide in the presence of an aliphatic secondary or tertiary amine or an alicyclic amine. It has further been found that polymethacrylics and polystyrenes are soluble in liquid sulfur dioxide either in the presence or absence of said amine. Thus, the cellulose solution and the composite solution of cellulose and one or more of the above synthetic polymers are easily prepared by a very simple procedure.

3,424,703

POLYCARBONATE FILM COMPOSITIONS EXHIBITING A LOW STATIC COEFFICIENT OF FRICTION

Curtis C. Jones, Jr., Westminster, Calif., assignor to General Electric Corporation, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 400,950, Oct. 1, 1964. This application May 1, 1967, Ser. No. 634,863

U.S. Cl. 260—18 10 Claims
Int. Cl. C08g 39/00, 53/16

A polycarbonate composition consisting of an aromatic polycarbonate having intimately dispersed therein a particular modifier which may be either silica or talc and which has an average diameter of up to 10 microns and which is present in an amount of from about 0.025% to about 0.50%. The silica or talc employed herein imparts to a film of an aromatic polycarbonate of less than 10 microns in thickness very low static coefficient of friction while still remaining essentially haze-free film. The film so produced in accordance herein can be used for such applications as packaging.

3,424,704

TREATMENT OF POLYOLEFIN-FATTY ACID SALT MIXTURES WITH A HYDROCARBON OR HALOGENATED HYDROCARBON TO IMPROVE DYE RECEPTIVITY

Gerrit Schuur, Delft, Netherlands, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 13, 1965, Ser. No. 513,570
Claims priority, application Netherlands, Feb. 22, 1965, 6502222

U.S. Cl. 260—23
Int. Cl. D06m 7/00; C08f 29/02

This specification discloses an improvement in the method of dyeing polyolefins in which a metal-containing compound, such as a fatty acid salt, is present in the polyolefin composition to provide dyesites and in which the dyeing is carried out with dyes or coloring agents which, in addition to the coloring groups, have a hydroxyl group which is present in an ortho position with respect to a carbonyl group. The improvement in dyeability is provided by a pretreatment of the metal-containing polyolefin composition, prior to the dyeing steps; the pretreatment consists of contact with an organic solvent in which the maximum solubility of the polyolefin is 5% by weight and the maximum swelling is 15% by volume. Solvents of the type used in dry cleaning are suitable.

3,424,705

PROCESS FOR THE PREPARATION OF POLYMER SOLUTIONS FROM POLYMER LATICES AND AGGLOMERATED LATICES THEREFROM

Gerardus E. La Heij and Jacques A. Waterman, Amsterdam, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed July 16, 1965, Ser. No. 472,662
Claims priority, application Netherlands, July 30, 1964, 6408700

U.S. Cl. 260—23.7
Int. Cl. C08f 47/00

A polymer cement is made by mixing an aqueous polymer latex with a solvent for the polymer at a temperature between the freezing point of water and the freezing point of the solvent, the solvent having the lower freezing point, and having a water solubility of less than 1% by weight and segregating the polymer cement thus formed from the water. A method is also provided for the preparation of an aqueous polymer latex having increased particle size from an aqueous latex by first forming a cement, as recited above, and then emulsifying the cement in water followed by vaporization of the solvent from the emulsion.

3,424,706

VINYLDENE CHLORIDE COPOLYMERIZATION IN PRESENCE OF PREFORMED SEED LATEX

David R. Smith and Howard Peterson, Decatur, Ill., assignors to A. E. Staley Manufacturing Company, Decatur, Ill., a corporation of Delaware

No Drawing. Filed July 8, 1966, Ser. No. 563,703
U.S. Cl. 260—29.6
Int. Cl. C08f 1/13, 29/22

Preparation of polydisperse polyvinylidene chloride latex comprising the steps of (1) initiating the polymerization of vinylidene chloride under emulsion polymerization conditions, preferably in the presence of particles of preformed addition polymer in latex form having an average diameter less than the average diameter of the ultimate polydisperse polyvinylidene chloride polymer, (2) after the vinylidene chloride polymerization becomes exothermic, adding particles of preformed addition polymer in latex form having an average diameter less than the average diameter of the ultimate polydisperse vinylidene chloride polymer, said polydisperse polyvinylidene chloride latex being suitable for coating paper, metals, plastics, etc.

3,424,707

THERMOPLASTIC POLYHYDROXY ETHER AND LIQUID EPOXY COMPOSITIONS

Roy H. Schaufelberger, Basking Ridge, N.J., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 352,981, Mar. 18, 1964. This application Mar. 2, 1967, Ser. No. 619,939
U.S. Cl. 260—32.8
Int. Cl. C08g 30/14, 45/06; C09d 3/58

Thermosetting composition may be prepared by mixing 100 pts. of a liquid epoxy resin (epoxy equiv. 170–250) and 15 to 65 pts. of thermoplastic polyhydroxy ether prepared from the reaction of epichlorohydrin and polynuclear dihydric phenol in substantial equimolar quantities. In an example 88 pts. of the diglycidyl ether of bisphenol A were mixed with 12 pts. of butyl glycidyl ether and 20 pts. of a polyhydroxy ether prepared from the reaction of equimolar quantities of bisphenol A and epichlorohydrin.

3,424,708

MASS-COLORATION OF SYNTHETIC LINEAR POLYESTERS

Francis Bowmao, Albert Charles Cooper, and Francis Irving, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Continuation-in-part of application Ser. No. 459,928, May 28, 1965. This application Nov. 29, 1967, Ser. No. 686,697
Claims priority, application Great Britain, June 8, 1964, 23,599/64; Oct. 16, 1964, 42,323/64; May 20, 1965, 21,408/65, 21,409/65
U.S. Cl. 260—40
Int. Cl. C08g 53/04, 51/66, 17/00

Process for the mass-coloration of polyesters by carrying out the polymerisation of the polyester-forming components in the presence of at least one polycyclic dye-stuff which contains one or more anilino or phenylthio groups substituted by a carboxylic acid ester group.

3,424,709

STABILIZED POLYPROPYLENE CONTAINING CARBON BLACK AND A THIODICARBOXYLIC ACID ALKYL ESTER

Felix Schilde, Neuenhain, Taunus, and Jakob Winter, Hofheim, Taunus, Germany, assignors, by mesne assignments, to Hercules Incorporated, a corporation of Delaware
No Drawing. Filed May 23, 1960, Ser. No. 30,763
Claims priority, application Germany, May 27, 1959, F 28,534

U.S. Cl. 260—41
Int. Cl. C08f 29/02, 45/58

1. Composition of matter comprising polypropylene containing 0.01 to 4% of carbon black, based on the weight of polypropylene and 0.01 to 3% of a thiodicarboxylic acid dialkyl ester, based on the weight of polypropylene as agents stabilizing against embrittlement by heat, the carboxylic acid moiety of said ester containing 2 to 10 carbon atoms and the alcohol moieties of said ester containing 3 to 25 carbon atoms.

3,424,710

VULCANIZATION OF FLUOROCARBON COPOLYMERS UTILIZING SCHIFF'S BASES

Raymond G. Spain, Kettering, Ohio, assignor to the United States of America, as represented by the Secretary of the Air Force
No Drawing. Continuation-in-part of application Ser. No. 323,509, Nov. 13, 1963. This application June 13, 1967, Ser. No. 646,152
U.S. Cl. 260—41
Int. Cl. C08f 29/16, 45/72

A stable vulcanizable composition of matter comprising selected polymers and copolymers of hydrofluoro-

carbons, an azadiene or Schiff's base as a vulcanizing agent, and a lower alkyl ketone, and a method of effecting vulcanization of said composition by adding water thereto after removing all or most of the ketone.

3,424,711

STRIPPABLE COATINGS COMPRISING ATACTIC OLEFIN COPOLYMER, DIALKYL SELENIDE AND BENZOTRIAZOLE

William W. West, El Cerrito, and Robert O. Bolt, San Rafael, Calif., assignors to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed Dec. 19, 1966, Ser. No. 602,467
U.S. Cl. 260—45.8
Int. Cl. C08f 45/58; C09d 3/60

Atactic copolymers of olefins of from 2 to 4 carbon atoms used as strippable coatings to protect substrates from weathering are stabilized against degradation with dialkyl selenide, particularly in combination with N-hydroxyphenyl substituted benzotriazoles.

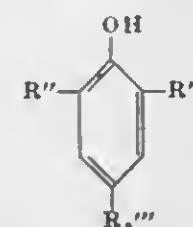
3,424,712

STABILIZED RESINS CONTAINING A PHENOL AND A STANNOIC ACID

Joel B. Gottlieb, Metuchen, and William E. Mayo, South River, N.J., assignors to M & T Chemicals Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 3, 1966, Ser. No. 517,967
U.S. Cl. 260—45.75
Int. Cl. C08f 45/62, 45/58

In accordance with certain of its aspects, the process of this invention for preparing a composition stabilized against the deteriorative effect of heat comprises adding to a halogen-containing polymer a stabilizing amount of a first stabilizer having the formula $(R\text{SnX}_{1.5})_n$ wherein R is selected from the group consisting of alkyl having 1–20 carbon atoms, aryl, alkaryl, aralkyl, and cycloalkyl, X is selected from the group consisting of oxygen and sulfur and mixtures of 1–10 parts of oxygen with 10–1 parts of sulfur, and n is an integer 2–1000; and a second stabilizer having the formula



wherein R'' is a branched alkyl containing less than about 10 carbon atoms, R''' is an alkyl containing less than about 10 carbon atoms, and a is a number 0–1.

3,424,713

RUBBER STABILIZED WITH A MIXTURE OF p-PHENYLENEDIAMINES

Arthur E. Oberster, North Canton, and George E. P. Smith, Jr., Akron, Ohio, assignors to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Feb. 21, 1966, Ser. No. 528,803
U.S. Cl. 260—45.9
Int. Cl. C08d 9/00; C08f 45/60

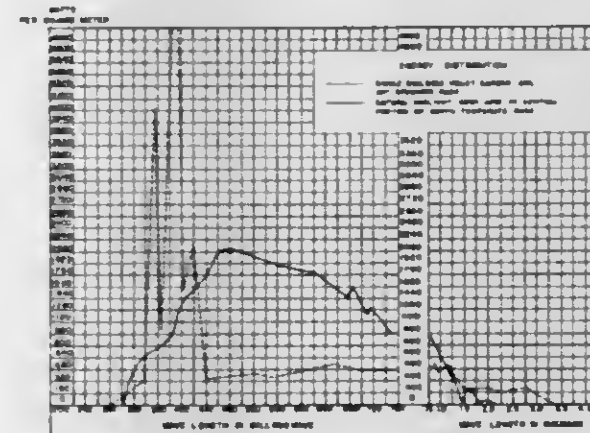
An olefin rubber is vulcanized with sulfur and (a) N-2(4-methyl-4-hydroxypentyl)-N'-phenyl-para-phenylenediamine and (b) N,N-dialkyl-para-phenylenediamine.

3,424,714

METHACROLEIN POLYMER STABILIZED WITH A BENZOPHENONE

Harry D. Ansporn, Kansas City, Mo., and Wayne E. Smith, Shawnee, Kans., assignors to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 16, 1964, Ser. No. 396,844

U.S. Cl. 260—45.95
Int. Cl. C08f 29/26, 45/58



Substituted 2-hydroxy benzophenones added to methacrolein prior to polymerization produce clear transparent homopolymers which are stable in the presence of ultraviolet light at very high temperatures.

3,424,715

STABILIZED PLASTIC COMPOSITIONS CONTAINING AN ULTRAVIOLET ABSORBING COMPOUND AND AN ORGANOPHOSPHORUS SULFIDE

Adam F. Kopacki, Westwood, N.J., and Jerry Horodecky, Jackson Heights, N.Y., assignors to Stanffer Chemical Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 23, 1964, Ser. No. 406,159
U.S. Cl. 260—45.9
Int. Cl. C08f 45/58, 29/02

Solid polymer compositions consisting essentially of a mono alpha olefin having from 2 to 10 carbon atoms, and as a light stabilizer for the polymer compositions a combination of an ultraviolet absorber consisting of 2-hydroxy-4-n-octyloxybenzophenone and an organophosphorus sulfide selected from bis(diphenylphosphinothioyl) monosulfide and bis(diphenylphosphinothioyl) disulfide.

3,424,716

STABILIZED DYEABLE POLYMERS

Allen Noshay, East Brunswick, and William S. Smith, Jr., Elizabeth, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Sept. 1, 1965, Ser. No. 484,426

U.S. Cl. 260—45.75
Int. Cl. C08f 45/58, 47/04

Polyolefin fibers which are both white and dyeable are produced by blending the polyolefin, prior to formation of the fibers, with a nickel compound, a sulfur-containing heat stabilizer, and n-octyl phenyl salicylate.

3,424,717

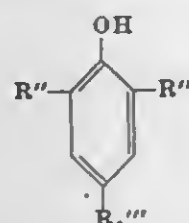
STABILIZED VINYL RESINS

Joel B. Gottlieb, Metuchen, and William E. Mayo, South River, N.J., assignors to M & T Chemicals Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Mar. 2, 1966, Ser. No. 531,805

U.S. Cl. 260—45.75
Int. Cl. C08f 45/62, 45/58

In accordance with certain of its aspects, the process of this invention for preparing a novel halogen-containing

polymer stabilized against the deteriorative effect of heat comprises adding to a halogen-containing resin a stabilizing amount of: a first stabilizer having the formula $(R\text{SnX}_{1.5})_n$ wherein R is selected from the group consisting of alkyl having 1 to 20 carbon atoms, aryl, alkaryl, aralkyl, and cycloalkyl, and X is selected from the group consisting of oxygen and sulfur and mixtures of 1-10 parts of oxygen with 10-1 parts of sulfur and n is an integer 1-1000; a second stabilizer having the formula



wherein R'' is a branched alkyl containing less than about 10 carbon atoms, R''' is an alkyl containing less than about 10 carbon atoms, and a is a number 0-1; and a third stabilizer $R'_a\text{Sn}(\text{SR}'')_{4-a}$ wherein R' may be a hydrocarbon radical selected from the group consisting of alkyl, cycloalkyl, aralkyl, alkaryl, and aryl, R'' may be a residue of a carboxylic acid, a residue of a carboxylic acid ester, or a radical selected from the same group as R' and a is an integer 1-3.

3,424,718 COPOLYMERS OF AROMATIC TETRACARBOXYLIC ACIDS WITH AT LEAST TWO ORGANIC DIAMINES

Rudolph J. Angelo, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 23, 1964, Ser. No. 398,784
U.S. Cl. 260-47
Int. Cl. C08g 30/02

Copolyamide-acids and copolyimides from aromatic tetracarboxylic dianhydrides with at least two organic diamines, one of which is an aromatic diamine and the other is an aryl aliphatic diamine. The copolyimides are useful as adhesives and are film forming.

3,424,719 URETHANE MODIFIED EPOXY RESINS

John E. Masters, Louisville, Ky., assignor to Celanese Coatings Company, New York, N.Y., a corporation of Delaware

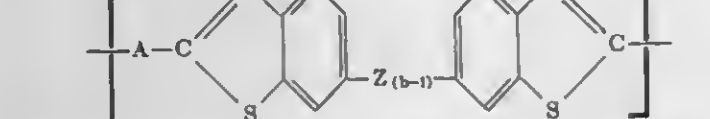
No Drawing. Filed Mar. 6, 1967, Ser. No. 620,617
U.S. Cl. 260-47
Int. Cl. C08g 30/02

Fusible soluble urethane modified glycidyl polyethers of dihydric phenols obtained by reacting hydroxyl containing glycidyl polyethers with organic diisocyanate compounds.

3,424,720 POLYBENZOTHAZOLES

Bernard Rudner and Philip E. Brumfield, Pittsburgh, Pa., assignors to Koppers Company, Inc., a corporation of Delaware

No Drawing. Filed Apr. 18, 1963, Ser. No. 273,842
U.S. Cl. 260-47
Int. Cl. C08g 32/02



wherein Z is a member of the group consisting of O, S, and SO_2 , b is either 1 or 2 and A is a member of the group

consisting of phenylene, tolylene, naphthalene, xenylene, phenyleneoxyphenylene, phenylenesulfonylphenylene, phenylenethiophenylene and pyridyl radicals.

3,424,721 PROCESS FOR THE PREPARATION OF EPOXIDE RESINS

Peter Kielschmidt, Dusseldorf-Wersten, and Manfred Budnowski, Dusseldorf-Holthausen, Germany, assignors to Henkel & Cie GmbH, Dusseldorf-Holthausen, Germany

No Drawing. Filed Feb. 21, 1967, Ser. No. 617,472
Claims priority, application Germany, Mar. 26, 1966, H 58,923

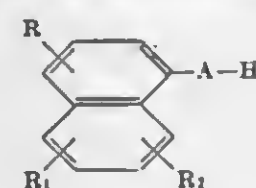
U.S. Cl. 260-47
Int. Cl. C08g 30/08, 30/10

This invention relates to a process of preparation of soft, hardenable epoxide resins based on triglycidyl isocyanurate which, when hardened, retain the desired high temperature resistant characteristics with greater flexibility than the hardened triglycidyl isocyanurate resins, as well as the soft hardenable epoxide resin produced. This process is characterized by reacting a crystallized triglycidyl isocyanurate with a content of at least 14% of epoxide-oxygen with from 1.5 to 6 mols, per 10 mols of said crystallized triglycidyl isocyanurate, of an aromatic compound selected from the group consisting of

(1) a compound having the formula

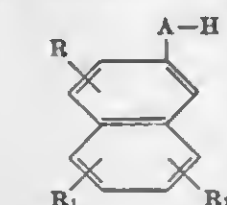


(2) a compound having the formula



and

(3) a compound having the formula



wherein R, R₁ and R₂ are members selected from the group consisting of hydrogen, alkyl having from 1 to 18 carbon atoms, halo, nitro and alkoxy having from 1 to 18 carbon atoms and A is selected from the group consisting of oxygen and sulfur, and recovering a soft, hardenable epoxide resin.

3,424,722 PHENYL-CAPPED POLYPHENYLENE ETHERS

Robert A. Jerussi, Scotia, and Michael R. McCormick, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York

No Drawing. Filed Jan. 2, 1968, Ser. No. 694,801
U.S. Cl. 260-47
Int. Cl. C08g 23/16

The residual hydroxyl groups of polyphenylene oxides are converted to phenyl ether groups to produce a capped polymer, which is heat-stabilized and also resistant to hydrolysis under alkaline conditions. These phenyl ether substituents are introduced into the polyphenylene oxide by first converting the residual hydroxyl groups of polyphenylene oxide in solution to the corresponding alkali metal salt. Thereafter, the polymer is reacted at a temperature in the range of 200-300° C., with a monohalo-

benzene in the presence of a dissolved copper salt and an amine which is thermally stable under the reaction conditions, until essentially all of the alkali metal of the salt groups have been etherified with phenyl groups. The polymers of this invention are useful for all the applications of the initial polymer and, in addition, heat and alkali-resistant articles.

3,424,723 2,6-DIHALOBENZOTHIODRAZIDES

John Yates and Ernest Haddock, Kent, England, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 10, 1966, Ser. No. 556,548
Claims priority, application Great Britain, June 17, 1965, 25,686/65

U.S. Cl. 260-551
Int. Cl. A01n 9/12; C07c 153/01, 153/05

2,6-dihalobenzothiodrazides wherein the thiol may be substituted with hydrogen or lower alkyl, and the hydrazide may be substituted with lower alkyl, cycloalkyl or aryl; or the hydrazide may form certain heterocyclic systems and mineral acid salts thereof, useful as herbicides.

3,424,724 ALDEHYDE-MODIFIED CARBAMATES

John D. Nordstrom, Minneapolis, Minn., assignor to Ashland Oil & Refining Company, Ashland, Ky., a corporation of Kentucky

No Drawing. Filed Oct. 24, 1965, Ser. No. 505,020
U.S. Cl. 260-70
Int. Cl. C08g 20/40

Coating resins are prepared by reacting a polycarbamate having at least four carbamate groups per molecule with at least one mole of aldehyde (e.g., formaldehyde) per each carbamate equivalent. The polycarbamates are derived by reacting a polyhydroxy polymer (e.g., alkyd) with either urea, or by reaction with phosgene followed by reaction with ammonia. The latter procedure allows the reaction of secondary hydroxyl groups to form carbamate groups.

3,424,725 COPOLYMERS OF TRIOXANE, CYCLIC ETHERS, AND BIFUNCTIONAL EPOXIDES AND A PROCESS FOR THEIR MANUFACTURE

Edgar Fischer, Frankfurt am Main, and Claus Schott, Hofheim, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Oct. 1, 1965, Ser. No. 492,326
Claims priority, application Germany, Oct. 1, 1964, F 44,106

A process has been provided for the manufacture of copolymers of trioxane, cyclic ethers and/or cyclic formals and glycidyl ethers in the presence of a cationic, polymerization catalyst at temperatures in the range of from -50 to +100° C., which comprises polymerizing 98.89 to 89% by weight of trioxane, 1 to 10% by weight of a cyclic ether and 0.01 to 1% by weight of a diglycidyl ether of an unsaturated aliphatic diol of 4 to 8 carbon atoms, the percentages being calculated on the weight of the total monomer mixture. Copolymers of 98.89 to 89.0% by weight of trioxane, 1 to 10% by weight of a cyclic ether and 0.01 to 1% by weight of a diglycidyl ether of an unsaturated aliphatic diol of 4 to 8 carbon atoms, the percentages being calculated on the weight of the total monomer mixture are also within the scope of the invention. These copolymers are suitable for manufacturing articles by an extrusion molding process or an ejection molding process.

558 O.G.-45

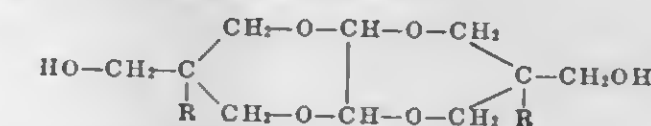
3,424,726 LINEAR THERMOPLASTIC POLYESTERS

Georg Blumenfeld, Sleglar, Troisdorf, and Gerhard Schade, Wittenbommern, Germany, assignors to Chemische Werke Witten G.m.b.H., Witten (Ruhr), Germany

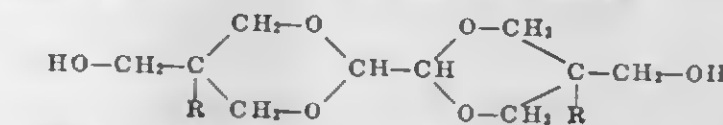
No Drawing. Filed Mar. 25, 1966, Ser. No. 537,304
Claims priority, application Germany, Mar. 27, 1965, C 35,441

U.S. Cl. 260-75
Int. Cl. C08g 17/08

1. A linear thermoplastic polyester having a softening point of above 100° C. comprising moieties of (A) at least one bifunctional compound selected from the group consisting of dialkyl esters of terephthalic acid, dialkyl esters of isophthalic acid, diaryl esters of terephthalic acid and diaryl esters of isophthalic acid and (B) at least one bifunctional diol comprising from 100 to 30 mole percent of an acetal diol selected from the group consisting of an acetal diol (f) having the formula,



wherein R is an alkyl group having from 1 to 4 carbon atoms, an acetal diol (II) having the formula,



wherein R is an alkyl group having from 1 to 4 carbon atoms, and mixtures thereof, and from 0 to 70 mole percent of an aliphatic glycol having from 2 to 12 carbon atoms.

3,424,727 CATALYST SYSTEM FOR PREPARATION OF ALKYLENE TEREPHTHALATE POLYMERS

John F. Walker, Wilmington, Del., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 8, 1966, Ser. No. 570,706
U.S. Cl. 260-75
Int. Cl. C08g 17/013

Improved results are attained in the production of polyesters from alkylene glycol and dialkyl terephthalate by heating the alkylene glycol and dialkyl terephthalate in the presence of a divalent metal oxide catalyst to effect the ester interchange and then heating the product in the presence of said divalent metal oxide catalyst and a divalent metal antimonite as an additional catalyst to effect polymerization.

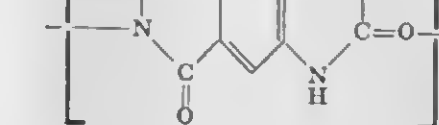
3,424,728 AROMATIC POLYQUINAZOLINEDIONES AND A PROCESS THEREFOR

Ryoji Nakanishi, Naoya Yoda, and Masaru Kurihara, Kamakura-shi, Japan, assignors to Toyo Rayon Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

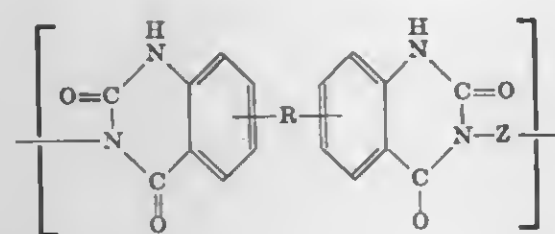
No Drawing. Filed June 24, 1964, Ser. No. 377,478
Claims priority, application Japan, Feb. 10, 1964, 39/6,637

U.S. Cl. 260-77.5
Int. Cl. C08g 30/02

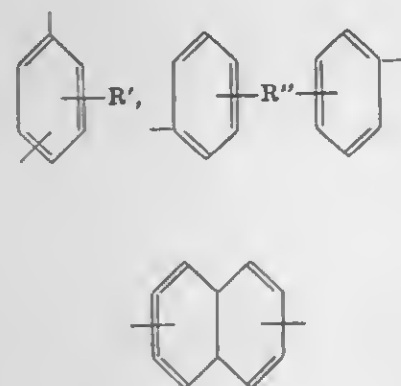
1. A process for the preparation of a normally solid polyquinazoline dione which comprises recurring structural units of the class consisting of:



and



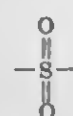
wherein Z is a divalent radical selected from the group consisting of:



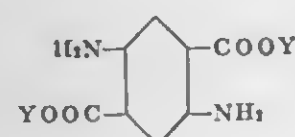
and



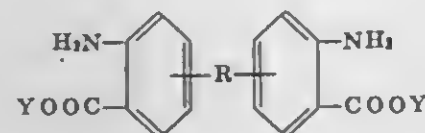
—R— is selected from the group consisting of a direct carbon-to-carbon bond between the two aromatic rings, an alkylene radical having 1 to 3 carbon atoms, oxygen, —CONH—, and



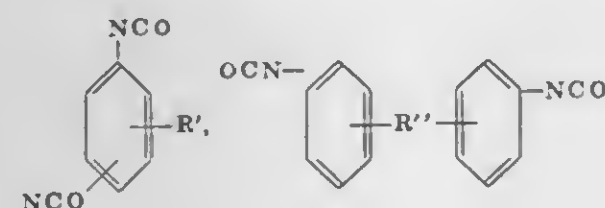
R' is a monovalent radical selected from the group consisting of hydrogen and an alkyl radical having up to 2 carbon atoms, and R'' is selected from the group consisting of a direct carbon-to-carbon bond between the two aromatic radicals and an alkylene radical having 1 to 3 carbon atoms, which process comprises heating a substantially equimolar mixture of (a) an aromatic compound selected from the group consisting of



and



wherein Y is a monovalent radical selected from the group consisting of hydrogen and alkyl, and R is a divalent radical defined above, with (b) an arylene diisocyanate selected from the group consisting of



and



wherein R' and R'' have the same meanings as defined above, to a temperature of 100 to 400° C. in the presence of fuming sulphuric acid as an acidic liquid dehydrating agent, the mixture being present in an amount of 5–20% by volume of the liquid dehydrating agent.

3,424,729

PROCESS FOR LIQUID PHASE SEPARATION OF PREPOLYMERS OR PRECOPOLYMERS OF DIALLYLPHTHALATES

Tomoharu Lanaka and Masao Miyamae, Amagasaki-shi, Shinichi Takayama, Nishinomiyashi, Katsumi Ito, Amagasaki-shi, Tomomitsu Komatsuhara, Osaka, and Takeshi Soma, Amagasaki-shi, Japan, assignors to Osaka Soda Co., Ltd., Osaka, Japan, a corporation of Japan

No Drawing. Filed Jan. 19, 1966, Ser. No. 521,509
Claims priority, application Japan, Jan. 21, 1965, 40/3,277

U.S. Cl. 260—78.4

Int. Cl. C08f 3/60, 1/96

7 claims

An improved process for the liquid phase separation of the prepolymers or precopolymers of diallylphtthalate from a polymerization product containing the same and unreacted monomers by the use of an extractant which is a solvent for the unreacted monomer but non-solvent for such prepolymers or precopolymers, such process being characterized by carrying out the liquid-liquid extraction at temperatures capable of maintaining both the prepolymers or precopolymers and the extractants in a liquid state of free fluidity.

3,424,730

VINYLDENEARYLENEALKYLENE CARBAMATES AND POLYMERS THEREOF

Lleng-Huang Lee, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Mar. 6, 1964, Ser. No. 350,127

U.S. Cl. 260—80.3

Int. Cl. C08f 7/02; C07c 125/06

20 Claims

New monomers, vinylidenearylenealkylene carbamates (e.g., ethyl N-ar-vinylbenzyl carbamate), are prepared by reacting at a temperature of from about 0° C. to about —20° C. a vinylidenearylenemethylene primary or secondary amine with a haloformate or a thio or dithio isolog thereof. Such monomers, under the influence of free-radical or ionic catalysts, form homopolymers and copolymers thereof as well as copolymers with other ethylenically unsaturated monomers. The polymeric products are colorless and moldable.

3,424,731

ACRYLONITRILE-VINYLDENE CHLORIDE TERPOLYMERS

Alden Edward Blood, James Davis Heller, and Hugh J. Hagemeyer, Jr., Longview, Tex., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 221,368, Sept. 4, 1962. This application Nov. 1, 1965, Ser. No. 505,973

U.S. Cl. 260—80.81

Int. Cl. C08f 15/40

6 Claims

Resinous terpolymers comprising vinylidene chloride, acrylonitrile and a polymerizable monomer selected from the group of vinyl 2,2-dimethylalkanoate, 2,2-dimethylbutyrate, and 2,2-dimethylhexanoate. Also disclosed is process of preparing the terpolymers.

3,424,732

PROCESS FOR PREPARING PERFLUOROALKYL AND ω -CHLOROPERFLUOROALKYL-3-ACYLOXY-1,3-BUTADIENES AND PRODUCTS AND POLYMERS THEREOF

William J. Middleton, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

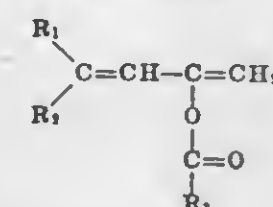
No Drawing. Filed Nov. 22, 1965, Ser. No. 509,174

U.S. Cl. 260—82.1

Int. Cl. C07c 69/14; C08f 3/52, 15/16

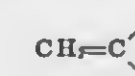
6 Claims

1. A compound of the formula



wherein R₁ and R₂ taken separately can be the same or different and are selected from the class consisting of perfluoroalkyl and ω -chloroperfluoroalkyl containing 1 to 4 carbon atoms, R₁ and R₂ taken together is perfluoroalkylene containing 3 to 5 carbon atoms, and R₂ is a saturated aliphatic or aromatic hydrocarbyl group selected from the class consisting of alkyl containing 1 to 10 carbon atoms, aralkyl containing 7 to 14 carbon atoms, aryl containing 6 to 14 carbon atoms, and alkylaryl containing 7 to 14 carbon atoms.

5. A solid synthetic polymer selected from the group consisting of homopolymers and copolymers of the compounds of claim 1 and ethylenically unsaturated compounds having the general formula



3,424,733

METHOD AND APPARATUS FOR HANDLING OF A FLUID

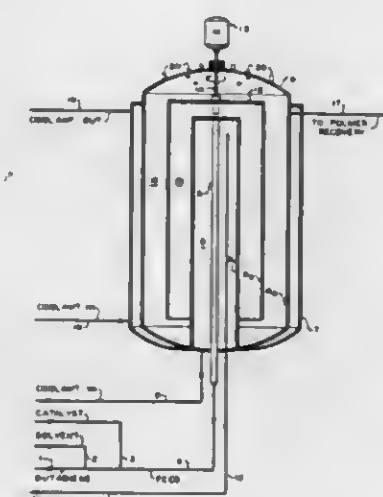
Lyle W. Pollock, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Apr. 16, 1963, Ser. No. 273,391

U.S. Cl. 260—85.3

Int. Cl. C08f 1/98; C08f 1/06

6 Claims



1. In a polymerization process, the improved method for agitating in a unitary operation a viscous, shear-sensitive fluid reacting mass, and effecting improved heat transfer which comprises providing:

- a treating zone;
- an indirectly heat exchanging temperature control zone surrounding said treating zone;

(c) an indirectly heat exchanging temperature control zone axially disposed in said treating zone, extending substantially into said treating zone from one end thereof and terminating at a substantial distance from the other end thereof and spaced from the side of said treating zone parallel to the axis of said treating zone, thus providing an annulus;

(d) a rotating axially disposed cylindrical agitator closed at one end, in said treating zone extending from said other end of said treating zone substantially toward said one end of said treating zone and terminating at a substantial distance from said one end of said treating zone, said closed end being at said other end of said treating zone, said cylinder substantially encompassing the axially disposed temperature control zone and, in part, by a division of said annulus, forming and defining with said axially disposed temperature control zone and with said side parallel to the axis of said treating zone two annuli communicating with each other around the end of the wall of said cylinder at its open end said two annuli form a continuous passageway at the end of said closed cylinder;

(e) providing a substantially axial inlet for fluid through said axially disposed temperature control zone, into the closed end of said rotating cylinder;

(f) providing a treated fluid outlet from said treating zone approximately at said other end thereof thus establishing an unobstructed continuous flow pattern through said axial inlet into the closed end of said cylinder, in said closed end of said cylinder radially into and then through said annuli and from said treating zone through said treated fluid outlet;

(g) passing a temperature control medium through each of said temperature control zones;

(h) passing said fluid through said axially disposed temperature control zone into the closed end of said rotating cylinder;

(i) then passing said fluid through the annulus between said rotating cylinder and said axially disposed temperature control zone;

(j) then passing said fluid through the annulus between said cylinder and said treating zone; and

(k) then removing the thus-agitated and treated fluid from said treating zone through said outlet.

3,424,734

PROCESS FOR THE CATALYTIC COPOLYMERIZATION OF ETHYLENE WITH α -OLEFINS AND DIOLEFINS

Bernhard Schlemmer and Heinrich Weber, Marl, Germany, assignors to Chemische Werke Hols Aktiengesellschaft, Marl, Germany, a corporation of Germany

No Drawing. Filed July 12, 1965, Ser. No. 471,429

Claims priority, application Germany, Aug. 4, 1964, C 33,567

U.S. Cl. 260—85.3

Int. Cl. C08f 15/02, 15/40

13 Claims

In copolymerizing ethylene with α -olefins and diolefins, in the presence of a mixed catalyst of metals of Groups I to III of the Periodic System or their organometallic compounds, or more particularly a vanadium compound which is soluble or solubilizable in an inert diluent, the activity and the useful life of the vanadium-containing mixed catalyst are substantially increased—and the yield and economy of the process improved, if the copolymerization is effected in the presence of (a) an azo-compound of the formula



wherein R and R' each stands for a member of the group consisting of unsubstituted and substituted alkyl, cycloalkyl and aryl groups, especially, azobenzene; or (b) a

nitrogen-containing organic compound which yields an azo-compound under the employed conditions of polymerization.

This invention relates to the art of copolymerizing a hydrocarbon mixture comprising at least one α -olefine and at least one member of the group consisting of another α -olefine and diolefines.

3,424,735

MANUFACTURE OF SHAPED STRUCTURES MADE FROM THERMOPLASTIC SYNTHETIC MATERIALS

Gerhard Buchheister, Wiesbaden-Biebrich, and Markus Seibel, Mainz, Germany, assignors to Kalle Aktiengesellschaft, Wiesbaden-Biebrich, Germany, a corporation of Germany

No Drawing. Filed June 8, 1965, Ser. No. 462,436
Claims priority, application Germany, June 11, 1964, K 53,192

U.S. Cl. 260—93.7

Int. Cl. C08f 47/14; C08g 53/16

14 Claims

1. A process for the production of a sealable surface on a shaped structure made from a material selected from the group consisting of thermoplastic hydrocarbon polymers and polyethylene terephthalate which comprises exposing the material to an electrical discharge in an atmosphere containing a halogen gas and in the presence of a polymerizable monomer selected from the group consisting of acrylic acid and esters thereof, vinyl acetate, vinyl chloride, vinylidene chloride, styrene, maleic anhydride, hexachlorobutadiene, acrylonitrile, chloroacrylonitrile, and mixtures thereof.

3,424,736

DIENE POLYMERIZATION PROCESS AND CATALYST THEREFOR

Walter Nudenberg, West Caldwell, Dudley Bruce Merrifield, Basking Ridge, and Edward Axel Delaney, Morris Plains, N.J., assignors to Texas-U.S. Chemical Company, Port Neches, Tex., a corporation of Delaware

No Drawing. Continuation-in-part of abandoned application Ser. No. 288,877, June 19, 1963, which is a continuation of application Ser. No. 38,417, June 24, 1960. This application Dec. 5, 1966, Ser. No. 599,671

U.S. Cl. 260—94.3

Int. Cl. C08d 1/14, 1/16, 3/08

12 Claims

A process for the controlled orientation polymerization of butadiene characterized by contacting the butadiene in a solvent with catalyst consisting of the components (1) Grignard composition reacted with (2) a titanium tetrahalide in (3) a complex form under conditions such as the titanium is maintained tetravalent, for a time and at a low temperature, sufficient to induce completion of polymerization, and thereafter recovering the polymer.

3,424,737

PROCESS FOR THE POLYMERIZATION OF OLEFINS

André Delbouille, Brussels, and Henry Toussaint, Schaerbeek, Brussels, Belgium, assignors to Solvay & Cie, a simple of the Kingdom of Belgium

No Drawing. Filed Oct. 2, 1964, Ser. No. 401,234
Claims priority, application France, Jan. 3, 1964, 959,308

U.S. Cl. 260—94.9

Int. Cl. C08f 1/28, 3/02; B01j 11/84

7 Claims

A process for polymerizing at least one 1-olefin such as ethylene with a catalyst which forms on comingling a sandwich compound such as bis(cyclopentadienyl) titanium chloride, a tin or lead compound such as tetrabutyl tin and a halide of aluminum or boron such as aluminum chloride.

3,424,738

METAL COMPLEX REACTIVE AZO DYESTUFFS

Herbert Francis Andrew, Manchester, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

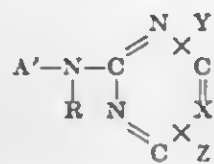
No Drawing. Filed Oct. 19, 1964, Ser. No. 404,914
Claims priority, application Great Britain, Nov. 1, 1963, 43,220/63

U.S. Cl. 260—146

Int. Cl. C09b 45/06, 45/08, 45/10

6 Claims

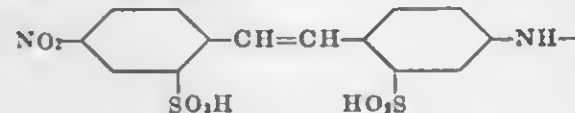
Water-soluble metal complex azo dyestuffs having the formula



wherein A' is the radical of a water-soluble metal complex azo dye in which the metal is selected from the class consisting of copper, cobalt and chromium and the NR group is attached to a carbon atom of the dyestuff molecule and wherein R is hydrogen or lower alkyl. X can be =N— and



Z can be chlorine or bromine and Y is (1) (nitrodiphenylamine) amino radicals containing one or two groups selected from SO₂H and CO₂H and which contain a single further substituent selected from NO₂ and methyl or (2) the radical of the formula



3,424,739

AZO-CONTAINING ORGANO-METALLIC COMPLEXES

Arthur C. Cope, Boston, and Robert W. Siekman, Cambridge, Mass., assignors to Massachusetts Institute of Technology, Cambridge, Mass., a corporation of Massachusetts

No Drawing. Filed Jan. 19, 1966, Ser. No. 521,544

U.S. Cl. 260—148

Int. Cl. C08f 1/28; C09b 45/24

3 Claims

Organo-metallic complexes useful as catalyst for the polymerization of olefins are formed by reacting a platinum or palladium salt with an aromatic azo compound.

3,424,740

BENZOTHIAZOLYL MONOAZO DYES

Max A. Weaver and David J. Wallace, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Oct. 24, 1965, Ser. No. 505,001

U.S. Cl. 260—158

Int. Cl. C09b 29/36; D06 1/02

8 Claims

Benzothiazolyl-azo-aniline compounds containing certain substituted succinimido and glutarimido groups connected to the aniline nitrogen atom through an alkylene bridge are useful as dyes for hydrophobic textile materials.

3,424,741

THIAZOLYL MONOAZO DYES FOR HYDROPHOBIC FIBERS

David J. Wallace, James M. Straley and Max A. Weaver, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Nov. 26, 1965, Ser. No. 510,092

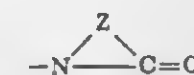
U.S. Cl. 260—158

Int. Cl. C07d 27/08; C09b 29/00

8 Claims

Thiazolyl-azo-aniline compounds are useful as dyes for hydrophobic textile materials and are characterized by

a heterocyclic group attached to the coupler moiety and having the formula



wherein Z represents the carbon atoms completing a pyrrolidinono radical, a piperidino radical, or a phthalimidino radical.

3,424,742

MONOAZO PYRAZOLONE DYES

Arthur D. Jarrett, Belmont, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

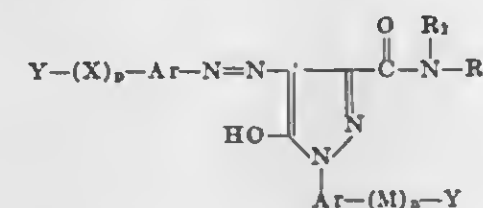
No Drawing. Continuation-in-part of application Ser. No. 209,230, July 11, 1962. This application Nov. 5, 1964, Ser. No. 409,282

U.S. Cl. 260—162

Int. Cl. G03c 7/30; C09b 29/26

7 Claims

Azo dyes of the formula:



wherein each Y is selected from among ortho- and para-dihydroxyphenyl radicals; each Ar is a phenylene or naphthalene group; M and X are each alkylene groups; n and p each is an integer from 0 to 1 inclusive; and each of R₂ and R₃ is a hydrogen or alkyl radical, and R₂ and R₃ can be joined together as a divalent aliphatic radical. These dyes are particularly useful as photographic developing agents.

3,424,743

SPIRAMYCIN-3-MONOESTERS

Keizo Uzu, Hiroshi Takahira, Hiromasa Kato, Noriyuki Sugiyama, Tomotsune Haneda, and Sumihiko Ishii, Shizuoka-ken, Japan, assignors to Societe des Usines Chimiques, Phone-Poulenc, Paris, France, a corporation of Japan

Filed Mar. 2, 1966, Ser. No. 531,290

Claims priority, application Japan, Mar. 2, 1965, 40/11,619

U.S. Cl. 260—210

Int. Cl. A61k 21/00; C08b 19/00; C07g 3/00

3 Claims

Lower alkanoyl 3-monoesters of spiramycin, such as spiramycin 3-monoacetate and spiramycin 3-monopropionate, and a process for preparing the same which comprises hydrolyzing the corresponding diester with an alcohol, an alkali or an acid to give the monoester. The lower alkanoyl 3-monoesters of spiramycin have a greater therapeutic effect than spiramycin itself.

3,424,744

CELLULOSE ALKOXYL ETHER PRODUCT AND THE AQUEOUS DISPERSIONS THEREOF

Reld L. Mitchell and Charles F. Murphy, Morristown, and John C. Gwynn, Morris Plains, N.J., assignors to IIT Rayonier Incorporated, a corporation of Delaware

Continuation of application Ser. No. 260,952, Feb. 21, 1963. This application July 3, 1967, Ser. No. 651,055

U.S. Cl. 260—231

Int. Cl. C08b 29/34, 29/26

2 Claims

Finely divided string-like fibrous cellulose alkoxy ethers are prepared by controlled high-shear, mechanical dispersion of an aqueous slurry of hydroxyethyl cellulose or hydroxypropyl cellulose having from about 3 to 12% alkoxy substitution and a degree of polymerization of from about 50 to 400 at a temperature not exceeding 95° C. The finely divided string-like products so produced

form stable gel-like dispersions when present in an aqueous solution in concentrations of from about 3 to 25% by weight.

3,424,745

NOVEL PROCESS FOR THE PREPARATION OF TRIENIC STEROID DERIVATIVES

Robert Joly, Montmorency, Julien Warnant, Neuilly-sur-Seine, Jean Jolly, Clichy-sous-Bois, Jacques Prost-Marechal, Paris, Robert Bucourt, Clichy-sous-Bois, and Jean Tessier, Paris, France, assignors to Roussel-UCLAF, Paris, France, a corporation of France

No Drawing. Filed May 24, 1965, Ser. No. 458,416

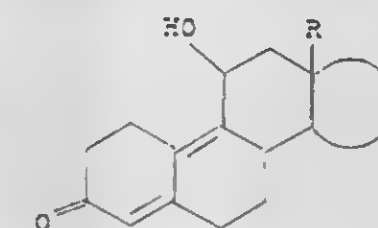
Claims priority, application France, May 27, 1964, 976,020; Nov. 5, 1964, 993,963; Feb. 26, 1965, 7,225; Mar. 18, 1965, 9,760

U.S. Cl. 260—239.5

Int. Cl. C07c 173/10, 169/34, 169/10

15 Claims

The present invention relates to a new process for the preparation of $\Delta^{4,9,11}$ -trienic steroids of the gonane and wherein R represents a lower alkyl and X represents an 11 β -hydroxyl dienic steroid of the formula



wherein R represents a lower alkyl and X represents an unsubstituted remainder of the pentagonal D cycle or a nonhydroxyl-substituted remainder of the pentagonal D cycle to the action of a concentrated acidic dehydrating agent at a temperature below room temperature and recovering said $\Delta^{4,9,11}$ -trienic steroids. The invention also relates to the novel products produced thereby.

3,424,746

STEROIDAL 21-PYRAZOLES AND PROCESS THEREFOR

William P. Schneider, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

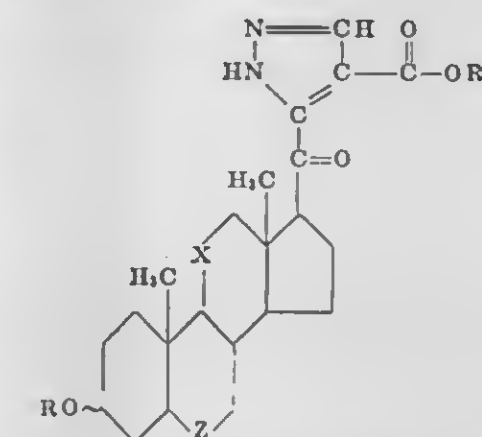
No Drawing. Filed Feb. 4, 1966, Ser. No. 525,135

U.S. Cl. 260—239.5

Int. Cl. C07c 173/10; A61k 17/00

16 Claims

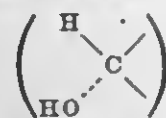
1. Compounds of the formula



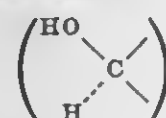
wherein ~ is a generic expression denoting α - and β -bonds and mixtures thereof; R is selected from the group consisting of hydrogen and the acyl radical of a hydrocarbon carboxylic acid containing from one to twelve carbon atoms, inclusive; R' is selected from the group consisting of hydrogen, lower alkyl and pharmacologically acceptable salt cations; X is selected from the group consisting of the methylene radical



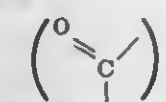
the α -hydroxymethylene radical



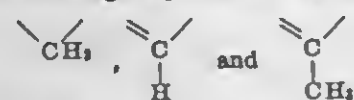
the β -hydroxymethylene radical



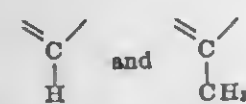
and the carbonyl radical



Z is selected from the group consisting of



with the proviso that when Z is selected from the group consisting of



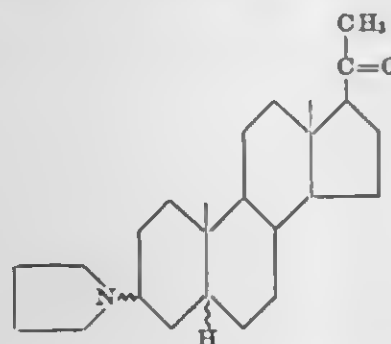
the stereoconfiguration at C_3 is β , but when Z is CH_2 the stereoconfiguration at C_3 is selected from the group consisting of α - and β -, whereupon the stereoconfiguration of the hydrogen atom at C_5 is selected from the group consisting of α - and β -.

3,424,747

AMINO-STEROL COMPOUNDS AND PRODUCTION THEREOF

Josef Schmitt, L'Hay-les-Roses, and Jacques J. Panouse, Paris, France, assignors to Etablissements Clln-Byla, Paris, France, a company of France
No Drawing. Filed Sept. 9, 1960, Ser. No. 54,858
Claims priority, application France, Sept. 12, 1959, 805,106

U.S. Cl. 260—239.5
Int. Cl. C07c 173/10, 169/50; A61k 17/00
17. A compound of the formula:



3,424,748

PHENTHAZINE DERIVATIVES

Daniel Farge, Thiais, Claude Jeanmart, Brunoy, and Mayer Naoum Messer, Sceaux, France, assignors to Rhone-Poulenc S.A., Paris, France, a French body corporate

No Drawing. Filed Oct. 21, 1966, Ser. No. 588,316
Claims priority, application France, Oct. 22, 1965, 35,997; Aug. 25, 1966, 74,150

U.S. Cl. 260—243
Int. Cl. A61k 27/00; C07d 93/14

The invention provides new aminoalkyl esters of (3-phenthiazinyl)-acetic and 2-(3-phenthiazinyl)propionic acids, the phenthiazine nucleus being optionally substituted in the 7- and/or 10-positions. These new compounds and their salts have useful pharmacodynamic properties, especially as anti-inflammatory, anti-rheumatic and spasmolytic agents.

3,424,749

CERTAIN N-(BENZENESULFONYL) PIPECOLINIC ACIDS AND LOWER ALKYL ESTERS THEREOF

Heinz A. Pfenninger, 21 Long Meadow Drive, New City, N.Y. 10956

No Drawing. Application June 23, 1965, Ser. No. 466,412, now Patent No. 3,341,520, dated Sept. 12, 1967, which is a continuation-in-part of application Ser. No. 340,542, Jan. 27, 1964. Divided and this application Jan. 19, 1967, Ser. No. 610,231

U.S. Cl. 260—243.4
Int. Cl. C07d 93/44; A61k 27/00

The compounds (1) 6,6,12-trioxo-1,2,3,11,12,12a-hexahydro-4H-pyrido[1,2-b]-1,2,5-benzothiadiazepines and (2) 6,6-dioxo-1,2,3,11,12,12a-hexahydro-4H-pyrido[1,2-b]-1,2,5-benzothiadiazepines are diuretic and hypotensive agents.

Compound (1) is synthesized from lower alkyl pipecolinates and O-nitrobenzene and sulfonylhalides.

Compound (2) can usually be prepared by the reduction of Compound (1) in solvents in the presence of lithium aluminum hydride, or by the use of sodium borohydride and aluminum chloride, or with diborane and tetrahydrofuran, or by forming the thiamide of Compound (1) with phosphorus pentasulfide and pyridine, and then desulfurizing with Raney nickel.

3,424,750

17-SPIROTETRAHYDROFURANYL AND 17-OXO-SPIROTETRAHYDROFURANYL DERIVATIVES OF THE ANDROSTANE SERIES AND THE PREPARATION THEREOF

John H. Fried, Palo Alto, Calif., assignor to Syntex Corporation, Panama, Panama, a corporation of Panama
No Drawing. Filed Apr. 28, 1966, Ser. No. 545,850
U.S. Cl. 260—239.55
Int. Cl. C07c 173/00, 169/22, 169/50

Novel 17 α , 23-oxido-21, 24-bisnorcholanes and 17 α , 23-oxido-20-keto-21, 24-bisnorcholanes prepared by converting a 17-keto steroid to the corresponding 17 α -cyclopropyl-17 β -hydroxy compound which is treated with hydrogen halide to the 17-(γ -halo-n-propylidene) derivative, 17 α -hydroxy-17 β -(α -hydroxy- γ -halo-n-propyl)steroid followed by treatment with base to give a 17 α , 23-oxido-20-hydroxy-21, 24-bisnorcholane which is oxidized to the corresponding 17 α , 23-oxido-20-keto-21, 24-bisnorcholane. The compounds of the invention are useful as progestational agents.

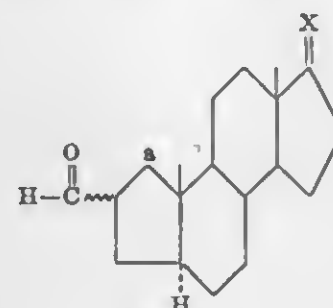
3,424,751

SELECTED 2-FORMYL- AND 2 α -(CYANOAMIDINO)-A-NOR-5 α -ANDROSTANE DERIVATIVES

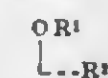
Richard M. Scribner, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 20, 1965, Ser. No. 499,017
U.S. Cl. 260—247.2
Int. Cl. C07c 173/10, 171/06

(1) The 2-formyl-A-nor-5 α -androstane derivatives of the formula



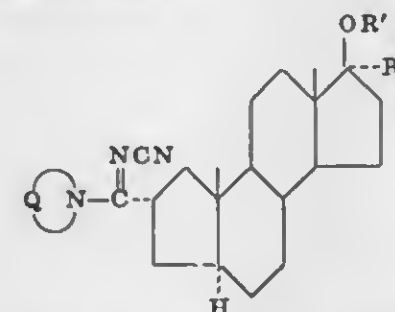
where X is =O or the group



where R^1 is hydrogen or a hydrocarbon acyl group of 1 to 12 carbons and R^2 is H, CH_3 , C_2H_5 , $CH=CH_2$ or $C\equiv CH$, and α is a single bond or a double bond;

(2) The acetals of these 2-formyl steroids with ethylene or 1,2-propylene glycol; and

(3) The 2 α -(cyanoamidino)-A-nor-5 α -androstane derivatives of the formula



where R^1 and R^2 are as above and Q is alkylene of 4-5 chain carbon atoms and a total of 4-6 carbon atoms or 3-oxa-1, 5-pentylene.

3,424,752

PROCESS FOR THE PRODUCTION OF METHYLAMINO-s-TRIAZINES

Hanswill von Brachel, Offenbach am Main, and Horst Kindler, Frankfurt am Main-Fechenheim, Germany, assignors to Cassella Farbwerke Mainkur Aktiengesellschaft, Frankfurt am Main-Fechenheim, Germany, a German company

No Drawing. Filed Nov. 14, 1966, Ser. No. 593,720
Claims priority, application Germany, Nov. 17, 1965, C 37,416

U.S. Cl. 260—249.6
Int. Cl. A01n 9/22; C07d 55/30

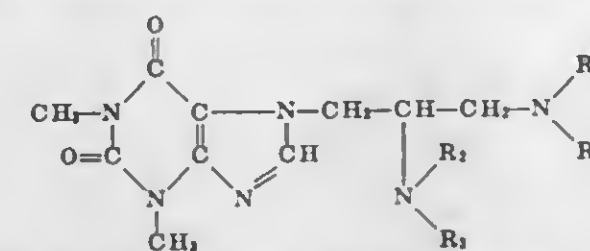
1. In the process for the production of methylamino-s-triazines by catalytic hydrogenation of methylolamino-s-triazine alkyl ethers the improvement of utilizing, in said hydrogenation step, a nickel catalyst.

3,424,753

METHOD FOR PREPARING 7-(β -HYDROXYALKYL)-AMINO- γ -DIBUTYLAMINO-PROPYL)-THEOPHYLLINES

Helmut R. Schafer, 2061 Kaybude, Germany
No Drawing. Filed Apr. 21, 1966, Ser. No. 545,525
Claims priority, application Germany, Apr. 30, 1965, D 47,150

U.S. Cl. 260—256
Int. Cl. C07d 57/48; A61k 27/00
Compounds are prepared having the formula



wherein R_1 is a butyl group, R_2 is a hydroxyalkyl group having up to 3 carbon atoms and R_3 is selected from the group consisting of alkyl having up to 3 carbon atoms and hydroxyalkyl having up to 3 carbon atoms, and R_2 and R_3 together with the adjacent nitrogen atom form a six membered heterocyclic ring having two nitrogen atoms therein, the other nitrogen atom of the ring having a hydroxyalkyl group attached thereto.

3,424,754

PROCESS FOR 2-CHLORO-6-(TRICHLOROMETHYL)PYRIDINE COMPOSITION

William H. Taplin III, Concord, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Continuation-in-part of application Ser. No. 213,691, July 31, 1962. This application May 18, 1966, Ser. No. 563,317

U.S. Cl. 260—290
Int. Cl. C05c 11/00; C07d 31/26

2-chloro-6-(trichloromethyl)pyridine and compositions enriched in said compound are produced in a stepwise process in which a liquid α -picoline hydrochloride is produced as an essential intermediate from α -picoline and gaseous hydrogen chloride under mild conditions and which intermediate is then contacted and reacted with gaseous chlorine at elevated temperatures in the absence of added water. These compounds are useful in soil culture, particularly in improving agricultural soil by retarding oxidation of ammonium ions in soil and thereby improving plant nutrition therein.

3,424,755

4-PIPERIDINE-P-FLUOROBUTYROPHENONES AND RELATED COMPOUNDS

Rolf Denss, 43 Schutzenmattstrasse, and Hugo Rye, 5 Rosentalstrasse, both of Basel, Switzerland, and Daniel A. Prins, 18 Burkenstrasse, Oberwil, Basel-Land, Switzerland

No Drawing. Continuation-in-part of application Ser. No. 438,047, Mar. 8, 1965. This application July 18, 1966, Ser. No. 565,753

Claims priority, application Switzerland, Mar. 9, 1964, 2,994/64; July 26, 1965, 10,444/65; June 15, 1966, 8,670/66

U.S. Cl. 260—293.4
Int. Cl. A61k 25/00; C07d 99/04, 99/06

The compounds are of the class of piperidino alkyl phenones and possess sedative, muscle relaxing, analgesic and anorexogenic properties. Illustrative embodiments are 1-[4'-(p-fluorophenyl)-4'-oxobutyl-(1')] - 4,4-ethylenedioxy piperidine and 4-(2-methyl-1,5-dioxo-9-azaspiro[5,5]undec-9-yl)-4'-isopropylbutyrophenone. The products are prepared, for example, by treating a piperidine with a reactive ester of a benzoylhydrocarbinol.

3,424,756

PROCESS FOR THE PREPARATION OF METHINE COMPOUNDS CONTAINING A PYRIDINIUM OR QUINOLINIUM GROUP

John G. Fisher, David J. Wallace, and James M. Straley, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 306,990, Sept. 6, 1963, now Patent No. 3,247,215. This application Mar. 30, 1966, Ser. No. 538,610

U.S. Cl. 260—294.9
Int. Cl. C09b 23/04; C07d 31/46

Process for the preparation of quaternary methine compounds which are useful as dyes for acrylic fibers, yarns, and fabrics which comprises heating a haloalkylamino-aromatic aldehyde with a pyridine or quinoline compound and simultaneously or subsequently forming the methine compound by heating the aldehyde with an active methylene compound.

3,424,757

2,3-(AND 1,3)-DI-(R₁-R₂-HYDROXYMETHYL)-6-R₁-6-R₂-FULVENES

Richard Joseph Mohrbacher, Fort Washington, Joseph Albert Meschino, North Wales, and Chris Royce Rasmussen, Ambler, Pa., assignors to McNeil Laboratories, Inc., a corporation of Pennsylvania
No Drawing. Filed June 21, 1966, Ser. No. 559,112
U.S. Cl. 260—296 4 Claims
Int. Cl. C09d 5/32; C07c 35/22

The compounds are of the class of poly-substituted fulvenes which are useful as ultraviolet absorbers.

3,424,758

CARBOALKOYPHENOXY AND CARBOALKOXY-PHENYLMERCAPTO-4-NITROPYRAZOLES

Leo Ralph Swett, Waukegan, Ill., Robert George Stein, Milwaukee, Wis., and Eugene Tatsuru Kimura, Morton Grove, Ill., assignors to Abbott Laboratories, Chicago, Ill., a corporation of Illinois
No Drawing. Application Dec. 8, 1966, Ser. No. 600,035, which is a continuation-in-part of application Ser. No. 529,201, Feb. 23, 1966. Divided and this application Dec. 19, 1967, Ser. No. 711,818
U.S. Cl. 260—310 3 Claims
Int. Cl. C07d 99/04, 99/06; A61k 27/00

5 - (2 - carboalkoxy phenoxy)- or 5 - (2 - carboalkoxy phenylmercapto)-4-nitropyrazoles, useful as intermediates in the preparation of 4,5-dihydro-1H-pyrazolo-[3,4-b][1,4]-benzoxazepines or benzothiazepines, which in turn are useful as anti-inflammatory and anti-pyretic agents.

3,424,759

PROCESS FOR HALOGENATING PHTHALOCYANINES

John Dewar Stewart and Alexander Hamilton, Glasgow, Scotland, assignors to J. R. Geigy A.G., Basel, Switzerland
No Drawing. Continuation of application Ser. No. 359,513, Apr. 13, 1964. This application Sept. 7, 1967, Ser. No. 666,218
Claims priority, application Great Britain, Apr. 24, 1963, 16,074/63
U.S. Cl. 260—314.5 18 Claims
Int. Cl. C09b 47/10

This invention relates to a process for producing phthalocyanine pigments and in particular to an improved process for halogenating phthalocyanines.

3,424,760

3-UREIDOPYRROLIDINES

Grover C. Helsley and William J. Weistead, Jr., Richmond, Va., assignors to A. H. Robins Company, Incorporated, Richmond, Va., a corporation of Virginia
No Drawing. Filed Mar. 7, 1966, Ser. No. 532,093
U.S. Cl. 260—326.3 10 Claims
Int. Cl. C07d 27/04; A61k 27/00

New compounds which are 1-(1-substituted-3-pyrrolidinyl)-3-substituted ureas, the 1 substituent being phenyl, phenyllower-alkyl, or lower-cycloalkyl, and the 3 substituents (on the nitrogen atom) being on the one hand hydrogen or lower-alkyl and on the other hand hydrogen, lower-alkyl, or phenyl, the compounds exhibiting analgesic, central nervous system, and psychopharmacologic activities.

3,424,761

3-UREIDOPYRROLIDINES

Grover C. Helsley and Carl D. Lunsford, Richmond, Va., assignors to A. H. Robins Company, Incorporated, Richmond, Va., a corporation of Virginia
No Drawing. Filed Mar. 7, 1966, Ser. No. 532,105
U.S. Cl. 260—326.3 24 Claims
Int. Cl. C07d 27/04; A61k 27/00

New 1 - (3-pyrrolidinyl) - 3 - substituted-phenyl ureas,

characterized by analgesic, central nervous system, and psychopharmacologic activities.

3,424,762

CERTAIN 3-UREIDOPYRROLIDINES

Grover C. Helsley, Richmond, Va., assignor to A. H. Robins Company, Incorporated, Richmond, Va., a corporation of Virginia
No Drawing. Filed Mar. 7, 1966, Ser. No. 532,125
U.S. Cl. 260—326.3 9 Claims
Int. Cl. C07d 27/04; A61k 27/00

New compounds which are 1-(3-pyrrolidinyl)-3-substituted ureas, having analgesic, central nervous system, and psycho-pharmacologic activities.

3,424,763

FUSED CYCLOALKANECYCLOHEXANEDIONES AND FUSED CYCLOALKANECYCLOHEXENEDIONES

James C. Martin and Robert D. Burpitt, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Feb. 28, 1966, Ser. No. 529,942
U.S. Cl. 260—326.5 6 Claims
Int. Cl. C09j 3/00; C07c 97/06

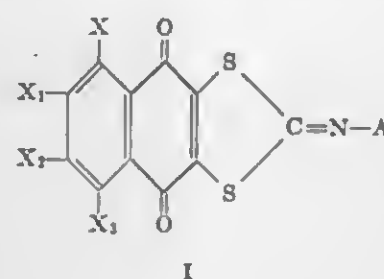
Fused cycloalkanecyclohexanediones and their manufacture by the reaction of a lactone dimer of a ketoketene with a cyclic enamine. The fused cycloalkanecyclohexanediones are corrosion inhibitors and intermediates for the manufacture of cycloalkanecyclohexenediones which are plasticizers.

3,424,764

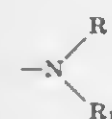
IMINONAPHTHO[2,3-d]-1,3-DITHIOLE-4,9-DIONES

William Lindsay Mosby, North Plainfield, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed June 16, 1965, Ser. No. 464,554
U.S. Cl. 260—327 4 Claims
Int. Cl. A01n 11/00; C07d 71/00; C09b 49/00

2-iminonaphtho[2,3-d]-1,3-dithiole-4,9-diones of the formula:



wherein A is



—NH—SO₂—aryl, —NH—CO—aryl, —CN or —SO₂—aryl; X, X₁, X₂ and X₃ are hydrogen, halogen, lower alkoxy, amino, lower alkanamido and nitro; R and R₁ are lower alkyl or, taken together, are polymethylene of 4 to 5 carbons; aryl is monocyclic such as phenyl or tolyl, alkyl, lower alkoxy, amino, lower alkanamido and nitro; R and R₁ are lower alkyl or, taken together, are polymethylene of 4 to 5 carbons; aryl is monocyclic such as phenyl or tolyl. These compounds are prepared by reacting a corresponding 2,3-dichloro-1,4-naphthoquinone with a dialkali metal salt of the appropriate N-substituted imido-dithiocarbonic acid in an inert solvent. The compounds are useful as pigments, dyes, and herbicides.

3,424,765

OSMIUM TETRA-OXIDE-p-DIOXANE COMPLEX AND THE PRODUCTION THEREOF

Charles J. Norton, Denver, Colo., assignor to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio
No Drawing. Original application Oct. 23, 1965, Ser. No. 504,184. Divided and this application Dec. 26, 1967, Ser. No. 709,154
U.S. Cl. 260—340.6 2 Claims
Int. Cl. C07f 15/00; C07c 29/04

1. A process for preparing an osmium tetraoxide-p-dioxane complex catalyst comprising contacting osmium tetraoxide with p-dioxane.

2. The complex consisting essentially of osmium tetraoxide-p-dioxane.

3,424,766

EPOXIDIZED URETHANE OILS

John Edward Masters, Louisville, Ky., assignor to Celanese Coatings Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Aug. 3, 1966, Ser. No. 569,819
U.S. Cl. 260—348 10 Claims
Int. Cl. C07d 1/02

1. A process for preparing epoxidized urethane oils which comprises:

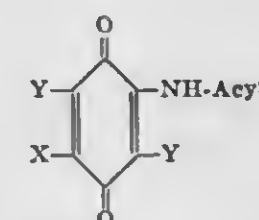
- alcoholizing an epoxidized triglyceride oil with a polyol to form an epoxidized ester containing unreacted hydroxyl groups, wherein the polyol contains 2 to 6 aliphatic hydroxyl groups and no other groups reactive with ester groups or epoxide groups and wherein the polyol and the oil are reacted in the ratio of about 1 to 6 hydroxyl groups of the polyol to 1 mol of the oil; and
- coupling the hydroxyl containing epoxidized ester with a diisocyanate by reaction of the isocyanate group with the hydroxy groups in the ratio of 0.8 to 1 isocyanate group per hydroxyl group to form an epoxidized urethane oil.

3,424,767

SUBSTITUTED BENZOQUINONES AND THE PREPARATION THEREOF

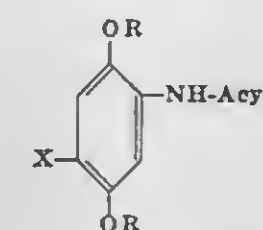
Kurt E. Burdeska, Basel, Jost von der Crone, Riehen, Raphael Menassé, Basel, and André Pugin, Riehen, Switzerland, assignors to J. R. Geigy A.G., Basel, Switzerland
No Drawing. Continuation-in-part of application Ser. No. 252,591, Jan. 21, 1963. This application Jan. 16, 1964, Ser. No. 338,006
Claims priority, application Switzerland, Jan. 25, 1962, 926/62; Sept. 6, 1962, 10,610/62; Jan. 16, 1963, 504/63; July 23, 1963, 9,164/63
U.S. Cl. 260—396 12 Claims
Int. Cl. A61k 13/00; A10m 21/00; C07c 103/12

1. A process for the production of a compound of the formula



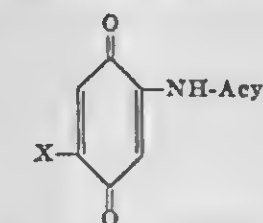
wherein Acyl is a member selected from the group consisting of an unsubstituted alkanoyl radical, a chloro-alkanoic acyl radical, a bromo-alkanoic acyl radical, an alkoxy-alkanoic acyl radical, a cycloalkanoic acyl radical, an aralkanoic acyl radical, a benzoic acyl radical, a naphthoic acyl radical, and an alkoxy carbonyl radical.
X is a member selected from the group consisting of —NH-Acyl, chlorine and fluorine, and

Y is a member selected from the group consisting of chlorine and bromine, comprising
(a) mixing a compound of the formula



(II)

wherein X and Acyl have the aforesaid meanings, and R is a member selected from the group consisting of a lower alkyl, a benzyl and a phenyl radical, in a liquid inert to oxidation, with nitric acid having a strength of at least 0.5-normal, at a temperature of about 10° to 100° C., thereby oxidizing the last-mentioned compound to a compound of the formula



(III)

- wherein Acyl and X have the aforesaid meanings,
(b) separating the latter compound from the reaction mixture;
(c) mixing the aforesaid compound of Formula III in an organic solvent inert to halogenation, with a halogenating agent selected from the group consisting of bromine and chlorine at about 0° to 200° C., thereby halogenating the compound of Formula III to a compound of the Formula IV, and
(d) separating the latter compound from the reaction.

3,424,768

17α-ALKYNYLESTRA-4,9(10)-DIENE-3β,17β-DIOLS AND ESTERS THEREOF

Paul D. Kilmstra, Northbrook, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware
No Drawing. Filed Aug. 17, 1965, Ser. No. 480,488
U.S. Cl. 260—397.5 9 Claims
Int. Cl. A61k 17/06; C07c 169/08

17-alkynylestra-4,9(10)-diene-3β,17β-diols and esters thereof useful in view of their pharmacological activity, i.e. androgenic, estrogenic, anti-fertility and anti-inflammatory, and preparable from the corresponding 3,17-diones by selective formation of the 17-cyanohydrin, acylation of the latter moiety, reduction of the 3-keto group, removal of the acylated cyanohydrin function and alkynylation of the 17-keto group thus liberated. The diols so produced are acylated to form the corresponding esters and can alternatively be manufactured by reduction of the corresponding 3-keto substances.

3,424,769

PROCESS FOR THE PREPARATION OF NOVEL 6α-METHYL-Δ^{4,9(10)}-DIENE STEROIDS

John H. Fried, Palo Alto, Calif., assignor to Syntex Corporation, Panama, Panama, a corporation of Panama
No Drawing. Filed Apr. 4, 1966, Ser. No. 539,651
U.S. Cl. 260—397.4 12 Claims
Int. Cl. C07c 169/10, 169/08, 173/00

Process for the preparation of 6α-methyl-Δ^{4,9(10)}-diene steroids, having known uses as anabolic and progestational agents and containing optional substitution at C-17α

and C-17 β and optional additional unsaturation at C-11, 12, by treating the corresponding 5 β ,6 β -methylene- $\Delta^9(10)$ -ene steroids with acid.

3,424,770

PROCESS FOR THE ADDITION OF BISULFITE TO COMPOUNDS CONTAINING DOUBLE BONDS

Werner Stein, Erkrath-Unterbach, Germany, and Hans Kittl, Riehen, Basel-Stadt, Switzerland, assignors to Henkel & Cie. G.m.b.H., Dusseldorf-Holthausen, Germany, a corporation of Germany
No Drawing. Filed Feb. 9, 1965, Ser. No. 431,474
Claims priority, application Germany, Feb. 19, 1964, H 51,747; Feb. 29, 1964, H 51,893

U.S. Cl. 260—400 7 Claims
Int. Cl. C07c 143/02

This invention relates to an improved process for the preparation of organic sulfonates by the addition of a water-soluble bisulfite to the olefinic double bonds of organic compounds containing olefinic double bonds in an aqueous media in the presence of addition catalysts selected from the group consisting of hypochlorous acid and its salts, chlorous acid and its salts and chlorine dioxide and in the presence of organic solvents or concentrated solutions of hydrotropic-acting compounds.

3,424,771

NOVEL AMIDO DERIVATIVES USEFUL AS AIDS IN DETERGENT COMPOSITIONS

Louis H. Libby and Minnie G. Libby, Wilson, N.C., assignors to Lumin Chemical Company, Wilson, N.C., a corporation of Illinois
No Drawing. Continuation of application Ser. No. 308,694, Sept. 13, 1963. This application July 11, 1967, Ser. No. 652,627

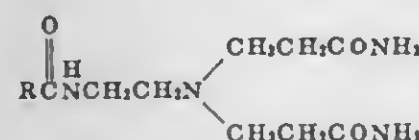
U.S. Cl. 26—404.5 7 Claims
Int. Cl. A61k 7/08; C11d 3/00

1. Compounds having the formula



wherein R is selected from the group consisting of saturated and unsaturated hydrocarbon groups having from 8 to 20 carbon atoms as derived from saturated and unsaturated fatty acids.

2. Compounds having the formula



wherein R is selected from the group consisting of saturated and unsaturated hydrocarbon groups having from 8 to 20 carbon atoms as derived from saturated and unsaturated fatty acids.

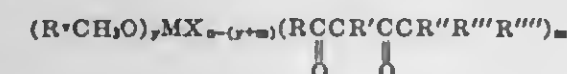
3,424,772

HALOALKOXY-HALODIKETO-, HALODIKETO- AND FLUOROALKOXY-METAL COMPOUNDS

Ross W. Mosher, Kettering, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force

No Drawing. Filed Aug. 23, 1965, Ser. No. 481,986
U.S. Cl. 260—429 14 Claims
Int. Cl. B01d 53/00; C07f 7/28, 9/00

A haloalkoxydiketo metal compound of the general formula



wherein the metal M is selected from the group of Ti, Zr, Hf, V, Nb, Ta, Cr, Mo and W; n has a value of 4 to 6; m is 0 to 6 but is 0 only when R¹ is an alkyl radical having at least 3 fluorine atoms; y is 0 to 6 but is 0 only when the valence of M is 5 or 6 while the sum of y+m is not greater than 6; X is a halogen having an atomic weight greater than 34; R and R¹ are each a halogen substituted alkyl radical of from 1 to 7 carbon atoms; R² and R³ are each selected from the class consisting of R, hydrogen, halogen and alkyl radicals of from 1 to 7 carbon atoms; and R⁴ and R⁵ are each selected from the class consisting of hydrogen and halogen.

3,424,773

TRANSITION METAL COMPLEXES OF (B₁₀H₁₀CNHR)₂, (B₁₀H₁₀COH)₂ AND DERIVATIVES THEREOF

Walter H. Knoch, Jr., Mendenhall, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 4, 1966, Ser. No. 584,082
U.S. Cl. 260—429 12 Claims
Int. Cl. C07f 5/04

1. Compounds represented by the formula



wherein

M is a cation selected from the group consisting of an alkali metal, one equivalent of an alkaline-earth metal, silver, ammonium, QNH₄⁺, QQ'⁺NH₂⁺, QQ'⁺NH₂⁺, QQ'⁺N⁺, Q₄P⁺, Q₄S⁺, Q₄As⁺, and Q₄Sb⁺ wherein Q is an aliphatically saturated hydrocarbyl group of up to 18 carbon atoms and Q' is a Q group that is bonded to N through aliphatic carbon and any two Q and Q' groups in one cation can be covalently joined together to form a divalent group of up to 18 carbon atoms selected from the class consisting of aliphatically saturated hydrocarbon and aliphatically saturated monooxahydrocarbon, and when each of m and n is 2, hydrogen;

R is selected from the class consisting of hydrogen, alkyl of up to 18 carbon atoms, cycloalkyl of 4-30 carbon atoms, and aralkyl of 7-18 carbon atoms;

R' is selected from the class consisting of hydrogen, alkyl of up to 18 carbon atoms, cycloalkyl of 4-18 carbon atoms, and aralkyl of 7-18 carbon atoms, in which the carbon atom bonded to the nitrogen in each of the three groups bears at least one hydrogen; m and n are whole numbers selected from the class consisting of 1 and 2;

M' is selected from the group consisting of Fe(II), Fe(III), Cr(III), Mn(IV), Co(III), Co(IV), and Ni(IV); and a represents a cardinal number 0-4, inclusive, and is defined by the equation a=8-m-n-s where s is the oxidation state of the transition metal M'.

3,424,774

NOVEL CATALYST AND PROCESS FOR THE CYCLOTIMERIZATION OF CONJUGATED DIOLEFINIC MATERIALS

Erik Tornqvist, Roselle, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed Feb. 10, 1965, Ser. No. 431,641
U.S. Cl. 260—429.5 7 Claims
Int. Cl. B01j 11/00; C07c 3/60, 13/02

4. A novel solid crystalline, inorganic material, consisting essentially of a composition having the formula TiCl₃·xAlCl₃ produced by reacting TiCl₄ with activated aluminum in an aromatic diluent at temperatures of about 25° to 85° C., the aluminum being activated by

grinding in the presence of a solid essentially inert metal halide in which x represents a value of from about 0.3 to about 1, and having a crystal structure which yields the X-ray diffraction pattern represented in the following table, said structure being defined as beta-TiCl₃·xAlCl₃.

Interplanar d-spacings A. units ¹	Relative intensity of X-ray diffraction peaks
5.43	Very Strong
3.13	Very weak
2.91	Weak
2.76	Very Strong
2.72	Very Weak
2.57	Weak
2.13	Strong
2.05	Very Weak
1.99	Very weak
1.81	Medium
1.68	Weak
1.65	Medium
1.54	Very weak
1.51	Weak
1.46	Very weak
1.41	Very weak
1.38	Weak

¹ Because of a slight variation in unit cell dimensions with variation in AlCl₃ content, a slight deviation from these values may occur.

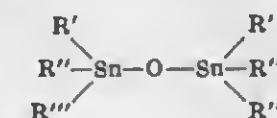
3,424,775

STABILIZING BIS(TRIORGANOTIN)OXIDES WITH PHENYL SALICYLATES

Hiroya Ito, Nishinomiyama-shi, Hyogo-ken, and Takao Saisho, Nishimuko, Amagasaki-shi, Hyogo-ken, Japan, assignors to Nitto Kasei Co., Ltd., Osaka, Japan, a corporation of Japan

No Drawing. Filed Sept. 15, 1965, Ser. No. 487,576
U.S. Cl. 260—429.7 6 Claims
Int. Cl. C07f 7/22; C09d 5/14

A process for rendering organotin compound having the general formula



wherein R, R', and R'' are each alkyl radical containing 1 to 12 carbon atoms, stable to ultraviolet light, which comprises adding to a composition containing said organotin compound 0.5% to 2% by weight of phenyl salicylate based on the weight of said organotin compound.

3,424,776

PREPARATION OF METAL CHELATES OF ETHYLENEDIAMINE DERIVATIVES CONTAINING AROMATIC RINGS

John A. Gaunt, McIntosh, and Harris E. Petree, Mobile, Ala., assignors to Gelgy Chemical Corporation, Ardsley, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 9, 1965, Ser. No. 478,418
U.S. Cl. 260—439 19 Claims
Int. Cl. C07f 15/02, 15/04; C05d 9/02

A method of preparing a mixture of chelates of a polyvalent metal whose oxide is hydrochloric acid soluble, from a mixture of hydrochloric acid wetted dihydrochlorides of (i) the monoamide N - (alpha - carbamido-ortho - hydroxybenzyl), N' - (alpha - carboxy - ortho - hydroxybenzyl) ethylenediamine, and (ii) ethylene bis (alpha - imino - ortho - hydroxyphenylacetic acid), by mixing those dihydrochlorides of (i) and (ii) while wetted with hydrochloric acid of 15 to 30% HCl in a ratio of 2 to 10 moles of HCl per mole of the mixed dihydrochlorides to a slurry in water with sufficient of

the metal oxide to form the mixture of metal chelates to about a 5% excess of oxide. Mixing is continued preferably with heating till the metal oxide dissolves and forms the mixture of polyvalent metal chelates. A particular example mixes an iron oxide with the slurry of the two dihydrochlorides obtained as a hydrochloric acid wetted filter cake from the filtration of the hydrolysis products of ethylene bis(alpha - imino - ortho - hydroxy - phenylacetonitrile) as a slurry in hydrochloric acid of 40 to about 43% HCl or of ordinary concentrated hydrochloric acid fortified with 66° Baumé sulfuric acid to provide the equivalent concentration.

3,424,777

PROCESS OF PRODUCING π -ALLYL METAL ANION COMPOUNDS

Günther Wilke, Mulheim an der Ruhr, Germany, assignor to Studiengesellschaft Kohl m.b.H., Mulheim an der Ruhr, Germany

No Drawing. Continuation-in-part of application Ser. No. 272,881, Apr. 15, 1963. This application Aug. 6, 1964, Ser. No. 387,990
Claims priority, application Germany, Aug. 10, 1963, St 20,974

U.S. Cl. 260—439 9 Claims
Int. Cl. C07f 15/04

Reaction of a π -allyl compound of a transition metal with either halogen or with an H⁺X⁻ compound in which X⁻ is an anionic radical. The resulting compounds have utility as polymerization and oligomerization catalysts.

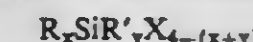
3,424,778

ORGANOSILANES HAVING TRIALKYL-SILYLPHENYL GROUPS

Tse C. Wu, Waterford, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Nov. 21, 1966, Ser. No. 595,625
U.S. Cl. 260—448.2 5 Claims
Int. Cl. C07f 7/12; C08g 31/22

1. An organosilane of the formula:



where R is a trialkylsilylphenyl substituent having a formula selected from the class consisting of:



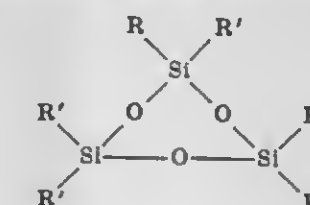
where Me is methyl, R' is a lower alkyl radical selected from the class consisting of methyl, ethyl, and propyl, and no more than two R' substituents on any given radical are methyl; R' is an aryl radical, X is a reactive substituent selected from the class consisting of chlorine, bromine, hydrogen, alkoxy, and hydroxyl, x is from 1 to 3, y is from 0 to 2, and the sum of x and y is from 1 to 3.

3,424,779

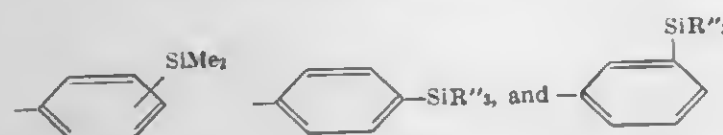
CYCLOPOLYSILOXANES SUBSTITUTED WITH TRIALKYLSILYLPHENYL GROUPS

Tse C. Wu, 9 Clemente Lane, Waterford, N.Y. 12188
No Drawing. Filed Nov. 21, 1966, Ser. No. 595,631
U.S. Cl. 260—448.2 6 Claims
Int. Cl. C07f 7/18; C08g 31/22

1. A cyclotrisiloxane having the formula:



where R is a trialkylsilylphenyl substituent having a formula selected from the class consisting of:



where Me is methyl, R'' is a lower alkyl radical selected from the class consisting of methyl, ethyl, and propyl, no more than two of said R'' substituents being methyl on any given trialkylsilylphenyl substituent; and R' is selected from the class consisting of monovalent aryl substituents and trialkylsilylphenyl substituents as defined for R.

3,424,780 PROCESS FOR MANUFACTURING POLYISOCYANATES

Adnan A. R. Sayigh, North Haven, Conn., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 31,829, May 26, 1960. This application Mar. 16, 1964, Ser. No. 352,318

U.S. Cl. 260—453 4 Claims
Int. Cl. C07c 119/04

A process for converting aliphatic, cycloaliphatic and araliphatic poly primary amines to the corresponding polyisocyanates by phosgenation without concurrent formation of chlorine-containing by-products. This result is achieved by keeping the phosgenation reaction temperature between 110° C. and 135° C. and the solvent to diamine weight ratios within 18:1 to 30:1.

3,424,781 PRODUCTION OF UNSATURATED ALIPHATIC NITRILES

Clifford William Capp, Ewell, and David James Hadley, Epsom Downs, England, assignors to The Distillers Company Limited, Edinburgh, Scotland, a British company

No Drawing. Filed Dec. 16, 1965, Ser. No. 514,384
Claims priority, application Great Britain, Jan. 1, 1965, 166/65

U.S. Cl. 260—465.3 10 Claims
Int. Cl. C07c 121/02, 121/32

Process for preparing acrylonitrile by reacting propylene in the vapour phase in the presence of oxygen and ammonia over an oxide composition containing antimony, chromium and vanadium which has been heated before use at a temperature in the range of 750° to 950° C.

3,424,782 PROCESS FOR THE SELECTIVE PRODUCTION OF UNSATURATED ALIPHATIC NITRILES

Tadashi Ohmori, Kawasaki-shi, and Tsutomu Kuwata, Tokyo, Japan, assignors to Nippon Oil Company, Limited, Tokyo, Japan

No Drawing. Filed Mar. 28, 1966, Ser. No. 537,704
Claims priority, application Japan, Mar. 31, 1965, 40/18,283

U.S. Cl. 260—465.3 4 Claims
Int. Cl. B01j 11/74; C07c 121/02, 121/10

A process for the selective production of nitriles, such as acrylonitrile, from an olefin, such as propylene, by contacting a mixture of ammonia, oxygen and an olefin in the vapor phase with an oxidation catalyst, in which the active components of the catalyst are at least one member of the combinations comprising Mo-Co, Ni-Mo-Co, P-Bi-Mo, P-Bi-Mo, P-Bi-Mo-Ca, P-Mo and Sn-Sb;

the improvement wherein said catalyst is caused to react with at least one sulfur component selected from elementary sulfur, hydrogen sulfide and sulfur dioxide at a temperature below 600° C.

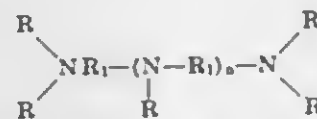
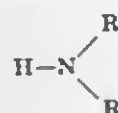
3,424,783

AMINONITRILE SYNTHESIS

James L. Harper, Laurel, and David A. Daniels, Baltimore, Md., assignors to W. R. Grace & Co., a corporation of Connecticut

No Drawing. Filed May 6, 1966, Ser. No. 548,329
U.S. Cl. 260—465.5 6 Claims
Int. Cl. C07c 121/42, 121/02

This invention is directed to a process for preparing aminonitriles from compounds having the formulas



wherein R represents a hydrogen, alkyl, phenyl, alkylphenyl, phenylalkyl, hydroxyalkyl and cycloalkyl group and wherein n is a number from 0 to 20 by reacting said compound in an aqueous medium with an excess of formaldehyde and HCN based on the amine in the presence of an acidic ion exchange resin, separating and recovering the thus formed aminonitrile, all as recited hereinafter.

3,424,784 MANUFACTURE OF ADIPONITRILE

George Barsky, 50 E. 41st St., New York, N.Y. 10017

No Drawing. Filed July 14, 1965, Ser. No. 472,025
U.S. Cl. 260—465.8 3 Claims

Int. Cl. C07c 121/02, 121/26

A process for producing adiponitrile which comprises mixing thiodipropionitrile with a metal which forms sulfides with thio-dipropionitrile, heating said mixture to a temperature of about 175° C., said heating being continued for about 4 hours.

3,424,785 FLUORINATED ALCOHOLS, THEIR ESTERS, AND USE THEREOF

Allen G. Pittman, El Cerrito, and William L. Wasley, Berkeley, Calif., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Aug. 4, 1965, Ser. No. 477,331
U.S. Cl. 260—486 6 Claims

Int. Cl. C07c 69/62; C08f 3/64, 3/66

Novel fluorinated alcohols, their acrylic (and methacrylic) esters, and polymers of such esters are disclosed. The alcohols are characterized in part by having a fluorinated isopropyl group, the α -carbon of which contains a fluorine atom and is connected through an oxygen bridge to the alcohol moiety of the compound. The β -carbons each contains at least two fluorine atoms. The described structure renders the compounds stable. Polymers of the esters are capable of imparting oleophobic properties to a substrate when applied to the latter. The alcohols are synthesized from fluorinated ketone.

3,424,786

DERIVATIVES OF A NORPROGESTERONE

Seymour D. Levine, Princeton, and Patrick A. Diassi, Westfield, N.J., assignors, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Original application Sept. 28, 1964, Ser. No. 399,838, now Patent No. 3,381,029, dated Apr. 30, 1968. Divided and this application Nov. 13, 1967, Ser. No. 708,736

U.S. Cl. 260—488 3 Claims

Int. Cl. C07c 171/06

$\Delta^3,6$ -A-norpregnadiene-2,20-dione-17-hydroxy and carboxylic acid ester derivatives thereof having progestational activity which can be used instead of progesterone, for example, in the treatment of habitual abortion.

3,424,787

DERIVATIVES OF A-NORPROGESTERONE

Seymour D. Levine, Princeton, and Patrick A. Diassi, Westfield, N.J., assignors, by mesne assignments, to E. R. Squibb & Sons Inc., New York, N.Y., a corporation of Delaware

No Drawing. Original application Sept. 28, 1964, Ser. No. 399,838, now Patent No. 3,381,029, dated Apr. 30, 1968. Divided and this application Nov. 13, 1967, Ser. No. 708,737

U.S. Cl. 260—488 2 Claims

Int. Cl. C07c 171/06

$\Delta^3,17(20)$ -A-norpregnadiene-2-one-20-ol and carboxylic acid ester derivatives thereof having progestational activity which can be used instead of progesterone, for example, in the treatment of habitual abortion.

3,424,788

AMINOPHOSPHINIC ACIDS AND SALTS USEFUL AS BACTERIOSTATS

Andrew T. Guttman, Maple Heights, Ohio, and Eric Jungermann, Chicago, and Warner M. Linfield, Evanston, Ill., assignors to Armour and Company, Chicago, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 90,240, Feb. 21, 1961. This application July 24, 1967, Ser. No. 655,313

U.S. Cl. 260—502.5 4 Claims

Int. Cl. C11d 3/48

Alpha-(arylamino)-benzylphosphinic acids, alkylaminomethylphosphinic acids, and alpha-(alkylamino)-benzylphosphinic acids and the alkali metal or ammonium salts thereof are disclosed as bacteriostatic agents. The activity of the alpha-(arylamino)-benzylphosphinic acids are enhanced in alkaline media, such as the water-soluble soaps.

3,424,789

PROCESS FOR OXIDIZING A 1,1-BIS- (ALKYL-PHENYL)ALKANE

Johann G. D. Schulz, Arthur C. Whitaker, and Paolo Winteler, Pittsburgh, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Mar. 5, 1964, Ser. No. 349,767

U.S. Cl. 260—517 18 Claims

Int. Cl. C07c 65/20

1. A process for oxidizing a 1,1-bis-(alkylphenyl) alkane wherein said alkane has at least two carbon atoms which comprises oxidizing the same with molecular oxygen at a temperature of about 25° to about 110° C. in the presence of about 0.10 to about 10 percent by weight of a transition metal salt of a carboxylic acid to obtain a mixture containing a benzophenone carboxylic acid.

3,424,790

PROCESS FOR PREPARING CARBOXYMETH- YLATED POLYETHYLENIMINE AND PROD- UCTS PRODUCED BY THE SAME

George C. Bond, Freeport, and George E. Ham and Dallas E. Hamilton, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed May 11, 1966, Ser. No. 549,195

U.S. Cl. 260—534 14 Claims

Int. Cl. C07c 99/00; C02b 5/06

1. A method for producing a carboxymethylated polyethylenimine which comprises:

- (1) combining substantially equivalent quantities of
 - (A) ethylenimine or polyethylenimine, and
 - (B) formaldehyde,
 at a temperature of from about -15° C. to 40° C., and allowing the resulting reaction to continue until it subsides;
- (2) combining the intermediate product thus formed with a substantially equivalent quantity of a compound selected from the group consisting of hydrogen cyanide and an alkali metal cyanide, at a temperature from about -15° C. to 40° C.; and
- (3) hydrolyzing the product thus produced with an alkali metal hydroxide, at a temperature from about 50° C. to 110° C. to give a carboxymethylated polyethylenimine.

3,424,791

PROCESS FOR THE PREPARATION OF DERIVA- TIVES OF N-ACYL VINYLAMINE

Peter Kurtz, Leverkusen, and Hans Disselkötter, Cologne-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Feb. 16, 1966, Ser. No. 527,733

Claims priority, application Germany, Mar. 6, 1965, F 45,437; Oct. 13, 1965, F 47,408

U.S. Cl. 260—558 5 Claims

Int. Cl. C07c 85/00, 103/20

A process producing N-acyl vinylamines by thermally splitting N-acryl derivatives of 1-amino-1-cyanoethane and its corresponding substituents at normal or reduced pressure and a temperature of about 250–750° C.

3,424,792

ISOMERIC MIXTURES OF METHYLCYCLO- HEXYLENE DIAMINE

James M. Cross, New Martinsville, W. Va., assignor to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Continuation-in-part of applications Ser. No. 523,569, Jan. 28, 1966, and Ser. No. 614,395, Feb. 2, 1967. This application June 12, 1967, Ser. No. 645,476

U.S. Cl. 260—563 6 Claims

Int. Cl. C07c 87/36

Methylcyclohexylene diamines are prepared by hydrogenating tolylene diamines. Methylcyclohexylene diamines are prepared wherein from about 85 percent to about 95 percent of the isomer has the amino groups in the equatorial position, that is, the *ee* conformation and about 5 percent to about 15 percent of the isomer has the amino groups in the axial-equatorial positions, that is, the *ae* conformation; where *a* indicates axial and the letter *e* indicates equatorial. The corresponding diisocyanates are prepared by phosgenating the above-described amines.

3,424,793

PREPARATION OF TRIMETHYL CHLORO-SUBSTITUTED LOWER ALKYL QUATERNARY AMMONIUM SALTS

Jacek Kokosinski, Ul. Lewartowskiego 9, m. 4; Jan Orłowski, Ul. Silecka 59, m. 1; Barbara Czachowska, Al. Niepodległości 245, m. 42; and Bolesław Hanczyk, Al. Wojska Polskiego 40, m. 15, all of Warsaw, Poland
No Drawing. Filed July 11, 1966, Ser. No. 564,032
Claims priority, application Poland, July 14, 1965, P 110,003

U.S. Cl. 260—567.6
Int. Cl. C07c 85/04

5 Claims

A process for producing ammonium salts of trimethylamine of the formula $(CH_3)_3NRX$, wherein R is a lower alkyl, aryl, alkenyl, alkynyl or cycloalkyl radical or one of said radicals substituted by a halogen atom and wherein X is a halogen by reacting in the liquid phase an excess of a compound of the formula RX wherein R and X are as defined above with trimethylamine at a temperature of at least 70° C.

3,424,794

DI-, TRI- AND TETRA-QUATERNARY AMMONIUM COMPOUNDS

Eugene J. Miller, Jr., Wheaton, and Ago Mais, La Grange Park, Ill., assignors, by mesne assignments, to Armour Industrial Chemical Company, a corporation of Delaware

No Drawing. Filed Mar. 1, 1965, Ser. No. 436,378
U.S. Cl. 260—567.6
Int. Cl. C07c 87/04; A61k 27/00

5 Claims

Sec-alkyl primary amines are quaternized with an alkyl quaternary agent and, if necessary, a neutralizer to form di-, tri-, and tetra-quaternaries.

3,424,795

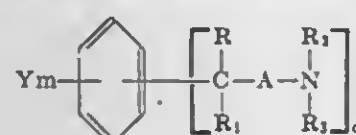
 α,α' -BIS(AMINOARYL)-XYLENES

Richard B. Lund, Whippany, and John Vitrone, Parsippany, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

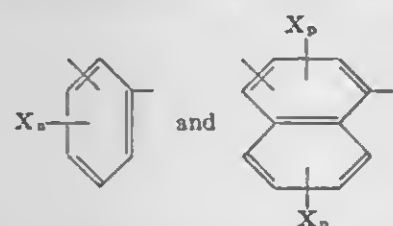
No Drawing. Filed July 25, 1963, Ser. No. 297,663
U.S. Cl. 260—570
Int. Cl. C07c 87/28, 87/50

16 Claims

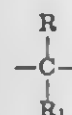
1. Compounds having the formula:



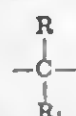
wherein A is selected from the group consisting of



R and R₁ are members independently selected from the group consisting of hydrogen and lower alkyl; R₂ and R₃ are members independently selected from the group consisting of hydrogen and lower alkyl; X and Y are members independently selected from the group consisting of lower alkyl and chlorine; n is an integer of 0 to 2, q is an integer of 2 to 3; m is an integer of 0 to 4 and is such that the sum of m and q does not exceed 6; p is an integer of from 0 to 3 but not more than one halogen atom is substituted on the ring; the



groups are attached to non-adjacent carbon atoms of the central aryl group and the



groups are attached to the ring of the amino aryl radicals at a position other than the position meta to the amino group.

3,424,796

PREPARATION OF 4-AMINODIBENZO[a,d]CYCLOALKEN-5-ONES

Eugene E. Galantay, Morristown, and Hans Ott, Convent Station, N.J., assignors to Sandoz Inc., Hanover, N.J.

No Drawing. Filed Mar. 30, 1965, Ser. No. 444,023
U.S. Cl. 260—576
Int. Cl. C07c 87/64

3 Claims

Pharmaceutically useful 4-amino-10,11-dihydro-5H-dibenzo[a,d]cyclohepten-5-ones and 4-amino-5,10,11,12-tetrahydridibenzo[a,d]cycloocten-5-ones are obtainable by cyclization of the appropriate 6- ω -phenyl(lower)alkyl-anthranilic acid.

3,424,797

PROCESS FOR PRODUCING DIFLUORAMINO-TRIFLUOROMETHANE

Douglas Dybvig, St. Paul, Minn., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

No drawing. Filed Apr. 25, 1966, Ser. No. 546,473
U.S. Cl. 260—583
Int. Cl. C07c 85/12, 87/08, 87/22

3 Claims

1. A process for producing difluoramino-trifluoromethane which comprises, fluorinating potassium cyanide with gaseous fluorine.

3,424,798

C₂₅ and C₃₀ POLYENIC BETA-KETOKETALS AND PROCESS OF PREPARING THE SAME

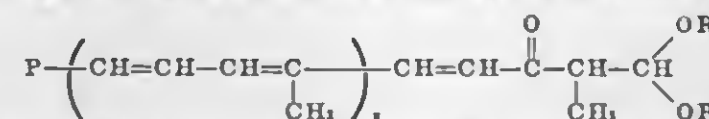
Joseph Redel and Jean Baptiste Christian Boch, Neris-les-Bains, France, assignors to A.E.C. Societe de Chimie Organique et Biologique, Commeny, France, a corporation of France

Filed Dec. 20, 1963, Ser. No. 332,030
Claims priority, application France, Jan. 2, 1963, 920,249

U.S. Cl. 260—586
Int. Cl. C07c 41/00, 49/20

2 Claims

C₂₅ and C₃₀ beta-ketoketals having the formula



are produced from the corresponding beta-ketobenoether by dissolving the ether cold in the ROH alcohol to which is added the corresponding sodium alcoholate. P is the radical 8-(2',6',6'-trimethyl-cyclohex-1'-enyl)-2,6-dimethyl-octa-1,3,5,7-tetraenyl and x is selected from 0 and 1. R is lower alkyl.

3,424,799

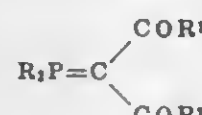
GENERAL SYNTHESIS OF DIKETOPHOSPHORANES AND ACETYLENIC KETONES

Pierre-Antoine Chopard and Robert J. G. Searle, Geneva, Switzerland, assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Apr. 1, 1966, Ser. No. 539,268
U.S. Cl. 260—590
Int. Cl. C07f 9/28

9 Claims

Novel diketo phosphoranes are disclosed having the formula



In which R is a hydrocarbon radical such as phenyl and R¹ and R² are the same or different typically being lower alkyl or phenyl. In addition, a process for preparing such diketo phosphoranes is disclosed in which a mono keto phosphorane is reacted with an anhydride of a monocarboxylic acid.

A process for preparing acetylenic ketones is also disclosed in which the diketo phosphoranes described above are pyrolyzed.

3,424,800

PRODUCTION OF DITHIOLS FROM AZIRIDINES

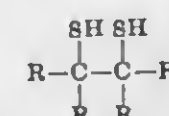
Clarence R. Bresson and James S. Dix, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 419,548, Dec. 18, 1964. This application June 3, 1966, Ser. No. 554,977

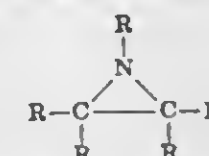
U.S. Cl. 260—609
Int. Cl. C07c 149/06, 149/12

3 Claims

1. A process for the production of polythiol having the formula



comprising reacting an aziridine having the formula



which at least one compound selected from the group consisting of ammonium hydrosulfide and ammonium sulfide, wherein R is selected from the group consisting of hydrogen and a monovalent hydrocarbon radical selected from the group consisting of alkyl, cycloalkyl, aryl, alkaryl, and aralkyl, each of said hydrocarbon radicals containing preferably 1 to 8 carbon atoms; and wherein the total number of carbon atoms in the aziridine molecule is 2 to 20; wherein the molar ratio of sulfide to aziridine is in the range of 2:1 to 21:1.

3,424,801

METHOD FOR IMPROVING THE OXIDATION RESISTANCE OF POLYPHENYL ETHER

Emil H. Carlson, Kirkwood, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 102,662, Apr. 13, 1961. This application Mar. 14, 1966, Ser. No. 533,814

The portion of the term of the patent subsequent to Mar. 13, 1983, has been disclaimed

U.S. Cl. 260—613
Int. Cl. C10m 7/26; C09k 3/02

12 Claims

1. A process of treating a polyphenyl ether composition to improve the oxidation resistance thereof at elevated temperatures comprising heating a polyphenyl ether composition selected from the group consisting of (a) polyphenyl ethers having the structural formula



wherein n is an integer from 2 to 9, (b) hydrocarbyl derivatives of said polyphenyl ethers wherein the number of carbon atoms in a single hydrocarbyl radical bonded to an aromatic nucleus of the polyphenyl ether does not exceed 12 and the total carbon atoms in the sum of the said hydrocarbyl radicals does not exceed 25, and (c) mixtures of said polyphenyl ethers of (a) and (b); each in the presence of a metal selected from the group consisting of (i) an alkali metal, or (ii) copper, wherein the

3,424,802

PROCESS FOR MANUFACTURING 2,5-DIMETHYLHYDROQUINONE

Walter Hafner, Furth, near Delsenhofen, Bavaria, Germany, assignor to Consortium fur Elektrochemische Industrie G.m.b.H., Munich, Bavaria, Germany, a corporation of Germany

No Drawing. Filed Mar. 21, 1966, Ser. No. 535,696
U.S. Cl. 260—621
Int. Cl. C07c 39/08, 39/06

3 Claims

This invention relates to manufacturing 2,5-dimethylhydroquinone, and it has for its object to provide a novel and improved process for this purpose. This is accomplished by heating diacetyl in an aqueous solution of 10–30 weight percent hydrogen sulfite to a temperature of 100° C. to 250° C.

3,424,803

METHODS FOR THE SYNTHESIS OF 1-NITRO-3-(1-METHYL-3,3,3-TETRACHLOROPROPYL) STYRENE AND INTERMEDIATE USEFUL FOR SAME

Carleton W. Roberts and Richard Garth Pews, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

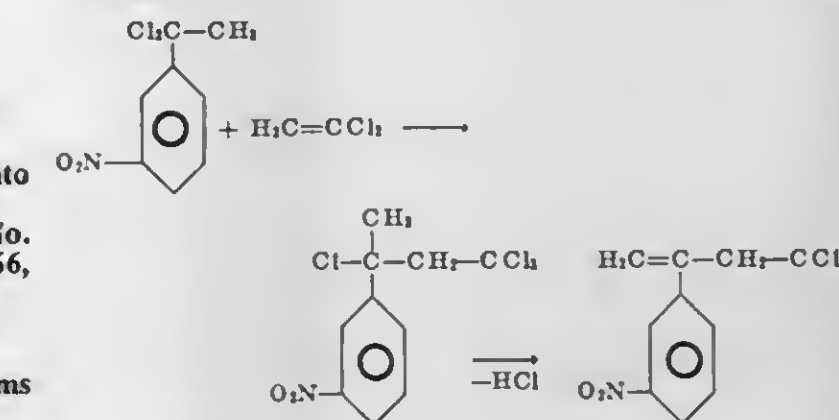
No Drawing. Filed July 24, 1967, Ser. No. 655,343

U.S. Cl. 260—646
Int. Cl. A01m 9/20; C07c 79/00

5 Claims

Methods of synthesis of 1-nitro-3-(3,3,3-trichloro-1-methylenepropyl)benzene, useful as an herbicide, and its intermediate, 1-nitro-3-(1,3,3,3-tetrachloro-1-methylpropyl)benzene, from 1,1-dichloroethyl-3-nitrobenzene and vinylidene chloride.

Method:



3,424,804

PREPARATION OF HIGHLY FLUORINATED AROMATIC COMPOUNDS

Julian Frodo Tilney-Bassett, Avonmouth, England, assignor to Imperial Smelting Corporation (N.S.C.) Limited, London, England, a British company

No Drawing. Filed Jan. 3, 1966, Ser. No. 518,009
Claims priority, application Great Britain, Jan. 4, 1965, 326/65

3 Claims

U.S. Cl. 260—650
Int. Cl. C07b 1/00; C07c 17/34, 25/04
A method of preparing a monobromotetrafluorobenzene of the formula C₆F₄HBr involving the reduction of the dibromotetrafluorobenzene of the formula C₆F₄Br₂ in the presence of a combination of powdered zinc and glacial acetic acid at about 0–200° C. for up to about 30 hours. The compounds 2,3,4,6-tetrafluorobromobenzene and 2,3,5,6-tetrafluorobromobenzene.

3,424,821

DI(HIGHER SECONDARY ALKYLATED) HYDROQUINONE ANTIOXIDANTS

Byron A. Hunter, Woodbridge, Conn., assignor to Uniroyal, Inc., New York, N.Y., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 506,860, Nov. 8, 1965. This application July 20, 1967, Ser. No. 654,713

U.S. Cl. 260—880
Int. Cl. C08f 45/58

15 Claims

New di(secondary alkyl) hydroquinones in which the alkyl groups contain 12 or more carbon atoms are prepared by reacting C_{12} and higher alpha-olefins with hydroquinone. Modified preparations are made using styrene, alpha-methyl styrene or terpenes in addition to alpha-olefin. The products are antioxidants, especially for polymers (rubbers or plastics) or vegetable oils.

3,424,822

ALKALI METAL CATALYZED STYRENE DEPOLYMERIZATION

Thomas V. Liston, Kentfield, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed July 21, 1966, Ser. No. 566,750

U.S. Cl. 260—881

5 Claims

Int. Cl. C08f 27/28, 19/16, 19/10

Styrene depolymerization is carried out using alkali metal catalyst in an aromatic hydrocarbon and hexamethylphosphortriamide mixture as solvent. Blocks of anionic addition polymerizable olefins can be added to the degraded styrene polymer.

3,424,823

COMPOSITION OF VINYL CHLORIDE POLYMERS AND COPOLYMERS OF ALKENYL AROMATIC HYDROCARBONS AND ACRYLONITRILE OR METHACRYLONITRILE

Richard H. Hall, Midland, and Junior J. Lamson, Bay City, and Andrew J. Sikkema and Carleton W. Roberts, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 313,738, Oct. 4, 1963. This application July 31, 1967, Ser. No. 657,072

U.S. Cl. 260—898

4 Claims

Int. Cl. C08f 29/24, 31/04

Compositions of matter comprising fusion blends of from 30 to 55 weight percent of a vinyl chloride polymer and from 70 to 45 weight percent of a resinous copolymer of at least one tertiary-alkyl ring substituted alkenyl aromatic hydrocarbon and methacrylonitrile or acrylonitrile.

3,424,824

MANUFACTURE OF MICROPOROUS SHEET PLASTIC MATERIAL

Edward H. Harbard, Kirk Ella, and Arthur R. Stephenson, Skidby, England, assignors to T. J. Smith & Nephew Limited, Kingston-upon-Hull, Yorkshire, England

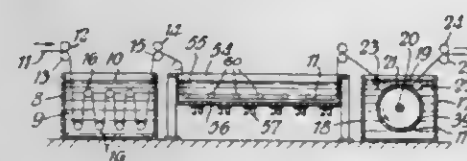
Filed Feb. 8, 1966, Ser. No. 525,997

Claims priority, application Great Britain, Feb. 11, 1965, 5,959/65

U.S. Cl. 264—23

6 Claims

Int. Cl. B29d 27/00



A method of manufacturing microporous plastic sheets of the type in which a soluble filler is incorporated in the

plastic mix before the same is formed into a sheet. The plastic sheet is fed to a tank containing a leaching liquid for dissolving the filler and a differential pressure is applied to the sheet to remove the soluble filler from the sheet and leave the latter in a microporous condition when withdrawn from the tank.

3,424,825

METHOD OF MANUFACTURING PACKAGED ARTICLES

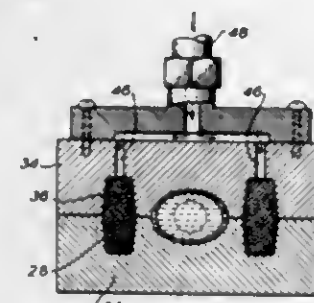
Jacques Marchand, 381 Broad St., Newark, N.J. 07102

Continuation-in-part of application Ser. No. 298,374, July 29, 1963. This application Feb. 9, 1966, Ser. No. 533,760

U.S. Cl. 264—45

2 Claims

Int. Cl. B65d 65/44



A method of packaging an article of merchandise comprising a mold having a first article receiving cavity therein designed to envelop the article 360° about its surface over substantially its entire length and providing the mold with a second cavity extending continuously about the article receiving cavity from one end thereof to the other, placing an article into the article receiving cavity with its end extending into the second cavity, filling the second mold cavity with moldable material so that when solidified, the moldable material will form an integral solid protective frame supporting the ends of the article with the article having 360° exposure about its surface over substantially its entire length.

3,424,826

METHOD FOR SELECTIVE ABSORPTION OF FOAMING AGENT IN FOAMING PLASTIC ARTICLES

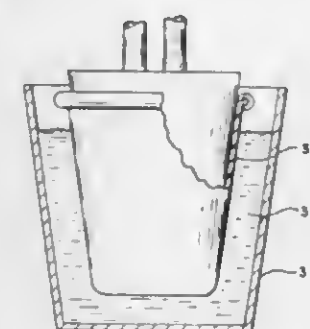
Ardashus A. Aykanian, Wllbraham, Mass., and Richard K. Shelby, Downers Grove, Ill., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed July 8, 1964, Ser. No. 381,144

U.S. Cl. 264—48

11 Claims

Int. Cl. B29d 27/00



This invention relates to a process for selectively foaming portions of a plastic articles by controlling the surface temperature of the article during the steeping step of a partial foaming process.

3,424,827

PROCESS AND APPARATUS FOR MAKING SHAPED CELLULAR ARTICLES FROM EXPANDABLE THERMOPLASTIC RESINS

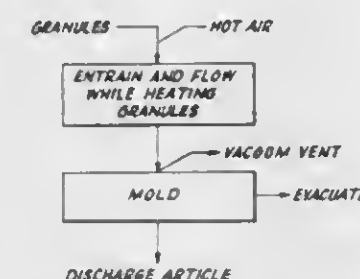
Eugene V. Galizia, Zelenople, and Richard H. Immel, Sewickley, Pa., assignors to Sinclair-Koppers Company, a partnership of Delaware

Filed Oct. 10, 1966, Ser. No. 585,603

U.S. Cl. 264—51

6 Claims

Int. Cl. B29d 27/04



A method and apparatus are provided for the rapid forming of shaped cellular articles from expandable granules of a thermoplastic resin, through the use of a blow fill tube for introducing the beads into the mold cavity, an air cylinder and piston to control the flow of beads, and a vent tube and vent sleeve to keep back pressure from building up in the mold cavity.

3,424,828

GAS ACTIVATED TREATMENT OF ELASTIC FILAMENTS

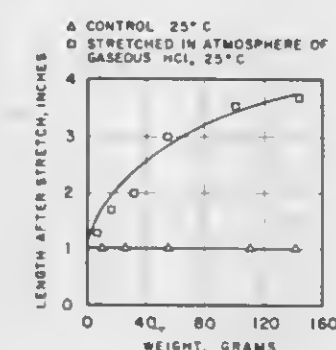
Henry E. Harris, Chapel Hill, and Jack G. Scruggs, Cary, N.C., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed Sept. 13, 1966, Ser. No. 579,461

U.S. Cl. 264—83

9 Claims

Int. Cl. D01j 1/22



The denier of synthetic elastic segmented polyurethane filaments is reduced by the process of stretching the filaments a desired amount, exposing the filaments while in a stretched condition to an atmosphere of an activating gas and then desorbing the gas from the filaments.

3,424,829

METHOD AND APPARATUS FOR BLOW MOLDING HOLLOW ARTICLES WITH INTEGRALLY MOLDED HOLLOW HANDLES

Donald L. Peters and Doyle L. Alexander, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed May 4, 1965, Ser. No. 452,996

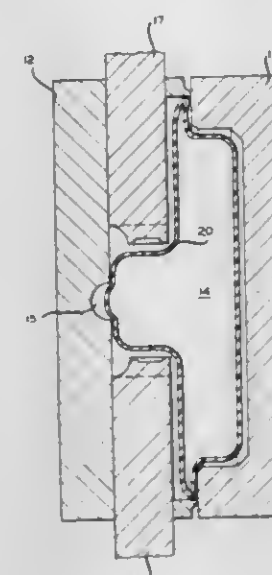
U.S. Cl. 264—89

5 Claims

Int. Cl. B29d 23/03; B29c 5/06

1. A method for forming a flat blow molded hollow article having a hollow channel integrally molded on a flat surface thereof, said method comprising closing a pair of mold halves to pinch off a heated parison, preblowing said parison to roughly conform to the shape of said molds, one of which contains a longitudinal recess

parallel to a plane of separation of said molds, moving a pair of slidable inserts perpendicular to the longitudinal direction of said recess to pinch out an area within said preblown parison while maintaining said parison at the



sides thereof at the outer portion of the mold cavity of said mold halves adjacent said pair of slidable inserts, leaving a communicable passage around said pinched off area, and blowing the parison to fully conform to the mold cavity.

3,424,830

PROCESS FOR MOLDING HOLLOW, SHAPED ARTICLES OF POLYTETRAFLUOROETHYLENE

Pierluigi Sfondrini, Rho, Milan, and Giovanni Convalle, Bollate, Milan, Italy, assignors to Montecatini Edison, S.p.A., Milan, Italy

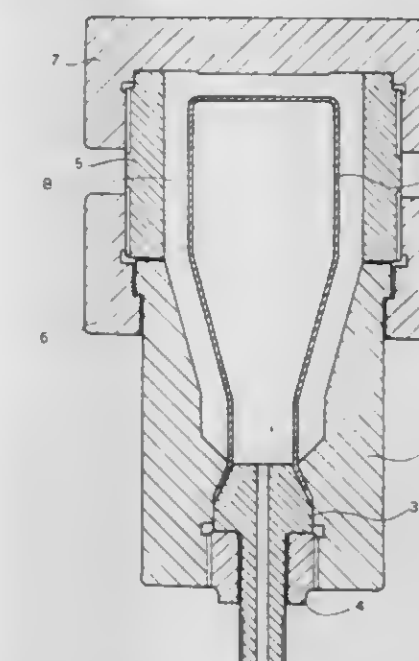
Filed Aug. 12, 1965, Ser. No. 479,086

Claims priority, application Italy, Aug. 18, 1964, 17,943/64

U.S. Cl. 264—127

8 Claims

Int. Cl. B29d 23/01

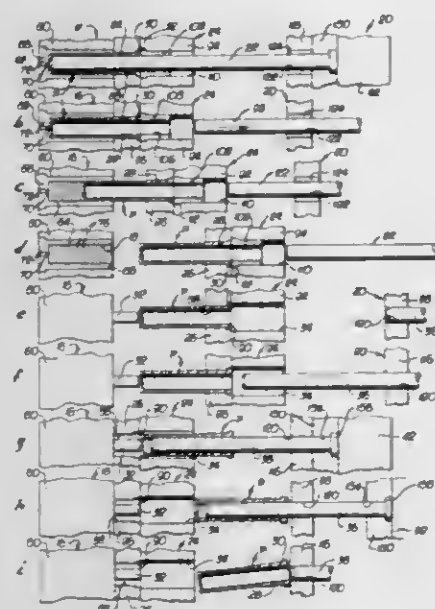


Polytetrafluoroethylene is molded into hollow, shaped articles having at least one open end by compacting the same in the interspace defined by the inner walls of a rigid mold and the outer walls of a thermoplastic counter-mold. The exterior geometry of the said counter-mold approximates that of the inner walls of the said rigid mold.

3,424,831

METHODS FOR INJECTION MOLDING

Walter B. Spatz, Santa Monica, Calif., assignor to Spatz Laboratories, Venice, Calif., a corporation of California
 Filed July 11, 1966, Ser. No. 564,057
 U.S. Cl. 264—138 11 Claims
 Int. Cl. B29d 23/02; B29f 1/14

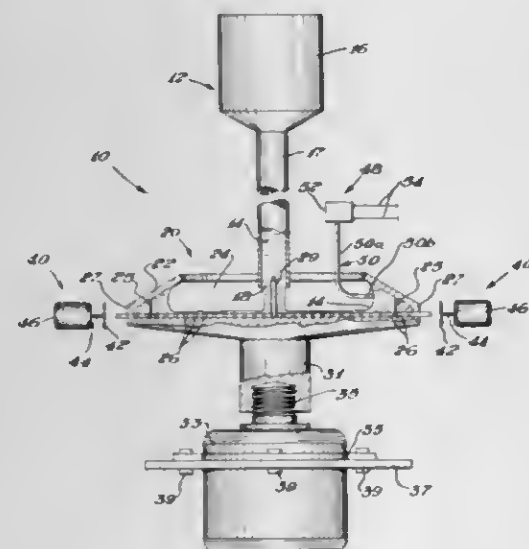


The method of and apparatus for molding a hollow flexible part having wall surface irregularities projecting transversely of the axis of the part, by molding on the part an axial extension which exerts an axial force for removing the part from the mold cavity upon separation of the mold sections which form the body and the extension respectively.

3,424,832

PROCESSING OF PLASTIC

Douglas S. Chisholm, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
 Continuation-in-part of application Ser. No. 268,215, Mar. 25, 1963. This application Apr. 10, 1967, Ser. No. 633,664
 U.S. Cl. 264—143 9 Claims
 Int. Cl. B29c 17/14



Thermoplastics such as polyethylene are formed into pellets by centrifugally extruding strands and severing the strands adjacent the centrifugal extrusion die. Very small particles are readily obtained.

3,424,833
SYNTHETIC VINYL FIBRES OF HIGH SHRINKABILITY

Corrado Mazzolini and Francesco Denti, Mestre-Venezia, Italy, assignors to A.C.S.A. Applicazioni Chimiche S.p.A., Milan, Italy, a corporation of Italy
 Filed July 29, 1964, Ser. No. 385,916
 Claims priority, application Italy, July 31, 1963, 15,963

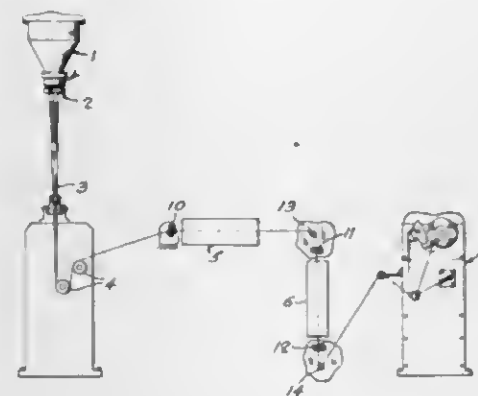
U.S. Cl. 264—168 6 Claims
 Int. Cl. D01d 5/22; D01f 7/00
 Process for obtaining polyvinylchloride fibers having a shrinkage in boiling water or in saturated steam between 10% and 30% and, after shrinkage, a tenacity greater than 2.5 g./den., an elongation at break between 30% and 55%, an elastic modulus between 20 and 40 g./den. and a shrinkage in trichloroethylene at 40° C. less than 1%, in which fibers of polyvinylchloride having a high syndiotactic index (above 2), obtained according to known spinning methods by dry or wet spinning of the polymer, are subjected to the usual stretch, finishing, drying, heat-conditioning under tension and relaxing, and are further subjected to an additional stretch at a stretch ratio of at least 1.1 and at a temperature between 100° C. and 180° C. (preferably 120° C. to 140° C.).

3,424,834

BULKED SYNTHETIC FIBRES

Sohinder Nath Chopra, Claude J. Cormier, and Joseph D. L. Tessier, Drummondville, Quebec, Canada, assignors to Chemcell (1963) Limited, Montreal, Quebec, Canada

Filed Mar. 18, 1966, Ser. No. 535,441
 Claims priority, application Great Britain, Mar. 23, 1965, 12,304/65
 U.S. Cl. 264—168 9 Claims
 Int. Cl. D01d 5/22



A process for making low tenacity bulked yarns which have permanent elastic recovery, by (1) melt-extruding polyolefin into fibres; (2) spinning the fibres into yarns; (3) crimping without intermediate heat stretching the yarns; (4) heat treating the crimped yarns at a temperature short of a melting temperature while the yarn is left to a relaxed state.

3,424,835

PROPIOLACTONE-PIVALOLACTONE COPOLYESTERS

Albert G. Armour, Springfield, Pa., and Erhard F. Hoegger, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 20, 1964, Ser. No. 361,248
 U.S. Cl. 264—210 14 Claims
 Int. Cl. B29d 7/02; B44f 9/08; C08g 17/017
 1. A copolymer of propiolactone and pivalolactone, containing 50 to 90 percent, by weight, of pivalolactone.

3,424,836

METHOD AND APPARATUS FOR APPLYING A BEAD OF VISCOUS MATERIAL ALONG THE SURFACE OF A MEMBER

Harold E. McKelvey, Plymouth, and Joseph E. Jendrisak, Northville, Mich., assignors to Thermoproof Glass Company, Detroit, Mich., a corporation of Delaware
 Filed Sept. 6, 1966, Ser. No. 577,336
 U.S. Cl. 264—251 10 Claims
 Int. Cl. B32b 31/30, 1/00



1. A method of applying a bead of elastomeric viscous material with substantially uniform cross-section to the surface of a member which comprises:
 (a) supporting said member adjacent the outlet of an extrusion head for slidable motion in a linear direction relative to said extrusion head;
 (b) extruding said viscous material through at least two extrusion head outlets obliquely against opposed side surfaces of said member to move said member at a speed directly proportional to the rate of extrusion, the force of extruding said material against said member providing the principal driving force to move said member; and
 (c) guiding said member to maintain each member surface portion receiving said viscous material at a predetermined proximate distance from one of said extrusion outlets.

3,424,837

FORMING OF ARTICLES FROM PLASTIC MATERIAL BY INJECTION MOULDING

Edward Rankine Martin, Arkley, near Barnet, England, assignor to Fraser & Glass Limited, London, England, a British company

Filed Nov. 9, 1964, Ser. No. 409,762
 Claims priority, application Great Britain, Nov. 11, 1963, 44,372/63
 U.S. Cl. 264—252 3 Claims
 Int. Cl. B29f 1/10



The present invention relates to a method of forming a plastic article which comprises positioning a solid sheet of plastic material of less than .008 inch thickness between opposed mold members, bringing the opposed mold members together, injecting into the mold cavity formed by said closed mold halves a flowable plastic material compatible with the plastic material in the aforesaid solid sheet of plastic material, maintaining limited sections of the opposing surfaces on said mold members sufficiently close to limited areas of said solid sheet of plastic material so that the flowable plastic injected into the mold cannot flow

between said limited sections of the mold and the said limited areas of the interposed solid sheet of plastic material, allowing said interposed plastic sheet and said injected plastic to set to an integral mass, and removing said integral plastic article from the mold, a portion of said plastic article consisting of a planar sheet section less than .008 inch thick and the remainder of said plastic article having a thickness greater than .008 inch.

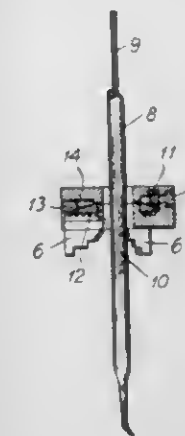
3,424,838

METHOD OF MANUFACTURING A CONSTRICTION-TYPE PIPETTE

Ole Buus, Brandts Vaenge 12, Birkerød, Denmark
 Filed Dec. 1, 1964, Ser. No. 414,992
 Claims priority, application Denmark, Dec. 6, 1963, 5,692/63

U.S. Cl. 264—320 6 Claims
 Int. Cl. B29d 23/00

Method of manufacturing a constriction-type pipette in a single constructing operation in which a translucent plastic tube is deformed along an axial region or section by simultaneously applying heat externally to the axial region and inwardly applied pressure at circumferentially spaced areas in the axial region and causing plastic to flow outwardly from the tube to form radial ribs extending axially along the axial region. The tube is internally supported by a wire in the axial region which defines the



internal dimension of the constriction and removes heat from internally of the axial region. The ribs strengthen the constricted region so that it has the same strength as the other axial regions or portions of the tube since plastic is neither added or removed from the constricted region.

3,424,839

TETRACYCLINE AND ENTERIC-COATED CHYMOTRYPSIN ORAL TABLETS AND THERAPY

Jean Montandraud, Casablanca, Morocco, assignor, by mesne assignments, to Societe Generale de Recherches et d'Applications Scientifiques Sogeras, Paris, France
 No Drawing. Filed Feb. 27, 1964, Ser. No. 347,711
 Claims priority, application Great Britain, July 2, 1963, 26,237/63

U.S. Cl. 424—26 3 Claims
 Int. Cl. A61k 9/00, 21/00

A chymotrypsin and tetracycline oral tablet prepared by pressing 50,000 Armour units of chymotrypsin admixed with suitable dry granulation excipients into a central core tablet form, after which the core is enteric-coated and covered all around with 250 mg. of tetracycline admixed with suitable granulation excipients. The tablet is effective for obtaining increased chymotrypsin-tetracycline anti-inflammatory and anti-infection efficacy in pre- and/or post-operative surgical patients.

3,424,840

AEROSOL HAVING A MINK OIL BASE
Pierre Guillemin-Tarayre, Paris, France, assignor to Societe Anonyme dite: Compagnie Oliver, Paris, France
No Drawing. Filed Mar. 30, 1965, Ser. No. 444,048
Claims priority, application France, May 8, 1964, 973,694

U.S. Cl. 424—47 1 Claim
Int. Cl. A61k 7/00, 17/00; A61m 11/00
1. Product for skin care comprising one part of mink oil and 32 parts of a dispersion agent mixed together and packaged in the form of an aerosol wherein said dispersion agent acts as a propellant and is constituted of a mixture of 65% trichlorofluoromethane and 35% dichlorodifluoromethane.

3,424,841

METHOD OF INHIBITING BACTERIA WITH GERMICIDAL TROPOLONE POLYMER COMPOSITIONS

Lorraine Guy Donaruma, Potsdam, N.Y., assignor to Research Corporation, New York, N.Y., a non-profit corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 476,743, Aug. 2, 1965. This application Jan. 28, 1966, Ser. No. 523,581

U.S. Cl. 424—82 1 Claim
Int. Cl. A61l 13/00
Tropolone-formaldehyde condensation polymers exhibit antibacterial activity.

3,424,842

MANUFACTURE OF TABLETS DIRECTLY FROM DRY POWDERS

Eberhard Nürnberg, Darmstadt, Germany, assignor to E. Merck A.G., Darmstadt, Germany
No Drawing. Filed May 4, 1965, Ser. No. 453,196
Claims priority, application Germany, May 9, 1964, M 60,952

U.S. Cl. 424—94 24 Claims
Int. Cl. A61k 9/00; A61j 3/10
Nongranulated, directly dry compressed pharmaceutical tablets of therapeutically active compounds incapable of being dry compressed to acceptable tablets directly without any preparation, the preparation in this case being homogeneously introducing 1–10% by weight of certain powdery, dry adhesives such as cellulose, gelatin, alginic acid and salts thereof, and others.

3,424,843

COMPOSITION AND METHODS FOR CONTROLLING HYPERTENSION WITH 2-AZIDOACETOPHENONE OXIME

Theodor Well, New Brunswick, and Hugo Stange, Princeton, N.J., assignors to FMC Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 23, 1965, Ser. No. 504,064
U.S. Cl. 424—226 4 Claims
Int. Cl. A61k 25/00

The compound, 2-azidoacetophenone oxime, is a stable hypotensive agent that can be safely administered to animals for an extended period of time sufficient to lower blood pressure.

3,424,844

PHENYLCARBAMOYL AZIDES IN REDUCING BLOOD PRESSURE

Leo Ralph Swett, James Daniel Ratajczyk, and Thomas Dillard Darby, Waukegan, Ill., assignors to Abbott Laboratories, Chicago, Ill., a corporation of Illinois
No Drawing. Filed Jan. 30, 1967, Ser. No. 612,355
U.S. Cl. 424—226 8 Claims
Int. Cl. A61k 27/00; C07c 127/12
Naphthyl- and certain substituted phenylcarbamoyl-

azides have been found to reduce the blood pressure of warm-blooded animals when administered orally or intravenously.

3,424,845

3,5-DINITROSALICYLIC ACID, 5-NITROFURFURYLIDENE HYDRAZIDE AND COMPOSITIONS CONTAINING AND METHODS EMPLOYING THE SAME FOR THE CONTROL OF HISTOMONIASIS

Edward W. Berndt and Robert D. Vatne, Charles City, Iowa, assignors to Salisbury Laboratories, a corporation of Iowa

No Drawing. Continuation-in-part of applications Ser. No. 525,300, Feb. 7, 1966, and Ser. No. 598,921, Dec. 5, 1966. This application May 25, 1967, Ser. No. 641,112

U.S. Cl. 424—232 10 Claims
Int. Cl. A61k 27/00; C07d 5/30

The new chemical compound 3,5-dinitrosalicylic acid, 5-nitrofurfurylidene hydrazide, compositions containing the same and its synergetic precursors, and treatments applying said compounds and compositions for the promotion of growth and the control of Histomoniasis in poultry.

3,424,846

TRIETHYLENEGLYCOL DIGLYCIDYL ETHER MAMMALIAN TUMOR-INHIBITING PARENTERAL COMPOSITIONS AND INJECTION METHODS OF USE INTRA-ARTERIAL OR INTRAVENOUSLY

James Naim Greenshields, Blackley, Manchester, Bernard William Langley, Macclesfield, Edward Jervis Vickers, Blackley, Manchester, Arthur Leonard Walpole, Macclesfield, and Michael Henry Currer Williams, Blackley, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Apr. 19, 1961, Ser. No. 103,995
Claims priority, application Great Britain, Apr. 27, 1960, 17,742/60

U.S. Cl. 424—278 6 Claims
Int. Cl. A61k 25/00

1. A sterile, injectable pharmaceutical composition for parenteral administration, said composition comprising a physiologically-acceptable tumor-inhibiting quantity of sterile triethyleneglycol diglycidyl ether as the active component and a sterile, parenterally-administrable, essentially neutral solvent which is free of anions which react with epoxide groups.

3,424,847

TOXICANT CONCENTRATES CONTAINING ACETONITRILE AND EMULSIFIERS

Edgar Selz, Evanston, Ill., assignor to Witco Chemical Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 18, 1963, Ser. No. 324,251
U.S. Cl. 424—304 7 Claims
Int. Cl. A01m 9/04, 17/10

Emulsifier compositions, as well as toxicant concentrates containing said emulsifier compositions, comprising essentially clear liquids at room temperature, said emulsifier compositions containing an acetonitrile-soluble and water-soluble to readily water-dispersible nonionic emulsifier of the type which includes in its molecule a hydrophobic group and at least 8 oxyethylene groups, said compositions containing acetonitrile in proportions of from 1 to 20%, by weight, of the emulsifier composition.

3,424,848

USE OF GERANYLHYDROQUINONE AS RADIATION PROTECTIVE AGENT
Pierre Baranger, 6 Rue de Seine, Paris, France
No Drawing. Continuation of application Ser. No. 295,832, July 17, 1963. This application Dec. 9, 1966, Ser. No. 600,648
Claims priority, application France, July 20, 1962, 904,639

U.S. Cl. 424—346 5 Claims
Int. Cl. A61k 27/00
1. A method for alleviating in mammals at least one of the nausea, asthenia, epithelial and actinic reactions and the adverse effects on the red and white corpuscles associated with exposure to X-ray or gamma ray radiation which comprises administering to the mammal an

effective, essentially non-toxic amount of geranylhydroquinone.

3,424,849

BATH OIL COMPOSITION CONTAINING OCTYL DODECANOATE

Edward J. Conklin, Forest Park, and Leo F. Judge, Jr., Cincinnati, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
No Drawing. Filed July 13, 1965, Ser. No. 471,729
U.S. Cl. 424—365 3 Claims
Int. Cl. A61k 7/00; A61l 23/00

1. A clear, non-aqueous liquid composition containing 60% by weight of octyl dodecanoate, 30% by weight of light white mineral oil and 10% by weight of benzyl alcohol.

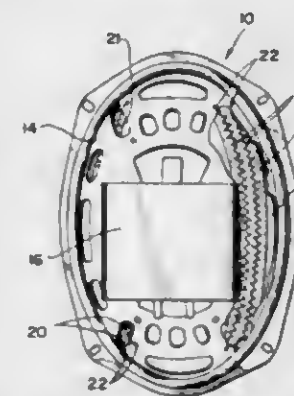
ELECTRICAL

3,424,850

ACOUSTIC SYSTEM

James S. Southard and Curt R. Wolfanger, Elkhart, Ind., assignors to C. G. Conn Ltd., Elkhart, Ind., a corporation of Indiana

Filed Oct. 20, 1965, Ser. No. 498,864
U.S. Cl. 84—1.26 5 Claims
Int. Cl. G10h 1/02



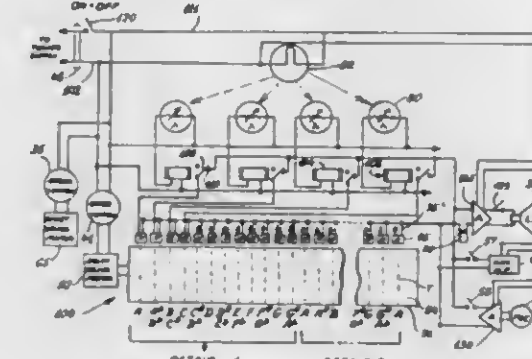
An electronic percussion device for an electric organ which has a plurality of springs resiliently contacting the diaphragm of the speaker cone. The springs are vibrated by and against the cone when the speaker is driven by generated signals to produce a snare drum effect.

3,424,851

PRINTED SHEET MUSIC READING AND PLAYING DEVICE

Dorothea M. Weitzner, 8 E. 62nd St., New York, N.Y. 10021

Filed Aug. 31, 1965, Ser. No. 483,967
U.S. Cl. 84—1.28 8 Claims
Int. Cl. G10h 3/04

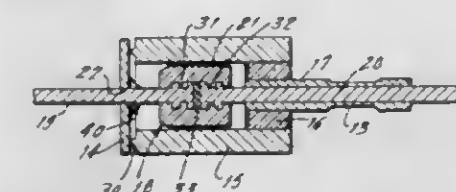


A music reading and sounding device having an enclosure through which is drawn a sheet on which are opaque elements coded to correspond to musical sounds. Photoelectric cells scan the coded elements and deactivate associated relays which close their contacts connected in circuit with magnetic heads. The magnetic heads then pick up

3,424,852

HOUSING STRUCTURE AND METHOD OF MANUFACTURE FOR SEMI-CONDUCTOR DEVICE
James Hauck, Torrance, and Donald George, Inglewood, Calif., assignors to International Rectifier Corporation, El Segundo, Calif., a corporation of California

Filed July 26, 1966, Ser. No. 567,951
U.S. Cl. 174—17.05 6 Claims
Int. Cl. H05k 5/06



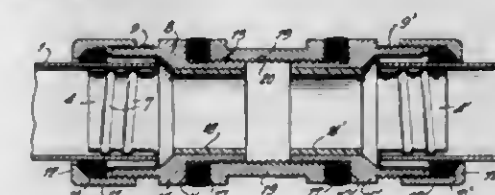
A solder ring for hermetically sealing a semiconductor device housing is slid over a lead of a semiconductor device, and is held between the semiconductor device within the housing and a base plate of the housing. The application of heat causes the solder ring to solder between the interior of the base plate and the periphery of the lead to form a hermetic seal between the two.

3,424,853

SHIELDED CONNECTION OF THIN WALLED CONDUITS

Arthur J. Johnson III, 32 Prescott Ave., Montclair, N.J. 07042

Filed June 10, 1966, Ser. No. 556,669
U.S. Cl. 174—35 11 Claims
Int. Cl. H05k 9/00



1. An electromagnetic radiation shield joint for thin walled conduits comprising a tubular body, one end of said body being threaded externally, a deformable grounding adaptor consisting of a double tube joined together at one end and being substantially U-shaped in cross-section, said adaptor being held centrally within said body, a rigid thin walled conduit the end of which is fitted into said adaptor, a metal mesh gasket surrounding

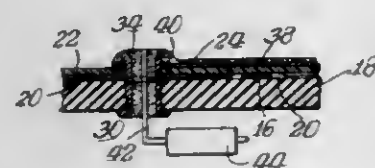
said conduit and contacting the outer of said double tube, and means engaging said external threads for clamping said adaptor to provide a conductive path between said conduit and said body.

3,424,854

MULTILAYER PRINTED CIRCUIT WITH SOLDERED EYELETS FORMING THE SOLE MEANS JOINING THE SAME

Emery E. Baxter, Mount Prospect, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Continuation of application Ser. No. 438,606, Mar. 10, 1965. This application July 20, 1967, Ser. No. 654,933
U.S. Cl. 174—68.5 2 Claims
Int. Cl. H05k 1/04



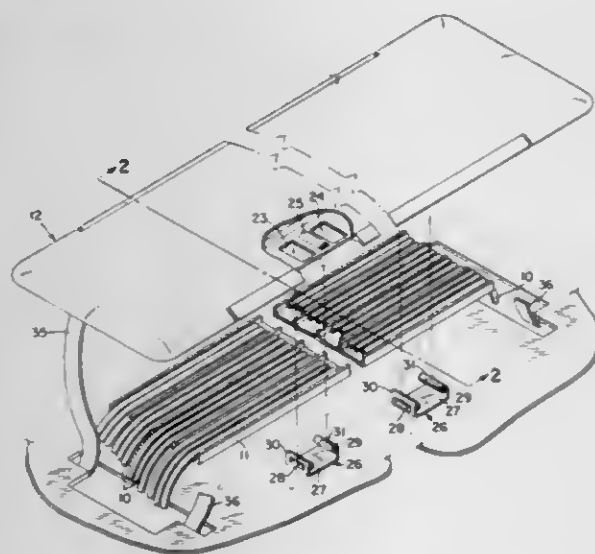
This device is a multi-layer circuit having an insulating base with a first layer of printed circuitry mounted on it. An insulating layer covers the first layer of printed circuitry and has a second layer of printed circuitry disposed on it. A plurality of funnel shaped eyelets pass through one or both of the insulating layers and selectively engage the first and second layers of printed circuitry. The eyelets bind all the layers together to form the multi-layer circuit.

3,424,855

ELECTRICAL CONDUCTOR ATTACHMENT MEANS

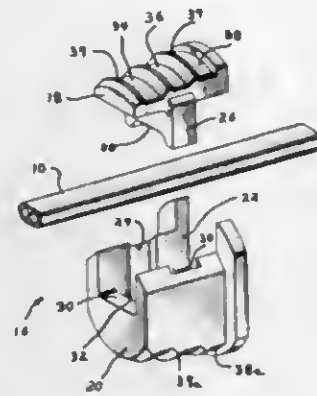
Robert T. Sharkey, San Jose, and Ralph L. Westerman, Cupertino, Calif., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Sept. 27, 1966, Ser. No. 583,116
U.S. Cl. 174—97 5 Claims
Int. Cl. H02g 3/28



A conduit for electrical cables and a means for anchoring same to a surface. It includes anchoring brackets affixed at intervals along the surface and received within registering apertures in the underside of the conduit. A flexible strap is woven between aligned strap engaging surfaces on the conduit and each bracket. When placed under tension the strap urges the conduit against the surface.

3,424,856
STRAIN RELIEF BUSHING
Daniel Russell Coldren, Enola, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Feb. 16, 1967, Ser. No. 616,597
U.S. Cl. 174—153 1 Claim
Int. Cl. H01b 17/26

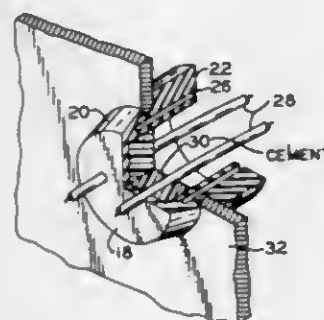


A device for preventing axial movement of an electrical conductor relative to a panel aperture through which said conductor extends. The device is adjustable to accommodate various size conductors for mounting within a given size aperture.

3,424,857
GROMMET

Hubert B. Miller, Wolcottville, and Kenneth W. Kipp, Goshen, Ind., assignors to Lyall Electric, Inc., Albion, Ind., a corporation of Indiana

Filed June 6, 1967, Ser. No. 643,908
U.S. Cl. 174—153 10 Claims
Int. Cl. H01b 17/26



A circular grommet is provided with an internal, cylindrical groove near its outer periphery that permits the grommet to be collapsed and more easily inserted in a circular panel hole. After being inserted, the grommet can spring back to its original shape and is firmly held in the panel hole by a circular groove around the outer periphery of the grommet.

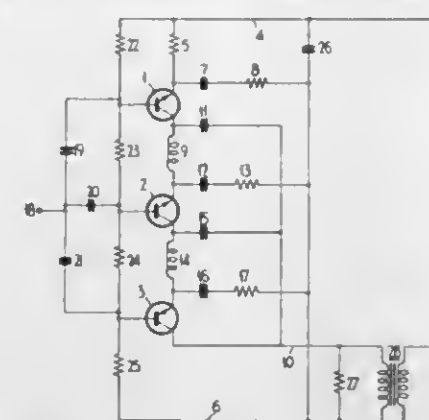
3,424,858
LINE COMMUNICATIONS SYSTEM INCLUDING AN ELECTRIC AMPLIFIER COMPOSED OF SIMILAR TRANSISTORS

Hans Karl Pfyffer, Bern, Switzerland, and John Raymond Whitbread, Coventry, England, assignors to The General Electric Company Limited, London, England, a British company

Filed Mar. 1, 1965, Ser. No. 436,104
Claims priority, application Great Britain, Feb. 28, 1964, 8,409/64
U.S. Cl. 179—170 6 Claims
Int. Cl. H04b 3/38, 3/58

In a telephone system in which a high voltage low current direct current supply is fed over the line from a terminal station for energizing repeater amplifiers connected in the line, a transistor repeater amplifier in which a plurality of similar transistors have their emitter-col-

lector paths connected in series for direct current energization, so as to withstand the high voltage, and in parallel

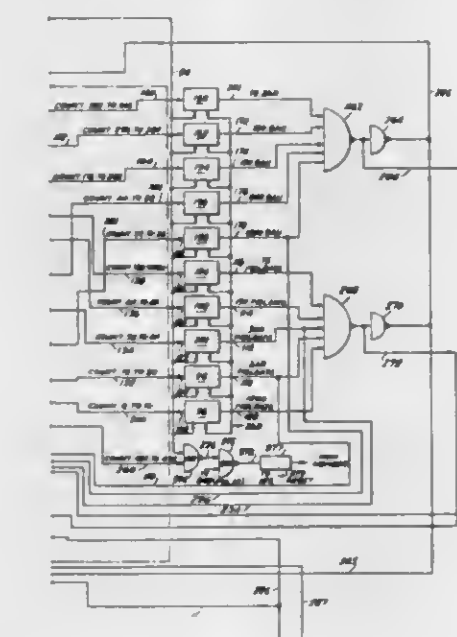
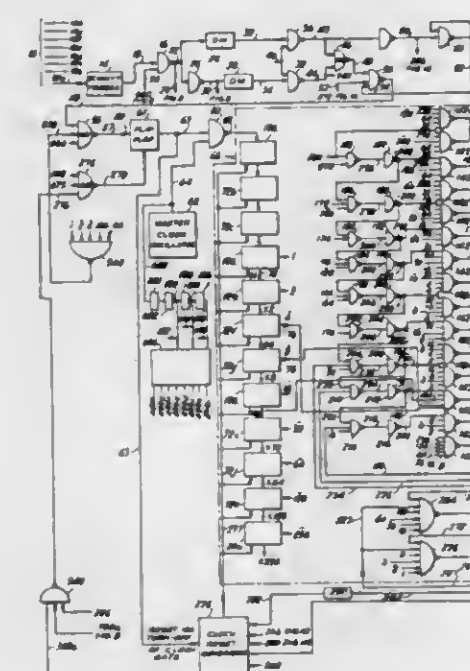


for alternating current signals so as to provide a suitable alternating current output impedance.

3,424,859

AUTOMATIC DISTRIBUTION CENTRAL
John M. Bialo, Jamaica, Edward F. Keiser, Syosset, and Joseph H. Vogelmann, Roslyn, N.Y., assignors to Clavler Corporation, Richmond, N.Y., a corporation of New York

Filed Aug. 23, 1965, Ser. No. 496,734
U.S. Cl. 178—3 46 Claims
Int. Cl. H04l 11/20



A multichannel distribution central station for teletypewriter type signals which automatically switches messages

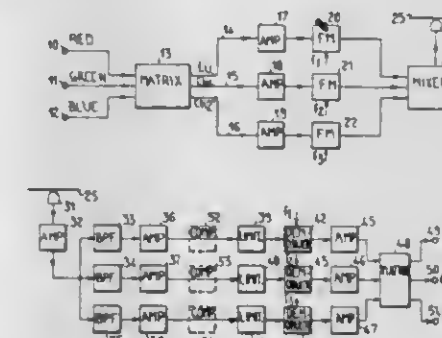
from a plurality of incoming lines to desired outgoing lines and translates the speed of all incoming messages into one or more desired standard outgoing message speeds.

3,424,860

COLOR TELEVISION RECORDING AND REPRODUCING SYSTEM

Jean Léon Lucien Delvaux, Paris, France, assignor to Compagnie Francaise Thomson Houston-Hotchkiss Brandt, Paris, France, a corporation of France

Filed Mar. 2, 1966, Ser. No. 531,139
Claims priority, application France, Mar. 19, 1965, 9,933
U.S. Cl. 178—5.2 6 Claims
Int. Cl. H04n 1/46, 9/00



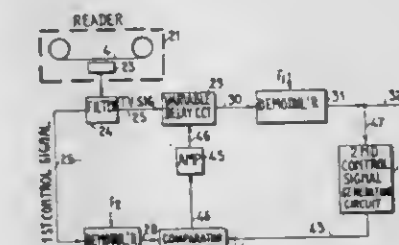
There is disclosed a recorder for color television signals wherein the chrominance signal is recorded in a frequency in a frequency band distinct from the frequency spectrum of the luminance signal, the bands being defined by the characteristics of the recording head.

3,424,861

RECORDING AND READING SYSTEM FOR COLOR TELEVISION AND ANALOGOUS ANGLE-MODULATED SIGNALS

Jean L. L. Delvaux, Paris, France, assignor to Compagnie Francaise Thomson Houston-Hotchkiss Brandt, Paris, France, a corporation of France

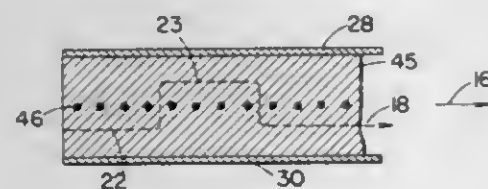
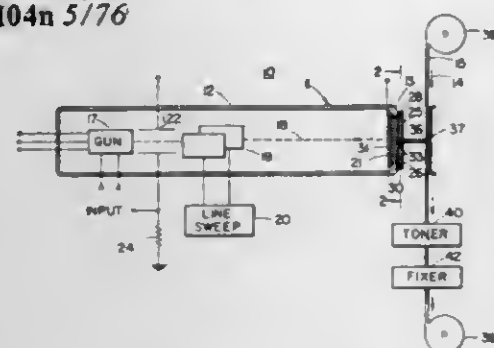
Filed Jan. 28, 1966, Ser. No. 523,765
Claims priority, application France, Feb. 10, 1965, 5,030
U.S. Cl. 178—5.2 12 Claims
Int. Cl. H04n 1/46, 9/00



Color TV information recorded on tape (4) includes a frequency-modulated chrominance signal and a "first control signal" at the carrier frequency thereof and time-coextensive therewith, derived from an intermittent burst signal present in the chrominance signal. The information as read by head (23) is separated by filter (24) into the color TV signal (and burst) which is applied to variable delay network (29) and first control signal which after demodulation (27) is applied to one side of phase comparator (44). The variably delayed signal from (29) after demodulation (31) is delivered to output (32), and is simultaneously applied to circuit (36) which derives, from the burst, a second control signal and this is applied to the other side of comparator (44). Comparator output controls variable delay device (29) to compensate for time discrepancies between first and second control signals. See FIG. 2.

3,424,862
PRINTING CATHODE RAY TUBE APPARATUS
 Wolfgang K. Berthold, Fort Wayne, Ind., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
 Filed Sept. 7, 1965, Ser. No. 485,318
 U.S. Cl. 178—6.6
 Int. Cl. H04n 5/76

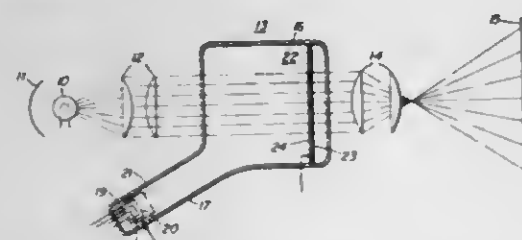
9 Claims



A pair of photoconductive elements are arranged in parallel with a stylus to connect either a large positive or small negative voltage source across an insulative printing paper. Positioning of a cathode ray beam over the desired element changes the resistance of the photoconductor to apply the associated voltage and cause a charge deposition or printed pattern on the paper.

3,424,863
LIGHT VALVE
 Peter D. Johnson, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
 Filed Sept. 29, 1964, Ser. No. 400,102
 U.S. Cl. 178—7.5
 Int. Cl. H04n 3/16

6 Claims



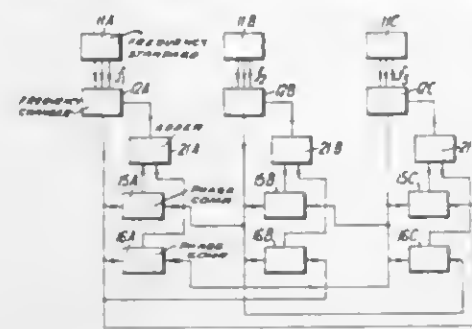
A light valve having a solid state layer of a material that absorbs optical electromagnetic radiation in its unexcited state, and permits the passage of said radiation when in an excited energy state, the transition from one energy state to another being provided by a scanning electron beam. In another embodiment a material is used that either absorbs or transmits ultraviolet radiation, said radiation is caused to excite suitable phosphors on a remote viewing screen.

3,424,864
DUPLEX TELEGRAPHY FREQUENCY STABILIZING SYSTEMS
 Raymond Anthony Williams, Bracknell, England, assignor to Ferranti, Limited, Hollinwood, England, a company of Great Britain and Northern Ireland
 Filed Nov. 15, 1965, Ser. No. 515,506
 Claims priority, application Great Britain, Nov. 18, 1964, 47,038/64
 U.S. Cl. 178—58
 Int. Cl. H04l 7/00

8 Claims

A frequency stabilizing system for stabilizing the output frequency of each of a plurality of stations in which

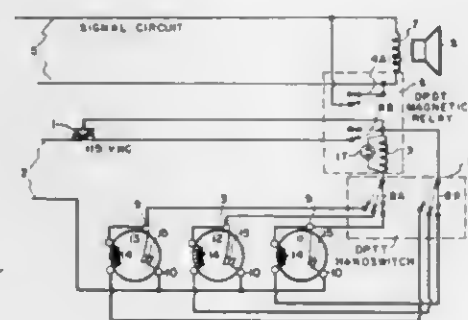
each station includes a fixed frequency source, a frequency changer and phase comparator in which the



stations are interconnected such that the output frequency of any one station is determined by the output frequency of at least one other station.

3,424,865
RESETTABLE FIXED DELAY COMMERCIAL SQUELCH CIRCUIT
 John F. Marchand, 445 E. 65th St., New York, N.Y. 10021
 Continuation-in-part of application Ser. No. 338,235, Jan. 16, 1964. This application Sept. 5, 1967, Ser. No. 675,265
 U.S. Cl. 178—5.8
 Int. Cl. H04n 5/60

11 Claims



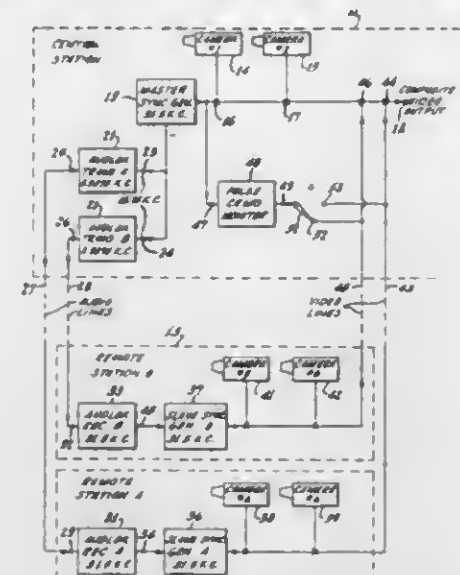
Timed sound muting for television or radio receivers is provided by a switch assembly that is momentarily actuated by the listener, for example by a switching system with a remote control using radiant energy. The starting switch starts a time delay mechanism, preferably through locking relay elements, and this time delay maintains the muting action for a predetermined period of time, then restores the sound and resets the mechanism. The disclosure includes muting devices of this type that can be installed or attached without any internal rewiring of the television set or the radio receiver.

3,424,866
TELEVISION SYNCHRONIZING DELAY COMPENSATION SYSTEM
 Jarrett L. Hathaway, Manhasset, N.Y., assignor to Radio Corporation of America, a corporation of Delaware
 Filed Apr. 5, 1965, Ser. No. 445,378
 U.S. Cl. 178—69.5
 Int. Cl. H04l 7/06

11 Claims

In a system for synchronizing television signal generating apparatus located at a remote station with signal generating apparatus at a central station, a submultiple frequency signal of a master synchronizing signal generator at the central station is sent via a transmission circuit to signal generating apparatus at the remote station where the submultiple frequency signal is used to phase-lock a slave oscillator having the same frequency as the master synchronizing signal generator. Synchronizing signals derived from the slave oscillator are sent to the central location where they are compared with the central

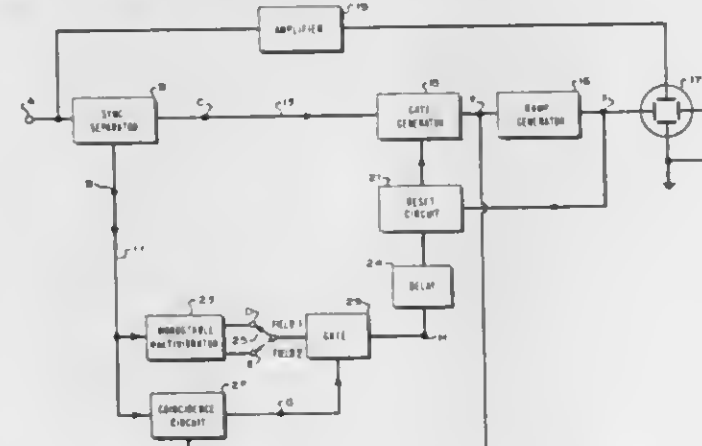
station synchronizing signals on a monitor. Should the compared signals not be time-coincident, the phase of the submultiple frequency signal is changed at the central



station, which phase change controls the slave oscillator at the remote station such that the compared synchronizing signals may be made time-coincident at the central station.

3,424,867
OSCILLOSCOPE CIRCUITS
 Richard E. Monnier, Sunnyvale, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
 Filed May 3, 1965, Ser. No. 452,659
 U.S. Cl. 178—69.5
 Int. Cl. H04l 7/04

2 Claims



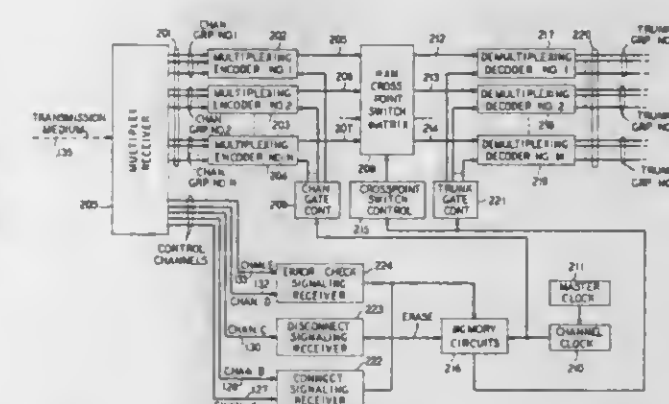
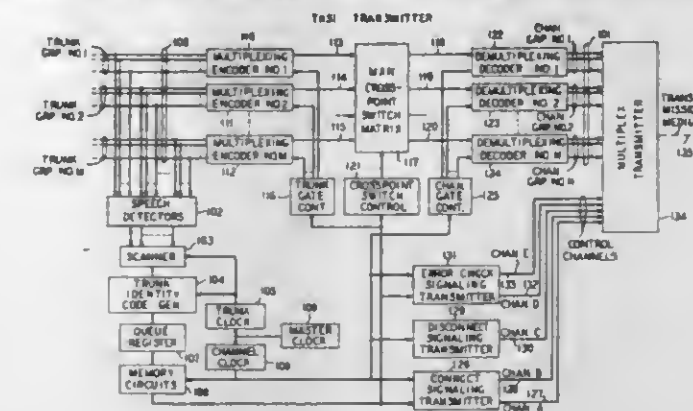
An oscilloscope circuit wherein the first transition in the synchronizing signal following the start of the vertical synchronizing interval initiates a signal pulse, said signal pulse combines with one of two outputs from a multi-vibrator either in polarity-aiding relationship when the wrong field is displayed and polarity-opposing relationship when the proper field is displayed. The amplitude of the combined signal when the two signals are in a polarity-aiding relationship exceeds a predetermined level initiating a shift in operation to provide a display of the proper field

3,424,868
COMBINED TIME DIVISION AND SPACE DIVISION SWITCHING SYSTEM USING PULSE CODED SIGNALS
 Frederick A. Saal, Plainfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
 Filed Oct. 7, 1964, Ser. No. 402,110
 U.S. Cl. 179—15
 Int. Cl. H04l 3/10

8 Claims

This disclosure discusses an improved time assignment speech interpolation (TASI) system. This improved sys-

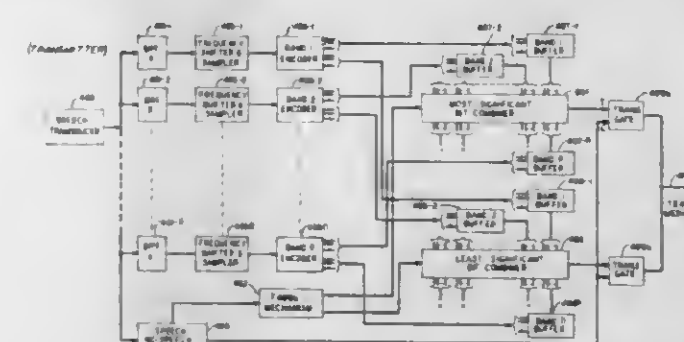
tem is arranged in stages including time division and space division switching stages. The major advantages of the disclosed apparatus are freedom from crosstalk coupled with an increase in the capacity of TASI systems



achieved without increasing the rate of gate operation nor decreasing the length of time slot. Thus it is possible to rely on circuits and components designed for existing, lower capacity systems.

3,424,869
DIGITAL SPEECH INTERPOLATION COMMUNICATION SYSTEM
 Frederick N. Anderson, Parsippany, Richard N. Kennedy, Mendham, and Robert A. Reed, Hackettstown, N.J., assignors to Bell Telephone Laboratories Incorporated, New York, N.Y., a corporation of New York
 Filed June 15, 1965, Ser. No. 464,178
 U.S. Cl. 179—15.55
 Int. Cl. H04b 1/66

12 Claims

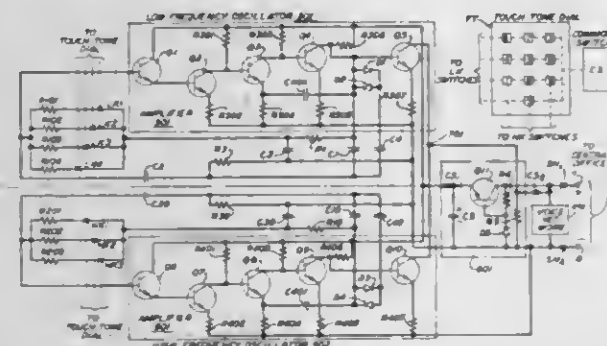


7. Apparatus for increasing the effective transmission rate of digital code words representing energy bursts of a speech wave which is characterized by silent intervals between said energy bursts which comprises:

a transmitter including:

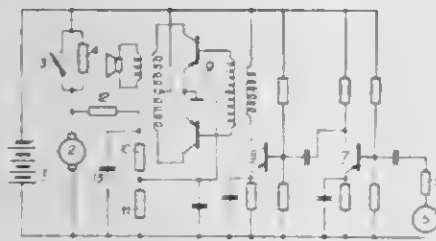
means for separating digital code words representing each of said energy bursts into most and least significant parts,
 means for transmitting to a receiver during each energy burst the most significant part of said digital code words, and
 means for transmitting to said receiver during the silent interval following each energy burst the least significant part of said digital code words representing said preceding energy burst.

3,424,870
MULTIFREQUENCY SIGNAL GENERATOR FOR TONE-DIALED TELEPHONES
 Robert L. Breeden, West Lafayette, and Richard M. Rickert, Indianapolis, Ind., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
 Filed Sept. 14, 1965, Ser. No. 487,138
 U.S. Cl. 179—84 21 Claims
 Int. Cl. H04m 1/26



This invention relates to multi-frequency signaling systems and more particularly to telephone signal generators that produce coincident pairs of oscillatory signal bursts to effect selection of a subscriber to be called. The method of energizing this generator is by a novel connection of a capacitor to the generator circuit to provide power for the generator circuit by its discharge.

3,424,871
CONSTANT-VOLTAGE SUPPLY FOR ELECTRONIC EQUIPMENT IN BATTERY-OPERATED RECORDING OR PLAYBACK APPARATUS
 Wolf Dombacher, Vienna, Austria, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
 Filed May 7, 1965, Ser. No. 454,100
 Claims priority, application Austria, May 15, 1964, A 4,275/64
 U.S. Cl. 179—100.2 4 Claims
 Int. Cl. G11h 5/00

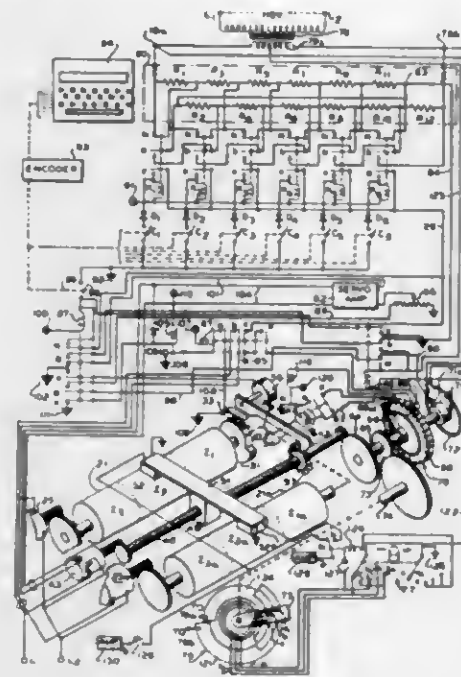


The invention is a voltage stabilizing device for the electronic equipment associated with battery operated record and playback apparatus. The substantially constant back EMF generated across the rotor winding of a constant speed DC motor is filtered and fed to the electronic apparatus.

3,424,872
RECORD-REPRODUCE MACHINE WITH SERVO-CONTROLLED TRACK SELECTOR
 Bruce N. Whitlock, Morris Plains, N.J., and William G. Whitney, Dundee, Ill., assignors to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
 Filed July 20, 1964, Ser. No. 383,872
 U.S. Cl. 179—100.2 8 Claims
 Int. Cl. G11h 5/02

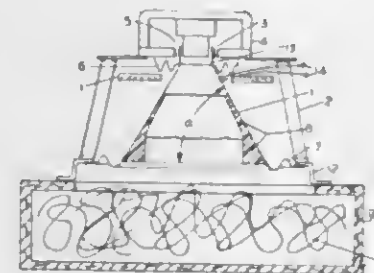
An audio visual teaching system comprising a typewriter for typing upper case and lower case characters, a phonographic mechanism having a record drum with separate recording zones therealong wherein each zone has one set of alternate tracks recorded with pronunciations of lower case characters and an intermediate set of alter-

nate tracks recorded with pronunciations of upper case characters, a track selector mechanism and commutator switch synchronized therewith for indexing the record-reproduce head by two-track pitch intervals responsive to operating the keys of the typewriter and for shifting the



drum back-and-forth longitudinally by a one-track pitch interval responsive to operating the shift keys of the typewriter, and a manually controlled zone selector commutator for advancing the head into a selected zone and confining the operation of the track selector mechanism to the selected zone.

3,424,873
COHERENT-SOUND LOUDSPEAKER
 Lincoln Walsh, 3 Old Farm House Road, Millington, N.J. 07946
 Filed July 15, 1964, Ser. No. 382,711
 U.S. Cl. 179—115.5 7 Claims
 Int. Cl. H04r 9/06



The coherent-sound loudspeaker is a development derived from a theoretical concept of ideal sound reproduction by means of a conical diaphragm operating as a wave transmission line. Such a conical diaphragm will produce sound as it would be produced by a small cylinder pulsating radially with every portion of its area moving in and out simultaneously, and in phase with the input audio signal. This is coherent sound.

The requirements of the theoretical concept are closely approached by a sound producer of the following character:

(1) The angle of the conical diaphragm, measured from a plane perpendicular to its axis is quite high, causing the speed of the mechanical vibratory waves in the diaphragm to be greater than the speed of sound in air, and to have a component in the desired direction of sound radiation equal to the speed of sound in air.

(2) Absorbing material absorbs the wave energy in the diaphragm to eliminate or minimize wave reflections from

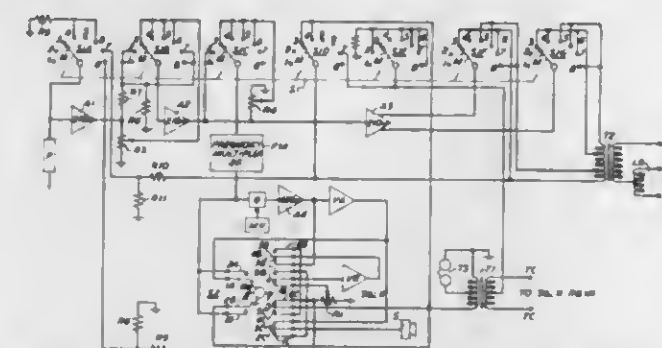
the non-driven end, so that a vibratory wave traverses the diaphragm substantially only once.

(3) Sound is radiated to the listener only from the convex side of a vertical conical diaphragm to obtain full frequency range, high quality sound omnidirectionally from a single radiator.

ERRATUM

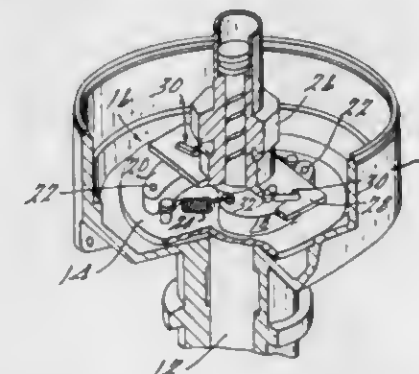
For Class 179—170 see:
 Patent No. 3,424,858

3,424,874
WIRE IDENTIFIER
 Charles A. Young, Scotch Plains, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
 Filed Mar. 3, 1966, Ser. No. 531,491
 U.S. Cl. 179—175.3 14 Claims
 Int. Cl. H04b 3/46



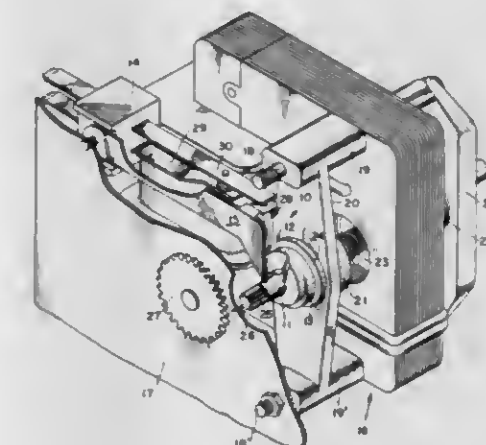
9. Apparatus for identifying a wire from among many wires comprising: connector means for contacting at one location the wire to be identified at another location, amplifier means, probe means, detector means, and electrical means connecting said probe means and said amplifier means as well as said connector means into consecutive cascade relation, said electrical means connecting said detector means to respond to said amplifier means, said amplifier means having sufficient amplification to cause increasing oscillations in response to said probe means approaching the wire to be identified at the other location.

3,424,875
DISTRIBUTOR SPARK ADVANCE MECHANISM
 William K. Ojala, Dearborn Heights, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
 Filed Apr. 28, 1967, Ser. No. 634,546
 U.S. Cl. 200—19 7 Claims
 Int. Cl. H01h 19/00



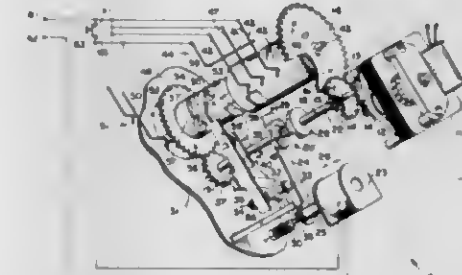
A motor vehicle ignition distributor having a centrifugal spark advance timing mechanism including an advance cam follower slot that rotates the breaker point cam relative to the drive shaft to cause the spark timing to be advanced both when the engine speed drops below or increases above the normal idle speed setting; to thereby minimize idle speed droop caused by the intermittent operation of engine driven accessories.

3,424,876
TIMER SWITCH HAVING A RAPID ADVANCE MECHANISM
 Joseph E. Wiser and Elmo W. Volland, Indianapolis, Ind., assignors to P.R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware
 Filed July 13, 1966, Ser. No. 564,878
 U.S. Cl. 200—38 10 Claims
 Int. Cl. H01h 7/08, 43/10



1. In a timer, motor means having an axially displaceable shaft and motor actuated switch means, said switch means fixedly connected to said shaft and including cam means having coded indicia contours, and follower switch means having follower means normally riding on the periphery of said shaft, energization of said motor axially and rotationally displacing said shaft, said axial displacement of said shaft causing said follower means to engage with and ride on said coded indicia contours of said cam means thereby actuating said switch in accordance with the contours of said cam means, de-energization of said motor axially displacing said shaft so that said follower means returns to said normal position of riding on said periphery of said shaft.

3,424,877
SWITCH ACTUATOR MEANS INCLUDING A RAPID ADVANCE MECHANISM
 Joseph E. Wiser, Indianapolis, Ind., assignor to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware
 Filed July 13, 1966, Ser. No. 564,979
 U.S. Cl. 200—38 10 Claims
 Int. Cl. H01h 7/08, 43/10



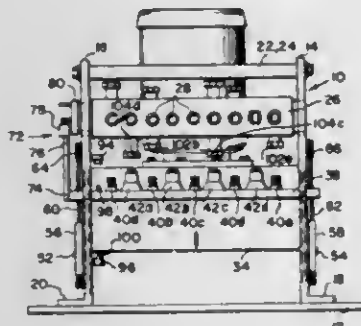
1. In a sequential timer, a rapid advance means including drive means connected to a line switch actuator means for deenergizing sequential programming of said timer, said line switch actuator means comprising a first member and a second member having clutch faces, said clutch faces locking each with the other when displaced in a predetermined direction by said drive means thereby providing a unidirectional clutch means, an actuator means carried by one of said members and displaced therewith, said actuator means displacing a movable con-

tact carrying blade of a line switch means from engagement with a fixed contact carrying blade thereby de-energizing said sequential programming of said timer, arm means retaining said blades in a disengaged position after said actuator means has disengaged said movable blade, and means displacing said arm means from engagement with said line switch means thereby allowing said blades to engage so as to energize said sequential programming of said timer.

3,424,878

CONTROL MECHANISM

Conrad Lenz, Annenholzstrasse 2, Freising, Germany
Filed Oct. 26, 1965, Ser. No. 513,612
U.S. Cl. 200—46 9 Claims
Int. Cl. H01h 43/18

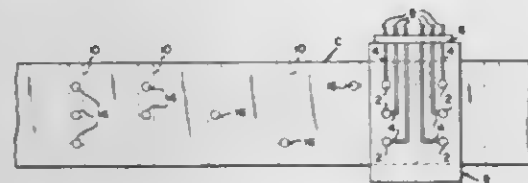


A control mechanism for automatically operating brewery equipment has a control rod rotatable on a support about a fixed axis and a carrier slidable on the support toward and away from the rod. Switches and hydraulic pressure transmitters on the carrier generate control signals for the brewery equipment when engaged by abutment studs mounted on the rod in angularly offset rows. The carrier is reciprocated on the support by a motor controlled by limit switches in the path of the carrier, and the control rod is indexed by a ratchet mechanism including a pawl mounted on the carrier.

3,424,879

PROGRAMMING SYSTEM-TYPE WITH SELECTIVELY CHANGEABLE INFORMATION CARRYING MEANS

Bernard Edward Shlesinger, Jr., 3906 Bruce Lane, Annandale, Va. 22003
Filed Mar. 9, 1966, Ser. No. 533,011
U.S. Cl. 200—61.14 24 Claims
Int. Cl. H01h 43/08

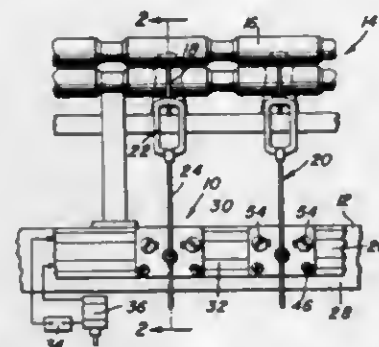


A programming system comprising a circuit block; a nonconductive length of cable supported by the block and movable with respect to the block; means for moving the cable in the block at a predetermined speed; the block including a circuit having detector means in close proximity to the cable; the cable having a pocket formed therein; the pocket including a plurality of removable spaced detectable members; and means positively positioning said detectable members in said cable, whereby, when the cable is moved in the block at a predetermined speed thereby also moving the detectable members, the circuit will be operated when the detector means in the block detects the passing of the detectable members.

3,424,880

STOP MOTION DEVICE

William K. Hope, Gastonia, N.C., assignor to Hope Plastics Corp., a corporation of North Carolina
Filed June 22, 1967, Ser. No. 647,967
U.S. Cl. 200—61.18 10 Claims
Int. Cl. H01h 23/18



A stop switch in a textile roving machine closing a stop control circuit when a strand engaging the drop wire becomes excessively slack or ruptures. The pivotal stub shaft to which the drop wire is secured loosely mounts a contact pin, the lower end of which rides on an arcuate contact while the upper end is wedged against one of the downwardly diverging portions of an upper contact should there be excessive swing of the drop wire normally held in a vertical position by the strand.

3,424,881

LEAF TYPE SNAP ACTING SWITCH DEVICE OPERATED BY TRANSFER OF ENERGY

Bernard Edward Shlesinger, Jr., 3906 Bruce Lane, Annandale, Va. 22003
Filed Dec. 30, 1966, Ser. No. 606,068
U.S. Cl. 200—67 34 Claims
Int. Cl. H01h 21/04



A snap acting switch device comprising a base member and a flexible sheet secured at one point to the base member and having a movable contact at a point remote from the first point and including an operator generally operating in close proximity to the first point which is secured to the base member so as to cause flexing of the sheet at one end which upon release will permit energy to be transferred through the sheet to the other end so as to cause the other end to rise up in a vertical direction thereby operating a circuit either by passing through a photosensitive area or by coming into wiping contact with a conductor so as to operate a circuit.

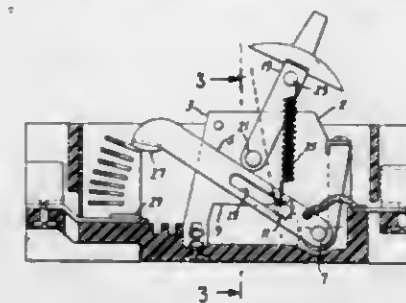
3,424,882

SWITCHING DEVICE

Kenneth J. Stokes, Wethersfield, Conn., assignor to General Electric Company, a corporation of New York
Filed Apr. 14, 1967, Ser. No. 630,910
U.S. Cl. 200—67 3 Claims
Int. Cl. H01h 21/14

A switching device includes a frame member which supports a pivotally-mounted handle and a pivotally-mounted contact arm. The curved edge of the frame provides an arcuate cam surface for a roller. The contact arm includes an elongated slot, providing upper and lower cam surfaces, in which the roller is disposed. The handle is connected to the roller by a tension type operating spring and operation thereof causes the roller to be moved along the cam track with an overcenter or "snap"

action. The action of the roller on the cam surfaces is such as to "wedge" between the contact arm and the

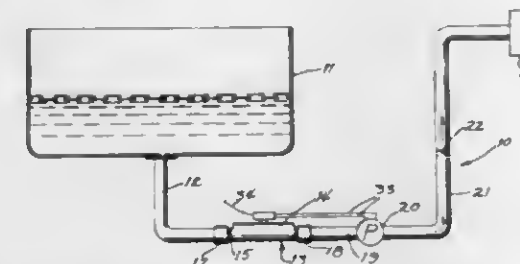


frame to positively lock the contact in closed position and prevent blowing open of the contacts.

3,424,883

FLUID CONDUCTING DEVICE AND PRESSURE SENSITIVE CONTROL MEANS

Don E. Heskett, P.O. Box 262, Villa Park, Ill. 60181
Filed Nov. 15, 1965, Ser. No. 507,855
U.S. Cl. 200—81.9 7 Claims
Int. Cl. H01h 35/40

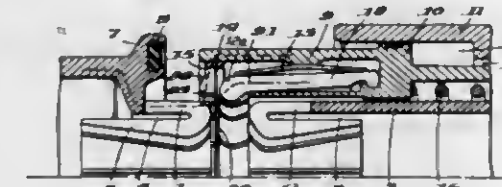


A gravity flow liquid conducting device having a flexible tubular member of unobstructed smooth interior surface adapted to be connected to a pressure head of liquid and having an expandable conduit portion operable by a switch to operate a pump to send the liquid through the conduit portion removing the pressure head of liquid to allow the conduit portion to return to its unexpanded condition.

3,424,884

CONTACT ARRANGEMENT FOR GAS-BLAST CIRCUIT BREAKERS

Dieter Floessel, Fislisbach, and Gerhard Mauthe, Nuenhof, Switzerland, assignors to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company
Filed Nov. 24, 1965, Ser. No. 509,490
Claims priority, application Switzerland, Dec. 23, 1964, 16,555/64 4 Claims
U.S. Cl. 200—148
Int. Cl. H01h 33/82



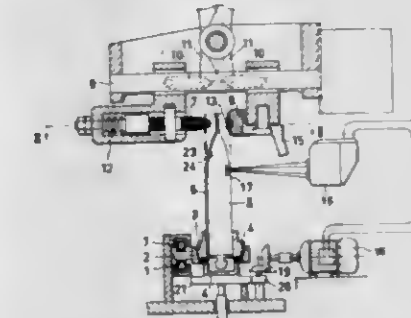
A contact arrangement for a gas blast circuit breaker comprises two coaxially arranged nozzle tubes located at a fixed distance apart and a slidable contact bridge which serves to make and break the electrical connection between the fixed nozzle tubes. The contact bridge is provided with a cylindrical array of contact fingers and also a ring electrode located in advance of the leading ends of the contact fingers which functions as a temporary anchor point for one end of the arc prior to reaching its ultimate anchor point on the nozzle tube, the arc end shifting from the moving contact fingers to the ring electrode and thence to the nozzle tube.

3,424,885

METHOD OF PRODUCING TRANSVERSE SEALINGS OF COLLAPSIBLE TUBE-SHAPED CONTAINERS BY MEANS OF PRESSURE JAWS AND HEAT, AND MEANS FOR CARRYING OUT SAID METHOD

Karl Garney, Stuvsta, and Gunnar Winkler, Bromma, Sweden, assignors to Arenco Aktiebolag, Stockholm-Vallingby, Sweden
Filed Oct. 17, 1966, Ser. No. 587,082
Claims priority, application Sweden, Nov. 1, 1965, 14,054/65 3 Claims

U.S. Cl. 219—10.53
Int. Cl. B23k 13/02

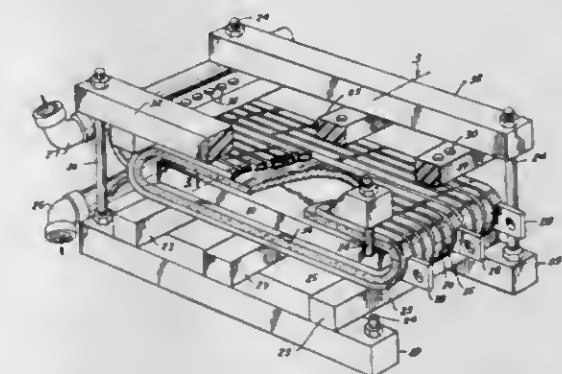


An apparatus for transversely sealing collapsible tubular containers having a laminated wall with an inner layer of plastic having low dielectric loss capable of being melted and a metal layer outside the plastic layer with a longitudinal plastic welding seam has a pair of pressure jaws one of which carries a tubular conductor connected to a high frequency impulse generator and it is located on the side of the container opposite the longitudinal seam. A sensing means is utilized to sense the position of the longitudinal seam and to rotate the container so that the seam is opposite the jaw carrying the conductor.

3,424,886

INDUCTION HEATING

Nicholas V. Ross, Youngstown, Ohio, assignor to Ajax Magnethermic Corporation, Warren, Ohio, a corporation of Ohio
Filed Oct. 27, 1966, Ser. No. 589,974
U.S. Cl. 219—10.79 9 Claims
Int. Cl. H05h 9/02



There is disclosed herein an induction heating coil for statically heating parallelepiped metal slabs or the like wherein the magnetic field throughout said slabs is disposed at substantially right angles to the longest and shortest dimension of the slab, etc.

3,424,887

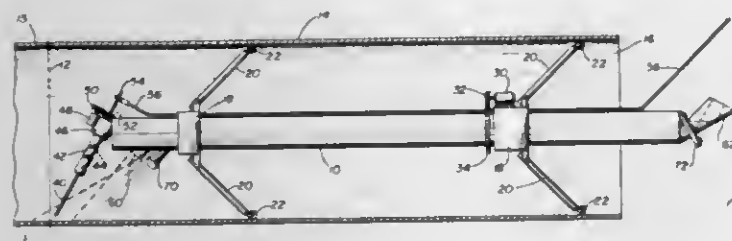
APPARATUS FOR WELDING PIPE JOINTS

Barry F. Fehlman, 144 Thomas Jefferson Drive, San Antonio, Tex. 78228
Filed Aug. 19, 1966, Ser. No. 573,582
U.S. Cl. 219—60 5 Claims
Int. Cl. B23k 9/02, 5/08

Internal welding of pipe joints includes means to optically inspect prior to and during the welding operation

all of which is controlled from an exterior end of the

source, the primary winding having a plurality of steps each bridged by a respective capacitor forming a resonant network therewith. A biasing network containing an inductor is connected across the primary winding in such direction as to reduce residual flux and increase the rate of change of the magnetic flux ($d\phi/dt$).



pipe joint. The apparatus is adapted to rotate internally relative to the fixed pipe joint.

3,424,888

ELECTRIC CURRENT FEEDING DEVICE FOR RESISTANCE WELDING

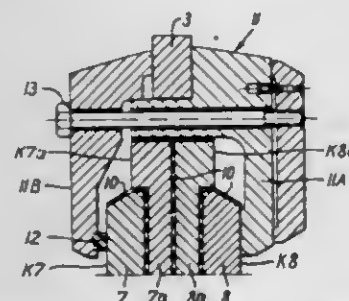
Heinz Sommergerger and Hans Gött, Graz, Steiermark, Austria, assignors to EVG Entwicklungs- u. Verwertungs-Gesellschaft m.b.H., Graz, Steiermark, Austria, a corporation of Austria

Filed Sept. 28, 1965, Ser. No. 490,967

U.S. Cl. 219—87

5 Claims

Int. Cl. B23k 11/10



An electric current feeding device has electrodes and at least two pairs of bus bars; each bar is insulated from the others. Contact means can establish selectively a tap between any electrode and any of the bus bars.

3,424,889

RESISTANCE WELDING APPARATUS AND METHOD

Kiyoshi Iouue, No. 182, 3-chome, Tamagawayoga-Machi, Setagaya-ku, Tokyo-to, Japan

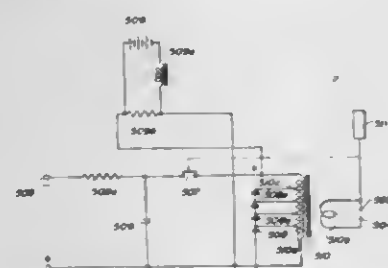
Continuation-in-part of application Ser. No. 244,798, Dec. 14, 1962. This application Oct. 23, 1965, Ser. No. 503,677

Claims priority, application Japan, Dec. 14, 1961, 36/45,550, 36/45,551; Aug. 10, 1962, 37/33,022; Sept. 29, 1962, 37/42,502; Nov. 30, 1962, 37/71,415

U.S. Cl. 219—112

7 Claims

Int. Cl. B23k 9/06, 11/26



A welding apparatus and method in which a transformer has a secondary winding applying welding pulses across a pair of electrodes and a primary winding energized by a low-frequency or pulsating (discharge)

The disclosure is of a circular vacuum chamber with a turntable lid thereon and rotatably movable with respect

3,424,891

PORTABLE WELDING CHAMBER

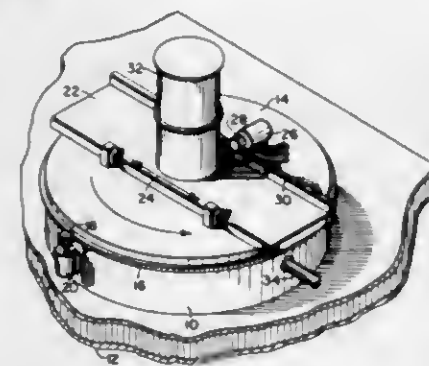
Gerald V. Anderson, Westminster, and Phillip A. Beeson, Woodland Hills, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware

Filed Mar. 16, 1967, Ser. No. 623,760

U.S. Cl. 219—121

4 Claims

Int. Cl. B23k 9/00



3,424,890

METHOD OF BONDING TWO DIFFERENT MATERIALS BY ELECTRO-MAGNETIC RADIATION

Lodewijk J. Van Ruyven, Newark, Del., assignor to North American Phillips Company Inc., New York, N.Y., a corporation of Delaware

Filed Oct. 28, 1965, Ser. No. 505,541

Claims priority, application Netherlands, Nov. 19, 1964, 6413441

U.S. Cl. 219—121

10 Claims

Int. Cl. B23k 9/00



First and second body portions of different semi-conductor materials are bonded together by interfacial fusion as electromagnetic radiation is generated therethrough. The first body portion has a relatively high absorption constant for electromagnetic radiation in a narrow spectral range and the second body portion has a relatively lower absorption constant for the same electromagnetic radiation in the same narrow spectral range. During the time the body portions are irradiated, such body portions are arranged in anyone of a vacuum, protective atmosphere, or transparent cooling liquid.

thereto. The turntable has an elongate slot covered by a longitudinal sliding plate translatable with respect to the turntable and in sealing contact therewith. An electron beam gun is mounted on the sliding plate. The chamber is supported on the workpiece surface in the case of large area workpieces. Electron beam cutting or welding operations may be progressively accomplished along a complex path on the workpiece surface including both straight line and curved segments by laterally moving the slidable plate and rotating the lid alternately or simultaneously as desired.

outwardly tapering side walls which are drawn into a cylinder upon cooling and shrinking of the heated flange.

3,424,894

ELECTRIC IRON AND SAFETY DEVICE THEREFOR

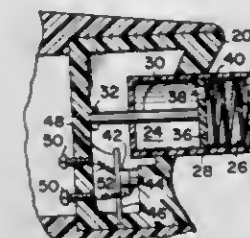
Arthur Schwartz, 660 Americana Drive, Annapolis, Md. 21403; George A. Arkwright, Jr., 6 Chickawane Court, Alexandria, Va. 22309; and Thomas D. Curtin, 5220 Elliott Road NW., Washington, D.C. 20016

Filed Oct. 22, 1965, Ser. No. 501,942

U.S. Cl. 219—250

19 Claims

Int. Cl. D06f 75/26



3,424,892

PROCESS OF ELECTRIC ARC WELDING

Wayne L. Wilcox, Havertown, Pa., assignor to Arcos Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 394,616, Sept. 4, 1964. This application Dec. 18, 1967, Ser. No. 691,146

U.S. Cl. 719—137

11 Claims

Int. Cl. B23k 35/34, 9/00

The present invention relates to a process for making tough welds of steel at an as-welded yield strength in excess of 115,000 p.s.i. and to a flux-cored electrode for use therein, the invention being made possible by a particular composition of the flux core, a particular composition of the composite electrode, and by certain welding techniques including preheating the steel work, protecting the flux and electrode against moisture and welding under specified conditions. A preferred procedure produces tough welds of steel having a yield strength as welded in excess of 130,000 p.s.i.

3,424,893

METHOD AND APPARATUS FOR FORMING A FLANGE ON THIN SHELL BEARINGS

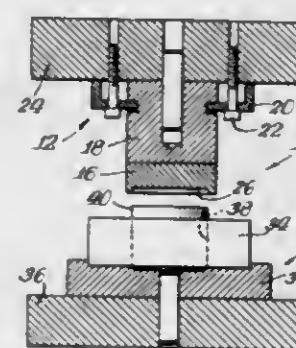
Howard W. Anderson, Muskegon, Mich., assignor to The Kaydon Engineering Corporation, Muskegon, Mich., a corporation of Michigan

Filed Sept. 2, 1965, Ser. No. 484,591

U.S. Cl. 219—149

9 Claims

Int. Cl. B21j 1/06



Flanges are formed on the shells or cups for thin shell bearings by a method generally comprising the steps of: placing each bearing shell or cup within a die set, partially closing the die set so that the bearing shell or cup is engaged therebetween, applying current through the die set to the shell until the edge at one end is heated to a plastic state and simultaneously withdrawing heat from the main portion of the bearing shell or cup to prevent overheating of such main portion, closing the die set further to deform the same edge into a radially inwardly directed flange, and permitting the heated flange to air harden. Preferably the bearing shell or cup has initially

3,424,895

ELECTRICAL SPARK PERFORATOR FOR MOVING WEB

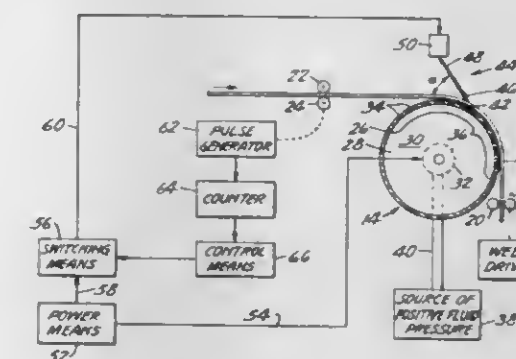
Albert Keoneth Olson, North Oaks Village, Ramsey County, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Filed Dec. 2, 1966, Ser. No. 598,658

U.S. Cl. 219—384

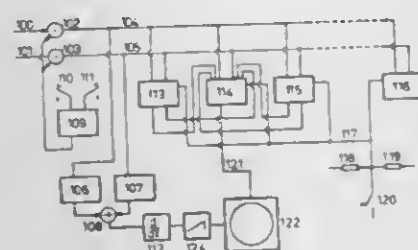
15 Claims

Int. Cl. H05b 7/18



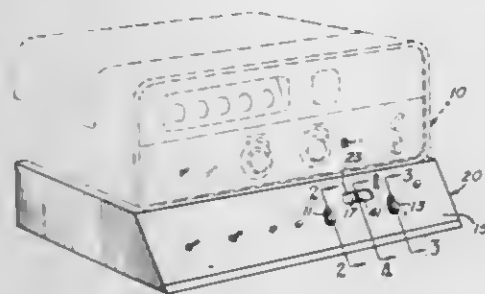
An apparatus and method for electrically perforating a moving web are disclosed wherein the web is guided between a first electrode which continually slideably engages the web and a second electrode, the web being supported a predetermined distance from the second electrode by a pressurized moving fluid film; and the discharge of the electrodes being synchronized with the rate of web advance.

3,424,896
ARRANGEMENT FOR ESTABLISHING WHETHER THE NUMBER OF PULSES IN A RECURRENT SERIES IS A MULTIPLE OF N
 Gerrit J. Lansink, Enschede, Netherlands, assignor to N.V. Hollandse Signaalapparaten, Hengelo, Overijssel, Netherlands, a firm
 Filed Mar. 29, 1965, Ser. No. 443,601
 Claims priority, application Netherlands, Mar. 27, 1964, 6403367
 U.S. Cl. 235—92
 Int. Cl. G06j 3/00



A device for determining whether the number of pulses in a recurring group of pulses is a multiple of N which uses an N stage counter to divide each pulse group. The content of the counter is examined after the termination of each group of pulses and compared with preceding counter read-outs; identical succeeding counter read-outs indicating that the number of pulses in the group is a multiple of N.

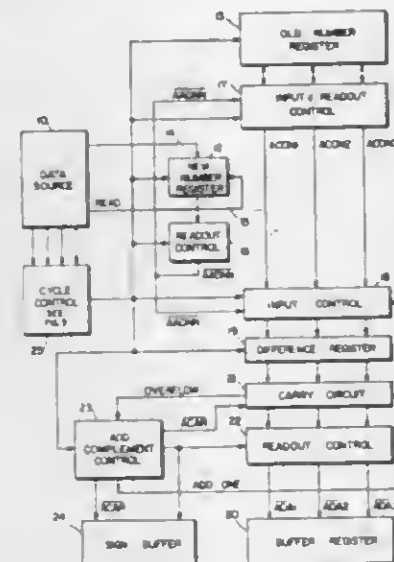
3,424,897
MECHANICAL COMPUTER RESULTANT INDICATING DEVICE
 Cesare Marchesini, Miami, and Walter R. Hogg and Robert I. Klein, Hialeah, Fla., assignors to Coulter Electronics, Inc., Hialeah, Fla., a corporation of Illinois
 Filed Dec. 8, 1965, Ser. No. 512,334
 U.S. Cl. 235—92
 Int. Cl. G06f 7/38



5. A device for adjusting the display of count indications derived from particle analysis apparatus adapted for deriving particle signals of an amplitude related to the size of indicated particles which device comprises, a first manually rotatable knob, a second manually rotatable knob, drive shafts respectively associated with said knobs, a control network respectively associated with each of said shafts, the control network associated with said first knob being operable for adjusting the amplitude of signals in translation from detecting portions of said analysis apparatus to count display portions thereof, said second knob being operable for introducing selected multiplying factors to the number of particle indicating signals in translation to the display portions of said analysis apparatus, whereby said first knob is selectively operable for applying a selected multiplying factor to displayed particle count indications in accordance with the time duration of a particular analysis operation of said particle analysis apparatus, and said second knob is operable to apply a

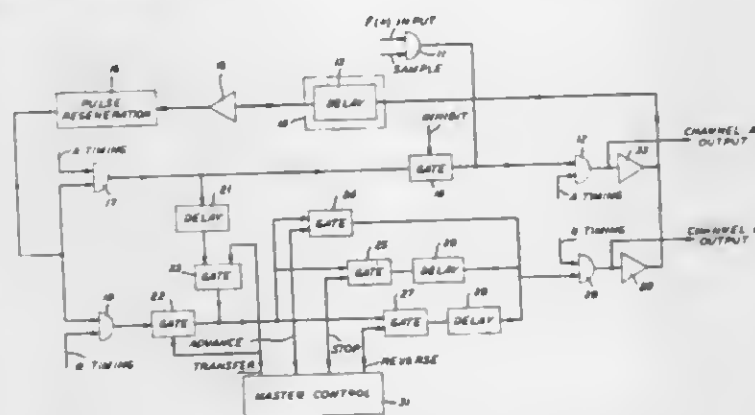
selected multiplying factor to said displayed particle count indications in accordance with predetermined relations of particle size to cumulative particle volume.

3,424,898
BINARY SUBTRACTOR FOR NUMERICAL CONTROL
 George B. Lukens II, Waynesboro, Va., assignor to General Electric Company, a corporation of New York
 Filed Nov. 8, 1965, Ser. No. 506,712
 U.S. Cl. 235—174
 Int. Cl. G06f 7/385, 7/50



An arrangement for subtracting two numbers employing registers operating in a binary coded decimal radix system with nine's complementing.

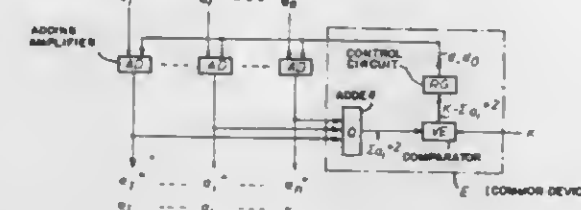
3,424,899
SIGNAL TIME COMPRESSION SYSTEM
 William O. Dunnican, Totowa Borough, and Richard W. Larisch, Morristown, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
 Filed Aug. 11, 1965, Ser. No. 478,845
 U.S. Cl. 235—181
 Int. Cl. G06g 7/19



1. A unified signal time compressor comprising:
 a first information channel including a delay medium,
 a second information channel including said delay medium, means for circulating a time compressed replica of an applied signal in said first information channel,
 means for periodically reproducing said signal replica in said second information channel,
 means for selectively altering the delay of said second information channel,
 means for combining said signal replica of said first channel with the delayed signal replica of said second channel,

and means for recirculating said combined signal replicas in said delay medium.

3,424,900
CIRCUIT ARRANGEMENTS FOR STANDARDIZING GROUPS OF ANALOG SIGNALS
 Peter Müller, Munich, Germany, assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Delaware
 Filed Mar. 30, 1965, Ser. No. 443,992
 Claims priority, application Germany, Apr. 3, 1964, St 21,926
 U.S. Cl. 235—193
 Int. Cl. G06g 7/00

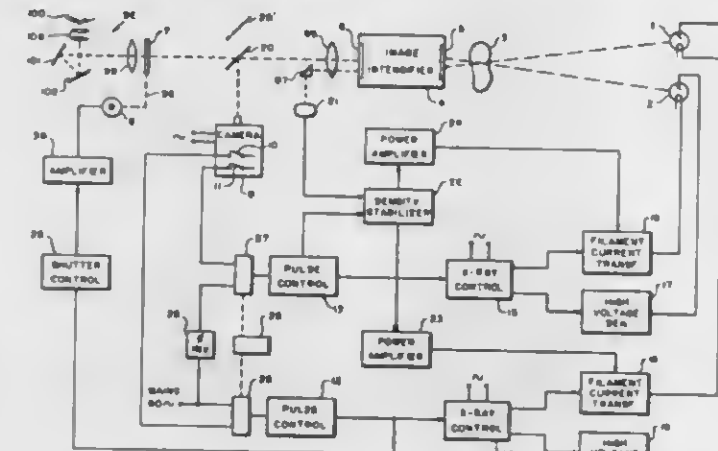


The present invention provides a general circuit arrangement with the aid of which the standardization may be carried out for a group of analog signals, independently of a special standardization requirement, and in addition thereto there are provided circuit arrangements for specific types of standardization requirements. The standardizing circuits may be used in connection with electronic analog and hybrid computers, in the fields of control engineering, in connection with an analog learning matrix, etc., and, generally, in all cases where analog signals occur which are independent of one another, and appear either simultaneously or successively, where standardization is required.

ERRATUM

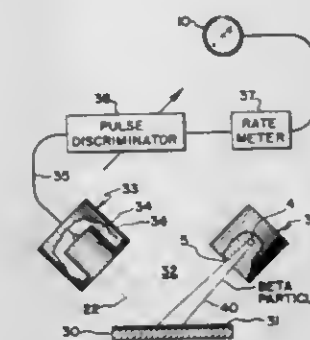
For Class 250—51.5 see:
 Patent No. 3,424,428

3,424,901
STEREOSCOPIC X-RAY APPARATUS
 Pieter W. Kok, New Milford, N.J., assignor to North American Phillips Company, Inc., New York, N.Y., a corporation of Delaware
 Filed Feb. 1, 1965, Ser. No. 429,377
 U.S. Cl. 250—60
 Int. Cl. G01n 23/04; H01j 37/22



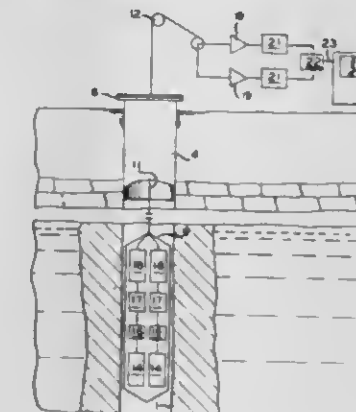
Stereoscopic X-ray apparatus provides means for viewing a fluoroscopic image of an object and for simultaneously recording the object on film by means of a movie camera. The camera shutter, the energization of a pair of X-ray tubes, and the fluoroscopic shutter are driven together in synchronism. The apparatus further includes a density stabilizer circuit responsive to the light image produced by one of the X-ray tubes for providing a control signal to regulate the filament current of both X-ray tubes.

3,424,902
METHOD AND APPARATUS FOR MEASURING
 Benjamin H. Colmery, Jr., Ann Arbor, Mich., and Linus K. Han, Columbus, Ohio; said Han now by change of name Linus K. Hahn, assignors to Industrial Nucleonics Corporation, a corporation of Ohio
 Filed Mar. 23, 1964, Ser. No. 353,859
 U.S. Cl. 250—83.3
 Int. Cl. G01t 1/16; G01b 15/00



1. An improved method of increasing the sensitivity of a hardness gauge using a radioactive source of predominantly beta particles that impinge on the surface of a material having an infinite thickness and a detector means responsive primarily to beta particles disposed to measure the backscattered radiation intensity from the material, comprising the steps of first measuring the backscatter radiation intensity from one hardness sample of constant, homogeneous composition; second, measuring the backscatter radiation intensity from another sample of a different value of said hardness and of the same constant, homogeneous composition as said one sample; then comparing said hardness measurements to identify the difference in intensity indication, and repeating said aforementioned steps as the energy response of said detector is adjusted to obtain said difference indication substantially maximum.

3,424,903
PERMEABILITY LOGGING WITH RADIOACTIVE ISOTOPES HAVING HIGH AND LOW ENERGY GAMMA RAYS
 Bobby L. Lawson, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
 Filed Oct. 19, 1964, Ser. No. 404,637
 U.S. Cl. 250—83.3
 Int. Cl. G01t 1/16; H01j 38/02



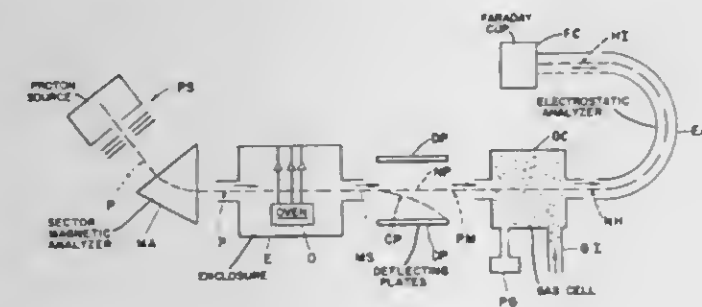
Permeability of a formation is determined by incorporating a radioactive material, capable of emitting high and low energy gamma rays, into a drilling fluid and measuring the intensities of the high and low energy gamma rays which emanate from the material. The higher attenuation of the low energy gamma rays as compared to

the attenuation of the high energy gamma rays, as the distance of penetration into the formation increases, will indicate the permeability of the formation.

3,424,904 PROCESS FOR PRODUCING NEGATIVE HYDROGEN IONS FROM PROTONS

Bailey L. Donnally, Lake Forest, Ill., assignor to Lake Forest College, Lake Forest, Ill., a not-for-profit corporation of Illinois

Filed May 3, 1965, Ser. No. 452,781
U.S. Cl. 250—84
Int. Cl. H01j 37/00



A beam of relatively low energy negatively charged hydrogen ions may be obtained by passing a beam of relatively low energy (e.g., up to about 2000 electron volts) protons through atoms of an alkali metal in order to produce a beam of particles containing metastable and ground state hydrogen atoms and charged particles. Thereafter, charged particles are deflected from the beam, and the beam (which contains metastable and ground state hydrogen atoms) is passed through a region containing a gas having an ionization energy of at least about 11.0 and preferably at least about 14.0 electron volts in order to selectively negatively ionize the metastable hydrogen atoms in preference to ground state atoms. By subjecting the beam to a magnetic field of sufficient strength to polarize the metastable hydrogen atoms prior to negative ionization, and by conducting the negative ionization step in a weak magnetic field region, the nuclei of the negatively charged hydrogen ions produced are polarized.

3,424,905 PROCESS FOR PRODUCING NEGATIVE HYDROGEN IONS

Bailey L. Donnally, Lake Forest, Ill., assignor to Lake Forest College, Lake Forest, Ill., a not-for-profit corporation of Illinois

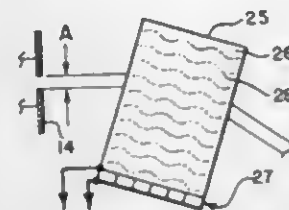
No Drawing. Filed Apr. 25, 1966, Ser. No. 544,720
U.S. Cl. 250—84
Int. Cl. H01j 37/08

Negatively charged hydrogen ions may be produced by passing a beam of relatively low energy (e.g., in the range of up to several kiloelectron volts) through the vapor of an alkali atom. It is believed that the negative hydrogen ions are produced from ground state hydrogen atoms which in turn are derived from the protons via metastable intermediates. In particular, it is believed that the beam of protons is converted into ground state hydrogen atoms by first converting the beam of protons into metastable hydrogen atoms which are quenched by collision to ground state. A second possible means for such conversion involves converting the beam of protons into hydrogen atoms, the electrons of which are in the 2p level and other excited states, which atoms spontaneously decay directly to the ground state. Since the various conversions are all achieved by interaction of the particle and an alkali atom, the entire conversion process may be carried out using the same alkali atom in a single collision region.

3,424,906 LIGHT-SOUND INTERACTION SYSTEM WITH ACOUSTIC BEAM STEERING

Adrianus Korpel, Prospect Heights, Ill., assignor to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware

Filed Dec. 30, 1965, Ser. No. 517,630
U.S. Cl. 250—199
Int. Cl. H04b 9/00

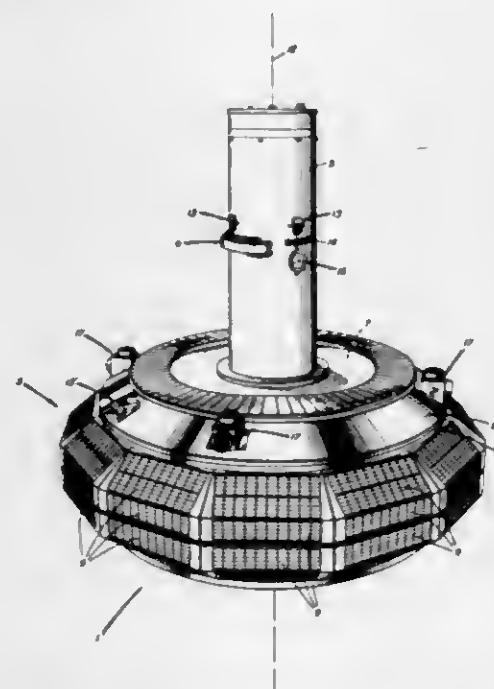


Light-sound interaction signal-translating apparatus of the Bragg diffraction type is modified to provide an improvement in modulation bandwidth. This is accomplished by causing the sound waves to have composite wave fronts of non-uniform phase throughout their width in a direction longitudinally related to the path of the light beam. The exemplary transducer means of the light-sound interaction device comprises a plurality of differently energizable longitudinally spaced electromechanically active sections, and adjacent sections are energized in phase opposition. The result is to provide acoustic waves with wave fronts whose angular relationship to the light path automatically changes as a function of the sound wave frequency to maintain the light-sound interaction angle at substantially one-half the Bragg angle over a substantial sound frequency range, a type of action which has become known as acoustic beam steering. Bandwidths of up to 60% are obtained, as compared with typical bandwidths of 20% or less in prior systems.

3,424,907 SATELLITE ATTITUDE DETECTION SYSTEM INCLUDING COSINE AND SPINSATE DETECTORS

Robert E. Fischell, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Mar. 4, 1963, Ser. No. 262,811
U.S. Cl. 250—203
Int. Cl. G01j 1/20



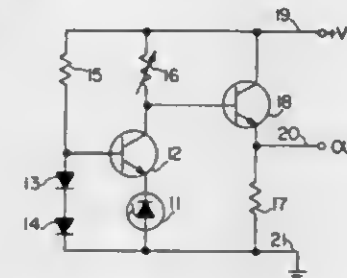
1. In combination with an orbiting satellite having an integral collar portion and a telemetry transmitter thereon, an attitude detection system responsive to solar radiation, comprising:
a mast protruding from said satellite and attached thereto,

a plurality of solar cells disposed about said mast for measuring direct solar radiation, an assembly mounted on said mast and formed with a plurality of slots, a photodiode positioned in each of said slots for sensing said radiation, a plurality of photodiodes positioned upon said collar for sensing said radiation, cover means for interrupting the steady impingement of incident solar radiation upon said plurality of photodiodes, each of said solar cells and said photodiodes being connected to said transmitter, and a commutator mounted within said satellite and connected to each of said photodiodes and said solar cells for individually time selecting their outputs whereby they may be transmitted to earth via said telemetry transmitter.

3,424,908 AMPLIFIER FOR PHOTOCELL

David N. Sitter, Waynesboro, Va., assignor to General Electric Company, a corporation of New York

Filed Oct. 19, 1966, Ser. No. 587,836
U.S. Cl. 250—206
Int. Cl. H01j 39/12

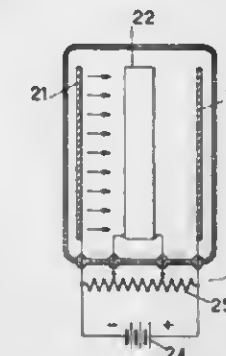


1. An amplifier for a photocell comprising a transistor having its emitter coupled to said photocell, bias means coupled to the base of said transistor to forward bias said transistor and reverse bias said photocell, and a resistor coupled to the collector of said transistor and forming a series circuit with said transistor, said photocell and the direct voltage source coupled thereto during operation, said resistor receiving the current generated by said photocell in response to light impinging thereon and developing a voltage proportional to the cell current and having a magnitude determined by the size of said resistor.

3,424,909 STRAIGHT PARALLEL CHANNEL ELECTRON MULTIPLIERS

Henri Rougeot, Paris, France, assignor to CSF—Compagnie Generale de Telegraphie Sans Fil, a corporation of France

Filed Mar. 24, 1966, Ser. No. 538,900
Claims priority, application France, Mar. 24, 1965, 10,462
U.S. Cl. 250—207
Int. Cl. H01j 39/12



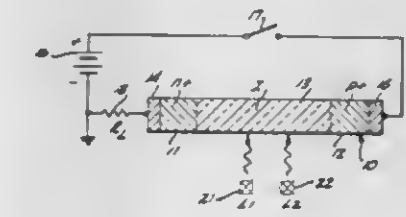
A straight parallel channel electron multiplier wherein channels are formed in a silicon diode biased in the

reverse direction by a source establishing a longitudinal electric field in said channels.

3,424,910 SWITCHING CIRCUIT USING A TWO-CARRIER NEGATIVE RESISTANCE DEVICE

James W. Mayer, Pacific Palisades, Ogden J. Marsh, Woodland Hills, and Robert E. Baron, Los Angeles, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Apr. 19, 1965, Ser. No. 448,973
U.S. Cl. 250—211
Int. Cl. H01j 39/12

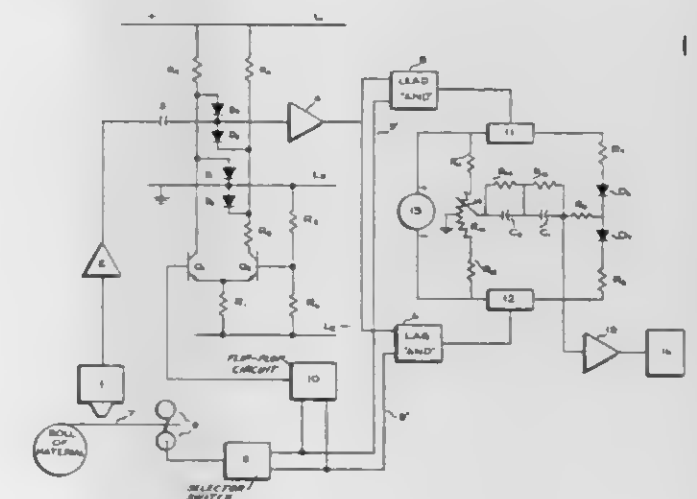


Switching a two-carrier semiconductive device, having in the I region a deep recombination center dopant and a relatively lower concentration of shallow dopant of either p-type or n-type, under forward bias, from one stable state to a second stable state, especially by low-energy photon radiation, and also means for reversibly switching from one stable state to the other and the reverse, by low or high energy photons or by an intermediate floating, injecting contact.

3,424,911 PHOTOELECTRIC WEB REGISTER CONTROL

William D. Cockrell, Waynesboro, Va., assignor to General Electric Company, a corporation of New York

Filed May 5, 1965, Ser. No. 453,368
U.S. Cl. 250—219
Int. Cl. G01n 21/30



A voltage clamp for a register control system wherein a sensor output is maintained at a reference potential except when it is desired to have the sensor output effective to control the system. A flip-flop multi-vibrator circuit alternately biases a first transistor of a pair of transistors into conduction, the conductive state of the pair of transistors controlling the application of the reference potential to the sensor output.

3,424,912

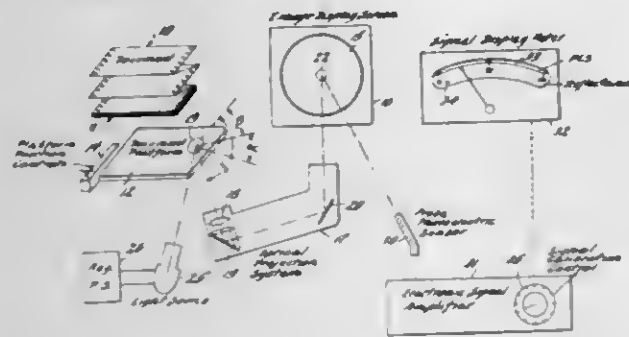
OPTICAL INSTRUMENT FOR CHARACTER PRINT QUALITY ANALYSIS

Albert A. Sargent, Grand Island, N.Y., assignor to Moore Business Forms, Inc., a corporation of New York
Filed July 8, 1965, Ser. No. 470,502

U.S. Cl. 250-219

Int. Cl. G01n 21/48

9 Claims



An optical instrument for projecting characters from a platform aperture to a display screen and converting the radiant energy on the display screen to automatically indicate calibrated selected characteristics of the displayed area of the character. The optical projecting system projects the image on the display screen so that movement of the exposed document area thereon is in the same direction as the movement of the exposed area of the document at the platform position. The document illuminating source is directed at the aperture to reflect light therefrom at a selected specular angle and the projection system receives diffused light from the aperture at a significantly greater angle than the specular reflection angle.

3,424,913

DATA SENSING APPARATUS INCLUDING MULTIPLEX SENSING

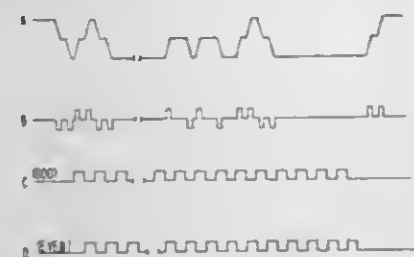
Karl O. H. Hesse, Stewartville, Minn., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed May 27, 1966, Ser. No. 553,508

U.S. Cl. 250-219

Int. Cl. G01n 21/30

7 Claims



A card reader is provided with a plurality of photo-detectors each of which is capable of sensing data in more than one position. The output of each photodetector is received by a multiplexing circuit which produces separate output signals indicative of the presence of apertures in the separate data positions on the passing data card during each sensing cycle. The multiplexing circuit also allows for separate measurement of both the leading and trailing portions of each aperture.

3,424,914

PHOTOELECTRIC LIGHTING CONTROL DEVICE UTILIZING TRANSLUCENT FILM WITH REFLECTIVE AREAS

John L. Wilson, 1743 S St. NW., Washington, D.C. 20009

Filed Apr. 20, 1966, Ser. No. 543,873

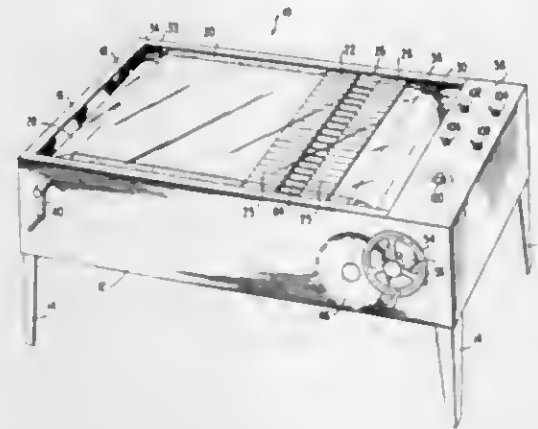
U.S. Cl. 250-219

Int. Cl. G01n 21/30

8 Claims

1. A lighting control device comprising a frame having a top surface thereon, aperture means located in said sur-

face, translucent film means adapted to be provided on the upper surface thereof with a reflective material, means for moving said film means over said aperture means, photocell means mounted on said frame adjacent to and beneath said surface at the aperture means, light source means located beneath said surface adjacent said aperture means and adapted to direct light upwardly through said aperture means and said translucent film means, baffle means substantially surrounding said photocell



means to shield said photocell means from stray light as light from said source passes through said aperture means and film means but permitting light from said source to be reflected from said film means when said film means has been rendered reflective onto said photocell means, said photocell means adapted to be connected to an electronic dimmer in a lighting circuit to automatically dim and brighten lights in said lighting circuit at the desired rate according to the programmed film means.

3,424,915

PHOTOELECTRIC LOOP LENGTH DETECTOR WITH OPTICAL BIASING MEANS FOR THE PHOTOCELLS

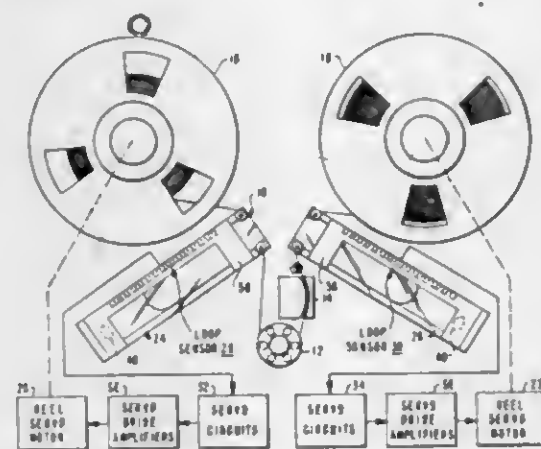
Jerry R. Youngstrom, Culver City, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed June 7, 1966, Ser. No. 555,773

U.S. Cl. 250-219

Int. Cl. G01n 21/30

9 Claims



1. A loop length sensing system for a loop forming chamber in a web transport system comprising the combination of:

an array of light sensitive elements disposed along one wall of the chamber;

light source means disposed along a second wall of the chamber and positioned to provide a light path to said light sensitive means that is intercepted to a variable length by the loop within the chamber; and

optical coupling means disposed along said light source means and along the photosensitive elements and overlapping a portion thereof, to provide constant excitation of said array from said light source means independent of the position of the loop in the chamber.

3,424,916

TOTAL ENERGY SYSTEM

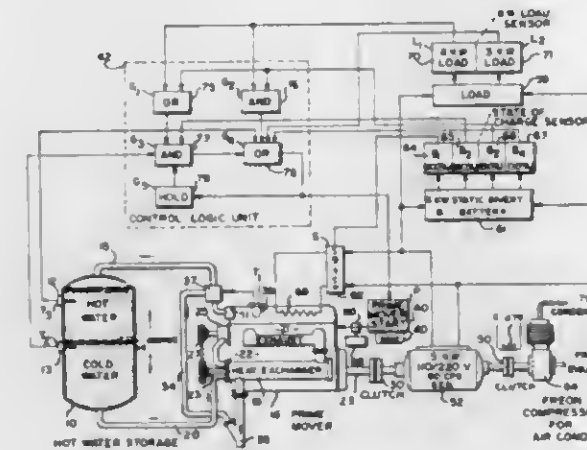
Thomas D. Fenley, Box 370A, R.D. 1, Hightstown, N.J. 08520

Filed July 15, 1966, Ser. No. 565,491

U.S. Cl. 290-40

Int. Cl. H02j 7/04; F02n 11/06

7 Claims



1. A total energy system for operation in conjunction with one or more of the heating, water storage, and air conditioning units of the establishment in which the system is to be installed, and for supplying the electrical power requirements of the electrical load presented to the system by said establishment, said total energy system including a prime mover; an alternating current generator; a static inverter for converting AC to DC and for converting DC to AC; a plurality of storage batteries connected to said inverter to receive direct current therefrom as battery charging current and for supplying direct current to said inverter for conversion to alternating current; means connecting said generator in parallel circuit with said inverter and said load for applying the alternating current output of said generator to said inverter, to charge said batteries, and to said load and for applying the alternating current output of said inverter, resulting from the discharge of said batteries, to said load; first sensing means for detecting the level of charge on said batteries and for generating voltages indicative thereof; second sensing means for detecting the power demand of said load and for generating voltages indicative thereof; third sensing means for detecting the temperature of water stored in said water storage unit and for generating voltages indicative thereof; means for starting said prime mover and for controlling the supply of fuel thereto; means coupling said generator to said prime mover for driving said generator during time intervals in which said prime mover is operating; a pump coupled to said prime mover for operation therewith; pipe means coupling said pump to the cold and hot water return lines of said water storage unit; means coupled to said prime mover and to said pipe means for transferring heat resulting from the operation of said prime mover to the water flowing through said pipe means; and means responsive to voltages generated by one or more of said sensing means for controlling the operation of said prime mover, whereby to control the application of electrical power to said load and to control the levels of energy stored in said battery and water storage units.

3,424,917

MAD-R MULTIAPERTURE CORE LOGIC SYSTEM

David Joseph Morris, Stoke-on-Trent, England, assignor to The English Electric Company Limited, London, England, a British company

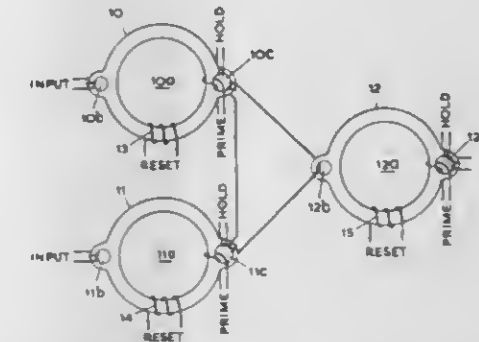
Filed Aug. 6, 1964, Ser. No. 387,932

Claims priority, application Great Britain, Aug. 9, 1963, 31,495/63

U.S. Cl. 307-88

Int. Cl. H01f 27/26

3 Claims



A MAD-R type magnetic logic circuit consisting of a series of cores, each core having a major aperture and two minor apertures (termed input and output apertures). Adjacent cores are coupled together by isolated loops of wire, each loop passing through the aperture of one core, and the input aperture of the next. A reset winding is passed through the major aperture of each core, and each output aperture has a prime winding coupled to it. The system is operated in two phases, the reset and prime windings of alternate cores being connected in series and the two sets of reset windings being pulsed alternately. The prime windings may be pulsed shortly before the corresponding reset windings or continuously energized. Each time a prime winding is energized, the next core in the register is set in accordance with the state of the core whose prime winding was energized. The following reset pulse clears the core to a reference state, ready to be set from the preceding core in the register.

3,424,918

PROCESS STEP CONTROLLER

Howard L. Daniels, St. Paul, Minn.

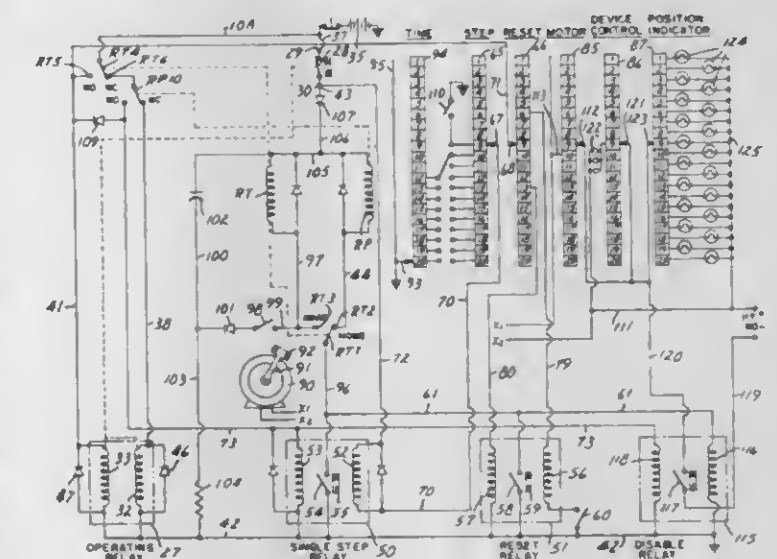
(272 Oakview Road, West St. Paul, Minn. 55118)

Filed Apr. 29, 1966, Ser. No. 546,319

U.S. Cl. 307-132

Int. Cl. H01b 51/34, 47/18

18 Claims



A basic step controller for sequentially activating a series of pre-selected groups of an array of controlled

devices, each group representing a single step of a program. The duration of any one or more of such steps can be controlled by elapsed time. When the basic step controller reaches a time controlled step, a timing device is energized to provide a train of impulses to operate a second stepping device. The second stepping device accumulates a pre-selected count of impulses and then energizes the basic step controller to move it a single step. Means are also provided to return the second stepping device to a home position prior to energizing the basic step controller, and to deenergize the timing device when the basic step controller steps.

3,424,919

REMOTE CONTROL SYSTEM FOR ELECTRICAL APPARATUS

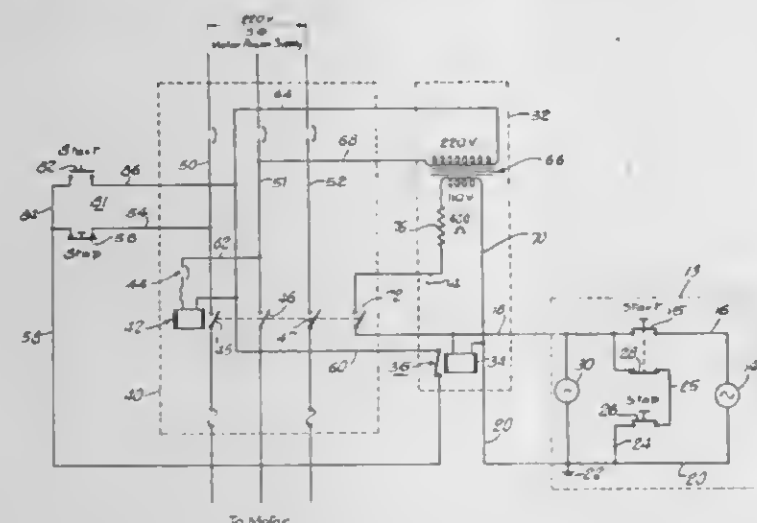
Harry E. Howlett, Groves, Tex., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware

Filed Dec. 29, 1965, Ser. No. 517,378

U.S. Cl. 307-140

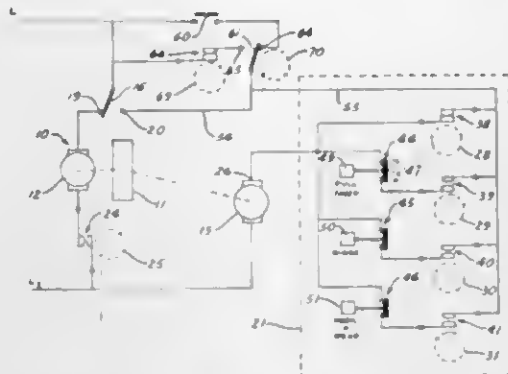
8 Claims

Int. Cl. H01h 47/08



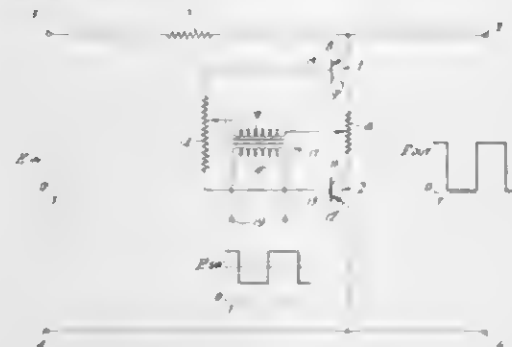
A remote control system for operating electric apparatus such as a motor having a remote control station including an apparatus status indicator such as a pilot light. A control unit is provided together with means for operating same either at the location of the electrical apparatus or at the remote station. The control unit includes a control relay coupled by a pair of conductors to the remote control station, which includes a remote power source and on-off switching means such as a start-stop switch for selectively energizing and de-energizing the control relay. The pilot lamp at the remote station is connected across the pair of conductors in parallel with the control relay so that it is energized only when current flows in the control relay. An apparatus starting circuit is also provided which includes an apparatus power source and a control switch operable by the control relay of the control unit. Operation of the control switch completes the apparatus starting circuit thereby connecting the apparatus power source to the apparatus. The apparatus starting circuit also controls an auxiliary switch which is connected in circuit to the control unit for selectively completing the control circuit only when the apparatus starting circuit is complete. Coupling means such as a transformer is provided for coupling power from the apparatus power source to the control unit when the apparatus starting circuit is complete, the secondary circuit of the transformer including said auxiliary switch. The power coupled to the control unit by the transformer maintains the control relay energized after removal of the remote power source by release of the start switch so that the control switch as well as the relay switch is maintained closed, thereby maintaining continued energization of the apparatus.

3,424,920
AUTOMATIC CONTROL CIRCUIT
Gerald W. Jones and Frank E. Ross, Newton, Iowa, assignors to The Maytag Company, Newton, Iowa, a corporation of Delaware
Filed June 9, 1966, Ser. No. 556,485
U.S. Cl. 307-141
Int. Cl. H01h 43/02



A control system is disclosed that is operable for pre-selecting and effecting consecutive operation of a pair of normally independent sequences of operations. A seeking system is operable for advancing a sequential control means to the beginning of the first desired cycle and, in cooperation with a holding circuit, is further operable for advancing the sequential control means to the beginning of the second desired cycle upon completion of the first selected cycle.

3,424,921
ELECTRICAL APPARATUS
Alton Leger, Jr., Roslyn, Pa., assignor to Honeywell Inc., a corporation of Delaware
Filed Jan. 12, 1965, Ser. No. 424,923
U.S. Cl. 307-240
Int. Cl. H03k 17/14, 17/60

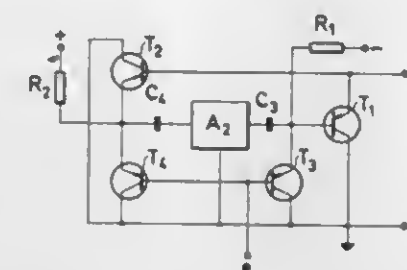


1. An electrical switch comprising a pair of semi-conductive means, switch energizing means arranged to selectively bias said pair of semi-conductor means in a current-conducting state, and switch circuit balance means connected between said energizing means and said semi-conductor means and operative to provide a simultaneous balance of the respective effects of a current flowing through each of said semi-conductor means in a substantially non-conductive state whereby to provide a temperature stabilized switch condition.

3,424,922
TRANSISTOR SWITCH
Anders Gustaf Lyden, Jakobsberg, Sweden, assignor to Aktiebolaget Atomenergi, Stockholm, Sweden
Filed Dec. 3, 1965, Ser. No. 511,525
Claims priority, application Sweden, Dec. 3, 1964, 14,614/64
U.S. Cl. 307-241
Int. Cl. H03k 17/02

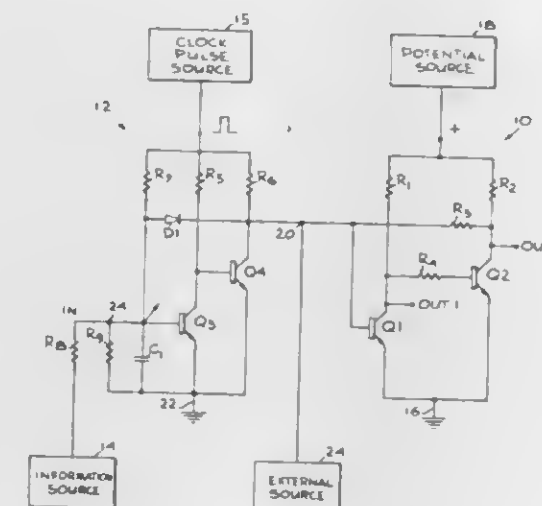
1. A switching means for opening and closing a controlled, electrical circuit, comprising:
(a) first transistor means having its emitter and its collector connected to said controlled circuit;

(b) second transistor means having its base connected to said emitter of said first transistor and its collector connected to said collector of said first transistor; and



(c) a controllable, driving circuit, including amplifier means connected to the base and said collector of said first transistor and to the emitter and said collector of said second transistor, and adapted to maintain a voltage between said base and said collector of said first transistor of equal magnitude and of the same polarity as the voltage appearing between said collector and said emitter of said second transistor.

3,424,923
BINARY CIRCUIT
Robert N. Mellott, Palos Verdes Estates, Calif., assignor to Logicon, Inc., Redondo, Calif., a corporation of California
Filed June 29, 1965, Ser. No. 468,045
U.S. Cl. 307-247
Int. Cl. H03k 17/60

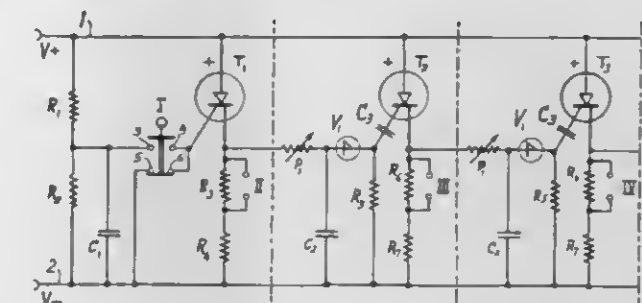


A binary storage circuit which is responsive to information available at its input terminal just prior to the occurrence of a clock pulse but which is insensitive to information applied to its input terminal at any other time. The circuit includes an input stage and a bistable stage. The bistable stage includes a control terminal to which current may be applied to switch it to a first state and from which current may be extracted to switch it to a second state. The input stage comprises a binary stage which is not bistable except during the duration of a clock pulse. That is, between clock pulses, the input stage follows the input information and no path is provided to either apply current to or extract current from the control terminal. When a clock pulse occurs, the input stage latches in a state determined by the input information and then either applies current to or extracts current from the bistable stage.

3,424,924
SWITCHING SYSTEM FOR SUCCESSIVE IGNITION OF FIRING DEVICES AT DELAYED INTERVALS
Karl-Friedrich Leisinger and Christian Rudiger, Haltern, Germany, assignors to Wasag-Chemie Aktiengesellschaft, Essen, Germany
Filed Nov. 8, 1967, Ser. No. 681,322
Claims priority, application Germany, Nov. 12, 1966, W 42,788

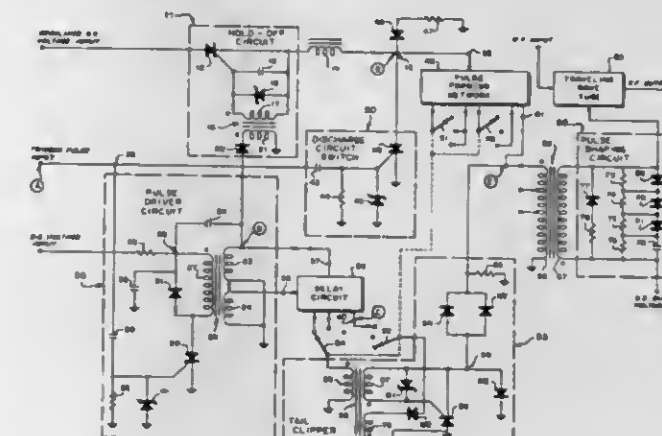
U.S. Cl. 307-252
Int. Cl. H03k 17/60

6 Claims



A switching system comprising transistors and four layer diodes in intermittent switches for successively firing explosives and propellants by a plurality of igniters at delayed intervals. The system has a first transistor T_1 which has a control electrode switched by a positive impulse. This first transistor is connected to the desired number of identical ignition circuits in the same manner with each individual igniter connected in series with a resistor R_4 , R_7 . . . and in parallel with a resistor R_3 , R_6 . . . in a cathode circuit of the respective transistor T_1 , T_2 The anode of each transistor is connected to the positive bus of a D.C. voltage source. The cathode of each transistor has a potentiometer P_1 and/or a resistor branching out from it in the same manner and in series therewith a capacitor is connected to a negative bus of a D.C. potential. On the anode side of the capacitor a four layer diode is connected through a resistor R_5 to the negative bus of the D.C. source. The four layer diode also connects the control electrode of the next transistor through a coupling capacitor C_3 . . . with the coupling capacitor located behind the resistor R_5 .

3,424,925
SCR PULSE FORMING AND SHAPING NETWORK
Richard P. Gagliardi, Philadelphia, and Louis C. Metz, Jr., Abington, Pa., assignors to the United States of America as represented by the Secretary of the Navy
Filed Dec. 9, 1965, Ser. No. 513,147
U.S. Cl. 307-268
Int. Cl. H03k 5/01



SCR switching devices are provided in combination with passive storage elements to produce a sharp, high voltage, high current switching pulse of variable pulse width at selected time intervals. Until provided with a con-

trol signal, a hold-off circuit inhibits the passage of a D.C. signal which, when passed, is stored by passive elements and thereafter discharged through an SCR, after a preselected time delay. A tail clipper clips the trailing edge of the discharged pulse while a pulse shaping circuit smooths the top thereof.

3,424,926

HIGH SPEED MULTIVIBRATOR

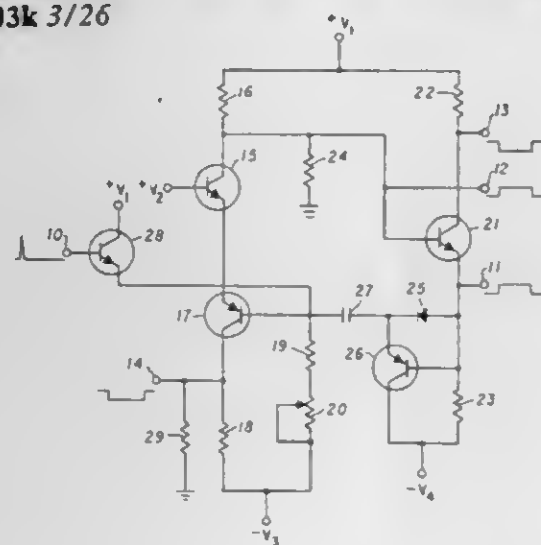
Arvel Hollis Edwards, Houston, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Apr. 9, 1965, Ser. No. 446,933

U.S. Cl. 307-273

2 Claims

Int. Cl. H03k 3/26



A monostable multivibrator is disclosed which produces, in response to an input pulse, multiple outputs having the capability of high frequency and high duty cycle operation along with a wide range of output pulse widths.

3,424,927

SOLID STATE AC COUPLING

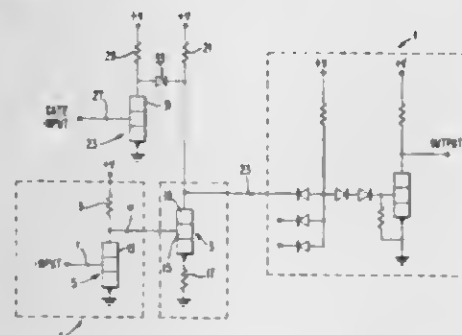
Robert Smith, Lexington, Ky., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Jan. 26, 1966, Ser. No. 523,227

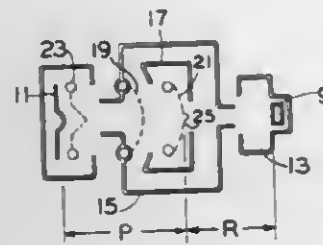
U.S. Cl. 307-280

17 Claims

Int. Cl. H03k 3/26



said cathode; a plurality of focusing electrodes having apertures arranged in a series between said cathode and anode to shape the electrons into an electron beam; accelerator means in the path of said beam including a limiter grid in said beam and delineating in said beam



a first electron beam area adjacent the cathode and a second electron beam area adjacent the anode, a first control grid and an accelerator grid in said first electron beam area, said control grid being provided with electron-diverting means for preventing oscillation of electrons in said first electron beam area.

3,424,934

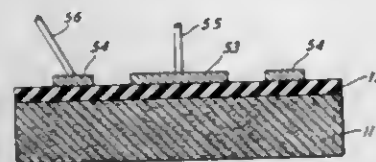
ELECTROLUMINESCENT CELL COMPRISING ZINC-DOPED GALLIUM ARSENIDE ON ONE SURFACE OF A SILICON NITRIDE LAYER AND SPACED CHROMIUM-GOLD ELECTRODES ON THE OTHER SURFACE

Carl N. Berglund, North Plainfield, N.J., assignor to Bell Telephone Laboratories, Inc., Berkeley Heights, N.J., a corporation of New York

Filed Aug. 10, 1966, Ser. No. 571,555

U.S. Cl. 313-108
Int. Cl. H01j 63/04

1 Claim



An electroluminescent semiconductor device adapted for the emission of light energy from the radiative recombination of minority carriers operates by the presentation of a cyclic electric displacement to the interface between a semiconductor body and a dielectric layer thereon. The device, a metal-insulator-semiconductor structure which does not include a PN junction, operates on a cyclic basis only and does not require any DC voltage or current. As presently understood, one portion of the cycle produces field-enhanced minority carrier charge storage adjacent the semiconductor-dielectric interface. During the opposite swing of the cycle the carriers associated with the stored charge diffuse and drift into the semiconductor bulk and recombine, thus emitting radiation.

3,424,935

HARNESS CONSTRUCTION FOR METAL ARC TYPE LAMP

Warren C. Gungle, Danvers, Carl L. Peterson, Gloucester, and John F. Waymouth, Marblehead, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware

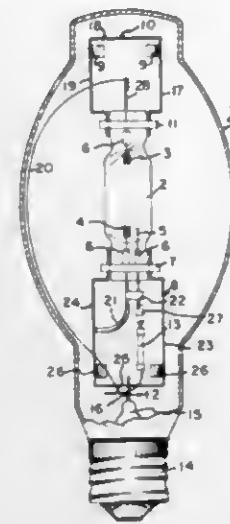
Filed Apr. 19, 1965, Ser. No. 448,964

U.S. Cl. 313-227
Int. Cl. H01j 61/04

11 Claims

A high pressure electric discharge device having a filling in the arc tube including a halogen and sodium in which the migration of sodium through the walls of the

arc tube is reduced by eliminating the side arms which support the arc tube in an outer envelope and by positioning a current conveying wire to one end of the arc tube adjacent the internal surface of the outer envelope.



By this arrangement of parts the loss rate of sodium through the walls of the arc tube is reduced to less than about 0.24 milligram per thousand hours of lamp operation.

3,424,936

METAL SLEEVE IONIZATION GAUGE HAVING CONTROLLED SPACING BETWEEN GRID AND SHIELD ELECTRODES FOR OPTIMIZATION OF SENSITIVITY

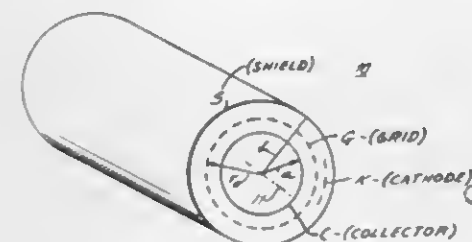
Zenjiro Oda and Tadashi Sakai, Tokyo, Japan, assignors to Nippon Electric Company Limited, Tokyo, Japan

Filed Feb. 7, 1966, Ser. No. 525,602

Claims priority, application Japan, Feb. 10, 1965, 40/7,356

U.S. Cl. 313-240
Int. Cl. H01j 1/53

3 Claims



A metal sleeve ionization gauge in which the spacing between the shield and grid electrodes (which are preferably of cylindrical configuration) is controlled to within the range from 4 to 6 1/2 millimeters for the purpose of optimizing sensitivity of the ionization gauge and reducing the voltage level required for successful operation of the gauge.

3,424,937

ELECTRON IMAGE CORRELATOR TUBE

Wilford L. Stelner, Akron, Ohio, assignor to Goodyear Aerospace Corporation, Akron, Ohio, a corporation of Delaware

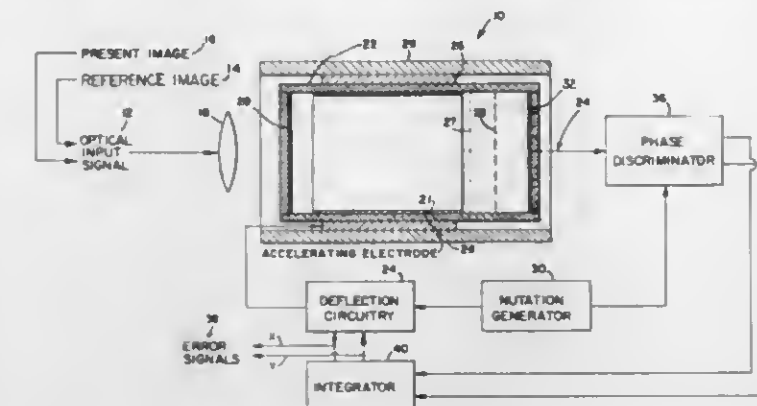
Filed Jan. 8, 1965, Ser. No. 424,439

U.S. Cl. 315-10
Int. Cl. H01j 31/26

3 Claims

An image matching system having an enclosed electronic tube which, upon appropriate energization, stores a reference electronic image pattern, correlates a second present electronic image pattern with the reference electronic image pattern, and produces an electrical output signal which is a function of the correlation between the

patterns. The tube is elongated, hollow, and drawn to a vacuum, and includes either a photocathode or an electron gun to produce electron image information mounted at one end of the tube, and a storage grid or grids located in spaced parallel relationship to the photocathode or gun together with an anode to receive and count electrons to



depict correlation information. The tube incorporates an accelerating electrode to uniformly accelerate electrons from the cathode to the grid, dynode amplifiers to enhance the electronic image, particularly for low light levels, and coils wound around the tube to control the scale factor of the images projected electronically therein.

3,424,938

TELEVISION CAMERA TUBE APPARATUS

Wolfgang Dillenburger, Nieder-Ramstadt, near Darmstadt, Germany, assignor to Fernseh G.m.b.H., Darmstadt, Germany

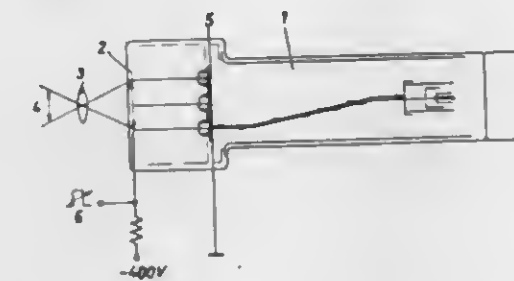
Filed May 14, 1965, Ser. No. 455,923

Claims priority, application Germany, May 23, 1964, F 42,965

U.S. Cl. 315-11

Int. Cl. H01j 31/36

11 Claims



This invention relates to television camera tube apparatus and is particularly concerned with an improved arrangement for varying the response to incident light of camera tubes of the image-storage type.

3,424,939

VOLTAGE SWITCHING APPARATUS FOR COLOR KINESCOPIES

William H. Clingman, Jr., Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed May 31, 1966, Ser. No. 553,946

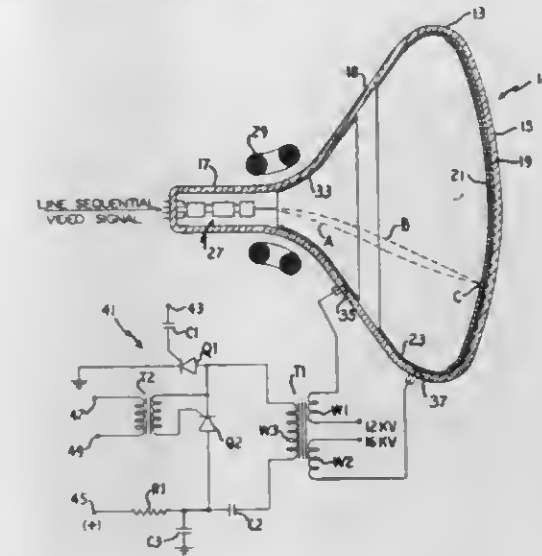
U.S. Cl. 315-14

Int. Cl. H01j 29/46, 29/56

8 Claims

Disclosed is a voltage switching apparatus which can be used for applying a high voltage square wave to a color kinescope tube of the type in which phosphors of red and cyan are coated on the inside face of the tube, the red phosphors being energized by electrons of a first energy, and the cyan phosphors being energized by electrons of a higher energy. The tube has a first transparent conducting layer which is coated upon its face over the phosphors, and a second conducting layer coated on the

neck portion of the tube thereby presenting a capacitive load to which mutually out-of-phase high voltage pulses formed by the switching apparatus of the invention can be applied. The switching apparatus comprises two switching circuits, each connected to the primary winding of a high-voltage transformer, the first switching circuit being an SCR (silicon controlled rectifier) which is connected in parallel with a primary winding of the transformer and a capacitor and with its gate connected to a first trigger circuit, the second switching circuit being a second SCR



3,424,940

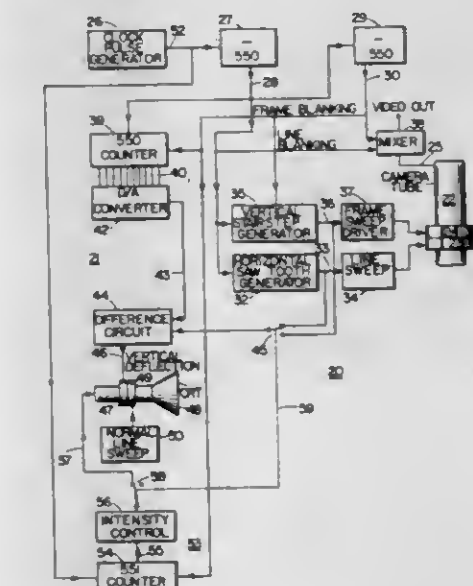
APPARATUS AND METHOD FOR TESTING LINEARITY OF A SAWTOOTH WAVEFORM SIGNAL

Richard H. Foote, Fort Wayne, Ind., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Delaware

Filed June 15, 1966, Ser. No. 557,827

U.S. Cl. 315-27
Int. Cl. H01j 29/70

29 Claims



A system for testing the linearity of a sawtooth signal wherein a reference staircase signal is generated, each step being in phase with, and of a duration equal to, one saw-

tooth signal, the staircase signal having a maximum amplitude equal to the maximum amplitude of each sawtooth signal. The two signals are applied to a difference circuit generating a train of difference signals. Each of the difference signals is sampled at a predetermined point, each point being on a successive step of the staircase signals, and each point having an amplitude equal to the amplitude of the corresponding point of the sawtooth signal. The sampled difference signals are displayed on an oscilloscope and fall in a straight line when the sawtooth signals are linear.

3,424,941

TRANSISTOR DEFLECTION CIRCUIT WITH CLAMPER MEANS

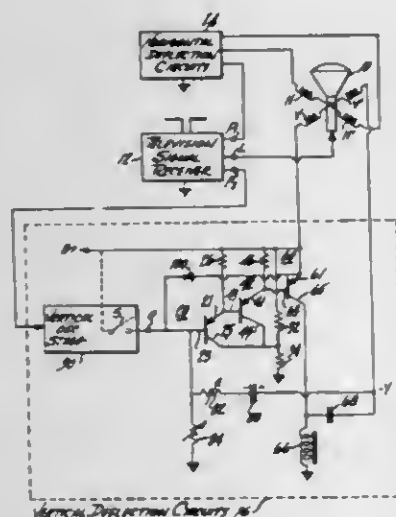
James A. McDonald and John Brewer Beck, Indianapolis, Ind., assignors to Radio Corporation of America, a corporation of Delaware

Filed Feb. 7, 1966, Ser. No. 525,601

U.S. Cl. 315-27

Int. Cl. H01j 29/76

6 Claims



A Miller integrator circuit suitable for application to television vertical deflection is provided at its input with a clamping circuit for limiting voltage excursions whereby a tendency to oscillate at one-half field rate is precluded.

3,424,942

AUXILIARY BEAM DEFLECTION YOKE

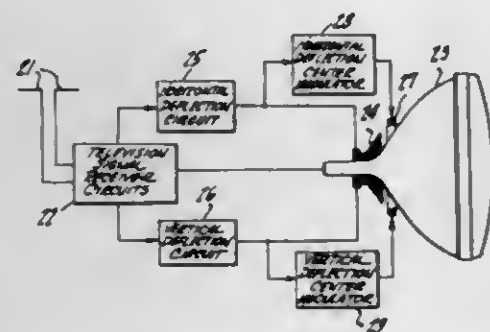
Robert L. Barbin, Indianapolis, Ind., assignor to Radio Corporation of America, a corporation of Delaware

Filed Dec. 14, 1965, Ser. No. 513,774

U.S. Cl. 315-27

Int. Cl. H01j 29/70

7 Claims



In a color television image reproducing system embodying a multiple electron beam shadow mask type of color picture tube, an auxiliary beam deflection yoke mounted adjacent the main deflection yoke is provided. The auxiliary yoke is energizable as functions of temperature and beam deflection angle for modifying the effective deflection centers of the electron beams.

3,424,943 SPARK GAP SWITCHES FOR OVERSIZED WAVEGUIDE

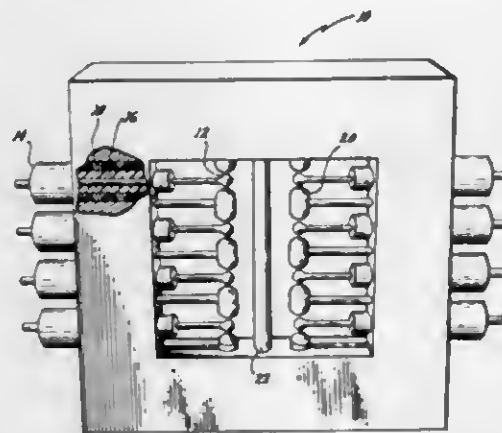
John P. Quine, Schenectady, and Cousby Younger, Scotia, N.Y., assignors to the United States of America as represented by the Secretary of the Air Force

Filed Mar. 6, 1967, Ser. No. 621,410

U.S. Cl. 315-39

Int. Cl. H01p 1/14

6 Claims



A metallic support rod extends transversely into the rectangular waveguide, passing through the side walls of the waveguide in insulated relationship with the side walls. A plurality of spheres are positioned in the waveguide in columns on a parallel with the walls of the waveguide. Elongated ground spheres are mounted between the trigger spheres. Application of a high voltage between the trigger sphere and the ground sphere causes sparking that results in a microwave short circuit across the waveguide.

3,424,944

ELECTRONIC IGNITION SYSTEM USING MULTIPLE THYRISTORS

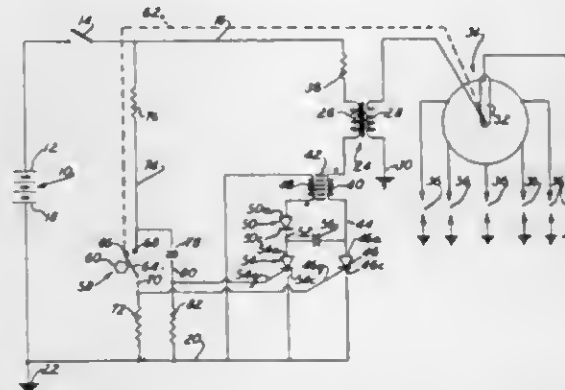
Ole K. Nilssen, Livonia, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Nov. 9, 1966, Ser. No. 593,042

U.S. Cl. 315-209

Int. Cl. H05b 37/02, 41/36

8 Claims



1. In an ignition system for an internal combustion engine having a source of electrical energy and a coil with a primary winding and a secondary winding, means for inducing an ignition voltage at the coil secondary winding comprising

- a first thyristor in series with the coil primary winding,
- a second thyristor having its cathode coupled to the cathode of said first thyristor,
- a capacitor coupling the anodes of said first and second thyristors,
- a two-stage trigger means actuatable by rotating parts of said engine, said trigger means turning on said first thyristor when in one of the stages,
- transformer means for charging said capacitor when said first thyristor is on, and

circuitry for turning said second thyristor on when said trigger means switches to its other stage, said second thyristor discharging said capacitor through said thyristors to turn said first thyristor off rapidly.

3,424,945

CONTROLLED CAPACITOR-DISCHARGE GAS TURBINE IGNITION SYSTEM

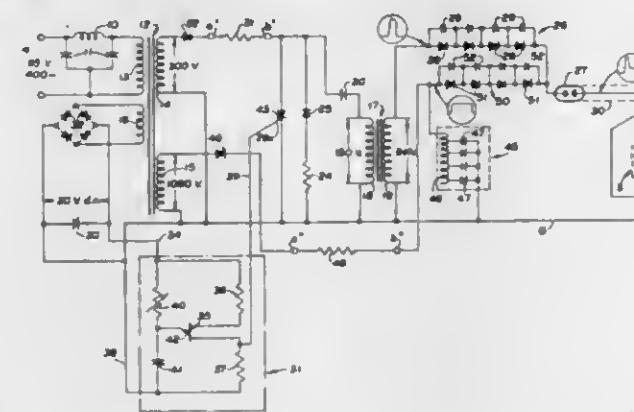
Gene J. Seider and David L. Hanning, Mansfield, Ohio, assignors to Mid-Continent Manufacturing Co., Columbus, Ohio, a corporation of Ohio

Filed Mar. 27, 1967, Ser. No. 626,118

U.S. Cl. 315-240

Int. Cl. H05b 41/29

11 Claims



Ignition energy for operation of an electric energy discharge device is supplied through controlled discharge of a capacitor and secondary electric energy storage means. Discharge is controlled by electronic switching means which is operated by an electronic timer thereby forming electrical ignition energy pulses that are applied to the discharge device. Breakdown of the normally open circuit discharge device is effected by the first energy storage means and subsequent to establishment of a conductive circuit, the secondary energy storage means discharges to sustain the spark discharge for a predetermined time interval.

3,424,946

METHOD OF ENERGIZING GAS TUBE LIGHT SOURCE

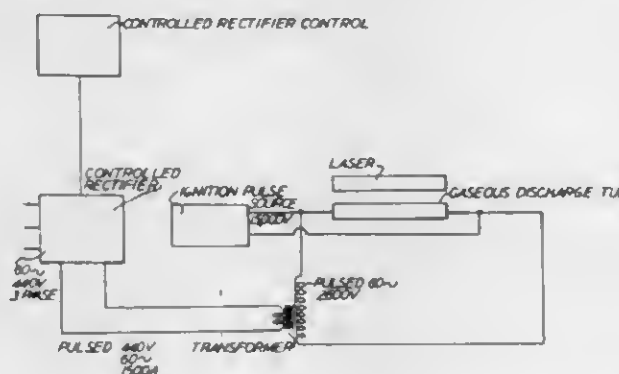
Edward J. Zulinski, Berkley, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Dec. 20, 1965, Ser. No. 515,244

U.S. Cl. 315-246

Int. Cl. H05b 41/16

3 Claims



A process for energizing a gaseous discharge tube light source directly from an alternating current power source of high capacity which employs a controlled rectifier switch means. Through operating the controlled rectifier switch means current flows from the power source through the gaseous discharge tube light source for not more than a small number of cycles, the light source then being permitted to remain idle for a substantial number of cycles. The gaseous discharge tube light source is employed for energizing a welding laser.

3,424,947

ELECTRIC DISCHARGE TUBE APPARATUS

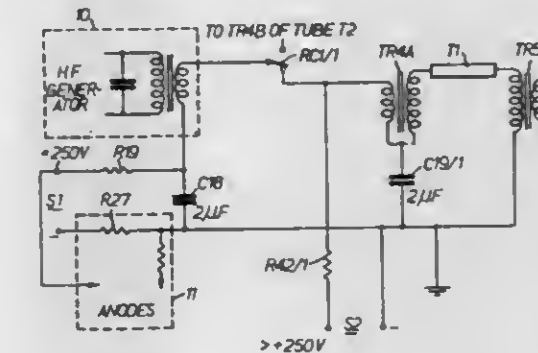
Arthur Richard Warner, 23 The Vale, Chelsea, London SW. 3, England, and Derrick Arnott Ward, 30 Gravel Hill, Addington, Surrey, England

Filed July 6, 1966, Ser. No. 563,166

U.S. Cl. 315-323

Int. Cl. H05b 41/24, 41/18

10 Claims



1. In electric discharge tube apparatus comprising a plurality of electric discharge tubes, oscillator means generating high frequency current of increasing amplitude, switch means operable to connect said high frequency current sequentially to each said tube, a source of main current; further switch means operable to connect said main current to each said tube; the improvement which consists in providing a source of sensing current distinguishable from said high-frequency current and from said main current; together with means responsive to the change in said sensing current which results from full ionization of a said tube to effect sequential switching of said high frequency and main current sources to said tube.

3,424,948

OVERVOLTAGE PROTECTION CIRCUIT FOR CONTROLLED SOLID STATE VALVES

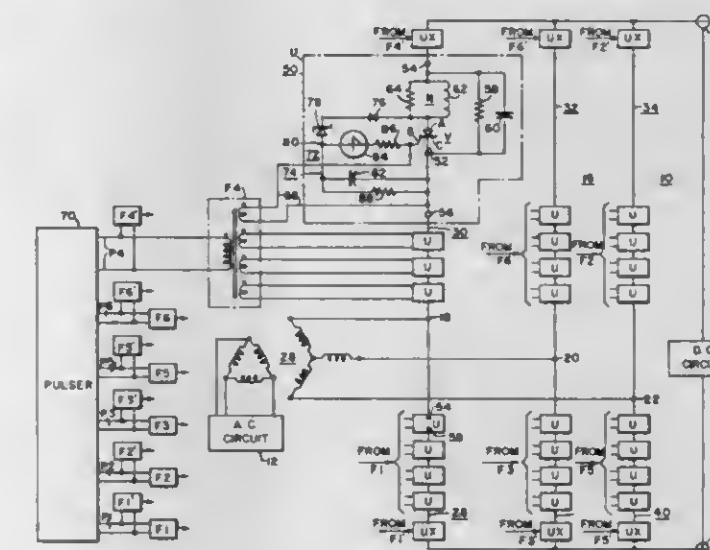
Richard J. Ravas, Monroeville, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 12, 1966, Ser. No. 600,866

U.S. Cl. 317-31

Int. Cl. H02b 3/28

13 Claims



The disclosure describes a high voltage electric converter wherein, in addition to a voltage sharing arrangement for a series string of controlled solid state valves, each valve has connected thereacross a circuit including in series a voltage threshold device and a capacitor with a junction therebetween. A voltage breaker device is connected between the junction and the control electrode of the valve. The arrangement is such that when the voltage across the valve exceeds a predetermined value

the threshold device is overcome and the capacitor charges until it reaches the breakover voltage of the breakdown device thereby to break down the breakdown device and fire the valve. The control signal is maintained on the control electrode until the capacitor is discharged.

3,424,949

HIGH-SPEED OVERLOAD CIRCUIT

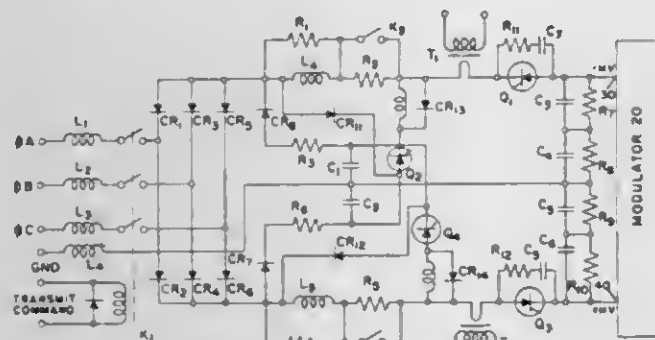
Thomas Anthony Phillips, Vestal, N.Y., assignor to General Electric Company, a corporation of New York

Filed May 10, 1966, Ser. No. 548,975

U.S. Cl. 317-33

4 Claims

Int. Cl. H02h 7/20



1. A high speed overload prevention circuit particularly suited for use with a load supplied by a filtered D-C power signal comprising:

- a saturable transformer having a primary winding connected in series with the load for current sensing;
- a bias source connected in series with the secondary winding of said saturable transformer so that signals are induced in the secondary winding only when the load current exceeds the level determined by selecting the bias current level;
- a signal integrator responsive to signals induced in said secondary winding;
- a switching signal generator responsive to said integrator for disconnecting power from the load and thereby perform a fusing function when the load current exceeds the selected level;
- a threshold device interposed between said generator and said integrator so as to reject spurious noise signals by passing them through a circuit which shunts said load;
- said bias current source being provided by a high impedance source for D-C or slow overloads.

3,424,950

MAGNETIC MAKE AND BREAK IGNITER

Richard Hatm, Baltmannsweller, Kreis Esslingen (Neckar), Germany

Filed Sept. 21, 1964, Ser. No. 397,969

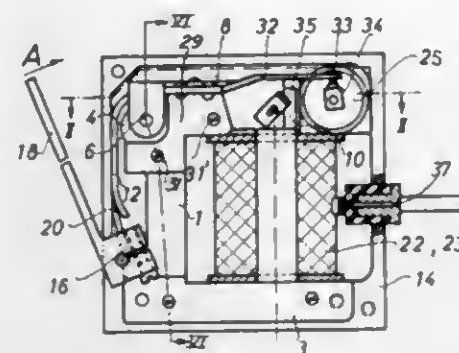
U.S. Cl. 317-93

7 Claims

Int. Cl. F23q 13/02

1. A magnetic make-and-break igniter, comprising: a housing for said igniter, a permanent magnet, an armature extending from each end of said magnet into closely adjacent spaced disposition, a contact member engageable with the free ends of said armatures and movable between a first position in which said contact member engages each of the armatures to complete a magnetic circuit defined by said permanent magnet, armatures and contact member, and a second position wherein said contact member is in non-contacting relationship with at least one of said armatures thereby breaking said magnetic circuit, a pivoted lever mounted to one of said armatures to a remote end of which said contact member is secured, a spring secured to the pivoted lever to

urge the contact member towards said second position, an actuating member to move said spring and urge said contact member in said second position, an electrical coil wrapped around a part of one of said armatures and



immovably fixed thereto, a pair of electrodes forming a spark gap an electrically connected to said coil whereby a spark is generated across said spark electrodes when said contact member is moved into said second position.

3,424,951

ELECTRICAL CONTROL VALVE

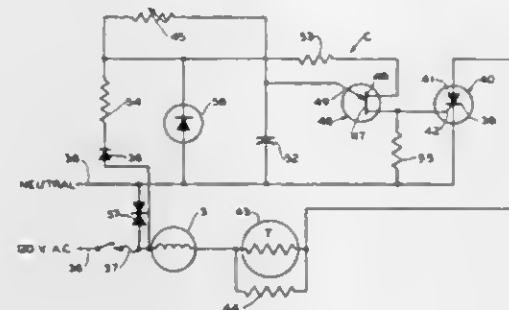
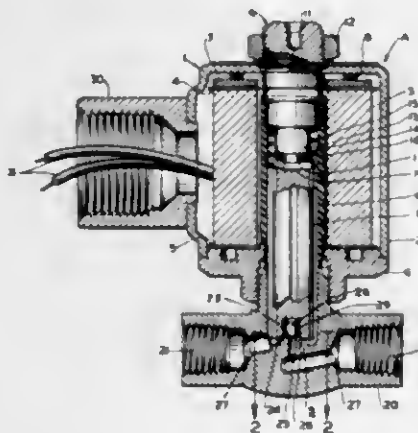
George E. Barker, St. Louis, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed Nov. 23, 1964, Ser. No. 412,921

U.S. Cl. 317-123

7 Claims

Int. Cl. H01h 47/02



A dithering solenoid valve where the amplitude of vibration of the valve plunger is controlled by adjusting the firing angle of a pulse to the solenoid. The pulses are sufficiently short so that the valve plunger never engages the upper position. Furthermore, a quiescent period is maintained between each of the force pulses which is sufficient to enable the valve plunger to contact the valve seat before application of the next force pulse. A liquid level controller and fluid pressure controller employing the valve are also disclosed.

3,424,952

POWDER ON WIRE CAPACITOR

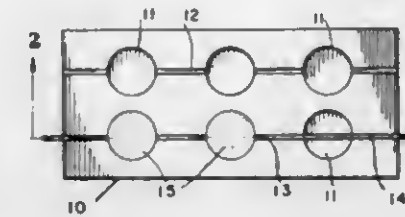
William F. Vierow, Carmel, Ind., assignor to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware

Filed June 27, 1966, Ser. No. 560,609

U.S. Cl. 317-230

13 Claims

Int. Cl. H01g 9/02, 9/05



A capacitor and a method for making the same wherein masses of film-forming powder are shaped around a wire by positioning a wire to extend through a plurality of mold cavities, depositing powder in the mold cavities, and fusing the powder masses to the wire in situ thereby bond each mass to the wire.

3,424,953

ELECTROKINETIC TRANSDUCER WITH ION SCAVENGING

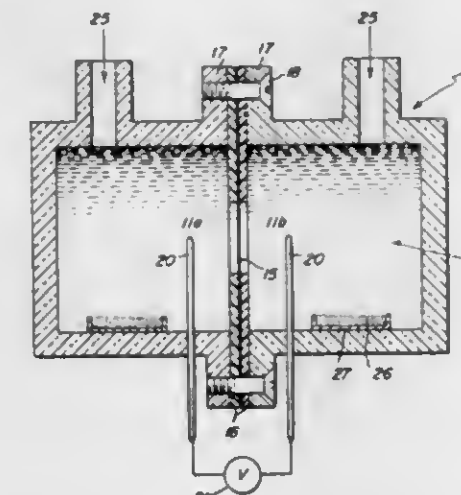
Charles P. Bean, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Feb. 2, 1966, Ser. No. 524,597

U.S. Cl. 317-231

2 Claims

Int. Cl. H01g 9/02



A transducer for converting a pressure difference between two bodies of a polar liquid into an electrical potential is provided which comprises a chamber divided into two sections by a porous membrane through which the liquid is forced. A sensing electrode is located in each section adjacent the membrane and is connected to an electrically responsive device such as a voltmeter, for example. The sections contain a bed of mixed ion exchange resins for removing undesired cations and anions from the liquid and replacing them with hydrogen and hydroxyl ions.

3,424,954

SILICON OXIDE TUNNEL DIODE STRUCTURE AND METHOD OF MAKING SAME

Donald L. Klein, New Providence, and Kenneth L. Lawley, Livingston, N.J., assignors to Bell Telephone Laboratories, Incorporated, Berkeley Heights, N.J., a corporation of New York

Filed Sept. 21, 1966, Ser. No. 581,029

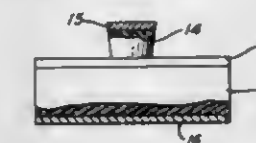
U.S. Cl. 317-234

4 Claims

Int. Cl. H01l 3/00, 5/00

P-N junctions exhibiting tunneling characteristics are

prepared by liquid regrowth of n-type gallium arsenide



from a gallium arsenide saturated tin solution in restricted areas on p-type gallium arsenide substrates.

3,424,955

METHOD FOR EPITAXIAL PRECIPITATION OF SEMICONDUCTOR MATERIAL UPON A SPINEL-TYPE LATTICE SUBSTRATE

Hartmut Selter and Christian Zaminer, Munich, Germany, assignors to Siemens Aktiengesellschaft, Munich, Germany

Filed Mar. 30, 1966 Ser. No. 539,611

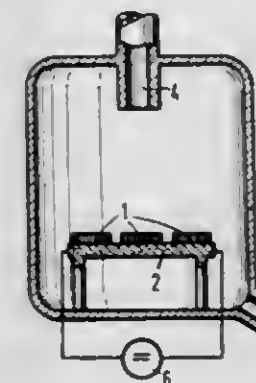
Claims priority, application Germany, Mar. 30, 1965,

S 96,266

U.S. Cl. 317-234

16 Claims

Int. Cl. H01l 3/00, 5/00



Described is the method of growing monocrystalline layers of semiconductor material crystallizing in the diamond or zinkblende lattice, which comprises epitaxially precipitating said material upon monocrystalline substrates having a spinel-type lattice. Preferred substrates are those from the group consisting of MgO·Al₂O₃, MgO·Cr₂O₃, MnO·Fe₂O₃, ZnO·Al₂O₃, FeO·Al₂O₃, MnO·Al₂O₃, FeO·Fe₂O₃, MgO·Fe₂O₃.

3,424,956

DIFFUSION TYPE SEMICONDUCTOR DEVICE HAVING PLURAL PROTECTIVE COATINGS

Katsuo Sato and Toshiaki Irie, Tokyo, Japan, assignors to Nippon Electric Company Limited, Tokyo, Japan

Continuation-in-part of application Ser. No. 301,856,

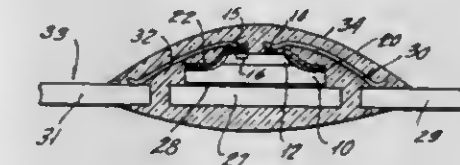
Aug. 13, 1963. This application Sept. 28, 1966, Ser.

No. 584,622

U.S. Cl. 317-234

16 Claims

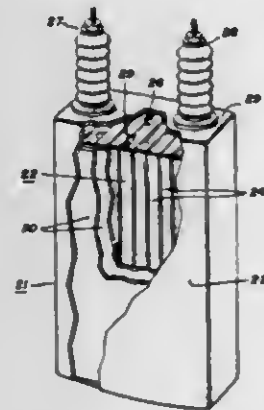
Int. Cl. H01l 3/00, 5/00



A method for forming protective coatings upon semiconductor bodies, which coatings are applied at least to those exposed regions constituting the interface of a P-N junction wherein a first protective coating of silicon monoxide of a predetermined thickness is formed immediately upon the surface of the semiconductor body and immediately subsequent thereto a second coating of silicon dioxide of suitable thickness is formed. The coatings are either formed so as to mask the junction terminals or the coatings are etched to provide contacting surfaces for

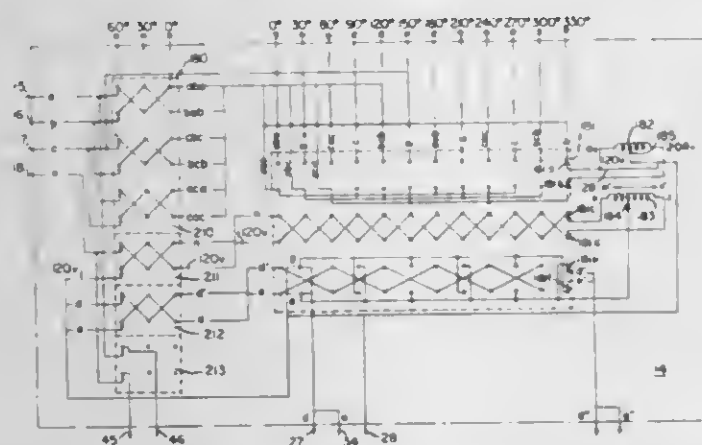
electrode leads. The composite assembly is then further encapsulated within a suitable resin to provide a composite structure in which the sensitive interfaces of the structure are protected against deterioration or contamination and wherein the intermediate coating or layer of silicon mono-oxide mitigates the differences in expansion coefficients of the semiconductor body and the silicon dioxide layer so as to prevent any breakage or deterioration of the semiconductor body. The final composite encapsulation provides suitable protection against the elements as compared with conventional techniques while providing an overall volume which is many times smaller than the volume of encapsulation assemblies conventionally in use.

3,424,957
ELECTRICAL CAPACITOR AND DIELECTRIC MATERIAL THEREFOR
Arthur Katchman, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York
Filed Oct. 31, 1967, Ser. No. 679,408
U.S. Cl. 317-259
Int. Cl. H01b 3/24; H01g 1/00



An electrical device including capacitors has a liquid dielectric. The dielectric is a halogenated aromatic liquid which has incorporated therein bis(2,3-epoxycyclopentyl ether) which acts as a scavenger for halogen-containing degradation products.

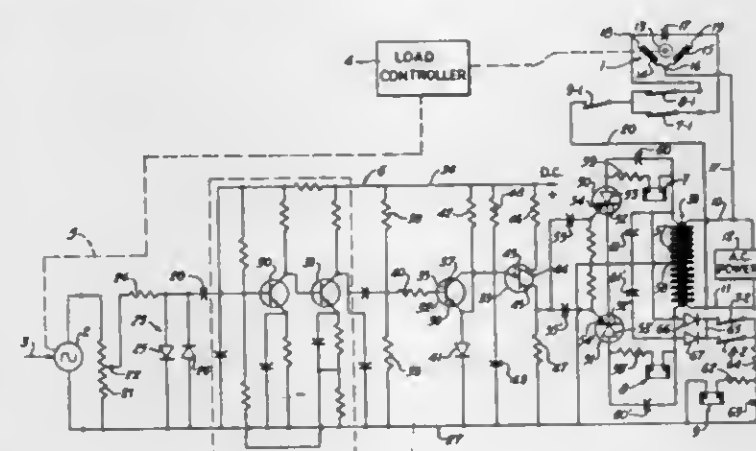
3,424,958
APPARATUS AND METHOD FOR SIMULATING ELECTRICAL FAULT CONDITIONS IN A PROTECTIVE RELAY SYSTEM
Thomas A. Groat, 192 McMahon Ave., Kingston, Ontario, Canada
Filed Aug. 3, 1966, Ser. No. 569,875
Claims priority, application Canada, Mar. 31, 1966, 956,886
U.S. Cl. 317-262
Int. Cl. H02h 3/28, 7/20



An apparatus and method for simulating electrical fault conditions in a protective relay system comprising a potential source, a current source, control circuit means

for controlling the phase angle between a voltage and a current applied to the relay system and for causing said voltage to change from a first value to a second value and said current to change from a first value to a second value in a particular sequence and a timing circuit for controlling the sequence of change of the current and voltage whereby fault conditions are simulated by feeding voltage and current to a relay under test with the phase angle between the voltage and current being controlled, the magnitude of the voltage and current being changed from first to second values and the sequence of change being controlled.

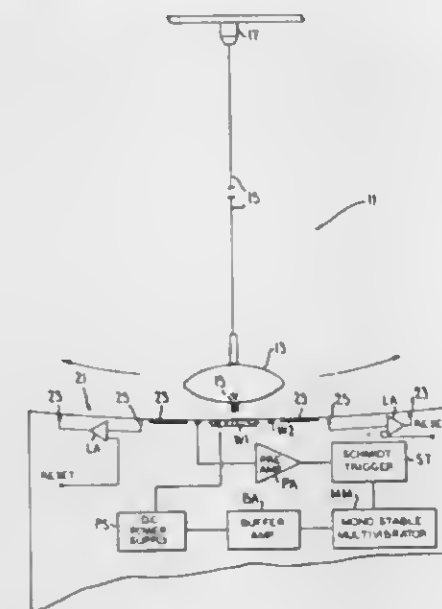
3,424,959
SPLIT PHASE INDUCTION MOTOR SOLID STATE POSITION CONTROL WITH BRAKING AT BALANCE
Frederick W. Gruener, Milwaukee, Wis., assignor to Jordan Controls, Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Sept. 24, 1964, Ser. No. 401,759
U.S. Cl. 318-18
Int. Cl. H02p 1/54, 5/46, 7/68, 7/74



A two-phase motor is provided having a pair of windings having a common terminal and individual forward and reverse rotating terminals which are connected by a capacitor. The motor is selectively energized for forward or reverse direction through operation of either one of a pair of normally closed directional control relay switches, one of which is connected to a forward terminal, and the other to the reverse terminal. A normally open brake control relay switch interconnects the forward and reverse directional switches to A.C. power lines. The standby relay circuit is such that the relays are de-energized and the brake relay switch is open while both of the directional relay switches are closed. The directional control relays are essentially instantaneously operative to open and close the directional switch means. The brake relay, however, is instantaneously operative only to close its brake switch and has a time delayed drop-out. To drive the motor in a selected direction, the relay or the opposite switch and the brake switch are energized and simultaneously open and close the associated switches. This provides a circuit to energize the motor in the selected direction. When the motor is to be stopped, both of the actuated relays are reset to the original position. However, the brake relay is provided with the timed control on the return to the initial position and maintain power to the forward and the reverse switch means, respectively, which are now both in the condition to apply power to the respective windings. Consequently, power is simultaneously applied for a timed period to both windings sufficiently long to produce high dynamic braking which will rapidly bring the motor to standstill but not sufficiently long to damage the motor.

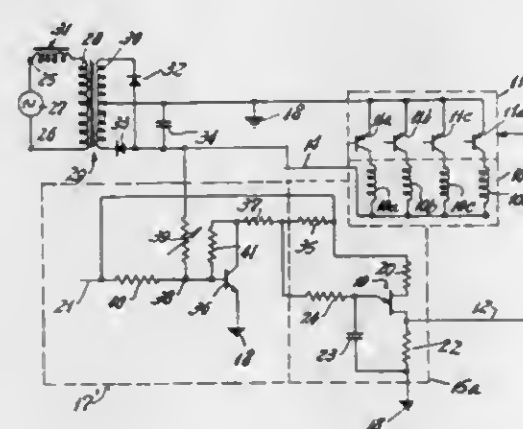
Solid state switching circuits for the relay switches are also disclosed.

3,424,960
PENDULUM DRIVE APPARATUS
Donald K. Ross, Olivette, Mo., assignor to Ross and Baruzzini, Inc., St. Louis, Mo., a corporation of Missouri
Filed Feb. 10, 1966, Ser. No. 526,583
U.S. Cl. 318-128
Int. Cl. H02k 33/00



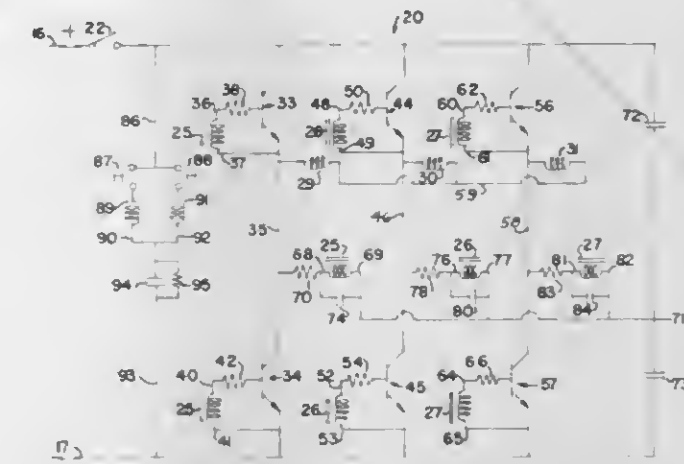
An omnidirectional drive for a Foucault pendulum is described in which a magnet swinging with the pendulum is magnetically attracted toward the rest position of the pendulum on each swing thereof only as the pendulum approaches its rest position. Repelling forces are thereby avoided preventing an elliptical swing of the pendulum.

3,424,961
LOAD RESPONSIVE, STEPPING MOTOR SPEED CONTROL CIRCUIT
Albert C. Leenhouts, Granby, Conn., assignor to The Superior Electric Company, Bristol, Conn., a corporation of Connecticut
Filed May 18, 1966, Ser. No. 551,074
U.S. Cl. 318-138
Int. Cl. H02p 7/06; H02k 29/04



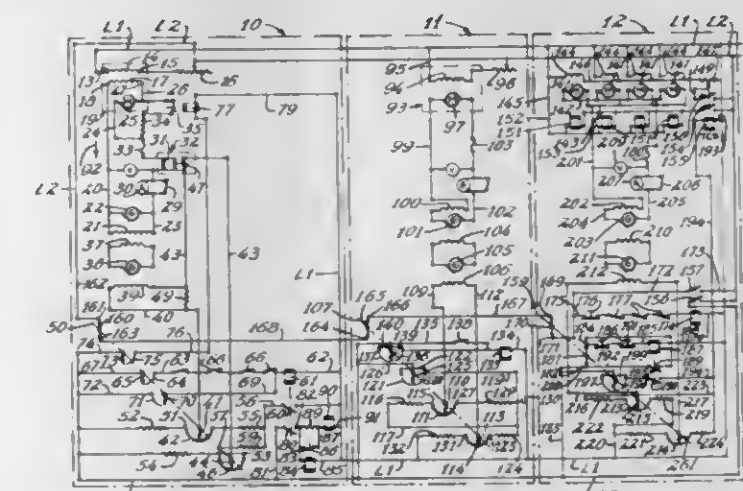
A stepping motor control circuit for decreasing the speed of the motor as the motor encounters an increase in the resistance of a load that it moves by the increased load decreasing the motor impedance to permit more current to flow but which in turn is decreased by decreasing the voltage to the motor with the voltage decrease producing a signal that decreases the frequency and hence stepping rate at which the motor is operated.

3,424,962
TRANSFORMER MEANS FOR A MULTI-PHASE FREQUENCY GENERATOR
Alex F. Gawron, Chicago, Ill., assignor to Skil Corporation, Chicago, Ill., a corporation of Delaware
Filed July 18, 1966, Ser. No. 566,101
U.S. Cl. 318-138
Int. Cl. H02k 29/00



The multi-phase, frequency generator, which provides a multi-phase alternating current in the stator windings of an induction-type motor, includes a plurality of legs each defined by a pair of transistors connected in push-pull relation. The control windings for the transistors are associated with a saturable core transformer, the phases of the saturable core transformer being magnetically coupled. This transformer serves as the sole means for synchronizing and spacing the phases of the alternating current generated by the frequency generator.

3,424,963
GENERATOR FED VARYING VOLTAGE MOTOR CONTROL SYSTEM FOR CRANES WITH MOTOR FIELD CONTROL DURING LOWERING
Lee C. McManus, Duluth, Minn., assignor to Clyde Iron Works, Inc., Duluth, Minn., a corporation of Minnesota
Filed Mar. 16, 1964, Ser. No. 351,957
U.S. Cl. 318-152
Int. Cl. H02p 7/66

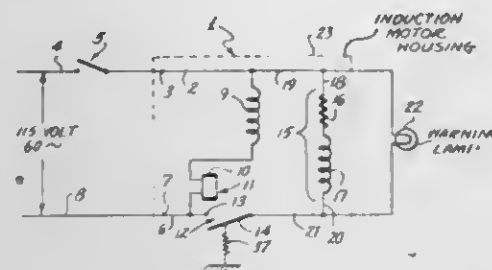


This invention resides in the provision of a hoist control system comprising a direct current compound wound motor connected in a solid loop to a shunt generator. The field of the shunt generator is connected to the armature of an exciter generator. The field current of the exciter generator is sufficiently small to be handled directly by potentiometers actuated by a master switch. The potentiometers are connected as voltage dividers driven so that at one end of travel the upper sweep is positive and at the other end of travel is negative and in a center position there is no potential difference between the sweeps. This

provides a reversing center-off exciter field control resulting in a variable rate of rotation of the hoist motor. Thus the speed of hoist decreases to a constant lowering speed at full load, and increases to a faster speed at lighter loads. The speed of lowering also varies with the load weight, being slowest at full load.

3,424,964

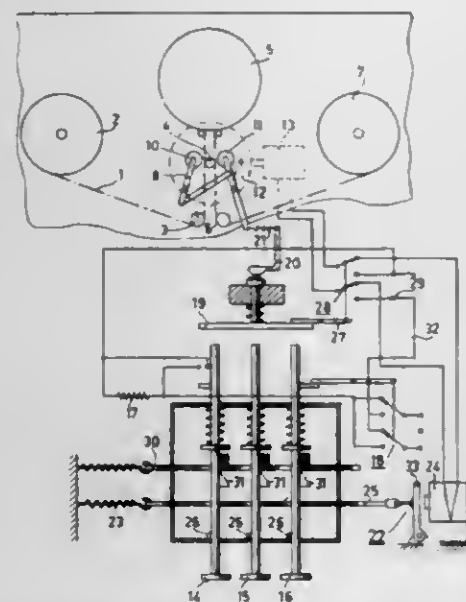
OVERLOAD WARNING SIGNAL FOR MOTORS
Robert N. Bacon, Baltimore County, Md., assignor to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed Oct. 22, 1965, Ser. No. 500,542
U.S. Cl. 318—220 3 Claims
Int. Cl. H02p 7/36



An overload warning signal arrangement for a motor of the type having a main winding and a starting circuit including a starting winding and a starting switch of the type which energizes the starting winding whenever the motor is overloaded. Conventionally, the switch may be of the type which closes in response to excess current in the main winding or under-speed operation of the motor. The warning signal is connected to the motor in such a manner that an overload signal is present whenever the starting winding is energized. In the preferred embodiment, the signal device is a lamp connected across the starting winding of the motor.

3,424,965

DEVICE FOR SWITCHING THE MOVEMENTS OF A TAPE-SHAPED RECORD CARRIER IN RECORDING AND/OR PLAY-BACK APPARATUS
Herman Kasper Adriaan De Lange, Klosterneuburg, and Viktor Pollaschek, Vienna, Austria, assignors to North American Philips Company Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 10, 1965, Ser. No. 438,577
U.S. Cl. 318—284 7 Claims
Int. Cl. H02p 1/22, 3/20, 1/40, 5/00

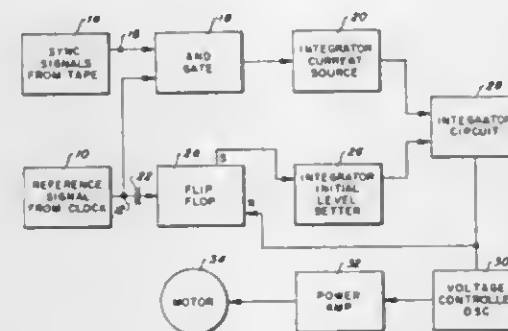


A tape driving apparatus designed to compensate for rapid directional and/or speed changes, is provided with a switching system responsive to the back EMF of the tape

drive motor, or to its rotational speed, for generating a control signal having a duration proportional to the time required for the driving spindle to come to a stop. The control signal energizes an electrical switch which in turn mechanically locks the manual operating members of the apparatus into position, preventing their use until the drive spindle has stopped. In a further embodiment, the operating members are rendered electrically inoperative for the duration of the control signal.

3,424,966

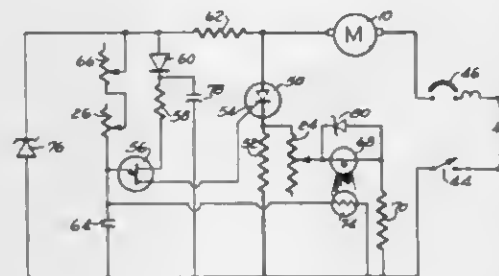
SYNCHRONOUS SERVO LOOP CONTROL SYSTEM
James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Frederick A. Stone, North Branford, Conn.
Filed May 4, 1966, Ser. No. 547,677
U.S. Cl. 318—314 7 Claims
Int. Cl. H02p 5/00



A control system for a tape recorder playback motor in which derived signals from the tape are synchronized with signals from a clock signal source. An integrator circuit is provided which is charged to a fixed initial reference voltage lead when the clock signal occurs. As long as both signals are present, the integrator output falls slowly at a fixed rate. In the absence of one of the signals the integrator holds its output value. The output of the integrator is used to control an oscillator whose output drives the tape recorder playback motor.

3,424,967

MOTOR DRIVE UNIT WITH SEMICONDUCTOR CONTROLLED SPEED AND TORQUE
Donald D. Keller, Bourbon, Ind., assignor to Orthopedic Equipment Company, Inc., a corporation of Indiana
Filed May 19, 1966, Ser. No. 551,374
U.S. Cl. 318—345 7 Claims
Int. Cl. H02p 5/12, 5/36, 7/24, 7/58



A speed and torque control for an electric motor supplied from an AC source, including an incandescent lamp whose brightness responds to supply current variations through an SCR in the supply circuit, and a light-dependent resistor illuminated by the lamp, said resistor controlling the firing circuit of the SCR; ganged variable resistors provide for adjustment of the torque-speed relationship.

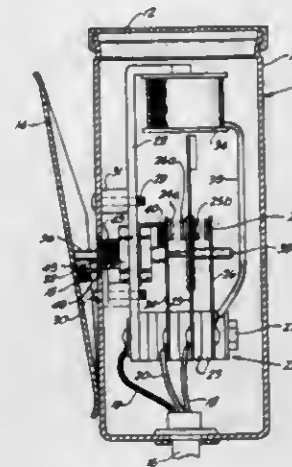
3,424,968
MANUALLY CONTROLLABLE LOAD VOLTAGE REGULATOR

Herman H. Murphy, 2107 W. Flower, Fullerton, Calif. 92633

Continuation-in-part of application Ser. No. 504,560, Oct. 24, 1965. This application May 23, 1966, Ser. No. 552,154

The portion of the term of the patent subsequent to June 20, 1984, has been disclaimed

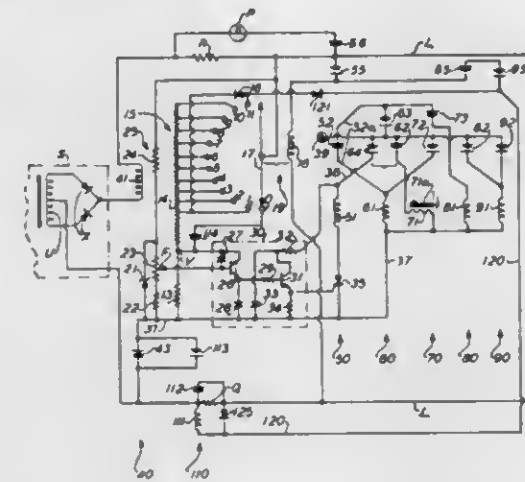
U.S. Cl. 318—346 9 Claims
Int. Cl. H02p 7/14



A manually controllable load voltage regulator comprising an electromechanically driven reciprocating armature connected to a supply voltage and spaced between first and second electrical contacts, the first contact being connected to the armature drive and the second contact being connected to a load, the armature being mechanically biased away from the second contact and being operative to periodically and alternately contact the first and second contacts. Manually controllable mechanical means is provided for simultaneously varying the bias of the armature and the spacing between the armature and the second contact to vary the frequency and on time of the signal applied from the voltage supply to the load.

3,424,969

BATTERY CHARGING CONTROL RESPONSIVE TO RATE OF RISE OF BATTERY VOLTAGE
Austin W. Barry, Fanwood, N.J., assignor to G-V Controls Inc., Livingston, N.J., a corporation of New Jersey
Filed July 22, 1966, Ser. No. 567,231
U.S. Cl. 320—21 25 Claims
Int. Cl. H02j 7/10



During the fast-charging of a battery the rate of rise of its voltage is sensed, and the fast-charging is terminated upon the sensing of a rate of rise of that voltage exceeding a predetermined rate.

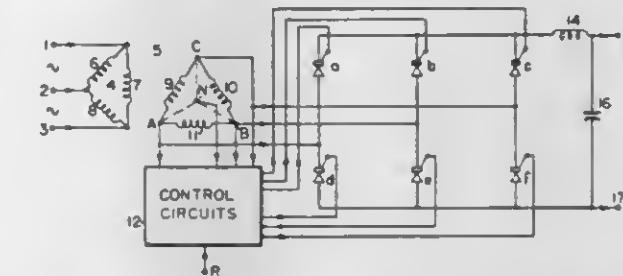
3,424,970

SELF-REGULATED RAPID RESPONSE PHASE-CONTROLLED RECTIFIER

James A. Ross, Villa Park, Calif., assignor, by mesne assignments, to L.T.V. Llog Altec, Inc., Anaheim, Calif., a corporation of Delaware

Filed Jan. 14, 1965, Ser. No. 425,564

U.S. Cl. 321—5 17 Claims
Int. Cl. H02m 7/20



Typically, a three-phase rectifier is controlled to give a constant voltage output despite variations of input voltage or of the frequency of alternation thereof. Control is accomplished by comparing the input voltages from phases to neutral of the rectifier with a constant voltage and by altering the period of conduction of controllable rectifiers accordingly. The comparison is made when phase to neutral voltages decrease to the magnitude of the constant voltage. Control is exercised within one cycle by a circuit devoid of a servo loop or a time constant. The circuit may employ either a semiconductor switch or a pulse generator, such as a Schmitt trigger. Twelve-phase and voltage-cascaded embodiments are possible.

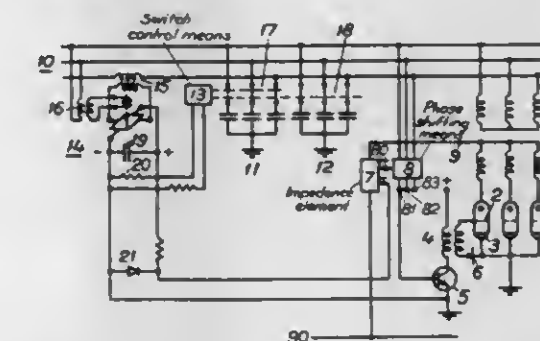
3,424,971

MEANS FOR CONTROLLING REACTIVE POWER IN AN INVERTER STATION

Hans Stackegard, Ludvika, Sweden, assignor to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Switzerland

Filed Apr. 26, 1967, Ser. No. 633,800

U.S. Cl. 321—18 5 Claims
Int. Cl. H02m 1/08, 7/44



An inverter station connecting a DC line to an AC network and comprising a commutation margin control device and a capacitor bank for generating reactive power. A reference magnitude means giving an output magnitude representative for the reactive power of the AC network controls on the one hand said commutation margin control device, on the other hand the capacitance of said capacitor bank with respect to minimum reactive power.

3,424,972

DEVICE FOR TRANSMITTING CONTROL PULSES TO A RECTIFIER

Staffan Ekstrom and Lindy Yngvesson, Ludvika, Sweden, assignors to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a Swedish corporation

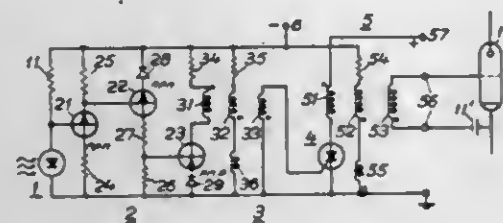
Filed Sept. 9, 1966, Ser. No. 578,239

Claims priority, application Sweden, Sept. 9, 1965, 11,756/65

U.S. Cl. 321—38 7 Claims
Int. Cl. H02m 7/46, 7/70

Control pulse transmission device for transmitting control pulses of a certain length from a control pulse gen-

erator to the control electrode of a rectifier. Said transmission device comprises an impulse transformer and a second transformer, each transformer having a primary winding, a secondary winding and a biasing winding. The primary winding of the impulse transformer is connected



to said pulse generator; the secondary winding of the impulse transformer is connected to the control electrode of an extinguishable thyristor connected in series with the primary winding of the second transformer and a voltage source; the secondary winding of said second transformer is connected to the control electrode of said rectifier.

3,424,973

ELECTRICAL INVERTERS

Robert R. Smyth, Lincoln, Mass., assignor to Technical Operations Incorporated, Burlington, Mass., a corporation of Delaware

Filed Mar. 19, 1962, Ser. No. 180,561

U.S. Cl. 321-45

Int. Cl. H02m 7/44

6 Claims



5. An electric inverter comprising, in combination, first and second terminals adapted for connection across a substantially unidirectional voltage source, a transformer having a primary winding with first and second connection points spaced apart thereon and a third connection point between them, and connected at said third point to said first terminal, first silicon controlled rectifier means connected at its cathode to said second terminal, third silicon controlled rectifier means connected at its anode to said first connection point, a first common junction between the anode of said first and the cathode of said third controlled rectifier means, second silicon controlled rectifier means connected at its cathode to said second terminal, fourth silicon controlled rectifier means connected at its anode to said second connection point, a second common junction between the anode of said second and the cathode of said fourth controlled rectifier means, capacitor means connected between said first and second junctions, and means sequentially to trigger said controlled rectifiers into the conductive condition in the sequence—first, third, second and fourth.

3,424,974

ELECTRIC GENERATING APPARATUS

Katsutoshi Tagami, Tokyo, Japan, assignor to Kabushiki Kaisha Honda Gijutsu Kenkyusho, Tokyo, Japan

Filed Oct. 20, 1966, Ser. No. 588,109

Claims priority, application Japan, Oct. 30, 1965, 40/88,162

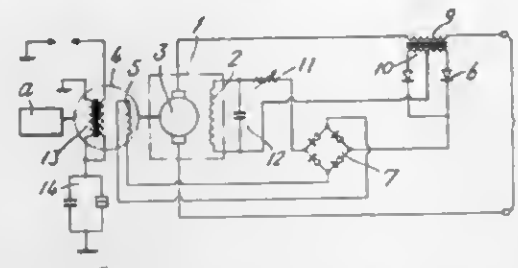
U.S. Cl. 322-27

Int. Cl. H02g 7/06; H02p 9/00

6 Claims

1. Generator apparatus comprising first and second generators, said first generator including an armature and field coil, said second generator including a permanent magnet

for self-excitation and an armature, driving means for driving said generators, and means to connect the armatures of the first and second generators to the field coil



of the first generator whereby the latter functions with the combined advantages of self-excited and separately-excited generators.

3,424,975

APPARATUS WITH PARALLEL FLOW PATHS FOR MEASURING ELECTRICAL CONDUCTIVITY OF FLUIDS

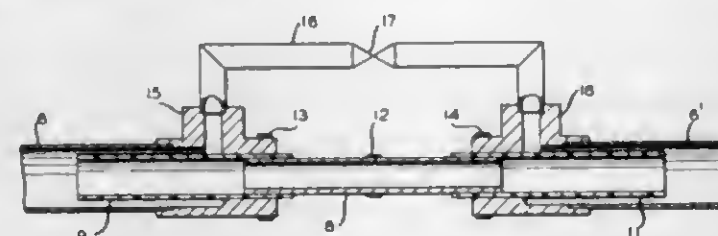
Richard A. Sanford, Floyd D. McCray, and Thomas Hutson, Jr., Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Oct. 23, 1965, Ser. No. 503,512

U.S. Cl. 324-30

Int. Cl. G01r 11/44

2 Claims



Electrical conductivity of flowing fluids is measured by apparatus which establishes parallel flow paths for the fluid. One flow path is through three conduits in series which are formed of electrically conductive material. Conduits of electrically insulating material extend from the central conductive conduit into the outer conductive conduits to provide elongated electrical paths between the central conductive conduit and the outer conductive conduits. A valve is provided in the second flow path to permit relative adjustment of flows through the two paths.

3,424,976

MAGNETIC DEVICE FOR DETERMINING DEFECTS IN ROD-LIKE ELEMENTS, CABLES, STEEL PIPES AND THE LIKE

Mieczyslaw Stanislaw Jezewski, Slemiradzkiego 29, Krakow, Poland; and Zygmunt Tadeusz Kaweck, Rejtana 14, Wleclizka, Poland; and Ludger Mirosław Szklarski, Nowowiejska 12; Eugeniusz Marian Krawczyk, Rydla 12; and Jerzy Marian Ogorzalek, Długa 88, all of Krakow, Poland

Filed Mar. 17, 1964, Ser. No. 353,029

Claims priority, application Poland, Mar. 27, 1963, 101,150

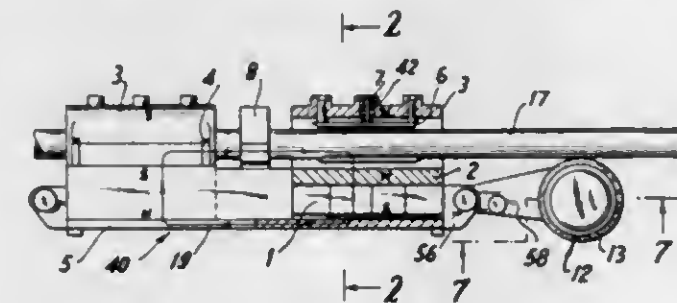
U.S. Cl. 324-37

Int. Cl. G01r 33/12

8 Claims

1. A magnetic device for determining defects in rod-like elements, cables, steel pipes, etc., moving along a path of travel, said device comprising, in combination, a permanent magnet assembly including two substantially identical permanent magnet sections spaced apart longitudinally of the path of travel of the test article, each permanent magnet assembly being elongated in the direction of movement of the test article; each permanent magnet section laterally surrounding said path of travel at a respective location therealong; each permanent magnet section including a tubular pole piece substantially centered

on said path of travel and defining a relatively elongated passage for the article, and consisting of two parts being at least partially separable for positioning around the article; each permanent magnet section further including anisotropic permanent magnets extending radially outwardly from the respective pole piece, having first poles of the same polarity in engagement with their respective pole piece, and having second poles of the same opposite polarity; the first poles of the permanent magnets of one permanent magnet section having a polarity opposite to that of the first poles of the permanent magnets of the other permanent magnet section; paramagnetic means interconnecting the second poles of all of said permanent magnets to define a magnetic flux path complete except for the air gap along said path of travel between the longitudinally spaced facing ends of said tubular pole pieces,



the magnetic flux traversing said air gap flowing through the test article except for imperfections in the test article; plural-section openable detector means, including pickup coils, laterally surrounding and substantially centered on said path of travel, positioned substantially midway between the facing ends of said tubular pole pieces and substantially coaxial with the latter and with the test article; plural axially elongated guide shoes mounted within each pole piece, in circumferentially spaced relation, to engage and guide an article having relative movement through said device along said path of travel; spring means biasing each guide shoe into engagement with the article to be examined; and adjusting means mounting in the permanent magnets associated with the respective pole piece and engaging said spring means and effective to adjust said spring means to pre-set the pressure thereof relative to the article to be examined.

3,424,977

CAPACITIVE DEVICE RESPONSIVE TO WATER VAPOR CONTENT OF A GAS INCLUDING INSULATED CONDUCTIVE WIRE ELECTRODES FORMING A GRID

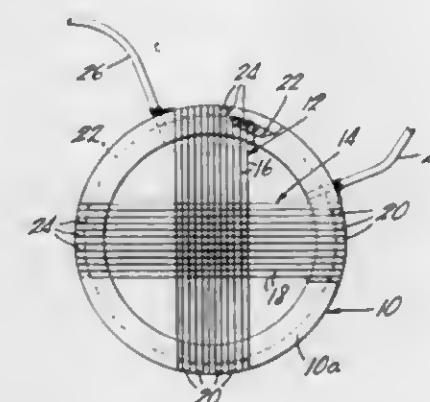
Hans Kroboth, Glen Cove, N.Y., assignor to Human Resources Foundation, Albertson, N.Y., a corporation of New York

Filed May 4, 1966, Ser. No. 547,653

U.S. Cl. 324-61

Int. Cl. G01r 27/26

9 Claims



This invention relates to a novel and improved device for determining the water vapor content of a gas. This device includes a capacitance element which is consti-

tuted by two groups of spaced-apart insulated conductive wires arranged generally as a grid so that the wires of one of the two groups cross those of the other.

3,424,978

RATE MEASURING CIRCUIT

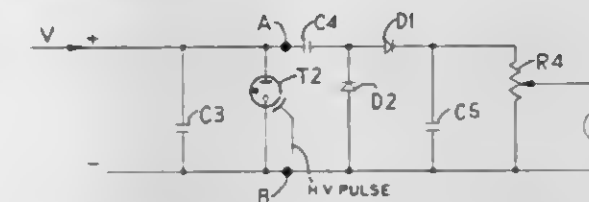
Hanford D. Monroe, De Witt, Mich., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware

Filed May 2, 1966, Ser. No. 546,621

U.S. Cl. 324-70

Int. Cl. G01f 11/02

1 Claim



A rate measuring circuit which utilizes a gas filled diode periodically energized to conduction by a series of spaced high voltage pulses related in their timing to the angular velocity of an object such as an automobile wheel. The circuit includes an input capacitor adapted to maintain a predetermined potential during the nonconducting periods of the diode and to transfer a given amount of energy through the diode when it is conducting to a second integrating capacitor which feeds a relatively constant current through a meter located in a potentiometer network.

3,424,979

ADAPTOR WITH SWITCHING MEANS AND CONDITION SIMULATING MEANS FOR AUTOMOTIVE IGNITION SYSTEM ANALYSIS

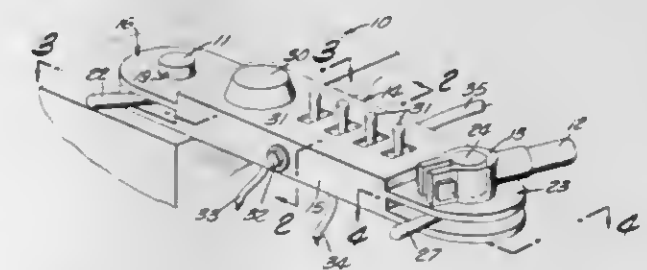
Hermann W. Stocker, Van Nuys, Calif., assignor to Universal Techtronics, Inc., Van Nuys, Calif., a corporation of California

Filed Aug. 27, 1965, Ser. No. 483,187

U.S. Cl. 324-73

Int. Cl. G01r 15/12

10 Claims



An adaptor to be inserted in series with the battery and the ignition system of an automobile for ignition system analysis, the adaptor including a plurality of switching means for actuating portions of the ignition system to thereby control the operation of the engine, and also including circuit means for simulating various ignition or engine conditions to determine the response of the system under analysis.

3,424,980

ELECTRONIC DIVIDING SYSTEM FOR DETERMINING THE RATIO OF TWO DIFFERENCES

Wilmer C. Anderson, Greenwich, Conn., assignor to General Time Corporation, New York, N.Y., a corporation of Delaware

Filed May 10, 1965, Ser. No. 454,507

U.S. Cl. 324-103

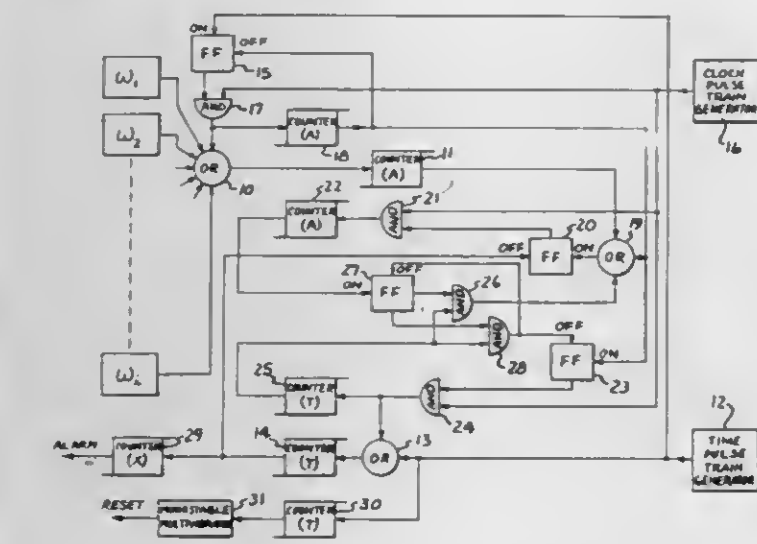
Int. Cl. G01r 19/16

8 Claims

An electronic dividing system for determining the ratio of

$$\frac{A-n}{T-t}$$

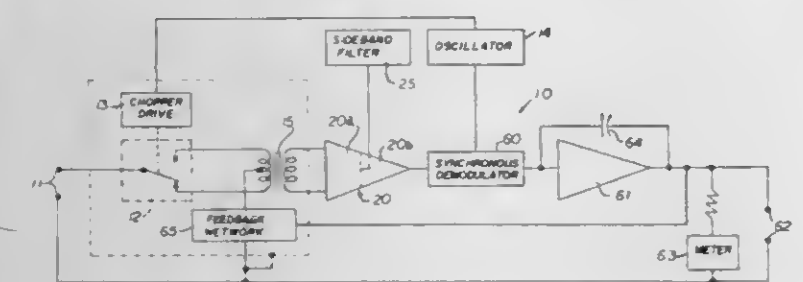
in which n and t are variables and A and T are constants. The system includes three pulse generators, one generating a series of pulses at a rate representative of the variable n , the second generating a series of pulses at a rate representative of the variable t , and the third generating a clock pulse train. A first counter having a capacity A is responsive to the n rate pulses, and is periodically actuated to count the clock pulses until it is filled, so that the number of clock pulses counted represents $A-n$. A second counter having a capacity T is responsive to the t rate pulses and is periodically actuated to count clock pulses until it is filled so that the number of clock pulses counted represents $T-t$. The counting of $T-t$ is repeated until the counting of $A-n$ is completed so that the number of $T-t$ counts represents the desired ratio. In one application of the ratio determining system, it is used as a power load anticipator for anticipating the rate of power dissipation over a predetermined demand interval.



ond counter having a capacity T is responsive to the t rate pulses and is periodically actuated to count clock pulses until it is filled so that the number of clock pulses counted represents $T-t$. The counting of $T-t$ is repeated until the counting of $A-n$ is completed so that the number of $T-t$ counts represents the desired ratio. In one application of the ratio determining system, it is used as a power load anticipator for anticipating the rate of power dissipation over a predetermined demand interval.

3,424,981
LOW LEVEL D.C. VOLTAGE APPARATUS EMPLOYING A BALANCED MODULATOR AND FILTER MEANS TO REMOVE SPURIOUS SIGNALS
Robert J. Erdman, Cleveland, Ohio, assignor to Kelthley Instruments, Inc., Cleveland, Ohio, a corporation of Ohio

Filed Nov. 12, 1964, Ser. No. 410,803
U.S. Cl. 324-118
Int. Cl. G01r 19/18



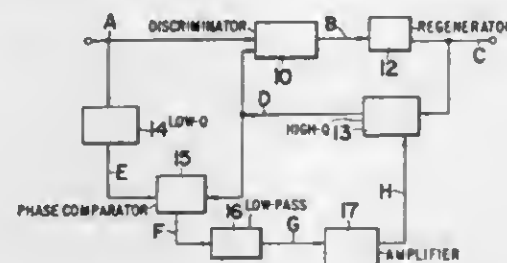
In the present system and method a low level (nanovolt) D.C. voltage is applied without filtering to a mechanical chopper to amplitude modulate a 94 c.p.s. carrier signal. The modulated signal output from the chopper includes only the carrier and the sum and difference frequencies of the carrier and the spurious 60 c.p.s. power frequency signal which may accompany the D.C. input signal. After being pre-amplified, the modulated signal is passed through side band filters which bypass the sum and difference frequencies to ground. After further amplification the carrier signal frequency component of the modulated signal is demodulated in a synchronous demodulator, and the recovered D.C. signal is measured by a meter.

3,424,982
AUTOMATIC TIMING WAVE PHASE CONTROL FOR SELF-TIMED REGENERATIVE PULSE REPEATERS

Masao Kawashima and Isao Fudemoto, Kawasaki-shi, Kanagawa-ken, Japan, assignors to Fujitsu Limited, Kawasaki-shi, Kanagawa-ken, Japan

Filed Nov. 1, 1965, Ser. No. 505,917
Claims priority, application Japan, Oct. 31, 1964, 39/61,789

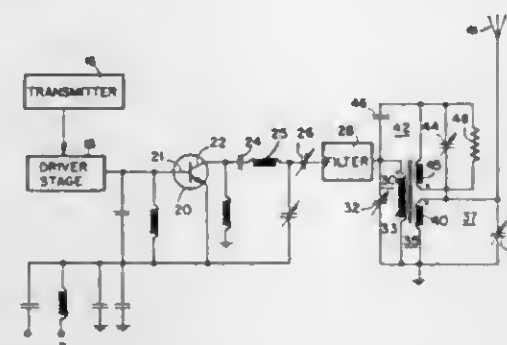
U.S. Cl. 325-13
Int. Cl. H04b 7/18



In a self-timed regenerative pulse repeater, the phase of a high-Q main timing filter, serving for the extraction in a known manner of a timing wave from the signal pulse train to be regenerated, is automatically controlled or stabilized by means of a control signal derived from the comparison of the phases of said wave and that of an auxiliary low-Q timing wave also extracted from said signal pulse train. The stabilized main timing wave and the signal pulse train are applied in a known manner to the regenerator, while the high-Q and low-Q timing waves, which may be derived from either the input or the output of the regenerator, are applied to the inputs of a phase comparator the output signal of which is applied to a voltage-dependent phase control element, such as a variable junction diode, forming an effective part of the high-Q timing circuit, to stabilize the timing wave serving for the regeneration of the signal pulses by the automatic phase control.

3,424,983
LOAD ISOLATION NETWORK WHICH PROTECTS TRANSMITTER IF ANTENNA IS DISCONNECTED
William A. Schlib, Lombard, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

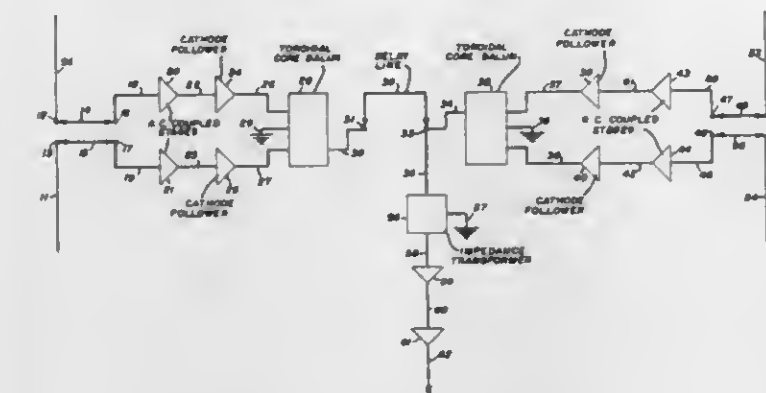
Filed Dec. 12, 1966, Ser. No. 601,140
U.S. Cl. 325-150
Int. Cl. H04b 1/02



A load isolation matching network uses a transformer having a primary and two secondaries with a capacitor connected across each of the windings to form circuits resonant at a particular frequency. One of the secondary winding resonant circuits is coupled to the antenna. A second secondary winding resonant circuit includes a resistor coupled in parallel therewith and a capacitor couples this resonant circuit to the primary winding. When the load presented by the antenna is removed for any reason the resistor absorbs the energy in the primary circuit.

3,424,984
DIRECTIONAL BROAD BAND ANTENNA ARRAY
John Harold Dunlavy, Jr., Silver Spring, Md., assignor to Antenna Research Associates, Inc., Beltsville, Md., a corporation of Texas

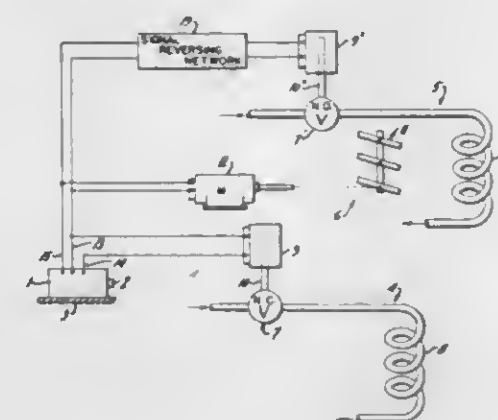
Filed Feb. 28, 1964, Ser. No. 348,069
U.S. Cl. 325-384
Int. Cl. H04b 1/18



This specification discloses a directional receiving antenna array comprising spaced dipoles connected to feed a common output through separate channels. Each of the channels contain active elements to electrically isolate the dipoles from one another and one of the channels also contains a delay line.

3,424,985
PROPORTIONAL CONTROL CIRCUIT
Charles F. Strawn, Arlington, Tex., assignor to Johnson Service Company, Milwaukee, Wis., a corporation of Wisconsin

Filed Jan. 13, 1964, Ser. No. 337,440
U.S. Cl. 328-3
Int. Cl. G01k 7/00; G08b 19/00

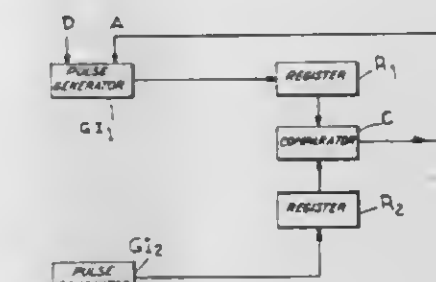


A temperature responsive signal source provides a direct current voltage proportional to the condition sensed and is connected to operate a valve in a proportional manner and through a signal reversing network to operate another valve in a reverse manner. The signal reversing network includes an emitter-follower connected transistor having a battery connected in series with a load between the emitter and collector with the load connected in the emitter lead. The signal source is connected across the base and the collector of the transistor with the corresponding polarity of the battery and source connected to the collector. The load voltage is equal to the difference between the D.C. voltages because the emitter to base junction does not present significant voltage drop. As the signal voltage increases, it subtracts from the battery voltage in the above series circuit and reduces energization of the load.

3,424,986
PULSE FREQUENCY DIVIDER
Jean-Pierre Vasseur, Paris, France, assignor to CSF—Compagnie Generale de Telegraphie Sans Fil, a corporation of France

Filed June 9, 1966, Ser. No. 556,418
Claims priority, application France, June 28, 1965, 22,514

U.S. Cl. 328-48
Int. Cl. H03k 21/32

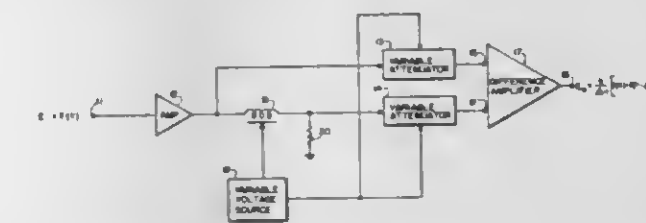


A device capable of deriving, from recurrent pulses having a repetition frequency F , recurrent pulses at a frequency F/N , N being a predetermined integer, comprises a first cascade binary counter, displaying the number N . A second counter counts the pulses at frequency F . A comparator connected to the two counters, generates a pulse, each time the two counters are in the same state, and resets to zero said second counter.

3,424,987
CONTROLLED ANALOG DIFFERENTIAL-TAKING CIRCUIT

Frederick R. Fluhr, Washington, D.C., assignor to the United States of America as represented by the Secretary of the Navy

Filed May 20, 1965, Ser. No. 457,532
U.S. Cl. 328-127
Int. Cl. G06g 7/18; H03k 5/00



An analog differential-taker for producing an approximate differential of the input function taken with respect to a given voltage in which the signal is directly attenuated in one variable attenuator and also attenuated in another variable attenuator after having been delayed by a voltage controlled delay line; the attenuated signals are then applied to a difference amplifier.

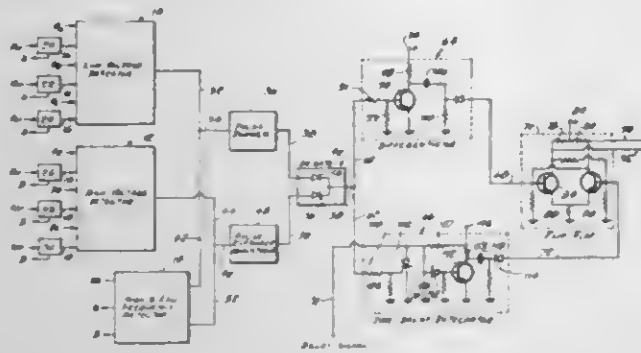
3,424,988
FREQUENCY ERROR DETECTOR FOR A POWER SUPPLY MONITOR AND BUS TRANSFER SWITCH

William H. Baehr, Uniondale, Bernard J. Stein, Jamaica, and Milton Weinberg, Plainview, N.Y., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Apr. 20, 1965, Ser. No. 449,662
U.S. Cl. 328-138
Int. Cl. H03k 5/18

A frequency error detector for monitoring an A.C. signal includes a binary logic that continually counts a series

of pulses of greater repetition rate than the monitored signal for the period of said signal. An output pulse is generated when the count fails to reach a predetermined value during said period.



3,424,989

CIRCUIT FOR CONSERVING BATTERY POWER BY ELIMINATING THE THIRD HARMONIC OF AN ELECTRICAL SQUARE WAVE

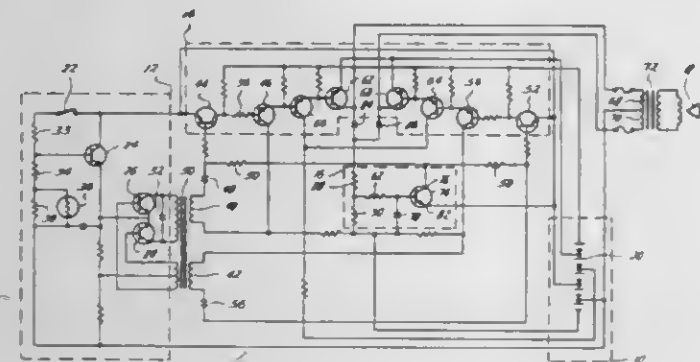
Louis W. Erath and Algernon S. Badger, Houston, Tex., assignors to Tideland Signal Corporation, Houston, Tex., a corporation of Texas

Filed May 19, 1964, Ser. No. 368,575

U.S. Cl. 328-165

Int. Cl. H03b 1/04; H03k 5/04

2 Claims



A circuit for conserving battery power by eliminating the third harmonic having a battery powered oscillator producing a standard electrical square wave including means for reducing the pulse width of the 180 electrical degrees to 120 electrical degrees. A battery powered electrical horn having an oscillator connected to the battery for providing a square wave output in which the pulse width is approximately 180 electrical degrees which is passed through a pulse width modifying means for reducing the pulse width of the square wave to approximately 120 degrees and connecting the output of the modifying means to an electrical horn. Circuit means for increasing the pulse width as the battery voltage decreases thereby holding the average output power relatively constant.

3,424,990

SYNCHRONOUS DEMODULATING MEANS

Alfonso S. Escobosa, Placentia, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware

Filed Dec. 9, 1964, Ser. No. 417,148

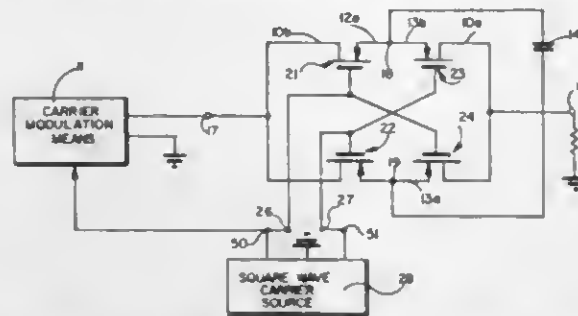
U.S. Cl. 329-50

Int. Cl. H03d 3/18

8 Claims

The invention comprises a synchronous demodulator utilizing an amplitude modulated square wave carrier and four electronic switching valves. Each pair of valves are connected together by first electrodes to form a pair of input terminals for a source of A-C signals. Each pair of valves are further connected together by different elec-

trodes to form a pair of output terminals. Control electrodes of alternate valves of each pair are connected together to form a pair of switching terminals adapted to be connected to a source of switching signals. By the above described arrangement, an A-C carrier input termi-



nal is switched across alternate ones of the output terminals in synchronism with changes in sense of switching signals. Where the carrier is used as the source of switching signals, demodulation of the modulated carrier occurs at the output terminals.

3,424,991

SEPARATED MIRROR FACE-PUMPED DISC LASER DEVICES

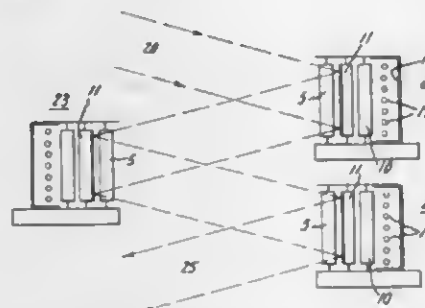
William S. Martin, Latham, N.Y., assignor to General Electric Company, a corporation of New York

Filed Feb. 13, 1967, Ser. No. 615,673

U.S. Cl. 330-4.3

Int. Cl. H01s 3/09

7 Claims



Discloses a face-pumped disc type laser device in which the reflective mirror constituting a portion of the laser module is physically separated from and deposited upon a separate planar surface other than one surface of the active disc. This separation prevents distortion of the mirror by virtue of distortion of the surface plane of the active disc by virtue of non-uniform absorption of heat within the active disc. May be used to produce either oscillator or amplifier type face-pumped laser device.

3,424,992

WIDEBAND POWER AMPLIFIER

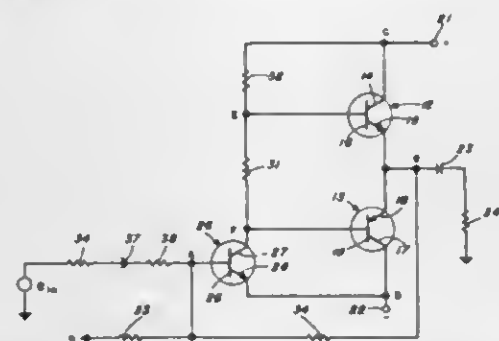
Frederick C. Zielinski, Glen Burnie, and Warren A. Williams, Severna Park, Md., assignors, by mesne assignments to the United States of America as represented by the Secretary of the Navy

Filed June 30, 1965, Ser. No. 468,649

U.S. Cl. 330-13

Int. Cl. H03f 3/30

2 Claims



There is disclosed an intermediate frequency amplifier within transistors are used in push-pull relationship,

with feedback means to a transistor driver for maintaining DC current biasing and having a gain not dependent on the transistor's parameters.

3,424,993

TRANSISTOR PROTECTION CIRCUIT

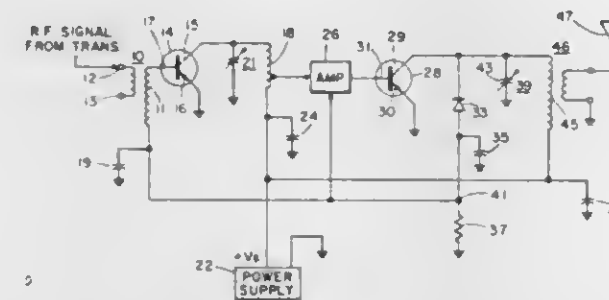
Philip L. Clar, Phoenix, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Feb. 9, 1966, Ser. No. 526,300

U.S. Cl. 330-24

Int. Cl. H03f 3/04

8 Claims



A diode detector circuit is responsive to a predetermined voltage on the collector of a transistor in an amplifier output stage having a polarity opposite to the collector power supply polarity to supply a control signal to other stages of the amplifier. The amplifier responds to the control signal to reduce the AC driving signal to the output stage for eliminating the overvoltage condition without disconnecting any power supplies.

3,424,994

SIGNAL-TO-NOISE RATIO ENHANCER

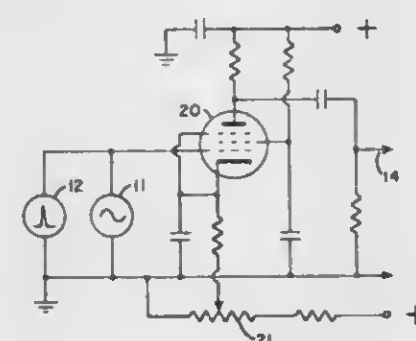
Jewel D. Browder, 1031 Alexandria Drive, San Diego, Calif. 92407

Filed Jan. 6, 1965, Ser. No. 423,769

U.S. Cl. 330-142

Int. Cl. H03g 3/06, 3/20

1 Claim



An active noise-limiting device is disclosed having significant value in suppressing impulse-noise disturbances as encountered in electrical communication systems, and the like, having input signals of constant amplitude. It comprises a Class A amplifier operated at rated voltage and currents in a substantially fully loaded manner in response to a predetermined signal input level so that the signals are amplified throughout the whole linear portion of the grid-voltage plate-current curve and the noise pulses accompanying the signals and superimposed thereon are forced into the nonlinear portions of the curve and accordingly receive very little amplification. Thus, for an obvious reason, the noise-limiting device is termed a gorged amplifier, yet it enhances the signal-to-impulse ratio because it amplifies signals to a greater degree than it amplifies noise pulses.

3,424,995

POWER SUPPLY SYSTEM WITH AUTOMATICALLY SUBSTITUTED REDUNDANT INVERTER

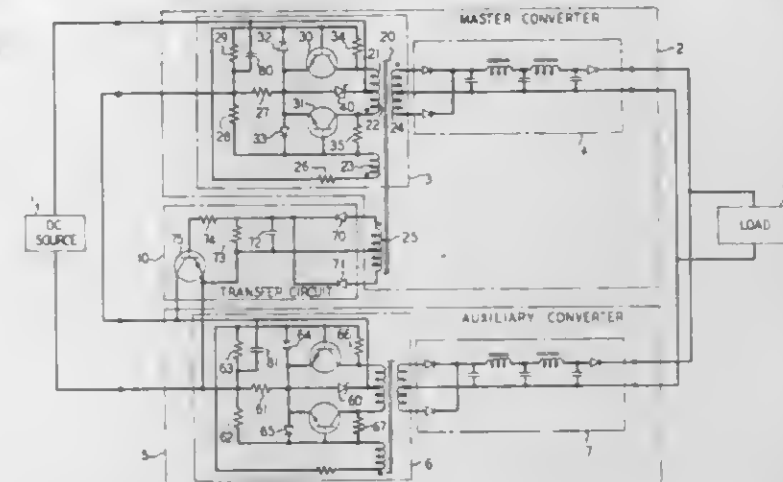
Michael Parente, Florham Park, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Sept. 16, 1966, Ser. No. 580,098

U.S. Cl. 331-49

Int. Cl. H03b 3/14

8 Claims



The inputs of a push-pull main converter and a spare converter are connected in series across a DC source and their outputs are connected in parallel to a common load. The input of the spare converter is short-circuited in response to output from the main converter. The positive feedback drive in the main converter is opposed by a constant back-bias. Upon failure of one transistor in the main converter both transistors are turned off, leaving a low impedance current path, and the short circuit across the spare converter input is removed.

3,424,996

VOLTAGE JUMP KLYSTRON OSCILLATOR

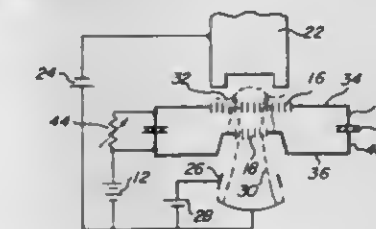
Jerome John Hamilton, Bedford, Mass., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware

Filed Aug. 29, 1967, Ser. No. 664,101

U.S. Cl. 331-84

Int. Cl. H03b 9/06

4 Claims



An oscillator device having severed electrically isolated cavity resonator circuits disposed along the path of an electron beam with an independently variable DC electric field applied across the resonator interaction gap. Improvements in the reflector field effectiveness parameter arising from better synchronization of RF phase relationships in the reflected electron bunches, together with improved beam bunching and focusing, afforded by the velocity jump, lead to the attainment of substantially higher operating efficiencies.

3,424,997

GAS LASER WITH GAS STORAGE ELECTRODE

Firmin O. Lopez, Santa Clara, and Walter Proskauer, San Francisco, Calif., assignors to Spectra-Physics, Inc., Mountain View, Calif., a corporation of California

Filed Jan. 5, 1966, Ser. No. 518,870

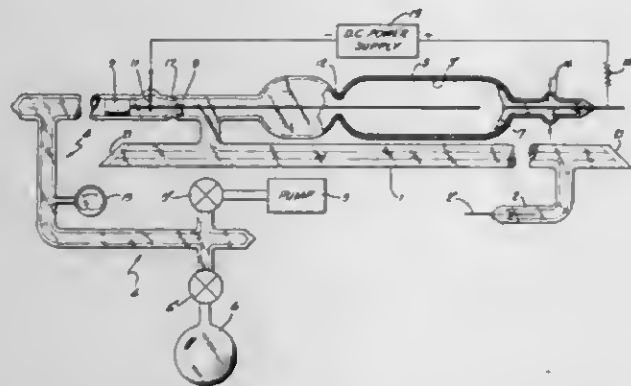
U.S. Cl. 331-94.5

Int. Cl. H01s 3/22

11 Claims

1. A gas laser comprising: a contained active gaseous medium; an insulating member; a film of metallic ma-

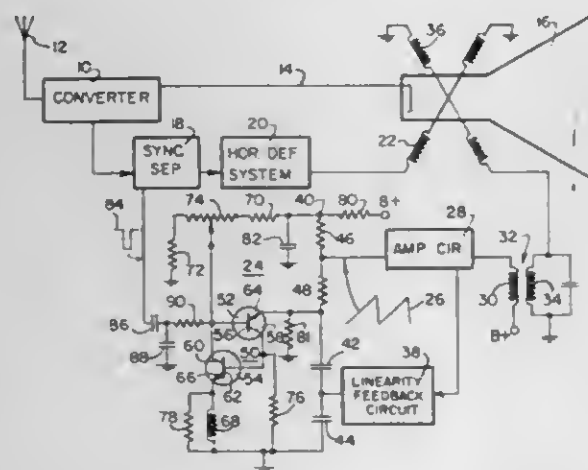
terial having gaseous atoms trapped therein, said trapped atoms being of the same element as at least one element of said active gaseous medium, said film contacting said insulating member and being exposed to said active gaseous medium; and means developing an electric po-



tential on said film which attracts ionized atoms from said active gaseous medium for causing said ionized atoms to strike said film and liberate atoms of said element trapped therein to compensate for clean up of said active gaseous medium during use.

3,424,998 RELAXATION OSCILLATOR WITH SAWTOOTH OUTPUT

Donald E. Griffey, Skokie, Ill., and William E. Drummond, Stanford, Calif., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Apr. 26, 1967, Ser. No. 633,817
U.S. Cl. 331-111 2 Claims
Int. Cl. H03k 3/26



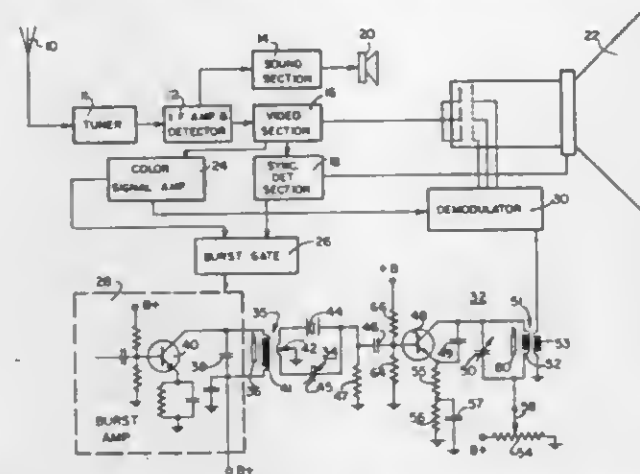
The oscillator includes a resistor for charging a capacitor at a relatively slow rate, with an electronic switch and an inductor coupled in series across the capacitor. When the capacitor charge reaches a predetermined conduction level, the switch closes and couples the inductor and capacitor together to rapidly discharge the capacitor and charge the inductor. The switch opens sharply after a predetermined amount of inductor charge change to thereby develop a sawtooth signal across the capacitor.

3,424,999 CRYSTAL OSCILLATOR AND CRYSTAL FILTER CIRCUIT EMPLOYING A SINGLE CRYSTAL

Rolf E. Spies, Lyons, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Mar. 2, 1966, Ser. No. 531,185
U.S. Cl. 331-116 4 Claims
Int. Cl. H03b 5/36

A common base oscillator circuit employs a crystal in

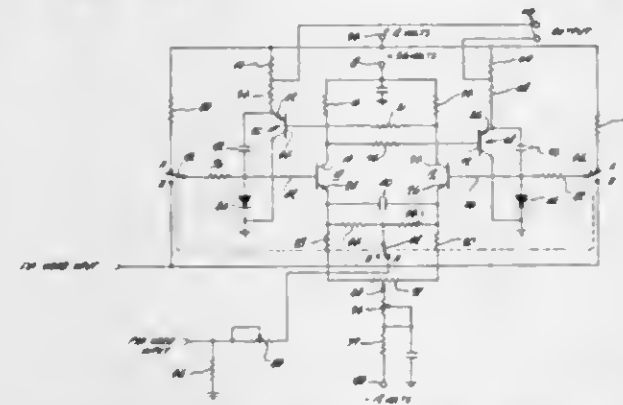
the base circuit as the frequency determining element of the oscillator. The same crystal is used as part of a bridge



filter circuit to couple synchronizing signals to the base of the transistor to synchronize the oscillator.

3,425,000 TRANSISTORIZED MULTIVIBRATOR MODULATOR

Bert H. Dann, Altadena, Calif., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed Aug. 8, 1966, Ser. No. 570,887
U.S. Cl. 332-16 4 Claims
Int. Cl. H03c 3/00



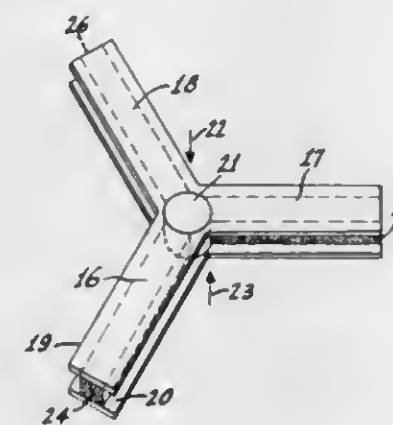
1. A modulator comprising first and second transistors, each having a base, collector, and emitter, a pair of load resistors respectively connecting the two collectors to a first potential, resistor means connecting the two emitters to a second potential, a pair of diodes respectively connecting the two bases to a third potential intermediate the first and second potentials, third and fourth transistors each having a base, collector, and emitter, a pair of capacitors respectively connecting the emitters of the third and fourth transistors to the bases of the first and second transistors, a pair of resistors respectively connecting the bases of the third and fourth transistors to the collectors of the first and second transistors, a pair of resistors respectively connecting the emitters of the third and fourth transistors to a fourth potential, means coupled to the bases of the first and second transistors tending to bias the transistors into a conductive state, and means responsive to the voltage difference between the emitters of the third and fourth transistors for providing an output signal.

3,425,001 DIELECTRICALLY-LOADED, PARALLEL-PLANE MICROWAVE FERRITE DEVICES

Bernard Hershenov, Kendall Park, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed May 31, 1966, Ser. No. 553,994
U.S. Cl. 333-1.1 16 Claims
Int. Cl. H01p 1/32

A transmission line is provided comprising a rectangular piece of low loss relatively high dielectric material

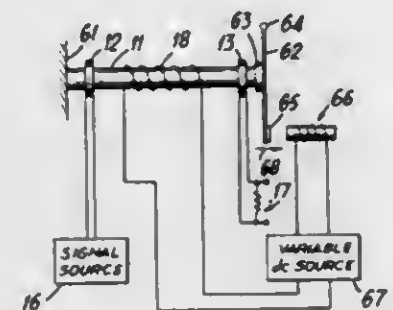
disposed between two parallel conducting planes or plates so that an air space is left between the two plates on each side of the dielectric material. The cross sectional dimensions and dielectric constants are selected so that upon the application of an electromagnetic wave, R-F



energy in either the TE_{10} or HE_{11} modes is propagated along this transmission line. Ferrite material properly biased with a D.C. magnetic field and placed near the dielectric-air interface can be arranged to act on the electromagnetic wave propagated along the transmission line to provide different types of ferrite microwave devices.

3,425,002 VARIABLE DELAY DEVICE

Shiro Okamura, 26 Nichome, Shiba Shirokane, Daimachi, Minatoku, Tokyo, Japan
Filed Nov. 3, 1964, Ser. No. 408,641
Claims priority, application Japan, Nov. 7, 1963, 38/60,018
U.S. Cl. 333-30 2 Claims
Int. Cl. H03h 7/30



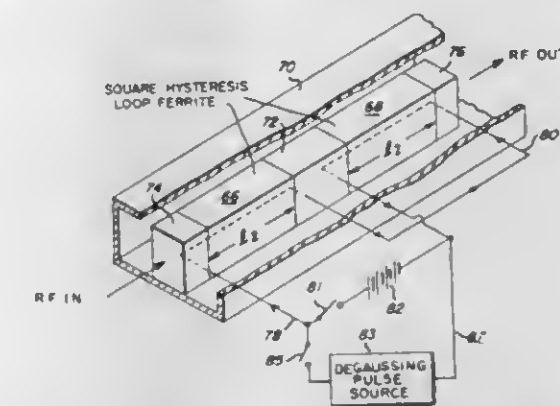
An elongated medium for propagating an elastic wave is provided with a means for launching a signal at one end and means for receiving the delayed signal at the other end. The device is further provided with a means for applying the magnetic or electric field thereto while simultaneously varying the mechanical stress, thereby producing a variable delay between the input and output.

3,425,003 RECIPROCAL DIGITAL LATCHING FERRITE PHASE SHIFTER WHEREIN ADJACENT FERRITE ELEMENTS ARE OPPOSITELY MAGNETIZED

Max C. Mohr, Chelmsford, Mass., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware
Filed Jan. 27, 1967, Ser. No. 612,157
U.S. Cl. 333-31 5 Claims
Int. Cl. H03h 7/18

A phase shifter device for microwave frequency energy employing a plurality of ferromagnetic elements defining closed magnetic circuits and having a high degree of remanent magnetization achieved by passage of intermittent current pulses through wires centrally disposed in each element. Paired elements of equal length are provided in tandem within rectangular waveguide propagating structures with the elements separated by a match-

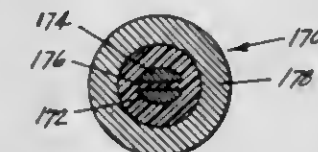
ing transformer. Current pulses in each of the tandem elements are directed in a series opposing manner to result in opposite directions of magnetization and a similar differential phase shift of electromagnetic waves traversing the device in either direction. Means are also



provided to achieve a second magnetization condition or bit position for each of the ferromagnetic elements to render the device readily adaptable to digital current control techniques in phased array antenna applications. The invention may be utilized as a transmission or reflective type of device.

3,425,004 RADIO FREQUENCY ENERGY ATTENUATOR

Henry B. Warner, Westminster, Calif., assignor, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland
Filed Nov. 29, 1963, Ser. No. 326,928
U.S. Cl. 333-79 6 Claims
Int. Cl. H01b 7/14; H01b 3/00



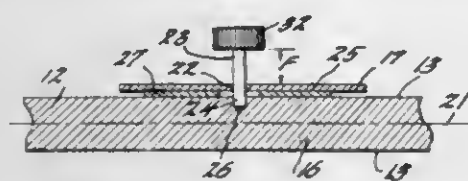
1. In a device of the class described, a transmission line comprising:
a pair of regular conducting leads for transmitting electrical energy to a load, said leads being positioned axially parallel to each other and fabricated of an at least fairly good electrically conducting, high permeability magnetic material that provides primarily large skin effect losses at higher frequencies, and each of said leads including
a shaped cross section having at least a flat side wherein such corresponding flat sides of said leads are positioned closely adjacent and parallel to each other whereby proximity effects are greatly enhanced;
dielectric material completely surrounding said shaped cross section of each of said leads and maintaining said leads in position relative to each other; and
a sheath enclosing said dielectric material and positioned generally parallel to and spaced from the outer surfaces of said leads.

3,425,005 DIELECTRIC VARIABLE ATTENUATOR

Adnan T. Hayany, Kansas City, Mo., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Feb. 23, 1967, Ser. No. 617,984
U.S. Cl. 333-81 11 Claims
Int. Cl. H01p 1/22

A new vane-type attenuator is interposed in a transmission system formed from solid dielectric waveguide for varying the amount of energy passing therethrough. The

vane is electromagnetically coupled to one surface of the waveguide and mounted for rotation in a plane parallel



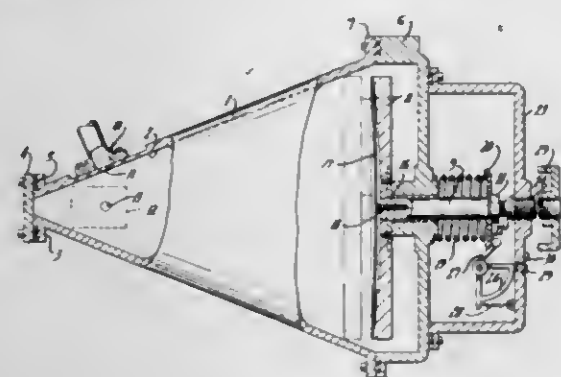
to the surface. The angular position of the vane axis with respect to the longitudinal axis of the waveguide determines the amount of loss introduced by the attenuator.

3,425,006 CAVITY RESONATOR WITH MODE DISCRIMINATING MEANS

James M. Wolf, Ann Arbor, Mich., assignor to Johnson Service Company, Milwaukee, Wis., a corporation of Wisconsin

Filed Feb. 1, 1967, Ser. No. 613,327

U.S. Cl. 333-83 12 Claims
Int. Cl. H01p 7/06



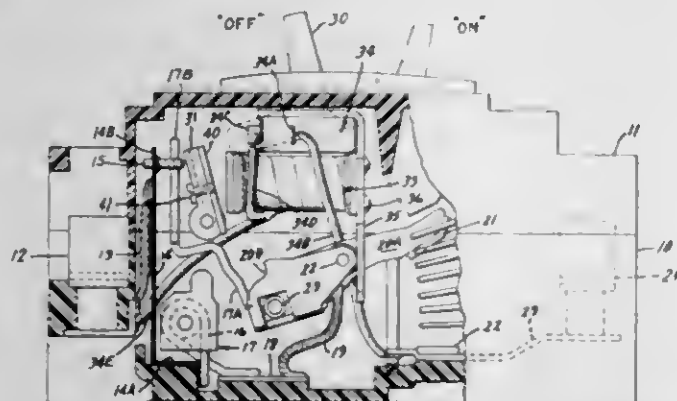
A right circular hollow cone member is provided with a reflecting boundary plate in the large end and an energy source for introducing electromagnetic energy into the cavity. The electromagnetic energy source is located at a limiting cross-section of the cone member which serves as the reflecting boundary. The plate includes an adjustable curved surface of a spherical segment.

3,425,007 ELECTRIC CIRCUIT BREAKER INCLUDING SENSING MEANS OPERATED BY THE OPERATING HANDLE

Robert T. Casey, Southington, Conn., assignor to General Electric Company, a corporation of New York

Filed May 26, 1967, Ser. No. 641,660

U.S. Cl. 335-11 9 Claims
Int. Cl. H01b 77/04



An electric circuit breaker including separable contacts which are manually as well as automatically operable includes sensing means operated upon initial movement of the operating handle, which senses the impedance conditions of the load circuit in which the circuit breaker is connected, and which prevents closing of the circuit breaker if the impedance in the load circuit is below a predetermined desired level.

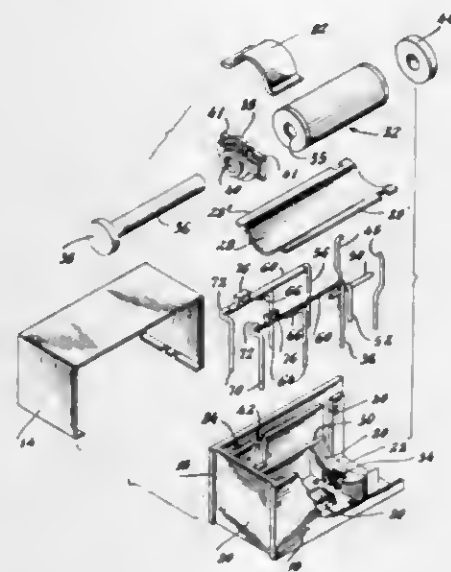
cuit breaker is connected, and which prevents closing of the circuit breaker if the impedance in the load circuit is below a predetermined desired level.

3,425,008 ELECTROMAGNETIC REED RELAY HAVING LOW NOISE CHARACTERISTICS

Nathan H. Magida, Westport, and Alexander Z. Lopasic, Stamford, Conn., and William Wolfner, Columbus, Ind., assignors to Thermosen, Incorporated, Stamford, Conn.

Filed Dec. 8, 1966, Ser. No. 600,188

U.S. Cl. 335-93 13 Claims
Int. Cl. H01h 51/34



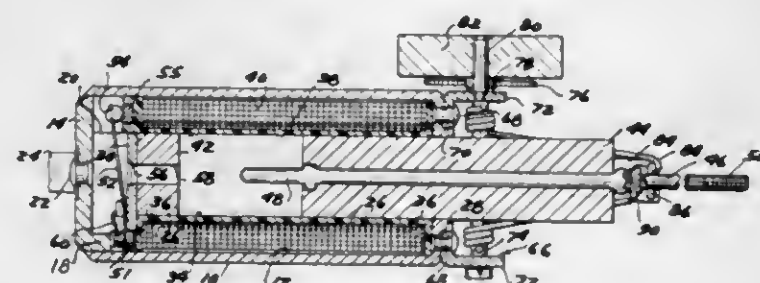
A sealed electromagnetic reed relay which includes movable contact reeds positioned in parallel, substantially coextensive relationship to the core for the relay operating coil, and yet, substantially beyond the relay magnetic field. A shell constituting a portion of the relay magnetic circuit is interposed between the contact reeds and the operating coil, and serves as a magnetic shield. The reeds and contacts are formed of similar high conductivity metals so as to eliminate bimetallic junctions.

3,425,009 ELECTRO-MECHANICAL ACTUATOR

Robert H. Voigt, Milford, and David W. Lowe, Holly, Mich., assignors, by mesne assignments, to Dynatron, Incorporated, Milford, Mich., a corporation of Michigan

Filed Sept. 10, 1965, Ser. No. 486,397

U.S. Cl. 335-177 7 Claims
Int. Cl. H01h 9/54



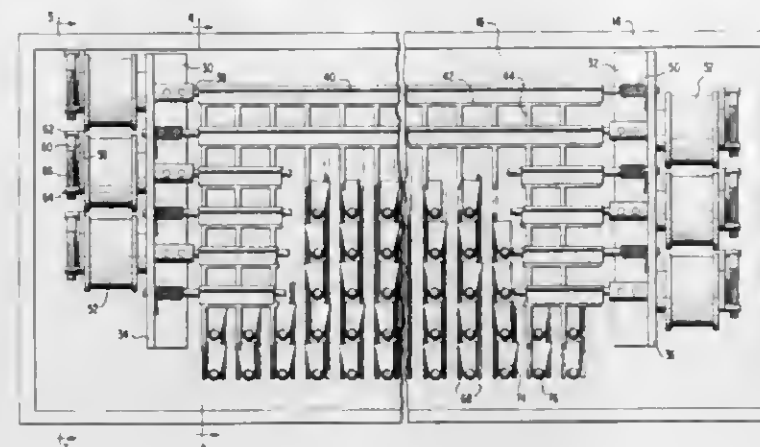
An electro-mechanical actuator which includes a fixed core member, a movable core member and two electromagnetic coils. Switch means are actuated to energize the coils and to automatically disconnect one coil when the movable core member is in a holding position and a fly-wheel is connected to the core member to eliminate impulsive movement thereof.

3,425,010 SELF-CONTAINED SETTER BOARD

Paul A. Klann, P.O. Box 2398, Waynesboro, Va. 22980

Filed Oct. 22, 1965, Ser. No. 501,288

U.S. Cl. 335-122 4 Claims
Int. Cl. H01h 67/06



A setter board comprising a frame and a contact panel member mounted thereon, first contact means secured to one side of said panel, second contact means movably mounted on said frame adjacent said first contact means, blocking means movably secured to said panel and selectively movable into and out of interposed blocking relation between said first and second contact means and drive means connected to said second contact means to move said second contact means into and out of engagement with said first contact means which are not blocked by said blocking means.

3,425,011 DEVICE FOR IMPARTING HORIZONTALLY OSCILLATORY ROTATING MOVEMENT TO ARTICLES

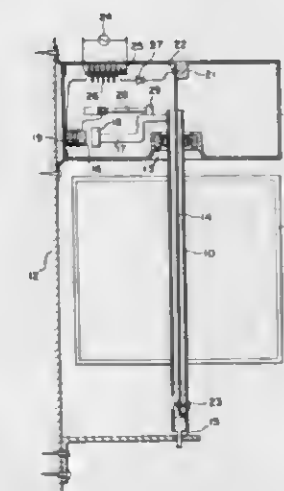
Reijiro Ito, Tokyo, Japan, assignor to Matsushita Electric Industrial Co., Ltd. and Kokusai Display Kogyo Kabushiki Kaisha, Osaka and Tokyo, Japan, respectively

Original application Aug. 30, 1965, Ser. No. 483,404, now Patent No. 3,325,759, dated June 13, 1967. Divided and this application Jan. 26, 1967, Ser. No. 630,157

Claims priority, application Japan, Sept. 4, 1964, 39/70,100; Nov. 24, 1964, 39/90,996; June 16, 1965, 40/48,551; June 30, 1965, 40/39,871

U.S. Cl. 335-179 10 Claims

Int. Cl. H02k 33/18



A device for imparting horizontally oscillatory movement to display articles carried on a movable support rotatably mounted on a stationary support by resilient means. The device includes a permanent magnet mounted on one end of an arm horizontally mounted on the movable support and directed towards the stationary support.

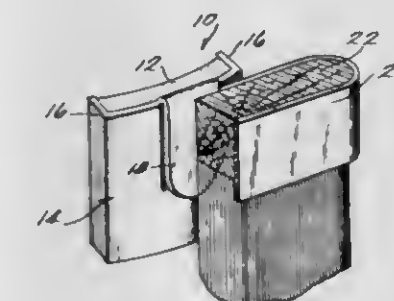
An electromagnet is provided on the stationary support in a position opposite the permanent magnet, in an at rest position, and means are provided to selectively energize the electromagnet to exert a repulsive force on the permanent magnet thus achieving the desired motion.

3,425,012 MAGNETIC HOLDING DEVICE FOR SECURING PAINT BRUSHES TO THE SIDES OF PAINT CANS AND SIMILAR OBJECTS

John G. Gottinger, S. Hickory St., P.O. Box 668, Fond du Lac, Wis. 54935

Filed Mar. 31, 1967, Ser. No. 627,411

U.S. Cl. 335-285 4 Claims
Int. Cl. H01f 7/02



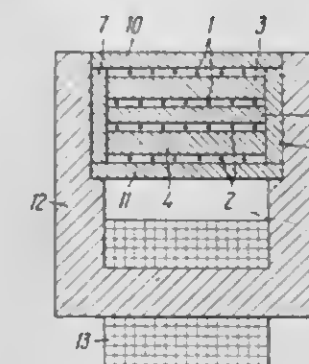
A holding device with a resilient base having permanently magnetized particles embedded therein. The front face of the resilient base is slightly concavely curved. On its sides and back face the base is surrounded by a channel-shaped steel frame which is part of the magnetic circuit and which is provided with a backwardly bent and convexly curved resilient clip member which may be forced between the steel band and the wooden stock of the brush to removably secure the holding device to the brush.

3,425,013 MAGNET-CONTROLLED FERROVARIOMETER

Jury Borisovich Nesvizhsky, Novo-Izmailovsky pr. 37, kv. 68; Sergei Vasilievich Pavlov, V.O. Bolshoi pr. 11, kv. 22; and Gennady Konstantinovich Boronichev, Ligovsky pr. 31, kv. 7, all of Leningrad, U.S.S.R.

Filed Dec. 23, 1966, Ser. No. 604,230

U.S. Cl. 335-296 2 Claims
Int. Cl. H01f 3/00; 7/00

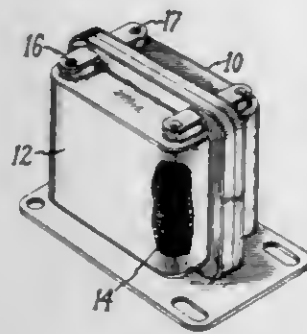


A magnet-controlled ferrovariometer in which inductance coils are placed on magnetic material cores whose permeability varies under the effect of a controlling magnetizing field. The cores are held on three sides by magnetic material plates whose permeability varies under the effect of a controlling magnetizing field and the ferrovariometer is completed by a magnetizing winding encircling the cores, coils and plates for creating a controlling magnetizing field within the cores and plates. A magnetic screen may enclose all of the components and serve as a magnetic conductor for the controlling magnetizing field.

3,425,014
AXIALLY RANDOMLY WOUND COILS
 Reuel L. Davis, Jr., 2032 Evergreen Drive,
 Hendersonville, N.C. 28739

Continuation-in-part of application Ser. No. 446,687,
 Apr. 8, 1965. This application Nov. 29, 1967, Ser.
 No. 697,542
 U.S. Cl. 336—96
 Int. Cl. H01f 27/28

2 Claims

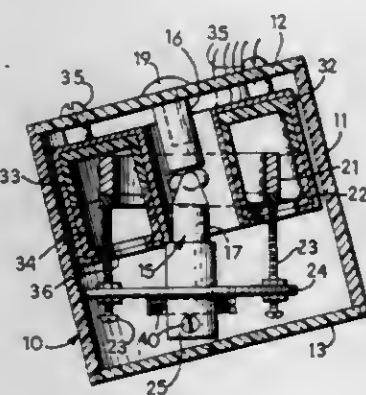


A winding assembly having a plurality of conductor turns encapsulated to form a tubular winding which has inner and outer walls. The plurality of turns start at the first end of the assembly and randomly fill the radial space between the inner and outer walls as the turns progress from the first end of the tubular assembly to the second end.

3,425,015
MAGNETICALLY COUPLED CORE AND COIL
HAVING RELATIVE MOVEMENT
 Herbert H. Klug, Fort Wayne, Ind., assignor to The
 Magnavox Company, Fort Wayne, Ind.
 Filed Apr. 1, 1966, Ser. No. 539,475

U.S. Cl. 336—130
 Int. Cl. H01f 21/06

3 Claims



This invention pertains to a magnetic device in which the two magnetic components comprised of a core and inductive coil are mounted so that one can move relatively to the other on a gimbal so that one of the parts remains in a given plane while still being uniformly coupled to the other part.

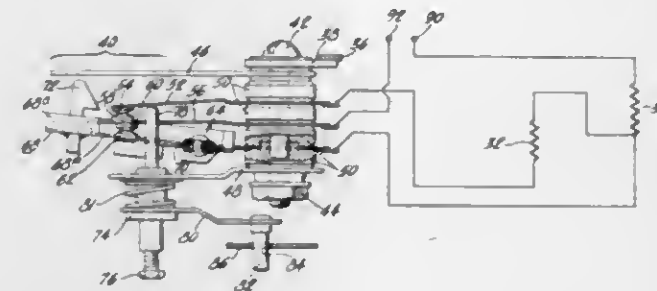
3,425,016
THERMOSTATIC CONTROL SWITCH
 Charles R. Turner and Walter E. Meyers, Philadelphia,
 and Luther P. Manship, Collingdale, Pa., assignors to
 Proctor-Silex Incorporated, Philadelphia, Pa., a corpo-
 ration of New York
 Filed Oct. 27, 1966, Ser. No. 589,898

U.S. Cl. 337—1
 Int. Cl. H01h 37/46

14 Claims

1. A condition responsive device to open at a desired condition comprising: a pair of switch contacts positioned relative to one another so that they may be opened and closed, a mechanical support for one of the contacts serving also as an electrical connection and including a single bimetal strut of general channel shape having web area cut away between the side flanges thus separating

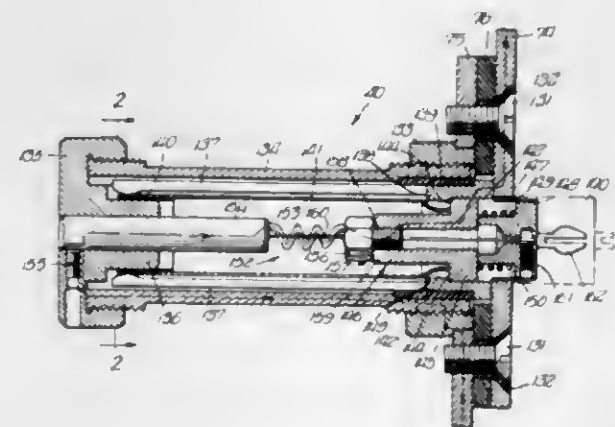
web areas constituting a primary and a secondary zone and leaving a narrow bridge at the contact supporting end supporting one of the contacts at a point between the side flanges, said bridge constituting said secondary thermomotive zone and being rapidly responsive to thermal effects near the contacts to tend to move the supported contact in one direction, and having the side flanges inter-



rupted along its length to provide a web area primary zone of opposite effect upon the contact from the secondary zone, the thermal effect in response to heat generated by internal resistance to flow of current through the strut being greater in the primary than in the secondary zone but the thermal effect in response to heat generated at said switch contacts being initially greater in the secondary than in the primary zone.

3,425,017
CURRENT SENSOR AND SHORT CIRCUITING
MEANS THEREFOR
 Guenther G. Schockelt, Skokie, Ill., assignor to S & C
 Electric Company, Chicago, Ill., a corporation of
 Delaware
 Original application June 30, 1966, Ser. No. 561,839.
 Divided and this application Nov. 29, 1967, Ser.
 No. 705,251
 U.S. Cl. 337—17
 Int. Cl. H01h 79/00, 85/04

5 Claims



A current sensor having contacts bridged by a fusible element operates on predetermined current flow to close these contacts and perform a mechanical control function.

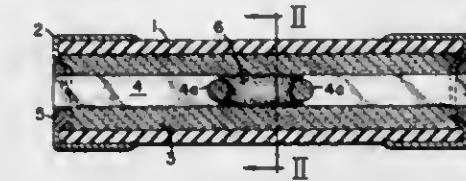
3,425,018
MINIATURIZED TIME-LAG CARTRIDGE FUSE
HAVING RIBBON-TYPE FUSE LINK
 Frederick J. Kozacka, South Hampton, N.H., assignor to
 The Chase-Shawmut Company, Newburyport, Mass.
 Filed Sept. 29, 1967, Ser. No. 671,795

U.S. Cl. 337—158
 Int. Cl. H01h 85/04

6 Claims

A static miniature time-lag fuse wherein circuits are interrupted on occurrence of protracted overloads by a metallurgical reaction between the base metal of the fuse

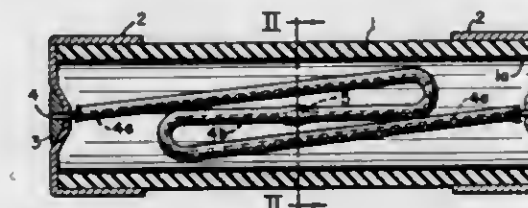
link and a low melting point overlay metal rather than by relative movement or separation of a pair of cooperating



contacts normally conductively interconnected by a joint of soft low fusing point solder.

3,425,019
MINIATURIZED CARTRIDGE FUSE FOR
SMALL CURRENT INTENSITIES HAV-
ING LARGE TIME-LAG
 Frederick J. Kozacka, South Hampton, N.H., assignor to
 The Chase-Shawmut Company, Newburyport, Mass.
 Filed Sept. 5, 1967, Ser. No. 665,626
 U.S. Cl. 337—163
 Int. Cl. H01h 85/06

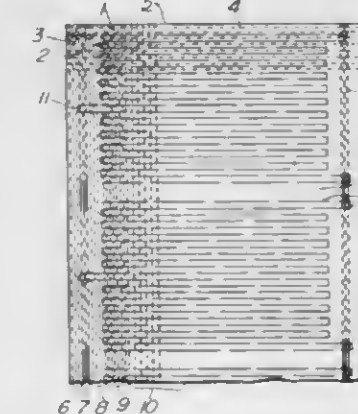
2 Claims



A miniaturized static electric time-lag cartridge fuse for small current ratings from a few amperes down to fractions of an ampere, capable of withstanding high in-rush currents without blowing. The term static is used in this context with reference to fuses not involving separable contacts for interrupting relatively small overload currents of excessive duration, and the term miniaturized is used in this context to refer to fuses having casings of smaller sizes than National Electric Code Fuses having the same current rating and voltage rating.

3,425,020
WOVEN HEATER
 Tadao Toyooka, Toyonaka-shi, Shigekazu Ota, Yao-shi,
 and Takeo Nishida, Toyonaka-shi, Japan, assignors to
 Matsushita Electric Industrial Co., Ltd., Osaka, Japan,
 a corporation of Japan
 Filed Jan. 23, 1967, Ser. No. 610,899
 Claims priority, application Japan, Dec. 16, 1966,
 41/83,419
 U.S. Cl. 338—208
 Int. Cl. H01c 3/00

9 Claims

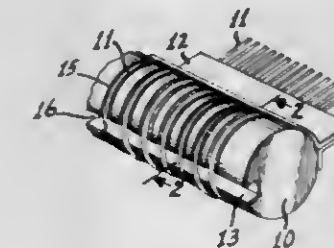


A woven heater having base woven fabric, lead wires of electro-conductive metallic material interlaced into the

fabric base in the areas adjacent to the opposite side edges thereof and extending in the direction of the warp and heating wires each having an electrically insulating yarn wound thereon and interlaced into the fabric base zigzag to provide good appearance on the faces of the heater and increase its flexibility and mechanical strength.

3,425,021
METHOD AND APPARATUS FOR CONNECTING
LEADS TO A PRINTED CIRCUIT BOARD
 Robert S. Fow, Plymouth Meeting, Pa., and Joel R. Ober-
 man, Cinnaminson, N.J., assignors to Radio Corporation
 of America, a corporation of Delaware
 Filed July 28, 1966, Ser. No. 568,459
 U.S. Cl. 339—17
 Int. Cl. H05k 1/12, 3/04

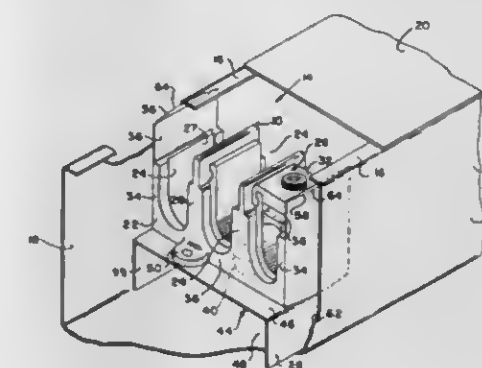
5 Claims



Disclosed is a method and apparatus for connecting leads to a circuit substrate, e.g., a printed circuit board, using an intermediary connecting device. The connecting device, which is formed with a slot adapted to receive the leading edge of the circuit board, is enwrapped with the leads and thereafter dip-soldered to provide a connection between the leads and the device. The portions of the leads which span the gap defined by the slot are thereafter cut to permit the insertion of the circuit board.

3,425,022
ELECTRICAL CONNECTOR BLOCK FOR
WIRING DUCT
 Gerard S. Walter and John Hagan, Hampton Township,
 Allegheny County, Pa. (both % Walter Electrical Manu-
 facturing Co., 640 Butler St., Pittsburgh, Pa. 15223)
 Filed Aug. 10, 1966, Ser. No. 571,629
 U.S. Cl. 339—22
 Int. Cl. H01r 13/60

10 Claims

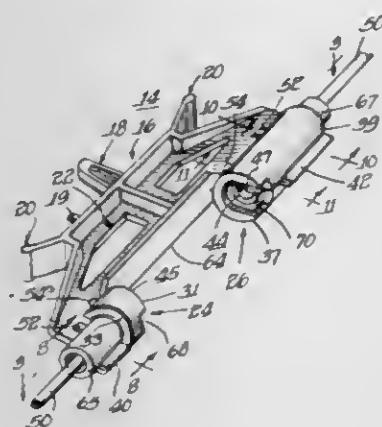


We disclose electrical connection apparatus for use in a wiring trough and the like, said apparatus comprising an elongated compartmented insulating block, electrical connector means mounted in said block, and means for pivotally mounting said block within said trough, said block having end walls spaced and rounded so that said insulating block can be turned on said mounting means to bring said end walls into closely fitted engagement with opposed side walls respectively of said trough.

3,425,023

MOUNTING DEVICE FOR CYLINDRICALLY SHAPED ELECTRICAL COMPONENTS
 Harry J. Krol, Arlington Heights, and Francis E. Ryder, Des Plaines, Ill., assignors to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
 Filed Dec. 18, 1967, Ser. No. 691,311
 U.S. Cl. 339—59
 Int. Cl. H01f 9/12; H02b 1/02; H01r 13/50

7 Claims



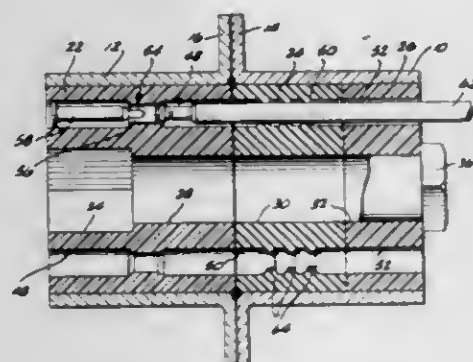
A rectifier mounting device according to the invention comprising a one-piece molded plastic unit which is molded substantially flat and subsequently folded upon itself, having a base portion provided with a fastener which can be snapped into an aperture in a panel board or chassis of television or the like equipment, and supported by the base portion of the device on opposite ends thereof, in an opposing relation to each other, a pair of insulated, snap together, sockets. Each of the sockets receives therein a specially designed terminal which is able to accommodate, both mechanically and electrically, rectifier terminals of various sizes; at least one of the socket terminals is spring loaded to provide for differences in lengths of the variously sized cartridge rectifiers received in the sockets.

3,425,024

MULTICONTACT ELECTRICAL CONNECTOR ASSEMBLY

Norbert L. Moulin, Placentia, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
 Filed Aug. 21, 1967, Ser. No. 661,876
 U.S. Cl. 339—63
 Int. Cl. H01r 23/04

5 Claims



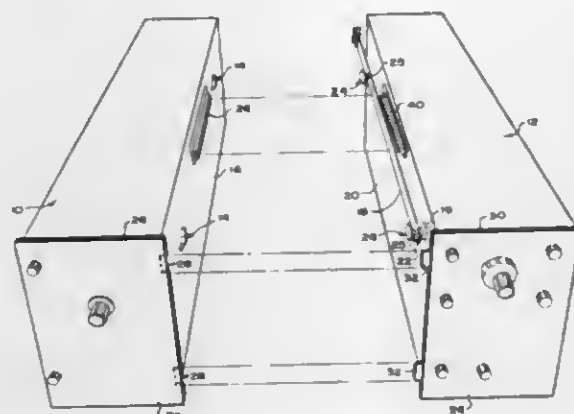
In the disclosed connector a rigid body and an abutting resilient body define aligned bores forming a plurality of passageways containing pin-socket type contact devices and conductor leads thereto. The bores of the resilient body are provided with corrugations which are compressed by the conductors disposed therein to support the conductors in tight sealing relationship.

3,425,025

DUAL PLUG-IN MODULE

James D. Williams, Colorado Springs, Colo., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
 Filed Oct. 19, 1966, Ser. No. 587,812
 U.S. Cl. 339—75
 Int. Cl. H01r 13/54

5 Claims



A pair of mechanically separate and electrically related plug-in units are mechanically and electrically mated in side-by-side relationship to form a unitary plug-in module for insertion into a single cavity of a main instrument.

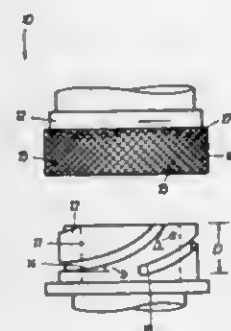
3,425,026

ELECTRICAL CONNECTOR ASSEMBLY

Gerardus Wilhelmus Theunissen, Stuttgart-Unterturkheim, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
 Filed Apr. 5, 1967, Ser. No. 628,712
 Claims priority, application Germany, May 7, 1966, C 39,004

U.S. Cl. 339—90
 Int. Cl. H01r 7/32

1 Claim



Grooves are provided on an outer surface of one connector for receiving accommodating pinlike members mounted within a shell-like collar on the other connector. The grooves are formed to have an initial relatively steep angle of descent which decreases regularly to a very shallow angle at the opposite end.

3,425,027

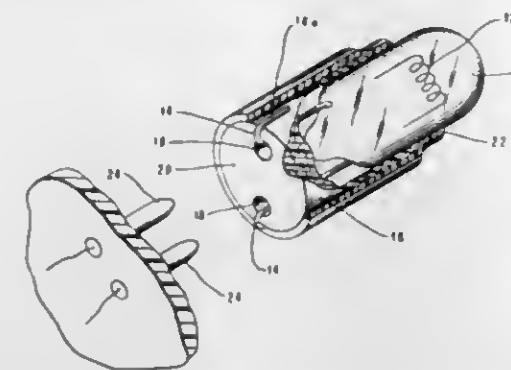
PLUG-IN PANEL LAMP

Edward C. Uberbacher and James S. Lott, Jr., Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
 Filed July 3, 1967, Ser. No. 650,803
 U.S. Cl. 339—145
 Int. Cl. H01h 33/04; H01j 5/48, 9/18

4 Claims

This specification describes a lamp with a bulb which

with its leads is held in position in a housing by a sleeve



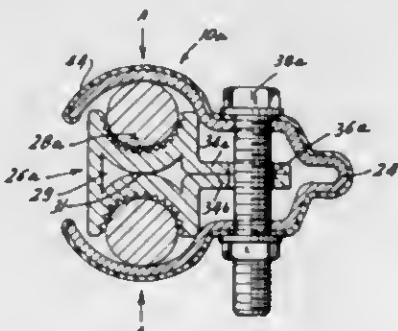
that surrounds the housing and is shrink-fitted to grasp the bulb and the leads.

3,425,028

CLAMP CONNECTOR

Adolph Neaderland, Norwalk, Conn., assignor to Burndy Corporation, a corporation of New York
 Filed June 17, 1966, Ser. No. 558,480
 U.S. Cl. 339—249
 Int. Cl. H01r 13/24, 3/02, 11/20

7 Claims



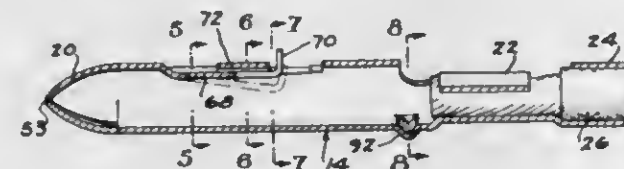
A connector clamp for joining a plurality of cables having a U-shaped connector body. A spacer positioned between the legs of the U-shaped body. The spacer and the legs of the body each having cable engaging seats to hold a cable between a leg of the body and a side of the spacer. The body has means adjacent its bight to receive bolt means to clamp the free ends of the body about the cables. The spacer has an extension which is perforated to allow the bolt means to extend therethrough for aligning the spacer with respect to the U-shaped connector body.

3,425,029

ELECTRICAL TERMINAL

Alfred M. Zak, 6110 Casmere Ave., Detroit, Mich. 48212
 Filed Aug. 24, 1967, Ser. No. 662,979
 U.S. Cl. 339—252
 Int. Cl. H01r 11/22, 5/10, 9/08

18 Claims



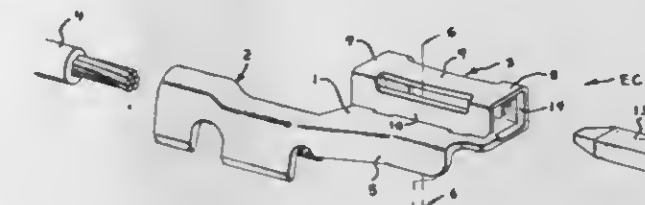
A hollow electrical terminal adapted to be mounted in a terminal block for telescopic connection with another terminal, the terminal having an inwardly struck tab along the seam formed by the abutting edges of the sheet material from which it is formed with the free end of the tab projecting radially outwardly of the terminal for engagement with the shoulder on the terminal block.

3,425,030

ELECTRICAL CONNECTOR HAVING CONSTRAINED SPRING MEANS

Edward Leal Hadden, Mechanicsburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
 Filed May 26, 1967, Ser. No. 641,550
 U.S. Cl. 339—256
 Int. Cl. H01r 13/12, 11/08

6 Claims



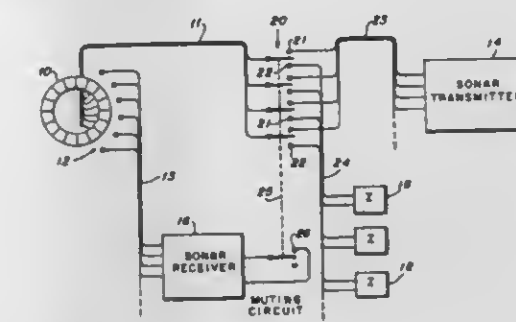
An electrical connector having oppositely disposed semi-elliptical spring members extending between end sections defining a contact-engaging section, the end sections being held in position to prevent elongation of the spring members when a contact member is inserted within the contact-engaging section so that a large area of contact is effected between the spring members and contact member.

3,425,031

TRANSMIT-RECEIVE SONAR ARRAY NETWORK

Harvey J. Klee, San Diego, Calif., assignor to the United States of America as represented by the Secretary of the Navy
 Filed Oct. 18, 1967, Ser. No. 676,689
 U.S. Cl. 340—3
 Int. Cl. G01s 9/66

5 Claims



Receiving hydrophones must, for various mechanical reasons, be mounted on and in front of the radiating faces of an array of transmitting transducers. During receiving periods power to the transducers must be turned off. Unfortunately, the active transducer elements are not rigid baffles in the region of their mechanical resonance and the response of the active transducer element to a pressure wave reduces the receiving hydrophone response. In this invention the transducer terminals are connected during receiving periods to a reactive load of the proper sign and magnitude to render the faces of the transducers substantially immobile.

3,425,032

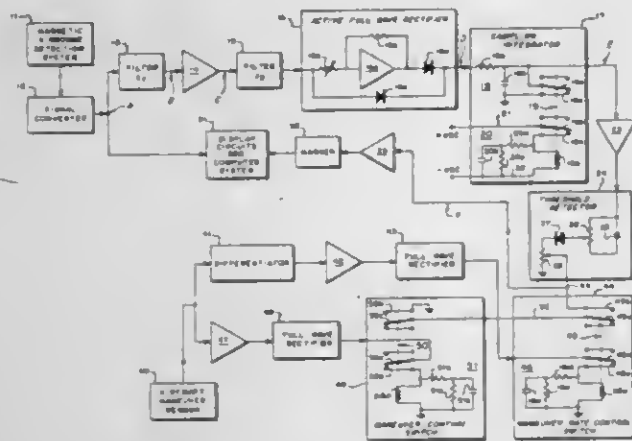
SUBMARINE ANOMALY MARKER

Marshall C. Bobrin, Philadelphia, Pa., assignor to the United States of America as represented by the Secretary of the Navy
 Filed Jan. 27, 1967, Ser. No. 613,070
 U.S. Cl. 340—4
 Int. Cl. H04b 13/00

17 Claims

An apparatus for automatically indicating the presence of aperiodic anomaly signal information in a signal-like noise environment. The signal and noise information is

passed through noise rejection filters for attenuating the noise signals. The filtered signal is then rectified, sample integrated and impressed on a threshold detector which provides an output only when the amplitude of the inte-



grated voltage exceeds a predetermined level. This output signal then represents the presence of a signal in the signal and noise environment which may be used to actuate a warning device.

3,425,033

AUTOMOBILE THEFT ALARM

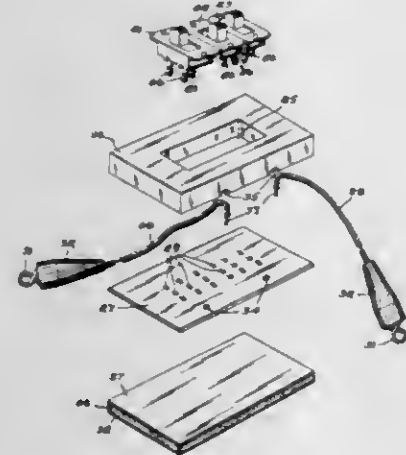
Charles E. Pfund, 16 Balcarras Road,
West Newton, Mass. 02165

Filed Oct. 22, 1965, Ser. No. 501,825

U.S. Cl. 340—64

Int. Cl. B60r 25/04, 25/10

4 Claims



An automobile theft alarm has a thin rectangular switch housing with a central aperture to receive a plurality of slide switches, the terminals of which project through a printed circuit board and are swaged to hold the assembly together. The orientation of the switches in the aperture determines that switch actuator combination which is open circuit and all other combinations complete an alarm circuit through the leads which are attached to automobile ignition and horn circuits. A double coated adhesive foam covering the printed circuit board provides for mounting the device.

3,425,034

VEHICLE SIGNAL LAMP SYSTEM

Louis Romanzi, Jr., 14954 Lauder, Detroit, Mich. 48227,
and Harry Epstein, 21 Dannaway, Saddle Brook, N.J. 07662

Filed Oct. 20, 1965, Ser. No. 498,690

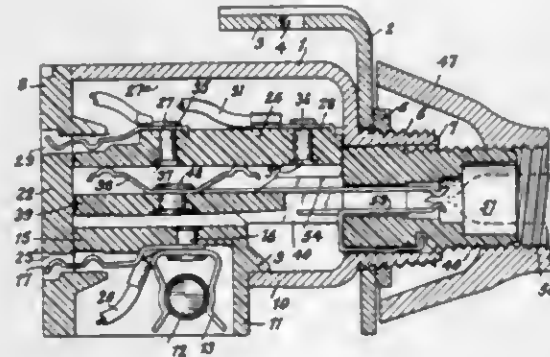
U.S. Cl. 340—81

Int. Cl. B60q 1/46

1 Claim

The invention consists of a switch and flasher unit for attachment to an automobile and connection to the electrical systems to operate the rear stop and front and rear

direction lights as a warning as when the automobile is at the side of the road or elsewhere and especially in the case of its being disabled. Said unit consists of a casing containing a switch, socket means on the casing for re-



ceiving a plug-in type of flasher, an insulated enclosure on the casing for receiving a fuse, a movable knob on the outside of the casing for operating the switch, and a light visible through the knob for indicating operation of the warning signal.

3,425,035

MAGNETIC CIRCUIT

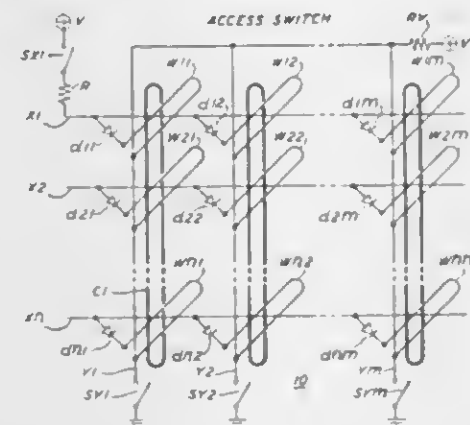
Andrew H. Bobeck, Chatham, N.J., assignor to Bell Telephone Laboratories Incorporated, New York, N.Y., a corporation of New York

Filed Aug. 9, 1965, Ser. No. 478,168

U.S. Cl. 340—166

Int. Cl. H04q 3/00

6 Claims



Common mode noise is suppressed in a magnetic memory by coupling groups of word conductors, associated with an X coordinate in an access switch driving the memory; with a community magnetic core. When one of the so coupled conductors is pulsed, discharging currents flowing in nonselected conductors due to the effect of voltage changes on capacitive couplings between digit and word conductors of the memory arise. The core loads all such currents so that although those conductors are coupled through the selected Y coordinate of the access switch to ground only negligible discharging currents result.

3,425,036

DIGITAL COMPUTER HAVING A GENERALIZED LITERAL OPERATION

Roger E. Packard, Glendora, Calif., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Mar. 25, 1966, Ser. No. 537,380

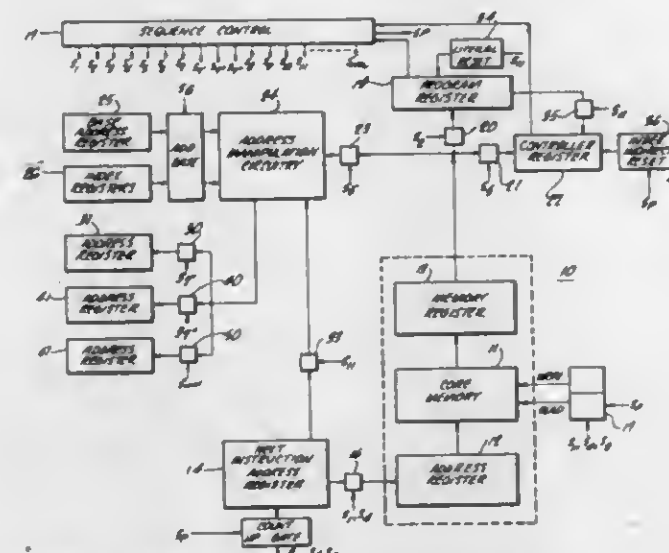
U.S. Cl. 340—172.5

Int. Cl. G06f 9/06

9 Claims

A digital computer in which data operands may be stored in instruction words in the positions which normally contain digits indicative of a base-relative address

of such an operand. Detection of the presence of an operand in the instruction is achieved by circuitry which detects a particular combination of digits in the positions within the instruction word which normally contain digits



manifesting data field length. Responsive to detection of the particular combination of digits, a number of steps normally performed during the fetch operation are eliminated. Accordingly, a time saving in the fetch operation and a more efficient utilization of memory is achieved.

3,425,037

INTERRUPT COMPUTER SYSTEM

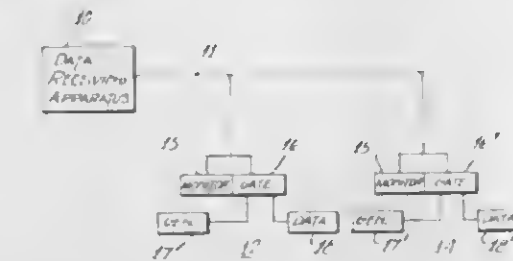
Colin D. Patterson, Ottawa, Ontario, Canada, and Peter J. Jefferson, Horsham, England, assignors to Computing Devices of Canada Limited, Ontario, Canada

Filed Apr. 25, 1966, Ser. No. 544,957

Claims priority, application Canada, Mar. 29, 1966, 956,443

U.S. Cl. 340—172.5
Int. Cl. G11b 27/36

9 Claims



A data handling system having a central apparatus and a plurality of peripheral devices which require the attention of the central apparatus and means to determine which of the devices has the higher priority. A common transmission line connects the peripheral devices to the central apparatus. Upon receiving a signal each peripheral device simultaneously begins to generate a respective assigned priority signal on the common transmission line. Each device monitors the signals on the transmission line and further generation of the respective priority signal is inhibited immediately when a higher priority signal is detected on the monitored transmission line. Only the peripheral device with the highest priority signal completes the generation of its signal.

3,425,038

GRAPHICAL DISPLAY PLOTTER

Robert B. Trousdale, Santa Ana, Calif., assignor to California Computer Products, Inc., Anaheim, Calif., a corporation of California

Filed May 3, 1966, Ser. No. 554,925

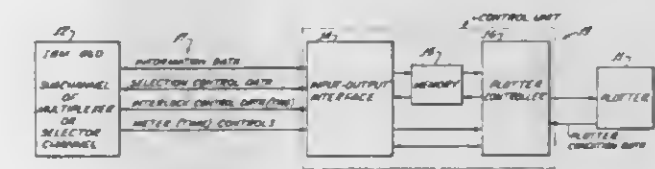
U.S. Cl. 340—172.5

Int. Cl. G11b 9/00

8 Claims

An adaptor may be used in combination with a digital computer and incremental plotter so as to provide efficient

utilization of both devices without modification of either. The adaptor must provide compatibility between the rates of operation of the computer and plotter and be responsive to, and generate from the input waveforms of each, the appropriate signals and timing relationships to



effectuate the desired interchange between computer and plotter. In some systems, as for example when the IBM 360 is used as the computing device, the communication between computer and a plurality of plotters may be effectuated by a single channel via a time multiplexing operation.

3,425,039

DATA PROCESSING SYSTEM EMPLOYING INDIRECT CHARACTER ADDRESSING CAPABILITY

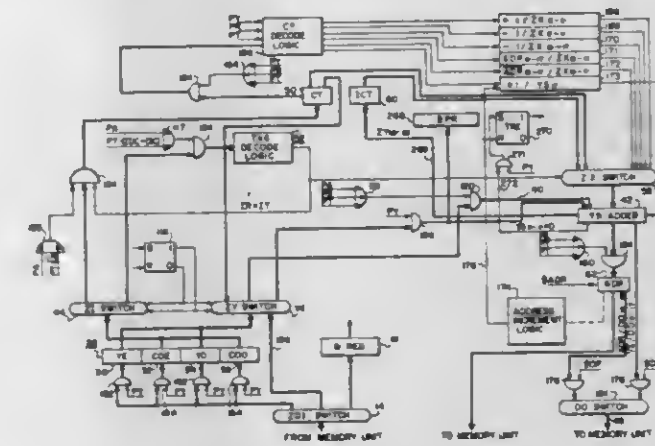
David L. Bahrs, Liverpool, N.Y., John F. Couleur, Phoenix, Philip F. Gudenschwager, Scottsdale, and Richard L. Ruth and William A. Shelly, Phoenix, Ariz., assignors to General Electric Company, a corporation of New York

Filed June 27, 1966, Ser. No. 560,572

U.S. Cl. 340—172.5

Int. Cl. G11b 13/00

12 Claims



A data processing system including a data processor and a memory unit is shown. The processor includes means for providing several different types of address modifications.

3,425,040

NONDESTRUCTIVE TUNNEL DIODE MEMORY SYSTEM

James Y. Payton, Woodland Hills, Calif., assignor to Litton Systems, Inc., Beverly Hills, Calif.

Filed Apr. 29, 1963, Ser. No. 276,342

U.S. Cl. 340—173

Int. Cl. G11b 9/00

11 Claims

1. In a tunnel diode memory system, apparatus selectively responsive to the application of a signal representing either the binary "1" or "0" value for storing the binary "1" or "0" value as a high or low voltage state, respectively, of a tunnel diode, said apparatus comprising:

a memory element including a first resistor having a first and a second terminal, a tunnel diode having a first and a second electrode and having said first electrode coupled to said second terminal of said first resistor, said memory element further including an isolation diode having a first electrode and a second electrode coupled to said second terminal of said first resistor, said tunnel diode and said isolation diode being oppositely poled with respect to said second terminal of said first resistor, said tunnel diode being

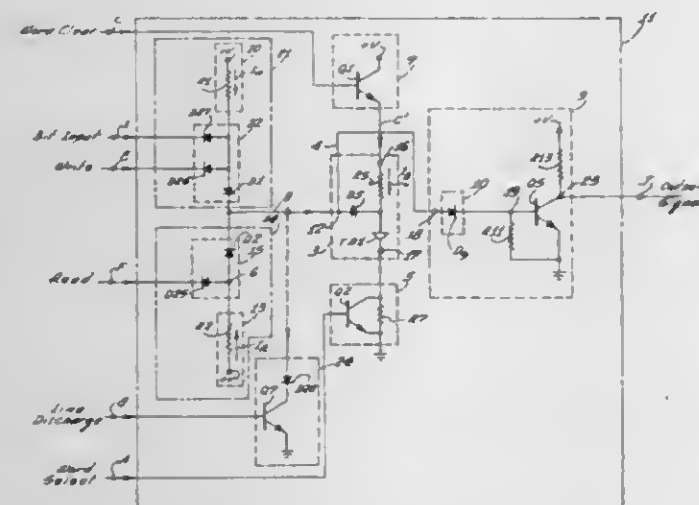
responsive to the passage therethrough of a first predetermined substantially constant current, exceeding the peak current magnitude of said tunnel diode, for assuming its high voltage state of operation;

a first source of fixed potential;

word select means normally interconnecting said tunnel diode and said first source of fixed potential;

a source of maintaining current;

a memory maintaining and clearing means intercoupling said source of maintaining current and said first terminal of said first resistor for normally applying to said memory element said maintaining current to maintain the voltage state of said tunnel diode, said maintaining and clearing means being operable at preselected times for inhibiting said maintaining current to set said tunnel diode to its low voltage state;



means for producing said first predetermined substantially constant current, said predetermined constant current exceeding the peak current magnitude of said tunnel diode, said means including a second resistor having a first and a second terminal and having an impedance value large compared to the impedance of said tunnel diode, said second resistor being coupled by said first terminal to a source of substantially constant voltage for generating, in combination with said voltage source, said first predetermined current; and

a write means for selectively applying said first predetermined current to said memory element, said write means interconnecting said means for producing said first predetermined substantially constant current and said isolation diode first electrode, said write means including apparatus that receives the applied signal representing the binary "1" or "0" value and is responsive to the applied signal at its binary "1" value for causing said first predetermined current to flow through said tunnel diode to establish its high voltage state of operation.

3,425,041

DATA STORAGE DEVICE

Alain Gayet, Paris, France, assignor to Societe Industrielle Bull-General Electric (Societe Anonyme), Paris, France

Filed Feb. 23, 1966, Ser. No. 529,582

Claims priority, application France Mar. 26, 1965, 10,894

U.S. Cl. 340-173.1
Int. Cl. G11b 9/00

2 Claims

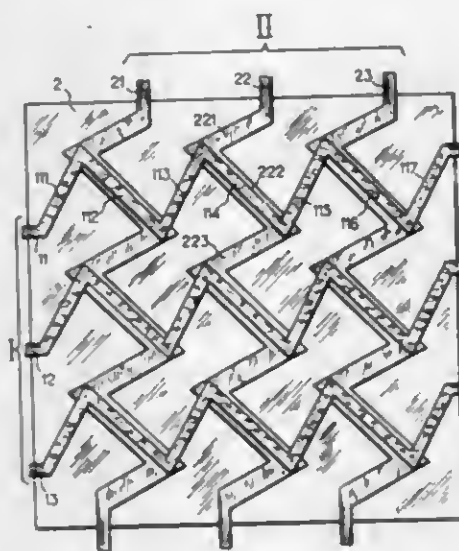
2. A superconductor memory matrix comprising:

a data storage medium in the form of a continuous sheet of superconducting material,

and two sets of selection conductors in the form of ribbon-like strips of conductive material lying respectively in a first and in a second plane both paral-

lel with the plane of said sheet and on the same side thereof,

overlapping portions of two selection conductors pertaining to different ones of said two sets being parallel with each other and with a given diagonal of the matrix,



whereby the conductors of different sets may be given substantially identical configuration, which provides substantially identical control action of such conductors upon the data storage medium.

3,425,042

WOVEN TYPE, SEMIFIXED MEMORY DEVICE

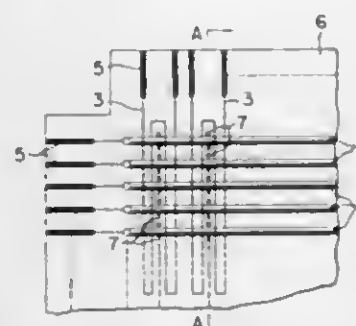
Hisa Maeda, Ota-ku, Tokyo-to, and Akira Matsushita, Kitatama-gun, Tokyo-to, Japan, assignors to Toko Kabushiki Kaisha, Tokyo-to, Japan, a joint-stock company of Japan

Filed Feb. 28, 1966, Ser. No. 530,644

Claims priority, application Japan, Mar. 1, 1965, 40/11,750

U.S. Cl. 340-174
Int. Cl. G11b 5/00

2 Claims



2. A semifixed memory device of woven type comprising: a woven memory matrix comprising numerous magnetic wires in the weft direction and numerous word lines in the warp direction woven into a fabric structure having numerous crossings of magnetic wires and word lines, the magnetic wires being magnetized in the wire circumferential direction and used as sense lines, means for passing read-out current through the word lines, and means to lead out from the sense lines outputs induced therein by deflection of magnetization direction due to passage of said read-out current; a support plate on which the woven memory matrix is supported and secured, and in which pairs of small holes are formed at all positions where good coupling with the word lines can be achieved, the holes of each pair being on the two sides of a magnetic wire; metal pipes each fitted into one of the small holes, the metal pipes of each of said pairs of holes being connected by a metal member secured to the support plate; and elastic, U-shaped conductor wires each disposed to straddle the magnetic wire at one of only a number of selected crossings among said crossings, the

two ends of each U-shaped conductor wire being inserted into respective tubes in a pair of small holes on the two sides of the magnetic wire thereby to form a short ring around the magnetic wire, the short rings thus formed thereby functioning to diminish said outputs at only said selected crossings.

3,425,043

MAGNETIC MEMORY ELEMENT COMPRISING Ni-Fe AND Zr AND COMPOSITION COMPRISING Ni-Fe-Zr

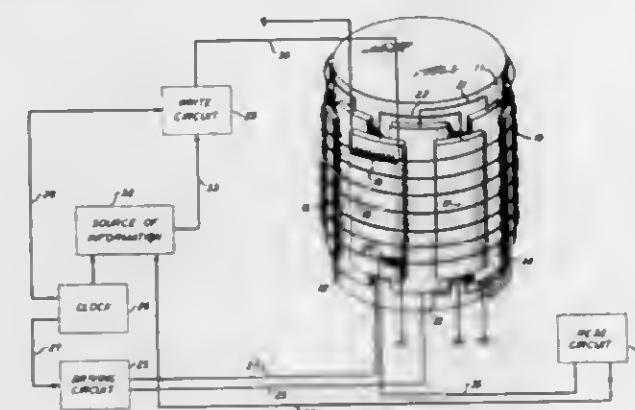
Karl M. Olsen, Madison, David H. Smith, Califon, and Christopher D. G. Stockbridge, Mendham, N.J., and Edward M. Tolman, New York, N.Y., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Dec. 21, 1966, Ser. No. 603,619

U.S. Cl. 340-174

Int. Cl. G11b 5/14

3 Claims



3. A magnetic shift register storage device comprising an elongated magnetic element, means for establishing magnetic domains in said magnetic element and means for shifting said magnetic domain along said magnetic element, said magnetic element consisting essentially of 0.1-3.0 percent, by weight, zirconium, up to 5.0 percent, by weight, niobium, 72.0-84.0 percent, by weight, nickel, remainder iron, wherein the ratio of nickel to iron is within the approximate range of 3:1 to 7:1.

3,425,044

SELECTING SYSTEM FOR MAGNETIC CORE STORES

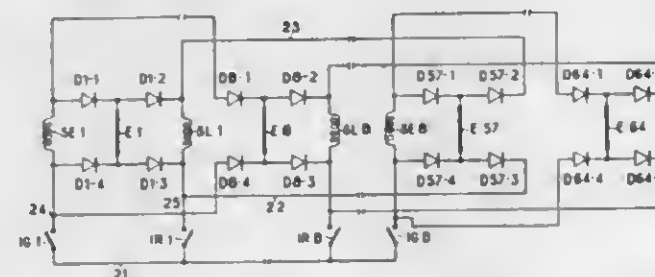
Pierre Alfred Ferrier, Villebon, and Marc Charles Joseph Lesueur, Chaville, France, assignors to Compagnie des Machines Bull (Societe Anonyme), Paris, France

Filed June 12, 1963, Ser. No. 287,428

Claims priority, application France, June 18, 1962, 901,069

U.S. Cl. 340-174
Int. Cl. G11b 5/00

2 Claims



1. A circuit arrangement for the selective energisation of one of $N \times n$ inductive impedances, each with two ends, the numbers N or n being greater than two, comprising:

a number N of groups each of a number n of such impedances,

a first transformer with a core of nonremanent material, whose primary can receive a pulse from a first pulse generator and bearing a number N of secondaries, each with first and second terminals,

a second transformer with a core of nonremanent material, whose primary can receive a pulse from a second pulse generator and bearing a number n of secondaries, each with first and second terminals, as many sets of four diodes as there are inductive impedances, each set being assigned to a distinct impedance, in each of said groups, said first end of each impedance being connected through a first diode of its set to the first terminal of a corresponding secondary of said first transformer, and through a second diode of its set to the first terminal of one of the secondaries pertaining to said second transformer; and the second end of each impedance being connected through a fourth diode of its set to the second terminal of the same secondary of said first transformer and through a third diode of its set to the second terminal of said one secondary pertaining to said second transformer, in such a manner that each secondary of said second transformer is parallel-connected to the N impedances of same rank of the several groups through distinct pairs of diodes, a common conductor,

a number N of "group" switches, each being associated with a different secondary of said first transformer for connecting, when closed, a determined terminal (e.g. the second one) thereof to said common conductor, and

a number n of "rank" switches, each being associated with a different secondary of said second transformer for connecting, when closed, a corresponding terminal (e.g. the second one) thereof to said common conductor.

3,425,045

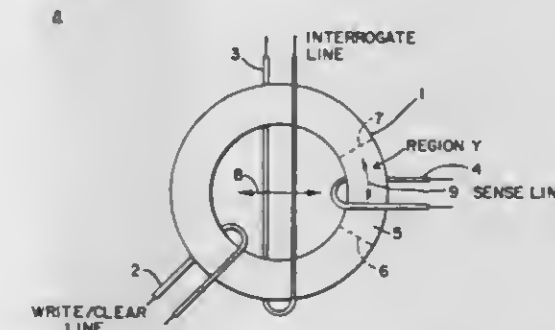
METHOD TO ACHIEVE THE LOGICAL EXCLUSIVE OR AND EQUALITY FUNCTIONS WITH CROSS-FIELD SWITCHING

Robert M. Horvath, Munroe Falls, Ohio, assignor to Goodyear Aerospace Corporation, Akron, Ohio, a corporation of Delaware

Filed Sept. 22, 1964, Ser. No. 398,317

U.S. Cl. 340-174
Int. Cl. G11b 5/02

5 Claims



This invention relates to a method for achieving the logical Exclusive OR and Equality functions with a non-destructive readout of a single aperture memory storage element utilizing cross-field switching techniques, and is particularly characterized by the utilization of a ramped interrogation pulse to obtain the logical functions.

3,425,046

EXTERNALLY BIASED HIGH SPEED NON-DESTRUCTIVE MEMORY DEVICE

Anthony M. Apicella, Jr., Massillon, Norman L. Bolling, Cuyahoga Falls, and John T. Franks, Jr., Akron, Ohio, assignors to Goodyear Aerospace Corporation, Akron, Ohio, a corporation of Delaware

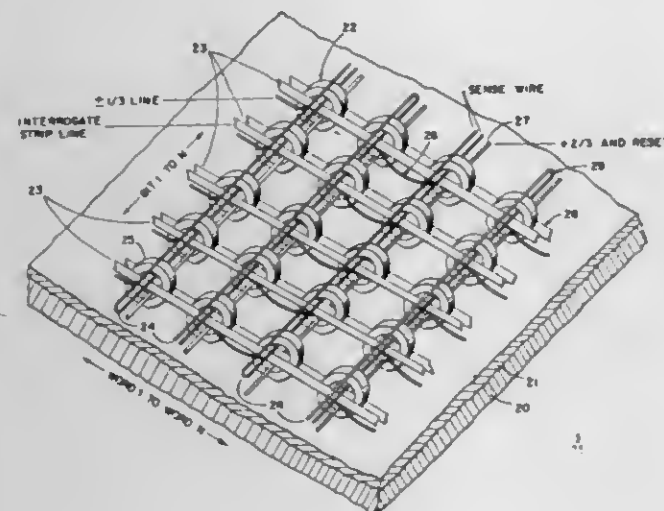
Filed Sept. 23, 1964, Ser. No. 398,627

U.S. Cl. 340-174
Int. Cl. G11b 5/14

5 Claims

This invention relates to a memory element, and more particularly to a single aperture memory element utilized

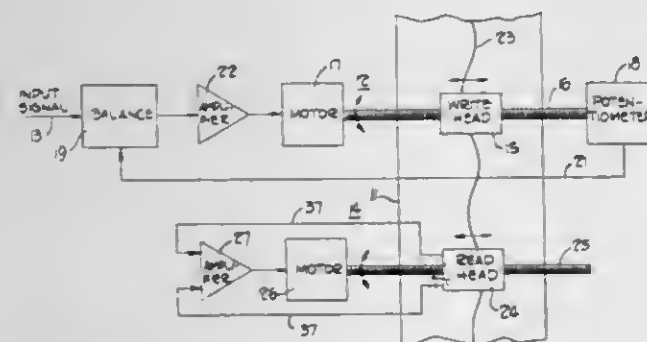
in a digital memory storage system wherein words comprising bits of information may be stored in individual elements which have a short section thereof externally biased in a direction substantially perpendicular to the flux path thereof by a uniform permanent magnetic field,



and which elements can be read out repetitively by measuring flux changes in the short externally biased section to determine the "Equal OR" or "Equality" logical function during an associative memory operation without destroying the stored information.

3,425,047
MAGNETIC TRACE RECORDER WITH TRACE-FOLLOWING HALL EFFECT READOUT HEAD
Dean D. Riggs, Cleveland, Ohio, assignor to Electron Ohio, Inc., a corporation of Ohio
Filed Feb. 15, 1965, Ser. No. 432,545
U.S. Cl. 340—174.1
Int. Cl. G11b 5/38

6 Claims

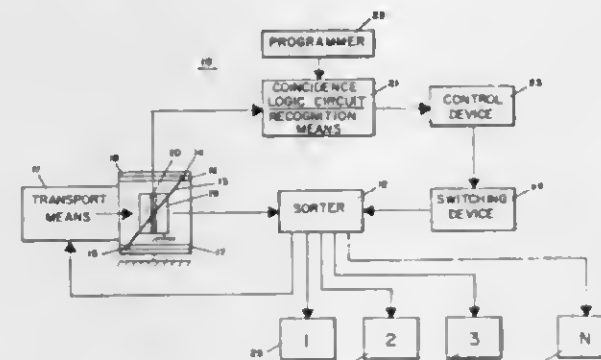


An analog recording device in which a magnetic track is recorded along a magnetic surface with the track being of constant amplitude and width and its transverse position varying with the input signal. The track is read by a thin Hall effect crystal disposed substantially parallel to the magnetic surface so that when the crystal is centered, the magnetic flux balances out and there is no Hall effect current. The crystal may be excited either by DC current or AC current and in the former case the output signal will vary in plurality and magnitude with displacement of the crystal and with AC it will vary in phase with the input. The write and read heads may be mounted on either separate lead screws or the same lead screw and drive motors and a potentiometer balance circuits are used so that the read head will move transversely of the magnetic surface to follow the track created by the write head and thereby reproduce the analog signal.

3,425,048
IDENTIFICATION SYSTEM FOR EDGE COATED CARDS

Arthur W. Tyler, Weston, Mass., assignor to Itek Corporation, Lexington, Mass., a corporation of Delaware
Continuation of application Ser. No. 162,488, Dec. 27, 1961, which is a continuation-in-part of application Ser. No. 45,438, July 26, 1960, now Patent No. 3,096,882, dated July 9, 1963. This application Oct. 1, 1965, Ser. No. 497,589
U.S. Cl. 340—174.1
Int. Cl. G11b 5/44

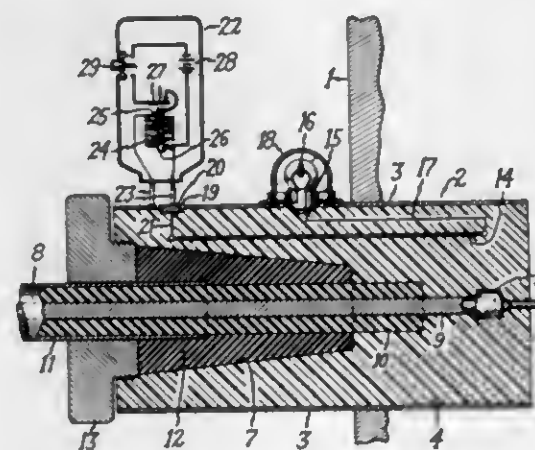
3 Claims



The invention is directed to a data processing device for detecting and distinguishing one planar data bearing member from among a plurality of such members. More specifically a device is disclosed for serially reading coded information on the edge of cards with a single unitary sensing head.

3,425,049
VOLTAGE TEST DEVICE
Jack D. Robinson, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York
Filed Nov. 4, 1965, Ser. No. 506,347
U.S. Cl. 340—214
Int. Cl. G08b 29/00

6 Claims



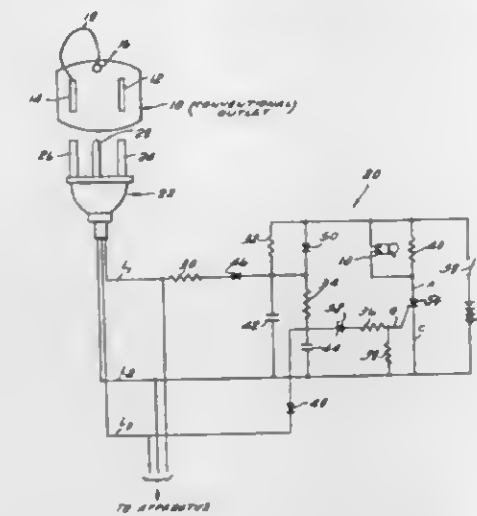
A voltage test device for an electric power system characterized by having a voltage-indicating signal means, the integrity of which can be verified without interrupting the indicating capability of the signal means. A structurally and electrically independent source of voltage is used to verify the operativeness of an indicating signal means that is physically mounted adjacent a normally charged conductive member.

3,425,050
THEFT-PREVENTING ALARM DEVICE
Edward M. Tellerman, East Rockaway, and Robert A. Larsen, Laurelton, N.Y., assignors to Continental Instruments Corp., Lynbrook, N.Y., a corporation of New York
Filed Oct. 12, 1965, Ser. No. 495,140
U.S. Cl. 340—256
Int. Cl. G08b 13/22

7 Claims

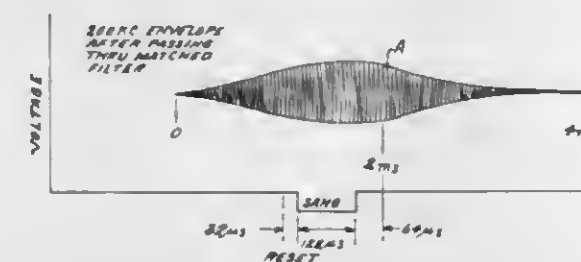
The invention pertains to an alarm device which has

means to sense the plugged in condition of an electrical significant digit in said number having certain patterns, apparatus and which sounds an alarm upon the unauthorized removal of the apparatus from its plugged in condition.



3,425,051
ANALOG-TO-DIGITAL CONVERTER
Walter W. Smith, Pepperell, Mass., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Mar. 10, 1965, Ser. No. 438,802
U.S. Cl. 340—347
Int. Cl. H03k 13/02

6 Claims

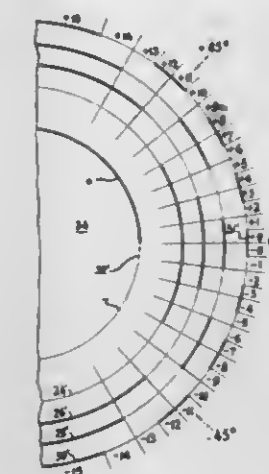


An analog-to-digital converter apparatus having a series of amplifiers with the gain of each amplifier being automatically and rapidly set by its control amplifier. Each amplifier stage employs two transistors and a large amount of negative feedback which makes the gain of the amplifier independent of the gain of the individual transistors. The gain of each amplifier stage is changed by applying a positive gate to a transistor switch which controls the amount of the feedback resistance. A slicer which produces the positive gate is externally connected to the input of the amplifier stage. Thus, when the input signal exceeds reference signal in the slicer control circuit, the positive gate is produced.

3,425,052
NON-LINEAR CODE MEMBER
Edward M. Jones, Cincinnati, Ohio, assignor to D. H. Baldwin Company, Cincinnati, Ohio, a corporation of Ohio
Filed May 16, 1957, Ser. No. 659,717
U.S. Cl. 340—347
Int. Cl. H04l 3/00; H03k 13/02

8 Claims

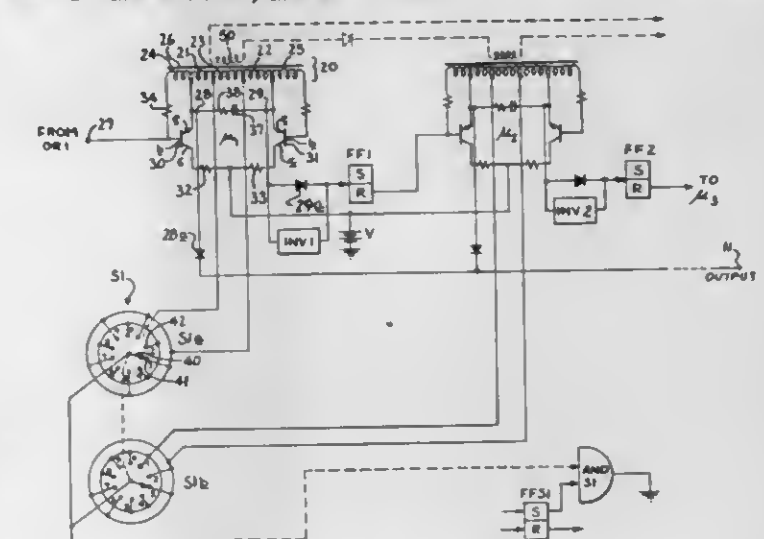
2. In a binary code disk, a plurality of concentric series of code patterns corresponding at respective radial positions to binary numbers representative of the respective trigonometric functions of respective angles between said positions and a nominal position and including at least a pair of circumferentially-adjacent transparent and opaque patterns representative of the sign of said trigonometric functions, said pair of patterns being concentric with said plurality of series of patterns, the series of patterns in said plurality of patterns corresponding to the least-



with transition lines between said transparent and opaque patterns, said certain patterns being two quanta in length.

3,425,053
BINARY-DECIMAL PULSE ENCODER
Wilmer C. Anderson, Greenwich, Conn., assignor to General Time Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 29, 1965, Ser. No. 443,387
U.S. Cl. 340—347
Int. Cl. H04l 3/00; H03k 13/00

8 Claims



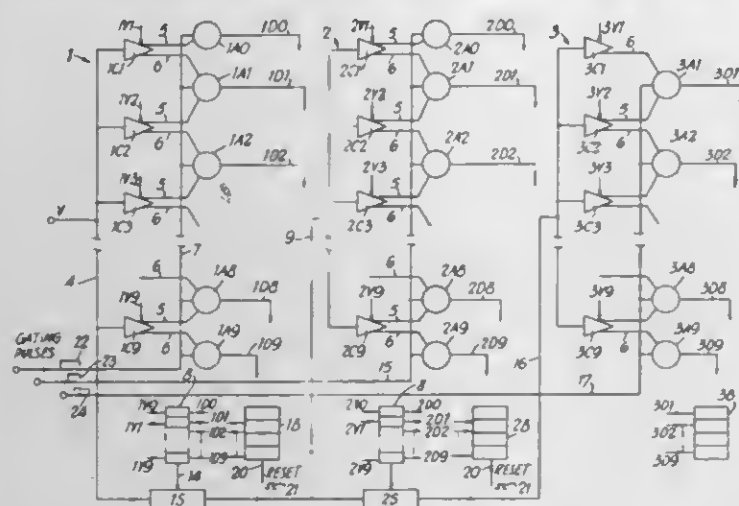
A binary-decimal pulse encoder utilizing a plurality of monostable magnetic devices and means for presetting each of them to produce either of two pulses whose widths are indicative of binary "0" and binary "1" respectively, and means responsive to a control input pulse for sequentially energizing the monostable magnetic devices to produce a train of binary-decimal coded pulses.

3,425,054
ANALOGUE DIGITAL CONVERTERS
Claude Isaac Cowan, Elstree, England, assignor to Elliott Brothers (London) Limited, London, England, a company of Great Britain
Filed Feb. 15, 1965, Ser. No. 432,715
U.S. Cl. 390—347
Int. Cl. H03k 13/17; H04l 3/00

5 Claims

An analogue-digital computer has a number of stages each representing a plurality of digits in a numerical system, the stages being connected in series in decreasing order of significance. Separate subtracting devices are connected between each two successive stages. Reference voltages are supplied to each stage representing the digits in the system and their order of significance. An input voltage applied to each stage is compared with the set of reference voltages applied to that stage to give an output signal indicating that one of the set of reference voltages applied to the stage which is greater than such input

voltage. A digitizing device assumes a condition representing in digital form such greater reference voltage. The input voltage to each stage is applied to the subtracting device between such stage and the following stage, to



derive voltage representing the difference between such input voltage and such greater reference voltage. The voltage to be digitized is applied to the first stage as the input voltage therefor and the difference voltage for each stage is applied as the input voltage to the next stage.

3,425,055

PLURAL MAGNET LATCHING ELECTRO-MAGNETIC INDICATORS

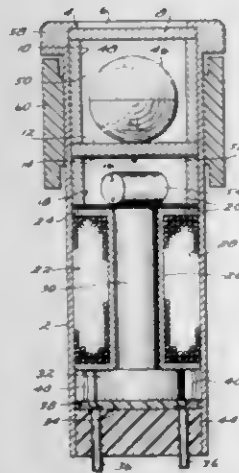
George E. Pihl, Abington, and Richard B. Tilley, Holbrook, Mass., assignors to Miniature Electronic Components Corp., Holbrook, Mass., a corporation of Massachusetts

Filed Nov. 29, 1966, Ser. No. 597,606

U.S. Cl. 340-373

Int. Cl. G08b 5/22

16 Claims



The following specification describes a miniature electromagnet indicator in which the indicator member is a ball having localized magnetic poles. The ball is magnetically latched against movement by a cylindrical magnet that is supported so that it will rotate when subjected to a magnetic field. The position of the ball and hence the indication which is provided is changed by energizing a coil in such a way that its resultant magnetic field will cause the cylindrical magnet to rotate and thereby reverse the relative positions of its magnetic poles. As the cylindrical magnet reverses its position its magnetic field causes the ball to rotate to a new position in which it is again latched magnetically by the cylindrical magnet. The ball is unlatched and restored to its initial position by (1) energizing the coil with a current of opposite polarity or (2) by energizing a second coil wound so that it will produce a field opposite to that produced by the first coil when energized with a current of the same polarity or (3) by using an additional magnet to induce in the core on which the coil is wound a magnetic field opposite to that produced by energizing the coil.

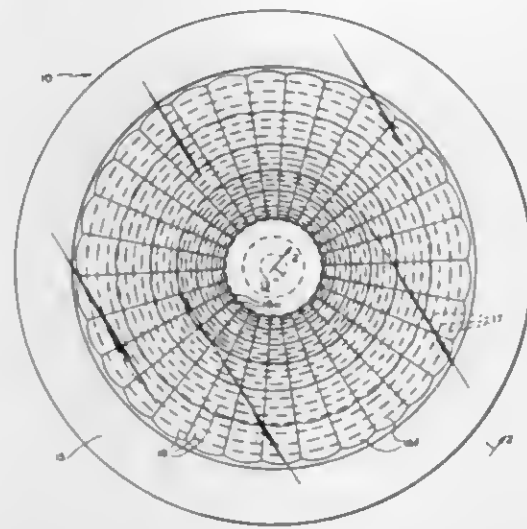
3,425,056 WARNING LENS HAVING CONCENTRIC LENTICULAR ELEMENTS

Robert E. Dawson, Huntingdon Valley, Pa., assignor to R. E. Dletz Company, Syracuse, N.Y.

Filed Nov. 27, 1964, Ser. No. 414,103

U.S. Cl. 340-383
Int. Cl. G09f 13/04

6 Claims



A dished warning lens having spherically surfaced lenticular elements projecting from the arcuate front base surface and V-shaped catadioptric rings projecting from the rear base surface. The elements are contiguous and arranged in successive annular bands, the successive elements of the bands being arranged radially of the lens. The rings are concentric and there are a plurality of rings opposite each band of elements, the reflective surface of each ring being disposed at a different selected angle for distributing the light from each band across the conical lens beam.

3,425,057

ELECTRICAL SOUND DEVICE HAVING UNITARY PLASTIC BASE

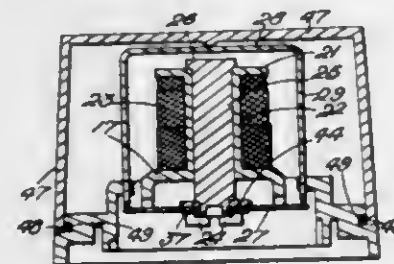
John Doggart, Macclesfield, England, assignor to V. & E. Friedland Limited, Macclesfield, England, a British company

Filed June 3, 1965, Ser. No. 461,001

Claims priority, application Great Britain, June 4, 1964, 23,260/64

U.S. Cl. 340-388
Int. Cl. G10k 9/14

7 Claims



An electrical sound generator comprised of elements mounted upon a monoplasic base member. The base member includes a main portion which supports a magnetic element; and a secondary portion which supports a coil and magnetic core and striker. The main portion and secondary portion are joined by a resilient strip or hinge whereby the striker is normally spaced from the magnetic element and is moved into contact with the magnetic element when the coil is energized. A cover fits over the main portion of the base, having at least a portion thereof forming a diaphragm with a movable portion in contact with the magnetic element.

3,425,058

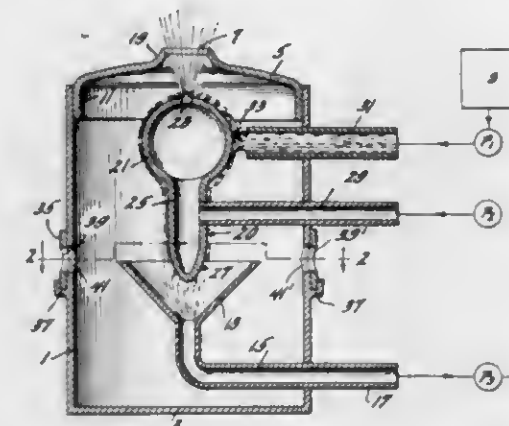
FUEL BURNER

Robert S. Babington, 1113 Ingleside Ave., McLean, Va. 22101

Filed June 23, 1967, Ser. No. 648,482

U.S. Cl. 239-124
Int. Cl. B05b 9/00

10 Claims



The disclosure relates to liquid fuel burners wherein the fuel to be consumed is supplied to and dispersed from a film forming surface in spherical shaped droplets of spray, the excess fuel supplied to the surface being recirculated.

3,425,059

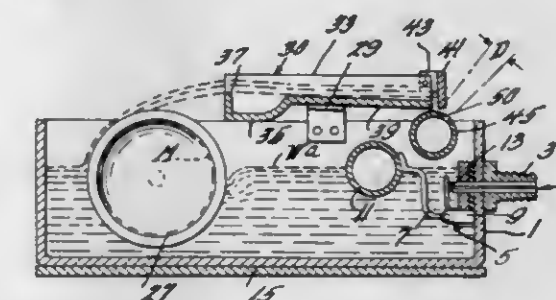
POWER HUMIDIFICATION APPARATUS

Robert S. Babington, 1113 Ingleside Ave., McLean, Va. 22101; Albert A. Yetman, 12316 Kembridge Drive, Bowie, Md. 20715; and William R. Slivka, 17 Shellflower Road, Levittown, Pa. 19056

Filed Apr. 12, 1967, Ser. No. 630,467

U.S. Cl. 261-29
Int. Cl. B50b 7/00

14 Claims



The disclosed subject matter is related to humidification apparatus designed to produce a spray of minuscule particles of water into the atmosphere of a home, commercial building or the like. It may have utility in conjunction with the conventional forced air type of heating system in use today or may be used as an independent source of air moisturization, and includes water conveying and agitating means to convey water from a reservoir to a perforated surface of an air plenum chamber.

DESIGNS

JANUARY 28, 1969

213,259

BOTTLE

Arthur Neville Knowles, London, Ontario, and Kenneth Jolly, Toronto, Ontario, Canada, assignors to London Winery Limited, London, Ontario, Canada

Filed Jan. 16, 1967, Ser. No. 5,449

Claims priority, application Canada Dec. 7, 1966

Term of patent 14 years

U.S. Cl. D9—23

Int. Cl. D9—01



213,261

JUG

James E. Plummer, Toledo, Ohio, assignor to Owens-Illinois, Inc., Toledo, Ohio, a corporation of Ohio

Filed Apr. 15, 1968, Ser. No. 11,471

Term of patent 14 years

U.S. Cl. D9—51

Int. Cl. D9—01



213,260

JUG

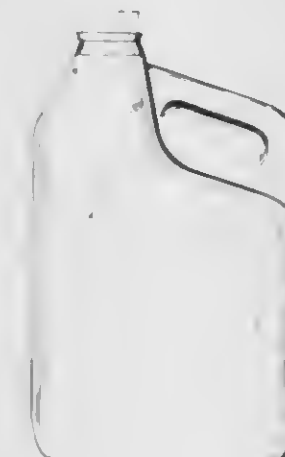
Donald J. Leary and Doyle J. Morgan, Toledo, Ohio, assignors to Owens-Illinois, Inc., Toledo, Ohio, a corporation of Ohio

Filed Apr. 15, 1968, Ser. No. 11,463

Term of patent 14 years

U.S. Cl. D9—44

Int. Cl. D9—01



213,262

COMBINED BOTTLE AND CLOSURE THEREFOR
Robert J. Dunlop, Enoch Square, Glasgow, Scotland, assignor to Wm. Teacher & Sons Limited, Glasgow, Scotland, a corporation of the United Kingdom and Northern Ireland

Filed Sept. 7, 1967, Ser. No. 8,523

Claims priority, application Great Britain Mar. 28, 1967

Term of patent 14 years

U.S. Cl. D9—95

Int. Cl. D9—01



213,263
BOTTLE

Arthur Neville Knowles, London, Ontario, and Samuel Joseph Cino, Hamilton, Ontario, Canada, assignors to London Winery Limited, London, Ontario, Canada
Filed Mar. 13, 1967, Ser. No. 6,197
Claims priority, application Canada Dec. 7, 1966
Term of patent 14 years

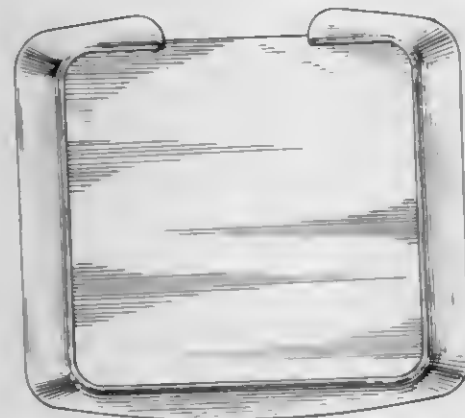
U.S. Cl. D9—151
Int. Cl. D9—01



213,264

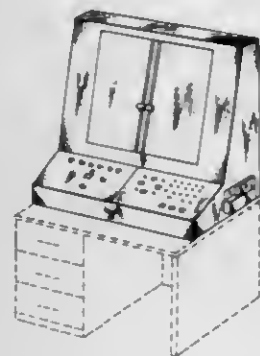
MOUNTING PLATE FOR CONTAINER HANDLE
Jordan Birger and Marvin Birger, Newton, Mass., and Michael J. Di Pierro, Shrewsbury, Mass., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Continuation of design application Ser. No. 7,170, May 18, 1967. This application Dec. 14, 1967, Ser. No. 9,789
Term of patent 14 years

U.S. Cl. D10—8
Int. Cl. D8—03



213,265
DIGITAL DRAFTING MACHINE
Leon J. Arp, 1305 Highland Ave., Blacksburg, Va. 24060
Filed May 9, 1967, Ser. No. 7,024
Term of patent 14 years

U.S. Cl. D26—14
Int. Cl. D14—02



213,266
STORAGE CABINET OR SIMILAR ARTICLE
Donald R. Kracke, 5620 White Cliff Drive, Palos Verdes Peninsula, Calif. 90274
Filed July 28, 1967, Ser. No. 8,040
Term of patent 14 years

U.S. Cl. D33—19
Int. Cl. D6—01

213,267
DOLL

Reuben B. Klamer, 245 S. Barrington, Los Angeles, Calif. 90049
Filed Apr. 14, 1967, Ser. No. 6,692
Term of patent 14 years

U.S. Cl. D34—4
Int. Cl. D21—02



213,268
CLOWN-SHAPED HEAD FOR RECREATIONAL EQUIPMENT

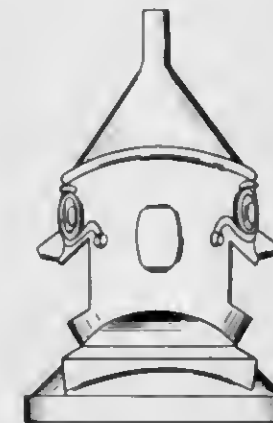
Robert S. Wormser, Hillsdale, Mich., assignor to Game-Time, Inc., Litchfield, Mich., a corporation of Michigan
Filed Mar. 20, 1968, Ser. No. 11,048
Term of patent 14 years

U.S. Cl. D34—4
Int. Cl. D21—04



213,269
MAN-SHAPED HEAD FOR RECREATIONAL EQUIPMENT
Robert S. Wormser, Hillsdale, Mich., assignor to Game-Time, Inc., Litchfield, Mich., a corporation of Michigan
Filed Mar. 20, 1968, Ser. No. 11,072
Term of patent 14 years

U.S. Cl. D34—4
Int. Cl. D21—04



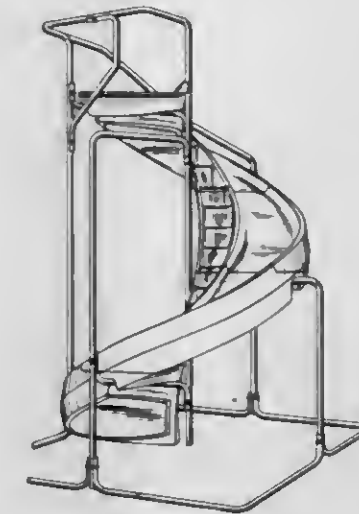
213,270
CLOWN HEAD FOR PLAYGROUND APPARATUS
Robert S. Wormser, Hillsdale, Mich., assignor to Game-Time, Inc., Litchfield, Mich., a corporation of Michigan
Filed Apr. 1, 1968, Ser. No. 11,243
Term of patent 14 years

U.S. Cl. D34—4
Int. Cl. D21—04



213,271
SLIDE
John A. Gale, 978 Shady Lane, Wayzata, Minn. 55391
Filed Mar. 4, 1968, Ser. No. 10,843
Term of patent 14 years

U.S. Cl. D34—5
Int. Cl. D21—04



213,272
PLAYGROUND CLIMBER WITH MOON FACE
Robert S. Wormser, Hillsdale, Mich., assignor to Game-Time, Inc., Litchfield, Mich., a corporation of Michigan
Filed Mar. 20, 1968, Ser. No. 11,060
Term of patent 14 years

U.S. Cl. D34—5
Int. Cl. D21—04



213,273
LION-SHAPED HEAD FOR RECREATIONAL EQUIPMENT
Robert S. Wormser, Hillsdale, Mich., assignor to Game-Time, Inc., Litchfield, Mich., a corporation of Michigan
Filed Mar. 20, 1968, Ser. No. 11,049
Term of patent 14 years

U.S. Cl. D34—15
Int. Cl. D21—04

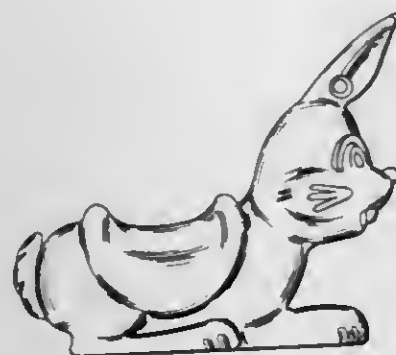


213,274

RABBIT-SHAPED SEAT FOR PLAYGROUND APPARATUS

Robert S. Wormser, Hillsdale, Mich., assignor to Game-Time, Inc., Litchfield, Mich., a corporation of Michigan
Filed Apr. 1, 1968, Ser. No. 11,239
Term of patent 14 years

U.S. Cl. D34—15
Int. Cl. D21—04

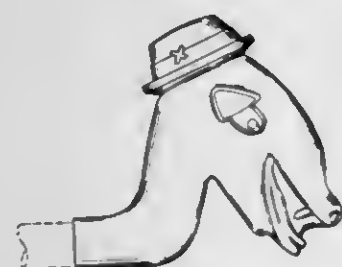


213,275

DRAGON HEAD FOR PLAYGROUND APPARATUS

Robert S. Wormser, Hillsdale, Mich., assignor to Game-Time, Inc., Litchfield, Mich., a corporation of Michigan
Filed Apr. 1, 1968, Ser. No. 11,240
Term of patent 14 years

U.S. Cl. D34—15
Int. Cl. D21—04



213,276

BUFFALO-SHAPED SEAT FOR PLAYGROUND APPARATUS

Robert S. Wormser, Hillsdale, Mich., assignor to Game-Time, Inc., Litchfield, Mich., a corporation of Michigan
Filed Apr. 1, 1968, Ser. No. 11,241
Term of patent 14 years

U.S. Cl. D34—15
Int. Cl. D21—04



213,277

COW-SHAPED SEAT FOR PLAYGROUND APPARATUS

Robert S. Wormser, Hillsdale, Mich., assignor to Game-Time, Inc., Litchfield, Mich., a corporation of Michigan
Filed Apr. 1, 1968, Ser. No. 11,244
Term of patent 14 years

U.S. Cl. D34—15
Int. Cl. D21—04

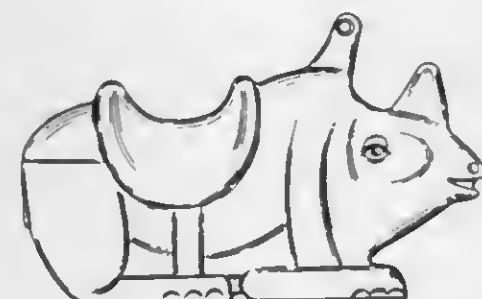


213,278

RHINO-SHAPED SEAT FOR PLAYGROUND APPARATUS

Robert S. Wormser, Hillsdale, Mich., assignor to Game-Time, Inc., Litchfield, Mich., a corporation of Michigan
Filed Apr. 1, 1968, Ser. No. 11,245
Term of patent 14 years

U.S. Cl. D34—15
Int. Cl. D21—04



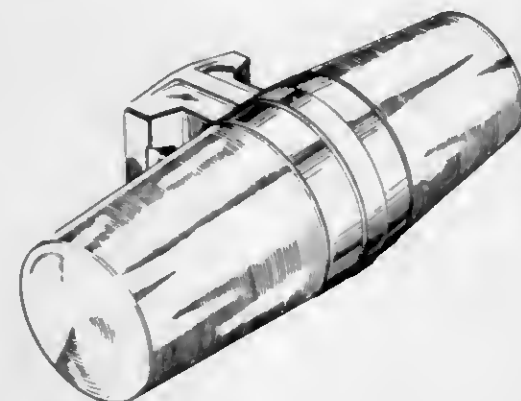
213,279

DOUBLE GLOBE WALL LAMP

Sigvard Bernadotte, Stockholm, Sweden, assignor to Aktiebolaget Ifoverken, Bromolla, Sweden, a corporation of Sweden

Filed Apr. 13, 1967, Ser. No. 6,676
Claims priority, application Norway Jan. 28, 1967
Term of patent 14 years

U.S. Cl. D48—4
Int. Cl. D26—02



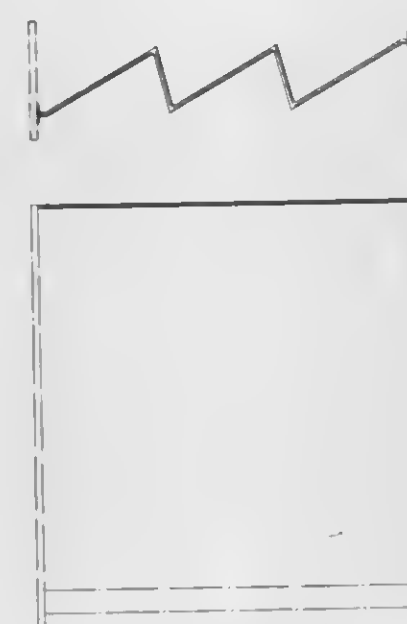
213,280

CLOTHES SUPPORTING ROD FOR A DISPLAY STAND OR THE LIKE

Arthur Garson, New York, N.Y., assignor to Wahl Associates, Inc., Long Island City, N.Y., a corporation of New York

Filed Nov. 13, 1967, Ser. No. 9,361
Term of patent 14 years

U.S. Cl. D80—8
Int. Cl. D6—07



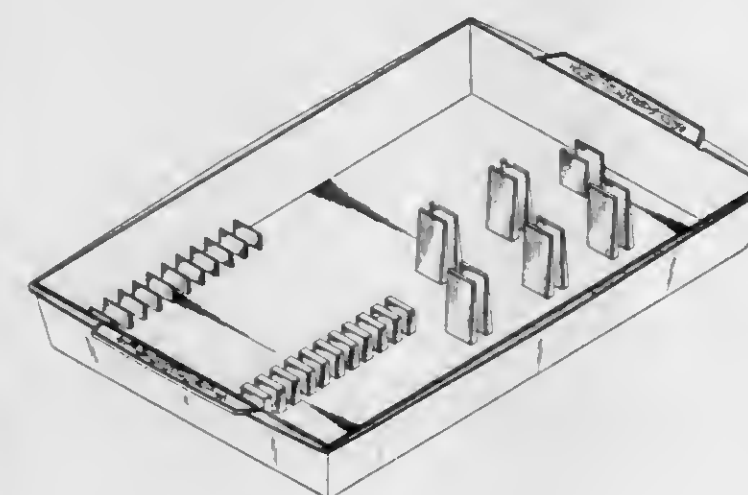
213,281

COMBINED DISPLAY AND STORAGE TRAY FOR FLATWARE OR THE LIKE

Samuel Braun, Rye, N.Y., assignor to B.C.N. Design Products, Inc., Amityville, N.Y., a corporation of New York

Filed Dec. 14, 1967, Ser. No. 9,785
Term of patent 14 years

U.S. Cl. D80—9
Int. Cl. D7—01

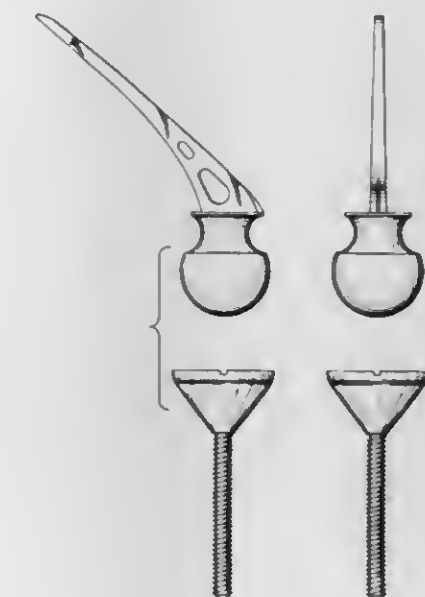


213,282

HIP PROSTHESIS

Peter Alexander Ring, White House, Woodland Way, Kingswood, Tadworth, England
Filed Apr. 3, 1967, Ser. No. 6,509
Term of patent 14 years

U.S. Cl. D83—1
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213,283

KNIFE

Jack Fairchild Fleming, Summit, N.J., assignor to Sterling Plastics Co., Mountainside, N.J., a corporation of New Jersey

Filed June 21, 1967, Ser. No. 7,542
Term of patent 14 years

U.S. Cl. D95—3
Int. Cl. D7—03



LIST OF PLANT PATENTEEES

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PATENTS WERE ISSUED ON THE 28TH DAY OF JANUARY, 1969

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

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PATENTS WERE ISSUED ON THE 28TH DAY OF JANUARY, 1969

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

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Alten, Kurt. Framework-shaped transloading bridge. 3,423,780, 1-28-69, Cl. 14—72.

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Andola, Giancarlo. Framework of plastic material for umbrella, beach sunshade or parasols. 3,424,180, 1-28-69, Cl. 135—20.
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Andrew, Herbert F., to Imperial Chemical Industries Ltd. Metal-complex reactive azo dyestuffs. 3,424,738, 1-28-69, Cl. 260—140.
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Apicella, Anthony M., Jr., N. L. Bolling, and J. T. Franks, Jr., to Goodyear Aerospace Corp. Externally biased high speed non-destructive memory device. 3,425,040, 1-28-69, Cl. 340—174.

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Arias, Henry, Jr., and V. K. Fremstad, to Ajax Hardware Mfg. Corp. Cabinet hinge having separable hinge leaves. 3,423,786, 1-28-69, Cl. 16—171.
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- Chopra, Schinder N., C. J. Cormier, and J. D. L. Tessier, to Chemcell (1963) Ltd. Bulk synthetic fibers. 3,424,834, 1-28-69, Cl. 264-268.
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- Clifford, Frank A., and W. Rusak, Jr., to Thomas I. Lipton, Inc. Containers. 3,424,351, 1-28-69, Cl. 222-189.
- Clanton, Raymond W. Tie bar forming and feeding apparatus. 3,423,811, 1-28-69, Cl. 29-33.
- Clar, Philip L., to Motorola, Inc. Transistor protection circuit. 3,424,993, 1-28-69, Cl. 330-24.
- Clark, Hubert M., and G. H. Drutchas, to TRW Inc. Variable delivery pump or compressor. 3,424,094, 1-28-69, Cl. 103-120.
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- Clay, Eugene J.: See—
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- Clingman, William H., Jr., to Texas Instruments Inc. Voltage switching apparatus for color kinescopes. 3,424,939, 1-28-69, Cl. 315-11.
- Close, Rosa A. Automatic firearm. 3,424,053, 1-28-69, Cl. 89-155.
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- Coakley, James L., to Abex Corp. Solenoid controlled servo-valve with linear output. 3,424,183, 1-28-69, Cl. 137-83.
- Coats & Clark Inc.: See—
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- Cockerell, Christopher S., to Hovercraft Development Ltd. Gas-cushion vehicles with multi-stage flexible skirts and attitude correcting means therefor. 3,424,266, 1-28-69, Cl. 180-118.
- Cockerill, Richard, to Bostrom Mfg. Co. Ltd. Means for fixing a seat cover to a seat. 3,423,775, 1-28-69, Cl. 5-353.1.
- Cockrell, William D., to General Electric Co. Photoelectric web register control. 3,424,911, 1-28-69, Cl. 250-219.
- Cohn, Charles E., to United States of America, Atomic Energy Commission. Method for start up of a nuclear reactor utilizing a digital computer. 3,424,653, 1-28-69, Cl. 176-22.
- Colant, Michel, to Oxyssynthese. Method for regenerating catalysts used for converting worn solutions in the cyclic method of manufacture of hydrogen peroxide. 3,424,696, 1-28-69, Cl. 252-412.
- Coldren, Daniel R., to AMP, Inc. Strain relief bushing. 3,424,856, 1-28-69, Cl. 174-153.
- Colless, Thomas L., and K. W. Rimer, to Union Carbide Corp. Low silica welding composition. 3,424,626, 1-28-69, Cl. 148-26.
- Colgan, William L., to Rex Chainbelt Inc. Speed changing device. 3,424,036, 1-28-69, Cl. 74-805.
- Colgate Palmolive Co.: See—
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- Collinet, Andre, to Compagnie du Filage des Metaux et des Joints Curty. Method of hot-extruding metals which require a low rate of deformation. 3,423,975, 1-28-69, Cl. 72-42.
- Collins, Jack T., to Automation Industries, Inc. Ultrasonic inspection of plywood panel. 3,423,991, 1-28-69, Cl. 73-67.5.
- Colmery, Benjamin H., Jr., and L. K. Han, now by change of name Linus K. Hahn, to Industrial Mucronics Corp. Method and apparatus for measuring. 3,424,902, 1-28-69, Cl. 250-83.3.
- Coloney, Wayne H.: See—
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- Coloroll Ltd.: See—
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- Combustion Engineering, Inc.: See—
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- Comer, Marvin H., and B. H. Fain, to Alsmance Industries, Inc. Method of false-twisting thermoplastic yarn. 3,423,924, 1-28-69, Cl. 37-157.
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Delvaux, Jean L. L. 3,424,861.
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- Conn, C. G., Ltd.: See—
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- Conner, Charles I., B. V. Howard, D. F. Walker, and G. A. Wood, to Ferranti, Ltd. Linear hydraulic motors. 3,424,059, 1-28-69, Cl. 91-170.
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- Cook, Russell P., to Polaroid Corp. Abrasion of the outer surfaces of film supports and rupturable containers to reduce blocking. 3,424,584, 1-28-69, Cl. 96-76.
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- Corley, Clifton, Contact lens handling apparatus. 3,424,486, 1-28-69, Cl. 294-64.
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- Coro, Inc.: See—
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- Corral, Joseph S., and D. E. Krantz, to North American Rockwell Corp. Explosive forming method and means. 3,423,977, 1-28-69, Cl. 72-56.
- Corrigan, James S., R. R. Waterman, and K. M. Deal, to R. T. Vanderbilt Co., Inc. Method of making strap material. 3,424,633, 1-28-69, Cl. 156-79.
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- Cowans, Kenneth W., to Hughes Aircraft Co. Cryogenic refrigerator adapted to miniaturization. 3,423,948, 1-28-69, Cl. 62-6.
- Cowley, George E. Bath. 3,423,769, 1-28-69, Cl. 4-173.
- Cox, Donald J., to Cotton Enterprises, Inc. Boll and burt extractors. 3,423,797, 1-28-69, Cl. 19-202.
- Crandall, Herbert D. Sine V-block. 3,423,885, 1-28-69, Cl. 51-217.
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- Davis, Dhu A. J., to Hermetic Coil Co., Inc. Assembly apparatus. 3,423,814, 1-28-69, Cl. 29-203.
- Davis, Frank L. Cargo tiedown with lock for adjusted, web tensioned relation. 3,423,800, 1-28-69, Cl. 24-68.
- Davis, Reuel L., Jr. Axially randomly wound coils. 3,425,014, 1-28-69, Cl. 336-96.
- Dawson, Robert D., to R. E. Dietz Co. Warning lens having concentric lenticular elements. 3,425,056, 1-28-69, Cl. 340-383.
- Dazzi, Joachim, K. Schwarzenbach, and E. Keller, to Gelgy Chemical Corp. Mixtures of azines and polyphenyl ethers as functional fluids. 3,424,683, 1-28-69, Cl. 252-51.5.
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- Delvaux, Jean L. L., to Compagnie Francaise Thomson Houston-Hotchkiss Brandt. Recording and reading system for color television and analogous angle-modulated signals. 3,424,861, 1-28-69, Cl. 178-5.2.
- Demers, Harlan J., to Koppers Co., Inc. Concealed hanging system. 3,423,899, 1-28-69, Cl. 52-721.
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- Dick, Robert H., B. Block, and J. Weber, said Dick, and said Block, assigns, to the United States of America. Superconducting gravimeter. 3,424,006, 1-28-69, Cl. 73-382.
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- Di Veto, Millard R., and A. W. Hough, to Burroughs Corp. Servo loop control apparatus for monitoring and maintaining web tension. 3,424,392, 1-28-69, Cl. 242-55.12.
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(First number in listing denotes location according to above key. Refer to patent number in body of the Official Gazette to obtain details as to inventor name, location, etc.)

PATENTS

1 : 3,423,772	6 : 3,424,194	6 : 3,424,703	9 : 3,424,158	12 : 3,424,381	17 : 3,424,346
3,423,864	3,424,200	3,424,711	3,424,240	3,424,419	3,424,352
3,423,931	3,424,203	3,424,750	3,424,312	3,424,420	3,424,353
3,424,103	3,424,213	3,424,754	3,424,342	3,424,453	3,424,369
3,424,211	3,424,214	3,424,769	3,424,363	3,424,463	3,424,373
3,424,776	3,424,215	3,424,785	3,424,366	3,424,486	3,424,380
4 : 3,424,575	3,424,216	3,424,811	3,424,393	3,424,497	3,424,411
3,424,928	3,424,218	3,424,815	3,424,414	3,424,931	3,424,415
3,424,993	3,424,220	3,424,816	3,424,462	3,424,938	3,424,421
5 : 3,424,133	3,424,222	3,424,822	3,424,507	3,424,938	3,424,435
6 : 3,423,758	3,424,245	3,424,831	3,424,624	3,424,938	3,424,461
3,423,773	3,424,270	3,424,852	3,424,633	3,424,938	3,424,471
3,423,786	3,424,290	3,424,855	3,424,658	3,424,938	3,424,473
3,423,811	3,424,291	3,424,867	3,424,780	3,424,938	3,424,500
3,423,813	3,424,305	3,424,891	3,424,821	3,424,938	3,424,508
3,423,816	3,424,310	3,424,910	3,424,882	3,424,938	3,424,517
3,423,823	3,424,321	3,424,915	3,424,961	3,424,938	3,424,520
3,423,832	3,424,324	3,424,923	3,424,980	3,424,938	3,424,522
3,423,889	3,424,331	3,424,968	3,425,007	3,424,938	3,424,526
3,423,890	3,424,341	3,424,970	3,425,008	3,424,938	3,424,529
3,423,893	3,424,349	3,424,979	3,425,028	3,424,938	3,424,530
3,423,911	3,424,355	3,424,990	3,425,053	3,424,938	3,424,542
3,423,916	3,424,360	3,424,994	3,425,053	3,424,938	3,424,546
3,423,926	3,424,388	3,424,997	3,425,059	3,424,938	3,424,565
3,423,942	3,424,400	3,425,000	3,425,055	3,424,938	3,424,572
3,423,943	3,424,405	3,425,045	3,425,055	3,424,938	3,424,579
3,423,944	3,424,417	3,425,014	3,425,055	3,424,938	3,424,613
3,423,948	3,424,429	3,425,024	3,425,055	3,424,938	3,424,635
3,423,957	3,424,439	3,425,031	3,425,055	3,424,938	3,424,640
3,423,977	3,424,450	3,425,036	3,425,055	3,424,938	3,424,648
3,423,978	3,424,469	3,425,038	3,425,055	3,424,938	3,424,650
3,423,988	3,424,487	3,425,040	3,425,055	3,424,938	3,424,653
3,423,994	3,424,488	3,425,040	3,425,055	3,424,938	3,424,688
3,423,995	3,424,496	3,425,040	3,425,055	3,424,938	3,424,706
3,424,000	3,424,513	3,425,040	3,425,055	3,424,938	3,424,758
3,424,043	3,424,519	3,425,040	3,425,055	3,424,938	3,424,758
3,424,046	3,424,521	3,425,040	3,425,055	3,424,938	3,424,758
3,424,047	3,424,524	3,425,040	3,425,055	3,424,938	3,424,758
3,424,058	3,424,539	3,425,040	3,425,055	3,424,938	3,424,758
3,424,062	3,424,559	3,425,040	3,425,055	3,424,938	3,424,758
3,424,069	3,424,563	3,425,040	3,425,055	3,424,938	3,424,758
3,424,072	3,424,593	3,425,040	3,425,055	3,424,938	3,424,758
3,424,075	3,424,623	3,425,040	3,425,055	3,424,938	3,424,758
3,424,076	3,424,625	3,425,040	3,425,055	3,424,938	3,424,758
3,424,108	3,424,649	3,425,040	3,425,055	3,424,938	3,424,758
3,424,120	3,424,655	3,425,040	3,425,055	3,424,938	3,424,758
3,424,128	3,424,664	3,425,040	3,425,055	3,424,938	3,424,758
3,424,160	3,424,671	3,425,040	3,425,055	3,424,938	3,424,758
3,424,183	3,424,679	3,425,040	3,425,055	3,424,938	3,424,758
3,424,188	3,424,690	3,425,040	3,425,055	3,424,938	3,424,758

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17 : 3,425,023	25 : 3,424,597	29 : 3,424,263	36 : 3,423,858	39 : 3,424,064	42 : 3,424,372
18 : 3,423,817	3,424,621	3,424,452	3,423,873	3,424,091	3,424,394
3,423,930	3,424,682	3,424,481	3,423,880	3,424,118	3,424,416
3,423,951	3,424,739	3,424,714	3,423,885	3,424,124	3,424,438
3,424,016	3,424,742	3,424,801	3,423,901	3,424,129	3,424,445
3,424,137	3,424,826	3,424,951	3,423,902	3,424,146	3,424,459
3,424,154	3,424,929	3,424,960	3,423,908	3,424,186	3,424,474
3,424,288	3,424,935	3,425,005	3,423,956	3,424,227	3,424,501
3,424,362	3,424,957	30 : 3,423,904	3,423,966	3,424,306	3,424,532
3,424,447	3,424,973	3,424,081	3,423,974	3,424,319	3,424,548
3,424,637	3,424,996	3,424,101	3,424,021	3,424,322	3,424,556
3,424,654	3,425,003	31 : 3,423,882	3,424,048	3,424,335	3,424,574
3,424,659	3,425,033	3,424,190	3,424,063	3,424,344	3,424,576
3,424,850	3,425,048	3,424,283	3,424,070	3,424,382	3,424,607
3,424,857	3,425,049	3,424,515	3,424,109	3,424,424	3,424,628
3,424,862	3,425,051	3,424,588	3,424,119	3,424,425	3,424,642
3,424,870	3,425,055	33 : 3,424,458	3,424,130	3,424,426	3,424,661
3,424,876	26 : 3,423,784	3,424,590	3,424,131	3,424,455	3,424,667
3,424,877	3,423,785	3,425,018	3,424,157	3,424,460	3,424,676
3,424,940	3,423,791	3,425,019	3,424,176	3,424,480	3,424,677
3,424,941	3,423,819	34 : 3,423,762	3,424,193	3,424,484	3,424,692
3,424,942	3,423,839	3,423,778	3,424,226	3,424,551	3,424,720
3,424,952	3,423,846	3,423,863	3,424,238	3,424,557	3,424,757
3,424,967	3,423,866	3,423,874	3,424,259	3,424,569	3,424,773
3,425,015	3,423,876	3,423,897	3,424,299	3,424,578	3,424,789
19 : 3,423,915	3,423,879	3,423,925	3,424,300	3,424,580	3,424,810
3,423,919	3,423,884	3,423,934	3,424,317	3,424,598	3,424,827
3,424,014	3,423,899	3,423,946	3,424,332	3,424,603	3,424,835
3,424,232	3,423,929	3,423,950	3,424,333	3,424,605	3,424,856
3,424,845	3,423,936	3,423,976	3,424,370	3,424,606	3,424,892
3,424,920	3,423,939	3,424,006	3,424,379	3,424,616	3,424,921
20 : 3,424,412	3,423,954	3,424,010	3,424,387	3,424,622	3,424,925
3,424,482	3,424,022	3,424,049	3,424,406	3,424,647	3,424,948
3,424,527	3,424,027	3,424,056	3,424,413	3,424,665	3,425,016
21 : 3,423,903	3,424,031	3,424,061	3,424,436	3,424,710	3,425,021
3,423,963	3,424,033	3,424,065	3,424,437	3,424,713	3,425,022
3,424,132	3,424,037	3,424,110	3,424,454	3,424,772	3,425,030
3,424,134	3,424,051	3,424,164	3,424,475	3,424,788	3,425,032
3,424,292	3,424,094	3,424,179	3,424,483	3,424,849	3,425,056
3,424,404	3,424,141	3,424,208	3,424,493	3,424,886	44 : 3,424,313
3,424,423	3,424,142	3,424,231	3,424,505	3,424,937	3,424,359
3,424,562	3,424,181	3,424,269	3,424,509	3,424,945	3,424,608
3,424,719	3,424,182	3,424,302	3,424,514	3,424,981	45 : 3,423,905
3,424,766	3,424,187	3,424,307	3,424,525	3,425,045	46 : 3,423,771
3,424,817	3,424,189	3,424,323	3,424,528	3,425,046	47 : 3,423,809
3,424,927	3,424,217	3,424,329	3,424,533	3,425,047	3,423,875
3,424,933	3,424,222	3,424,351	3,424,535	3,425,052	3,423,913
22 : 3,423,767	3,424,223	3,424,456	3,424,547	40 : 3,423,768	3,424,020
3,423,781	3,424,274	3,424,464	3,424,568	3,423,859	3,424,173
3,423,788	3,424,276	3,424,479	3,424,577	3,423,881	3,424,345
3,423,827	3,424,277	3,424,545	3,424,585	3,423,888	3,424,740
3,423,945	3,424,284	3,424,552	3,424,589	3,424,026	3,424,741
3,424,221	3,424,303	3,424,554	3,424,615	3,424,244	3,424,756
3,424,808	3,424,304	3,424,567	3,424,629	3,424,314	3,424,763
23 : 3,424,219	3,424,391	3,424,583	3,424,632	3,424,358	48 : 3,423,764
24 : 3,423,765	3,424,392	3,424,610	3,424,656	3,424,376	3,423,774
3,423,794	3,424,418	3,424,617	3,424,657	3,424,485	3,423,797
3,423,865	3,424,442	3,424,619	3,424,670	3,424,504	3,423,820
3,423,887	3,424,467	3,424,626	3,424,684	3,424,620	3,423,832
3,423,997	3,424,492	3,424,630	3,424,695	3,424,662	3,423,979
3,424,007	3,424,494	3,424,631	3,424,698	3,424,672	3,423,980
3,424,121	3,424,495	3,424,636	3,424,700	3,424,733	3,424,066
3,424,144	3,424,497	3,424,669	3,424,701	3,424,800	3,424,082
3,424,155	3,424,506	3,424,674	3,424,722	3,424,829	3,424,086
3,424,175	3,424,512	3,424,678	3,424,749	3,424,908	3,424,092
3,424,212	3,424,591	3,424,680	3,424,778	3,424,975	3,424,098
3,424,348	3,424,641	3,424,707	3,424,779	41 : 3,423,770	3,424,099
3,424,390	3,424,730	3,424,712	3,424,784	3,423,914	3,424,236
3,424,422	3,424,746	3,424,715	3,424,841	3,424,077	3,424,241
3,424,511	3,424,803	3,424,716	3,424,851	3,424,090	3,424,242
3,424,540	3,424,813	3,424,717	3,424,859	3,424,166	3,424,243
3,424,601	3,424,823	3,424,736	3,424,863	3,424,272	3,424,246
3,424,638	3,424,832	3,424,744	3,424,865	3,424,295	3,424,247
3,424,783	3,424,836	3,424,764	3,424,866	3,424,356	3,424,249
3,424,894	3,424,875	3,424,774	3,424,912	42 : 3,423,759	3,424,253
3,424,907	3,424,893	3,424,786	3,424,932	3,423,787	3,424,268
3,424,964	3,424,902	3,424,787	3,424,943	3,423,805	3,424,308
3,424,984	3,424,944	3,424,795	3,424,949	3,423,828	3,424,315
3,424,987	3,424,946	3,424,796	3,424,953	3,423,829	3,424,316
3,424,992	3,424,978	3,424,806	3,424,977	3,423,830	3,424,357
25 : 3,423,761	3,425,006	3,424,818	3,424,988	3,423,831	3,424,377
3,423,777	3,425,009	3,424,819	3,424,991	3,423,835	3,424,378
3,423,833	3,425,029	3,424,825	3,425,027	3,423,836	3,424,516
3,423,854	3,425,034	3,424,843	3,425,039	3,423,891	3,424,594
3,423,877	27 : 3,423,856	3,424,853	3,425,050	3,423,895	3,424,595
3,423,955	3,423,871	3,424,868	3,423,795	3,423,900	3,424,666
3,423,965	3,423,917	3,424,869	3,423,806	3,423,928	3,424,668
3,423,984	3,424,100	3,424,872	3,423,924	3,423,958	3,424,675
3,423,993	3,424,127	3,424,873	3,423,952	3,423,960	3,424,681
3,424,054	3,424,364	3,424,874	3,423,961	3,423,987	3,424,691
3,424,068	3,424,724	3,424,899	3,424,161	3,424,039	3,424,731
3,424,074	3,424,797	3,424,901	3,424,771	3,424,111	3,424,790
3,424,150	3,424,895	3,424,916	3,424,828	3,424,122	3,424,807
3,424,230	3,424,913	3,424,934	3,424,880	3,424,145	3,424,809
3,424,250	3,424,918	3,424,954	3,423,815	3,424,168	3,424,887
3,424,273	3,424,963	3,424,969	3,423,838	3,424,191	3,424,919
3,424,389	28 : 3,423,847	3,424,995	3,423,922	3,424,207	3,424,926
3,424,430	3,424,267	3,425,001	3,423,935	3,424,224	3,424,939
3,424,431	29 : 3,423,894	3,425,035	3,423,971	3,424,255	3,424,985
3,424,432	3,423,970	3,425,043	3,423,985	3,424,309	3,424,989
3,424,490	3,423,989	3,423,792	3,424,001	3,424,334	49 : 3,424,184
3,424,534	3,424,106	3,423,798	3,424,009	3,424,336	3,424,428
3,424,581	3,424,107	3,423,799	3,424,011	3,424,337	51 : 3,423,834
3,424,582	3,424,113	3,423,800	3,424,030	3,424,350	3,423,837
3,424,584	3,424,152	3,423,844	3,424,040	3,424,357	3,424,053
3,424,596	3,424,260	3,423,850	3,424,060	3,424,367	3,424,075

51 : 3,424,105	51 : 3,424,879	53 : 3,423,852	55 : 3,423,912	55 : 3,424,098	55 : 3,424,451
3,424,171	3,424,881	3,424,396	3,423,967	3,424,126	3,424,498
3,424,523	3,424,898	3,424,549	3,423,968	3,424,153	3,424,510
3,424,561	3,424,908	3,424,566	3,423,969	3,424,159	3,424,643
3,424,639	3,424,911	54 : 3,424,792	3,424,018	3,424,318	3,424,651
3,424,760	3,425,010	55 : 3,423,857	3,424,036	3,424,443	3,424,959
3,424,761	3,425,058	3,423,867	3,424,042	3,424,446	3,425,012
3,424,762	3,425,059	3,423,869			

Design Patents

6 : 213,266	26 : 213,269	26 : 213,274	26 : 213,277	34 : 213,283	39 : 213,260
213,267	213,270	213,275	213,278	36 : 213,280	213,261
25 : 213,264	213,272	213,276	27 : 213,271	213,281	51 : 213,265
26 : 213,268	213,273				

Plant Patents

6 : 2,860					
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U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

January 28, 1969

Volume 858

Number 4

TRADEMARKS
NOTICES

Service by Publication

A petition to cancel the registration identified below having been filed and this Office being unable to effect service of notice of this proceeding on the domestic representative for registrant since he is deceased, notice is hereby given that unless the registrant listed herein, its assigns or legal representatives, shall enter an appearance within thirty days from the date of this publication, the cancellation will be proceeded with as in the case of default.

Gerard Brothers Limited, Nottingham, England, Reg. No. 364,354, Canc. No. 9195.

EDWIN L. REYNOLDS,
First Assistant Commissioner of Patents.

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 161,316 (OZITE), American Hair & Felt Company, Hair; Reg. No. 169,084, same, Ozite Corporation, Felt; Reg. No. 172,349, same, Hair carpet cushions and hair seat cushions, filed Nov. 6, 1968, D.C., W.D. Pa. (Pittsburgh), Doc. 68-1278, *Ozite Corporation v. Barney's Tile & Paint Store of Baden, Inc.*

Reg. No. 169,084. (See Reg. No. 161,316.)

Reg. No. 172,349. (See Reg. No. 161,316.)

Reg. No. 195,860 (CHANEL), Chanel Industries, Inc., Face powder, perfume, eau de cologne, toilet water, lip stick and rouge; Reg. No. 510,092, same, Chanel, Inc., Perfume, toilet

water, eau de cologne, face powder, bath powder, talcum powder, lipsticks, and lip oil, filed Aug. 20, 1968, D.C. Puerto Rico (San Juan), Doc. 537-68, *Chanel, Inc., and Chanel Industries, Inc. v. Zepol Manufacturing Products, Inc.* Judgment permanently enjoining and restraining defendant from using the names and marks "Chanel," "Chanel No. 1," and/or any simulation or similarity thereof, Oct. 16, 1968.

Reg. No. 510,992. (See Reg. No. 195,860.)

Reg. No. 569,365 (ROMAN MEAL), Roman Meal Company, Breakfast cereals; a blend of whole wheat flour, whole rye, wheat bran, and flax for use by bakers; and bread; Reg. No. 702,358 (ROMAN MEAL AND DESIGN), same, Biscuits, bread, buns, cereal, cookies, flour, muffin mix, pancake mix, and rolls; Reg. No. 705,658, same, filed Nov. 13, 1968, D.C., N.D. Ohio (Cleveland), Doc. C68-867, *Roman Meal Co. v. Alfred Nickles Bakery, Inc.*

Reg. No. 643,928 (DESIGN OF RABBIT'S HEAD), HNH Publishing Co., Inc., Monthly magazine; Reg. No. 675,006 (FANCIFUL REPRESENTATION OF HEAD OF RABBIT), same, Mechanically grooved photograph records; Reg. No. 679,997 (REPRESENTATION OF RABBIT'S HEAD), same, Cocktail glasses; Reg. No. 728,880 (FANCIFUL DESIGN OF A RABBIT HEAD), same, Ties and men's and women's shirts; Reg. No. 743,134 (REPRESENTATION OF RABBIT HEAD AND DESIGN), same, Operating private social clubs which feature food, drinks, and entertainment; Reg. No. 734,714 (FANCIFUL DESIGN OF RABBIT HEAD), same,

CONDITION OF TRADEMARK APPLICATIONS AS OF NOVEMBER 30, 1968

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]..... 15,923
Date of oldest new application..... September 7, 1967
Date of oldest amended application (filing date)..... May 4, 1964

C. M. WENDT, Director, Trademark Examining Operation TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B.....	4-1-68	7-18-66
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200.....	2-29-68	3-26-65
(III) P. S. BALL, Classes 19, 21, 23, 26, 31, 34, 35, 38.....	3-8-68	5-4-64
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107.....	9-7-67	9-22-65
Renewals (All Classes).....	10-29-68	
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Applications filed during the month of November 1968—2,446

Registrations Issued 349—No. 864,069 to No. 864,417
Renewals Issued 90

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price \$20.50 per annum, foreign mailing \$5.75 additional; single copies, 40 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

Arranging and conducting travel tours and arranging hotel accommodations and entertainment for tourists; **Reg. No. 740,395** (PLAYBOY TOURS AND DESIGN), same; **Reg. No. 738,386** (KEY DESIGN), same, Operating private social clubs which feature food, drinks and entertainment, **filed** Oct. 22, 1968, D.C., N.D. Ill. (Chicago), Doc. 68c1962, *HMH Publishing Co., Inc. v. David Verduin, doing business as Lake Star Co., and Lake Star, Inc.*

Reg. No. 645,435 (CASUAL CORNER), Casual Corner, Inc., Women's apparel—namely, dresses, shorts, slacks, sport jackets, coats, suits, sweaters, blouses, skirts, bathing suits, bathing caps, bathing shoes, shirts, beach robes, beach jackets, and beach bags, **filed** Aug. 12, 1967, D.C.N.J. (Newark), Doc. 860-67, *Casual Corner Associates, Inc. v. Ceil Geller*, Order of dismissal under General Rule 30, Oct. 17, 1968; this disposition relates to a third party defendant, Gertrude Geller.

Reg. No. 795,275 (CASUAL CORNER AND DESIGN), Casual Corner Associates, Inc., Women's and girls' dresses, skirts, pants, shorts, suits, blouses, shirts, dress coats, car coats, raincoats, sweaters, and gloves, **filed** Oct. 18, 1968, D.C., N.D. Calif. (San Francisco), Doc. 50168, *Casual Corner Associates, Inc. v. Casual Stores, Inc. Same* (CASUAL CORNER), Casual Corner, Inc., Women's apparel—namely, dresses, shorts, slacks, sport jackets, coats, suits, sweaters, blouses, skirts, bathing suits, bathing caps, bathing shoes, shirts, beach robes, beach jackets, and beach bags, **filed** Oct. 28, 1968, D.C., S.D. Fla. (Miami), Doc. 68-1238-CV-CA, *Casual Corner Associates, Inc. v. Helen J. Weinert and Doris E. Whitaker*.

Reg. No. 675,006. (See Reg. No. 643,926.)

Reg. No. 679,997. (See Reg. No. 643,926.)

Reg. No. 702,358. (See Reg. No. 569,365.)

Reg. No. 705,658. (See Reg. No. 569,365.)

Reg. No. 728,899. (See Reg. No. 643,926.)

Reg. No. 734,714. (See Reg. No. 643,926.)

Reg. No. 738,386. (See Reg. No. 643,926.)

Reg. No. 740,395. (See Reg. No. 643,926.)

Reg. No. 743,134. (See Reg. No. 643,926.)

Reg. No. 745,732 (UNICALL AND DESIGN), Aeronautical Electronics, Inc., Mobile and fixed two-way radio communications equipment and parts thereof, **filed** Oct. 22, 1968, D.C., C.D. Calif. (Los Angeles), Doc. 68-1750-FW, *Aerotron, Inc. v. Unicall Electronics Corporation*.

Reg. No. 766,864 (MAN-POWER), Shulton, Inc., Body deodorant for men, **filed** Sept. 20, 1968, D.C., S.D.N.Y., Doc. 68-C-3796, *Shulton, Inc. v. April Showers, Inc.*

Reg. No. 785,796 (KEYSTONE KOOL DECK), W. J. Stegmeler, doing business as Mortex & Co., Pigment additive for concrete comprising inorganic pigments, organic wetting agents, and mineral fillers for pigmentation, conditioning, and stabilizing concrete; **Reg. No. 785,802** (KEYSTONE KOOL DECK AND DESIGN), same, Pigment additive for concrete, **filed** Nov. 8, 1968, D.C. Ariz. (Phoenix), Doc. C-6904, *Mortex W. Deason, doing business as Mortex Manufacturing Co. v. William J. Stegmeler*.

Reg. No. 785,802. (See Reg. No. 785,796.)

Reg. No. 809,675 (STAND 'N SNACK), Stand 'n Snack Shops, Inc., Restaurant services, **filed** Oct. 6, 1967, D.C., M.D. Fla. (Jacksonville), Doc. 67-676-C-J, *Stand 'n Snack Shops, Inc. v. Bud's Sip 'n Snack, Inc. et al.* Final judgment for plaintiffs, Oct. 23, 1968.

Reg. No. 816,321 (MEDICENTER OF AMERICA), Medicenters of America, Inc., Medical and skilled nursing care services; **Reg. No. 816,743** (MEDICENTER OF AMERICA AND DESIGN), same, **filed** Sept. 24, 1968, D.C., S.D. Fla. (Miami), Doc. 68-1108-C-EC, *Medicenters of America, Inc. v. Good Samaritan, Inc.*

Reg. No. 816,743. (See Reg. No. 816,321.)

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 251,855. Mo och Domsjö Aktiebolag, Ornskoldsvik, Sweden. **Filed** Aug. 8, 1966.

SN 273,342. R & R Industries, Inc., Minneapolis, Minn., by change of name from R & R Elevator Co., Inc., Minneapolis, Minn. **Filed** June 8, 1967.

MODO

Owner of Swedish Reg. No. 90,790, dated Nov. 18, 1960; and U.S. Reg. Nos. 576,218, 781,107, and others.

Class 1—Raw or Partly Prepared Materials

For Paper Pulp; Cardboard Pulp and Knot Pulp; Pulp as Filling Material for Resins; Cellulose Powder; Lignins; Lignin Resins; Tall Oil Resins; Tall Oil Pitch; Preparations for Coating Foundry Cores and Molds To Inhibit Adhesions During Casting; Wood Flour; Cellulose Fluff Fibers, and Drilling Mud (Int. Cls. 1 and 22).

Class 5—Adhesives

For Wallpaper Paste; Binders for Foundry Cores and Molds (Int. Cl. 1).

Class 6—Chemicals and Chemical Compositions

For Flocculation Agents; Plasticizers for Ceramics and Synthetic Resins; Solvents for Oils, Greases, Waxes, Paraffins, Asphalt, and Synthetic Resins; Sulphate and Sulphite Lye; Tall Oil and Tall Oil Fatty Acids; Wood Preservatives; Sizing Preparations for Paper and Textiles; Finishing Agents for Textiles; Anti-Corrosion Agents; Acids; Soda Lye; Hydrocarbons; Alcohols; Glycols; Ethers; Aldehydes; Ketones; Esters; Halogen Compositions; Amino Compounds; Amide Compounds; Carbohydrate; and Phenols (Int. Cls. 1 and 2).

Class 12—Construction Materials

For Wood Planks and Lumber; Wood Veneer Panels; Doors; Windows; Window Frames; Ready-To-Erect Houses; Woodfiber Panels (Int. Cl. 19).

Class 37—Paper and Stationery

For Kraft Paper; Paperboard; Cardboard; Paper and Cardboard Packing; Packets of Writing Paper and Envelopes (Int. Cl. 16).

SN 252,780. Sleber & McIntyre, Inc., Chicago, Ill. **Filed** Aug. 22, 1966.



Class 36—Musical Instruments and Supplies

For Taped Sound Reproducers and Phonographs (Int. Cl. 9).

Class 38—Prints and Publications

For Records, Tapes or Cassettes, Periodically Issued, Containing Articles and the Like in the Manner of a Magazine on Subjects of Interest to the Medical Profession (Int. Cl. 9).

First use Feb. 28, 1966.



Class 100—Miscellaneous

For Services of Designing Elevators (Int. Cl. 42).

Class 103—Construction and Repair

For Services of Installing and Servicing Elevators (Int. Cl. 37).

First use Nov. 1, 1966.

SN 274,381. Midland-Ross Corporation, Toledo, Ohio. **Filed** June 21, 1967.

JANITROL

Owner of Reg. Nos. 278,558, 643,601, and others.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Flow and Pressure Regulators, and Conduit Couplings (Int. Cl. 6).

First use on or before Feb. 1, 1955.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Heat Exchangers (Int. Cl. 11).

First use on or before July 1, 1956.

SN 274,578. Metalphoto Corporation, Warrensville Heights, Ohio, assignee of Allied Decals, Inc., Cleveland, Ohio. **Filed** June 23, 1967.

DURADIZED

Class 38—Prints and Publications

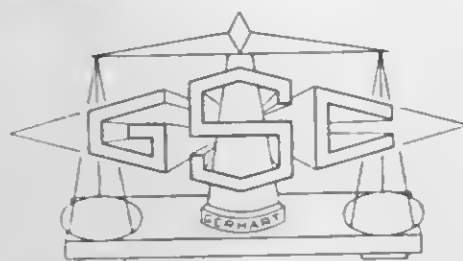
For Decals (Int. Cl. 16).

Class 50—Merchandise Not Otherwise Classified

For Nameplates (Int. Cl. 6).

First use Mar. 3, 1967.

SN 274,614. Gerhart Scale Corporation, South River, N.J. SN 280,907. Builder Marts of America, Inc., Greenville, S.C.
Filed June 23, 1967. Filed Sept. 22, 1967.

**Class 100—Miscellaneous**

For Inspection and Testing of Weighing Apparatus and Equipment (Int. Cl. 42).

Class 103—Construction and Repair

For Cleaning, Repair, Calibration, Adjustment, Installation, Rebuilding, and Refinishing of Weighing Apparatus and Equipment (Int. Cl. 37).

First use June 20, 1964.

SN 277,995. Firma Alfred Recknagel, Langenfeld/Rhine-land, Germany. Filed Aug. 10, 1967.

RECKNA

Owner of German Reg. No. S18,924, dated Apr. 28, 1966.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Hair-Cutting Scissors and Hair Thinning Combs (Hair Shapers) (Int. Cl. 8).

Class 40—Fancy Goods, Furnishings, and Notions

For Non-Electrical Hair Waving Irons, Non-Electrical Curling Irons, Metal Combs, and Hair Straightening Combs (Int. Cls. 8 and 21).

Class 44—Dental, Medical, and Surgical Appliances

For Electrical Hair Waving Irons, Electrical Hair Curling Irons, Nail Scissors, Nail-Skin Scissors, Nail Files, Electrically Heated Burning Shears, Electrically Heated Hair Straightening Combs, Burning Shears, Face Protecting Shields for Hairdressers, and Hair Removing Pincers (Int. Cls. 8 and 9).

Class 51—Cosmetics and Toilet Preparations

For Hair Pomades, Hair Straightening Cream, Hair Softening Lotion, Hair Dye, Hair Tonic, Dandruff Preventing Oils, and Non-Medicated Skin Creams (Int. Cl. 3).

SN 278,937. Safe Flight Instrument Corporation, White Plains, N.Y. Filed Aug. 10, 1967.

SAFE FLIGHT

Owner of Reg. Nos. 602,965 and 721,937.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Gear Box and Clutch Assembly for Automatic Power Control for Aircraft (Int. Cl. 7).

Class 26—Measuring and Scientific Appliances

For Servo Assembly for Automatic Power Control for Aircraft, Calibration Module, Computer Module, Speed Command Computer, Pendulous Accelerometer, Amplifier for Automatic Power Control for Aircraft, Airstream Angle Sensor, Airstream Angle Data Computer, Characterization Unit, Acceleration Module, Lift Data Computer, Computer for a Speed Command of Altitude and Thrust System, Lift Transducer Adapter, and Servomotor Assembly for Automatic Power Control for Aircraft (Int. Cl. 9).

First use June 9, 1967.

BUILDER MART

Owner of Reg. No. 828,361.

Class 12—Construction Materials

For Paste Wood Fillers, Asphalt Roof Coatings, Doors, Door Framing and Sills, Sliding Glass Patio Doors and Framing, Exterior Casing and Trim Therefor, Windows Including Aluminum Rolling, Awning and Single Hung Windows (Int. Cls. 6 and 19).

First use Apr. 1, 1966.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Air Volume Controls, Line Checks, Pressure Regulating Valves, Foot Valves, Well Packer Assemblies and Adapters, Connector Kits and Accessories Therefor (Int. Cl. 6).

First use July 4, 1966.

Class 16—Protective and Decorative Coatings

For Exterior and Interior House Paints, Roof Paints, Primers and Undercoatings, Varnish Stains, Enamels, Wood and Floor Sealers, Traffic Paint, Concrete Paints and Enamels, Asphaltum and Machinery Enamel, and Wrought Iron Finish (Int. Cl. 2).

First use July 4, 1966.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electric Pump Motors, Pressure Switches, Lightning Arrestors, Low Water Cut-Off Controls, Two and Three Wire Cable, Pressure Switches for Use in Water Systems (Int. Cls. 7 and 9).

First use Mar. 15, 1967.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Gas Engines for Pumps and Lawn Mowers, Shallow Well Pumps and Water Systems Including Reciprocating Pumps, Jet Pumps, Tanks and Pressure Gauges Sold Therewith, Ejectors and Fittings and Accessories Therefor, Single Stage and Multistage Convertible Pumps and Water Systems Including Pressure Gauges and Tanks Sold Therewith, Ejectors, Submersible Pumps and Water Systems Including Ejectors, Venturi Nozzles Therefor, Reducer Bushings, Couplings and Fittings Therefor, Sump Pumps and Utility Pumps and Fittings and Accessories Therefor (Int. Cls. 7 and 11).

First use Mar. 15, 1967.

Class 35—Belting, Hose, Machinery Packing, and Non-metallic Tires

For Air Seals, Well Seals, Suction Hose and Fittings Therefor (Int. Cl. 17).

First use Mar. 15, 1967.

SN 284,392. Ontarioville Metal Products Co., Ontarioville, Ill. Filed Nov. 8, 1967.

**Class 2—Receptacles**

For Metal Utility and Tool Boxes (Int. Cl. 6).

Class 32—Furniture and Upholstery

For Cabinets and Stands (Int. Cl. 20).

First use Oct. 3, 1967.

SN 285,616. Dustbane Enterprises Limited, Ottawa, Ontario, Canada. Filed Nov. 27, 1967.

DUSTBANE

Owner of Canadian Reg. No. 144,233, dated Mar. 4, 1966.

Class 4—Abrasives and Polishing Materials

For Furniture and Floor Wax (Int. Cl. 3).

Class 21—Electrical Apparatus, Machines, and Supplies

For Cleaning and Maintenance Machines—Namely, Floor Scrubbing Machines, Floor Polishing Machines, and Vacuum Cleaning Machines (Int. Cls. 7 and 9).

Class 52—Detergents and Soaps

For Cleaning and Maintenance Compositions—Namely, Soaps and Detergents (Int. Cl. 3).

SN 286,785. Uni-Tech Chemical Manufacturing Company, Sun Valley, Calif. Filed Dec. 13, 1967.

**Class 2—Receptacles**

For Receptacles for Laboratory Reagents and Industrial Chemicals—Namely, Polyethylene Bottles, and Polyethylene Lined Containers, Glass Cuvettes and Containers for Samples Used in Photometric and Colorimetric Instruments (Int. Cl. 20).

Class 6—Chemicals and Chemical Compositions

For Laboratory Reagents Used in Diagnostic Testing; Chemical Laboratory Diagnostic Testing Kits; Industrial Chemicals—Namely, Organic and Inorganic Acids, Bases, and Salts, and Fine Biological Chemicals, Namely, Enzymes Such as Nucleotides and Nucleic Acids and Their Substrates (Int. Cl. 1).

Class 18—Medicines and Pharmaceutical Preparations

For Organic and Inorganic Chemicals and Biological Preparations for Human Ingestion Used in Connection With Medical Laboratory Clinical Testing Procedures (Int. Cl. 5).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Electrically Heated Refractory Furnaces (Int. Cl. 11).

Class 38—Prints and Publications

For Scientific Bulletins and Reports in the Fields of Medical Laboratory Diagnostic Procedures and Industrial Laboratory Techniques (Int. Cl. 16).

First use on or before December 1959.

SN 287,851. Brown Company, New York, N.Y. Filed Jan. 2, 1968.



Owner of Reg. No. S31,074.

Class 1—Raw or Partly Prepared Materials

For Cellulose Pulp (Int. Cl. 1).

First use May 29, 1967.

Class 12—Construction Materials

For Fiber Conduits or Pipes and Couplings Therefor and Plywood Paneling (Int. Cl. 19).

First use May 31, 1967.

Class 39—Clothing

For Inner Soiling for Shoes (Int. Cl. 25).

First use Nov. 3, 1967.

SN 288,525. Johnson Publishing Company, Inc., Chicago, Ill. Filed Jan. 10, 1968.

DUKE

Owner of Reg. No. 376,163, 720,758, and 793,053.

Class 51—Cosmetics and Toilet Preparations

For Hair Relaxer, Hair Rinse, Hair Brightener or Conditioner and Scalp Protective Cream (Int. Cl. 3).

Class 52—Detergents and Soaps

For Hair Shampoo (Int. Cl. 3).

First use Oct. 5, 1967.

SN 290,362. The Flecto Company, Inc., Oakland, Calif. Filed Feb. 6, 1968.

FLECTO

Owner of Reg. No. 755,336.

Class 12—Construction Materials

For Plastic Flooring and Similar Surface Coating Compositions and Components—Namely, Sealers, Base Coats, Color Flakes, and Liquid Plastics Sold as a Unit and Separately (Int. Cl. 19).

First use Apr. 20, 1955.

Class 20—Linoleum and Oiled Cloth

For Laminated Plastic Composition for Covering Floors, Walls, and Similar Surfaces (Int. Cl. 27).

First use Jan. 10, 1967.

SN 292,650. Pinnalog, Inc., Philadelphia, Pa. Filed Mar. 7, 1968.



Owner of Reg. No. S12,494.

Class 26—Measuring and Scientific Appliances

For Graphical Display Device and Analog Computer for Scheduling, Planning and Managing of Programs of Production and Resource Utilization (Int. Cl. 9).

Class 107—Education and Entertainment

For Education and Training of Personnel of Others in, and Consulting and Designing Systems for Others, in, the Scheduling, Planning and Managing of Programs of Production and Resource Utilization (Int. Cl. 41).

First use on or about October 1964.

SN 293,336. Heinicke Instruments Company, Hollywood, Fla. Mar. 15, 1968.

HEINICKE**Class 23—Cutlery, Machinery, and Tools, and Parts Thereof**

For Medical and Laboratory Glassware Washers; Centrifugal Pumps; Industrial Washers for Railroad Cars, Aircraft, Engine Blocks, Animal Cages, and Buildings (Int. Cl. 7).

First use March 1951.

Class 34—Heating, Lighting, and Ventilating Apparatus—Class 52—Detergents and Soaps

For Medical Glassware Dryers; Industrial Dryers for Railroad Cars, Aircraft, Engine Blocks, Animal Cages, Buildings and the Like (Int. Cl. 11).
First use March 1951.

For Liquid Detergents for Glassware and Surgical Instruments (Int. Cl. 3).
First use March 1960.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.
A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 276,820. Copolymer Rubber & Chemical Corporation, Baton Rouge, La. Filed July 26, 1967.

EPSAN

Owner of Reg. No. 843,459.
For Rubber Modified Plastics in Pellet and Granular Form (Int. Cl. 1).
First use June 2, 1967.

SN 293,798. Borg-Warner Corporation, Chicago, Ill. Filed Mar. 21, 1968.

CYCOLAC

Owner of Reg. No. 578,640.
For Plastics and Synthetic Resinous Compositions for Use in the Industrial Arts (Int. Cl. 1).
First use on or prior to Jan. 22, 1953.

SN 294,596. B. L. Cobia, Inc., Winter Garden, Fla. Filed Apr. 1, 1968.



For Live Plants (Int. Cl. 31).
First use Mar. 7, 1968.

Class 6—Chemicals and Chemical Compositions

SN 274,907. United Co-Operatives, Inc., Alliance, Ohio. Filed June 27, 1967.

KLEEN WALK

For Herbicide (Int. Cl. 5).
First use Jan. 16, 1958.

SN 279,747. P. Robertet, Inc., New York, N.Y. Filed Sept. 6, 1967.

MODULAR

For Essential Oils for Use in the Cosmetic, Toiletary and Soap Industries (Int. Cl. 3).
First use Aug. 25, 1967.

SN 279,802. Canadian Hoechst Limited, Montreal, Canada. Filed Sept. 7, 1967.

PARAPERL

Owner of U.S. Reg. No. 697,961.
For Chemical Auxiliaries for Use in the Textile Industry—Namely, Levelling Agents, Dyestuffs and Pigments (Int. Cls. 1 and 2).
First use Mar. 30, 1966.

SN 289,738. West Chemical Products, Inc., Long Island City, N.Y. Filed Jan. 26, 1968.



Owner of Reg. No. 015,063.
For Polypropoxy Polyethoxy Ethanol Iodine Complexes and Oxide Condensates of Alkylated Phenols (Int. Cl. 1).
First use Dec. 21, 1967.

SN 293,397. Milchem Incorporated, Houston, Tex. Filed Mar. 15, 1968.

CHEMTROL

For Chemically Modified Lignosulfonate Dispersants, Deflocculants and Emulsion Stabilizers (Int. Cl. 1).
First use Jan. 26, 1968.

SN 296,933. Activated Metals & Chemicals, Inc., Sevierville, Tenn. Filed Apr. 30, 1968.



For Hydrogenation Catalyst—Namely, Nickel Catalyst, Nickel Carbonate, Nickel Formate and Nickel Salts (Int. Cl. 1).
First use on or about Dec. 16, 1966.

SN 297,045. Demert & Dougherty, Inc., Chicago, Ill. Filed May 1, 1968.

KLEENLITE

For Lighter Fluid (Int. Cl. 4).
First use on or about Mar. 20, 1968.

SN 297,093. St. Regis Paper Company, New York, N.Y. Filed May 1, 1968.



Owner of Reg. Nos. 377,917, 824,262, and others.
For Calcium Lignosulfonate (Int. Cl. 1).
First use Nov. 28, 1967.

SN 297,223. John & E. Sturge Limited, Birmingham, England. Filed May 2, 1968.

STURGE

For Chemical Compositions Used Mainly in Industry and Food Products—Namely, Citric Acid, Citrates, Chalk, Calcium Carbonate, Calcium Oxide Dispersions, Tartaric Acid, Cyclamates, Rochelle Salt, Ergosterol and Monosodium Glutamate (Int. Cl. 1).
First use about 1901.

SN 297,233. Zavody Antonina Zapotockeho, Narodni Podolk, Jaromer, Czechoslovakia. Filed May 2, 1968.

KERKORTAN

Priority claimed under Sec. 44(d) on Czechoslovakian application filed Nov. 14, 1967; Reg. No. 157,761, dated Dec. 12, 1967.

For Synthetic Tanning Agents; Preparations for the Deflocculation of Ceramic Suspensions (Int. Cl. 1).

SN 309,145. Chns. Pfizer & Co., Inc., New York, N.Y. Filed Oct. 8, 1968.

DIAZO-TEL

For Diagnostic Reagent for Laboratory Use for Bilirubin Determinations (Int. Cl. 1).
First use Sept. 20, 1968.

Class 8—Smokers' Articles, Not Including Tobacco Products

SN 282,800. Henric's Oldenkott Senior & Comp., Rees (Rhine), Germany. Filed Oct. 18, 1967.

OLDENKOTT

For Cigarette Paper Sheets; Mouthpieces of Hard Rubber and Plastic Materials for Tobacco Pipes, Cigars and Cigarettes; and Pipes and Mouthpieces Made of Wood, Meerschaum, Amber, Horn and Bone (Int. Cl. 34).
First use Sept. 28, 1925; in commerce Sept. 25, 1925.

Class 10—Fertilizers

SN 303,796. Lee Harvey, Torrance, Calif. Filed July 29, 1968.

TERRA-PEUTIC

For Fertilizer (Int. Cl. 1).
First use Mar. 19, 1968.

Class 12—Construction Materials

SN 265,748. Sylro Products Corp., Merrick, N.Y. Filed Mar. 1, 1967.



For Vents for Masonry Structures (Int. Cl. 19).
First use about 1957.

SN 272,462. American Tar Company, Seattle, Wash. Filed May 26, 1967.

ATCO

Owner of Reg. Nos. 396,999, 430,879, and others.
For Tar and Creosote, Liquid Fibre Seal, Plastic Fibre Seal, Asphalt Lap Cement, Asphalt Asbestos Fibre Cement, Wet Surface Plastic Cement, Cold Application Cement Having an Asphalt Base for Cementing Roofing Tiles, Concrete and Roof Primer for Resaturating Dried Surfaces Beneath Roof Coating, Asphalt Emulsion, Fibrated Asphalt Emulsion, Roofing Asphalt, Coal Tar Roofing Felt, Asphalt Roofing Felt, Asphalt Kraft Sheathing, Asphalt Sheathing and Grey Rosin Sheathing (Int. Cl. 19).
First use on or about Mar. 1, 1922.

SN 273,335. West Products Corp., Newark, N.J. Filed June 7, 1967.

POXY-PUTTY

For Epoxy Putty Compound (Int. Cl. 17).
First use Apr. 15, 1967.

SN 276,338. Morgan Adhesives Company, Stow, Ohio. Filed July 19, 1967.

MACLAR

For Vinyl Siding Facing (Int. Cl. 19).
First use May 8, 1967.

SN 291,283. Ray J. Pennington & Sons, St. Louis, Mo. Filed Feb. 16, 1968.



The design element of the mark is a fanciful and interconnected representation of the letters "G" and "S."
For Laminated Wall Panels for Building Construction (Int. Cl. 19).
First use Dec. 4, 1967.

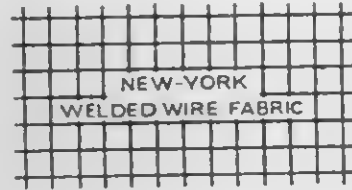
SN 292,752. Anil Canada Limited, Halifax, Nova Scotia, Canada. Filed Mar. 8, 1968.



No claim of exclusive right is made to the word "Board" and the representation of the goods apart from the mark as shown.

For Hardboard (Int. Cl. 19).
First use July 1967; in commerce July 1967.

SN 293,735. New York Wire Mills Corp., Tonawanda, N.Y. Filed Mar. 20, 1968.



The words "New-York Welded Wire Fabric" are disclaimed apart from the mark as shown.

For Welded Wire Fabric for Use in Construction of Concrete Pipe, Paving, Building and Structural Elements (Int. Cl. 6).

First use on or about Dec. 4, 1967.

SN 297,277. Construction Research Corporation, Chicago, Ill. Filed May 3, 1968.

MOR-LIFE

For Admixture To Control the Setting Time and Plasticity of Masonry Mortars (Int. Cl. 1).

First use Apr. 16, 1968.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 280,281. West Chemical Products, Inc., Long Island City, N.Y. Filed Sept. 13, 1967.



Owner of Reg. Nos. 517,552, 550,368, and others.

For Automatic Deodorizers—Namely, Drip Dispensers for Urinals and Toilets; Liquid Soap Containers Made of Glass and Metal; Liquid Soap Shakers Made of Metal and Glass; Powdered Soap Dispensers Made of Metal; Liquid Soap Dispensing Systems Consisting of Soap Tank, Piping, and Valves; Metal Liquid Soap Tanks; Metal Dispenser Container for Cake Crystal Deodorizer for Use in Toilets and Urinals; Soap Dispensers; and Soap Lather Dispensers, Said Goods Designed To Be Affixed to the Wall; Metal Cabinets Designed To Be Attached to a Wall Surface and Holding and Dispensing Paper Towels (Int. Cls. 11 and 21).

First use Feb. 13, 1967.

SN 289,250. Air Industries Corporation, Garden Grove, Calif. Filed Jan. 22, 1968.

AIC

For Threaded Fasteners (Int. Cl. 6).

First use June 25, 1953.

SN 289,251. Air Industries Corporation, Garden Grove, Calif. Filed Jan. 22, 1968.



For Threaded Fasteners (Int. Cl. 6).

First use Dec. 1, 1959.

SN 290,439. Illinois Tool Works Inc., Chicago, Ill. Filed Jan. 11, 1968.

TRI-RING

For Shaft Retainers (Int. Cl. 6).

First use on or before Oct. 30, 1967.

SN 294,371. Cascade Industries, Inc., Edison, N.J. Filed Mar. 28, 1968.

DIAL-A-PORT

For Valves for Swimming Pool Water Filters (Int. Cl. 11).

First use Jan. 30, 1968.

SN 295,478. Needer Industries, Incorporated, d.b.a. Holo-Krome Company, West Hartford, Conn. Filed Apr. 11, 1968.

HOLO-TORC

Owner of Reg. Nos. 342,115 and 777,687.

For Lubricating Finishes Sold as Components of Set Screws (Int. Cl. 6).

First use June 30, 1967.

SN 298,348. Henry A. Patnaude, Sacramento, Calif. Filed May 10, 1968.



For Anchors for Pool Covers and Other Industrial Purposes (Int. Cl. 6).

First use Apr. 3, 1968.

SN 298,395. American Cyanamid Company, Wayne, N.J. Filed May 17, 1968.

CYCHEM

For Pipe (Int. Cl. 17).

First use Oct. 19, 1967.

SN 301,303. Amerace Corporation, New York, N.Y. Filed June 25, 1968.

AMERACE

For Molded and Formed Articles of Plastic and Hard Rubber—Namely, Knobs (Int. Cl. 17).

First use at least as early as in or before November 1966.

SN 305,293. Acorn Engineering Company, City of Industry, Calif. Filed Aug. 16, 1968.

MIRACLE ORIFICE

For Shower Heads (Int. Cl. 11).

First use Apr. 21, 1961.

SN 306,623. American Cyanamid Company, Wayne, N.J. Filed Sept. 5, 1968.

CYFLEX

For Pipe (Int. Cl. 17).

First use Aug. 22, 1968.

SN 306,826. Tyton Corporation of America, Metuchen, N.J. Filed Sept. 6, 1968.

INSULLOOP

For Cable Ties (Int. Cl. 6).

First use May 21, 1968.

SN 309,648. MSL Industries, Inc., Chicago, Ill. Filed Oct. 15, 1968.



Applicant's mark comprises that portion of the drawing that is shown in full lines.

For Fasteners—Namely, Bolts and Screws (Int. Cl. 6).

First use in or about August 1956.

Class 14—Metals and Metal Castings and Forgings

SN 271,287. R.M.B. Alloys (Proprietary) Limited, Johannesburg, Transvaal, Republic of South Africa. Filed May 11, 1967.



Owner of South African Reg. No. 66/1743, dated May 4, 1966.

For Unwrought and Partly Wrought Common Metals and Their Alloys, Ferro Alloys Including Ferrosilicon, Ferro Silico Chrome, Ferrosilicon, Ferromanganese, Ferro Molybdenum, Ferro-Nickel, Ferro Nickel Chrome, Ferro Titanium, Ferro Vanadium, Ferro Columbium, Ferro Tantalum (Int. Cl. 6).

SN 280,755. Admiral Steel Corporation, Chicago, Ill. Filed Sept. 20, 1967.



For Steel in Coils, Sheets, Plate, Bars and Strips (Int. Cl. 6).

First use July 1, 1965.

SN 286,156. Langley Alloys Limited, Langley, Slough, England. Filed Dec. 4, 1967.

HIDUREL

Owner of British Reg. No. 609,585, dated Nov. 2, 1939.

For Alloys of Metals Other Than Precious Metals Including Copper Alloys, Copper Nickel Alloys and Castings and Wrought or Partly Wrought Products of Such Alloys (Int. Cl. 6).

HIDURAX

Owner of British Reg. No. 609,586, dated Nov. 2, 1939. For Alloys of Metals Other Than Precious Metals Including Copper Alloys, Copper Nickel Alloys and Castings and Wrought or Partly Wrought Products of Such Alloys (Int. Cl. 6).

SN 290,779. United Glass Limited, Staines, Middlesex, England. Filed Feb. 9, 1968.

LECTRASEAL

Owner of British Reg. No. 897,734, dated July 29, 1966. For Common Metal Foil Particularly Adapted for Use as or as Part of Seals for Containers (Int. Cl. 6).

Class 16—Protective and Decorative Coatings

SN 265,211. Ronco Laboratories, Inc., Pittsburgh, Pa. Filed Feb. 21, 1967.

FERRO-KOTE

For Rust Inhibiting Coating for Metal Surfaces (Int. Cl. 2).

First use Jan. 9, 1967.

Class 17—Tobacco Products

SN 263,340. Alfred Dunhill Limited, St. James's, London, England. Filed Jan. 26, 1967.



Applicant disclaims the words "Virginia Filter," "Filter Cigarettes" and "Filter Tipped" apart from the mark as shown. Owner of British Reg. No. 882,608, dated Aug. 3, 1965; and U.S. Reg. No. 815,651.

For Filter Tipped Virginia Cigarettes (Int. Cl. 34).

SN 301,724. Alfred Dunhill Limited, London, England. Filed July 1, 1968.



The drawing is lined for the colors blue and silver. The phrases "Virginia Filter," "Filter Cigarettes" and "Filter Tipped" are disclaimed apart from the mark as shown. Owner of British Reg. No. 884,262, dated Sept. 15, 1965; and U.S. Reg. Nos. 527,207, 547,942, and others.

For Filter Tipped Virginia Cigarettes (Int. Cl. 34).

SN 307,219. N.V. Willem II Sigarenfabrieken v.b. H. Kersten & Co., Valkenswaard, Netherlands. Filed Sept. 12, 1968.

WEE WILLEM

Owner of U.S. Reg. No. 616,451.

For Cigars and Cigarillos (Int. Cl. 34).

First use Mar. 7, 1966; in commerce Sept. 9, 1966.

SN 307,719. Universal Cigar Corporation, New York, N.Y. Filed Sept. 19, 1968.

SANTA FE



Owner of Reg. Nos. 317,621, 317,622, and others.
For Cigars (Int. Cl. 34).
First use 1958; 1887 as to "Santa Fe."

Class 18—Medicines and Pharmaceutical Preparations

SN 265,487. Beecham Group Limited, d.b.a. Beecham Food & Drink Division, Bredford, Middlesex, England. Filed Feb. 27, 1967.

HYCAL

For Demineralized Glucose Preparation for Internal Use (Int. Cl. 5).
First use July 31, 1965; in commerce July 31, 1965.

SN 275,567. USV Pharmaceutical Corporation, New York, N.Y. Filed July 7, 1967.

DIABRIN

For Oral Hypoglycemic Agent (Int. Cl. 5).
First use June 22, 1967.

SN 276,973. Warren-Teed Pharmaceuticals Inc., Columbus, Ohio. Filed July 27, 1967.

METHACIDE

For Preparation for Internal Eradication of Parasites in Dogs and Cats (Int. Cl. 5).
First use on or about Nov. 3, 1950.

SN 284,578. Beecham Products Inc., Clifton, N.J. Filed Nov. 13, 1967.

GRAMCLOX

For Antibiotic (Int. Cl. 5).
First use Sept. 18, 1967.

SN 284,579. Beecham Products Inc., Clifton, N.J. Filed Nov. 13, 1967.

ALPEN

For Antibiotic (Int. Cl. 5).
First use Mar. 14, 1967.

SN 284,581. Beecham Products Inc., Clifton, N.J. Filed Nov. 13, 1967.

AMPURE

For Antibiotic (Int. Cl. 5).
First use Sept. 18, 1967.

SN 286,089. Bristol-Myers Company, New York, N.Y. Filed Dec. 4, 1967.

ECONOPEN

Owner of Reg. No. 856,897.
For Antibiotic (Int. Cl. 5).
First use Sept. 18, 1967.

SN 286,109. Dooner Laboratories Inc., Haverhill, Mass. Filed Dec. 4, 1967.

NARINE

For Medicinal Preparation for the Temporary Relief of the Distressing Symptoms Accompanying the Common Cold, Hay Fever, and Similar Allergic Conditions (Int. Cl. 5).
First use Oct. 12, 1967.

Class 19—Vehicles

SN 281,590. James F. Mann, d.b.a. Tork Lift Sales and Manufacturing Co., Tacoma, Wash. Filed Oct. 2, 1967.



Applicant disclaims apart from the mark as a whole, the perspective view of the trailer hitch.
For Trailer Hitches (Int. Cl. 12).
First use Feb. 15, 1967.

SN 283,281. Frederick G. Schweser, d.b.a. Bird Engineering, Fremont, Nebr. Filed Oct. 24, 1967.

BIRD

For Motor Bikes and Bodies for Motored Racing Carts (Int. Cl. 12).
First use April 1960.

SN 305,603. "Automatic" Sprinkler Corporation of America, d.b.a. American LaFrance, Elmira, N.Y. Filed Aug. 21, 1968.

LADDER CHIEF

The word "Ladder" is disclaimed apart from the mark as shown.
For Motor Vehicles Comprising Fire Engines and Specifically Ladder Trucks (Int. Cl. 9).
First use July 29, 1968.

Class 20—Linoleum and Oiled Cloth

SN 294,642. Multicolor Corporation, Florence, Mass. Filed Apr. 1, 1968.



For Decorative Vinyl Wall Covering Comprising Paper or Cloth Laminated or Coated With Plastic (Int. Cl. 27).
First use July 1964.

SN 308,451. American Biltrite Rubber Co., Inc., Trenton, N.J. Filed Sept. 30, 1968.

LA PAZ

For Vinyl Asbestos Flooring (Int. Cl. 27).
First use July 23, 1968.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 281,408. Wanlass Electric Co., Santa Ana, Calif. Filed Sept. 28, 1967.

PARAX

For Power Conversion Equipment—Namely, Power Supplies, Filters, and Inverters (Int. Cl. 9).
First use Aug. 29, 1967.

SN 284,388. Motores y Aparatos Electricos, S.A. de C.V., Mexico City, Mexico. Filed Nov. 8, 1967.

MEX MIX

Applicant disclaims exclusive right to use of the word "Mix," apart from the mark as shown; reserving, however, unto itself any and all common law rights that it may have.
For Electric Irons, Toasters, Food Mixers, Drink Mixers, and Juice Extractors (Int. Cls. 7 and 11).
First use Aug. 4, 1967; in commerce Aug. 4, 1967.

SN 285,199. Avnet, Inc., New York, N.Y., assignee of Carol Wire & Cable Corp., Pawtucket, R.I. Filed Nov. 20, 1967.

"HINGE LOCK"

For Electric Plugs and Receptacles (Int. Cl. 9).
First use on or about Aug. 9, 1955.

SN 290,331. Rival Manufacturing Company, Kansas City, Mo. Filed Feb. 5, 1968.

MAGIC-TOUCH

For Electric Food Mixers and Blenders for Household Use and Suitable Also for Medium-Duty Commercial Use (Int. Cl. 7).
First use on or about Dec. 11, 1967.

SN 291,261. Genisco Technology Corporation, Compton, Calif. Filed Feb. 16, 1968.

MIL-LITE

For Miniature Lamps, Lamp Holders, and Lamp Sockets (Int. Cl. 11).
First use July 7, 1967.

SN 292,016. Repco Products Corporation, Philadelphia, Pa. Filed Feb. 27, 1968.



For Cable Closure and Electrical Connection Boxes (Int. Cl. 9).
First use Feb. 19, 1968.

SN 296,969. Ledex, Inc., Dayton, Ohio. Filed Apr. 30, 1968.

2 PLUS 2

For Signal Transmitting and Receiving Units Used in Remote Control Communications Equipment (Int. Cl. 9).
First use June 15, 1967.

SN 309,205. Robert B. Myers, Whittier, Calif. Filed Oct. 9, 1968.

REVCO

Owner of Reg. Nos. 430,377 and 828,798.
For Stereo Sets, Including Radio Receiving Apparatus and Record Player; Tape Decks for Use With Radio and Record Player Unit (Int. Cl. 9).
First use Oct. 3, 1968.

Class 22—Games, Toys, and Sporting Goods

SN 290,423. William Thomson Limited, Partick, Glasgow, Scotland. Filed Feb. 6, 1968.

TUGITE

Owner of British Reg. No. 485,408, dated Nov. 1, 1927.
For Balls for Sport (Int. Cl. 28).

SN 300,399. Klog Athletic Goods Company, Philadelphia, Pa. Filed June 14, 1968.



Applicant disclaims "Inner-Greased Pocket" apart from the mark as shown.
For Baseball Gloves (Int. Cl. 28).
First use Oct. 1, 1965.

SN 300,404. Mattel, Inc., Hawthorne, Calif. Filed June 14, 1968.

SWEETHEART STORYBOOK KIDDLES

No claim is made to the word "Storybook" apart from the mark as shown. Owner of Reg. Nos. 814,385 and 842,799.
For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use May 16, 1968.

SN 308,966. Mattel, Inc., Hawthorne, Calif. Filed Oct. 7, 1968.

CHERRY BLOSSOM

For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use Aug. 8, 1968.

SN 308,967. Mattel, Inc., Hawthorne, Calif. Filed Oct. 7, 1968.

SPACE SPOOFS

For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use Aug. 8, 1968.

SN 308,969. Mattel, Inc., Hawthorne, Calif. Filed Oct. 7, 1968.

MOON ZOOMER

For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use Aug. 8, 1968.

SN 308,981. Mattel, Inc., Hawthorne, Calif. Filed Oct. 7, 1968.

BLUEY-BLOOPER

For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use Aug. 9, 1968.

SN 308,982. Mattel, Inc., Hawthorne, Calif. Filed Oct. 7, 1968.

JABBER-JAWS

For Puppets and Parts Thereof (Int. Cl. 28).
First use Sept. 4, 1968.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 279,930. Crutcher-Rolfs-Cummings, Inc., Houston, Tex. Filed Sept. 5, 1967.

KELLEY

For Earth-Breaking Rippers (Int. Cl. 7).
First use Mar. 1, 1962.

SN 290,098. Becton, Dickinson and Company, Newark, N.J. Filed Oct. 14, 1968.

MEGA-PAK

For Machines for Making Packages of Packaging Material Sealed Together in Zones Forming Commodity Compartments (Int. Cl. 7).
First use Jan. 10, 1968.

SN 291,165. Lumaside, Inc., Milwaukee, Wis. Filed Feb. 15, 1968.

SHOP-IN-A-BOX

For Tool Kit for Installation of Metal Siding—Namely, Hand Metal Cutting Shears, Electric Metal Cutting Shears, Metal Siding Cutters, Stands for Said Shears and Cutters, and Tool Boxes Containing Said Shears, Cutters, and Stands (Int. Cl. 7).
First use Jan. 1, 1968.

SN 295,530. International Telephone and Telegraph Corporation, New York, N.Y. Filed Apr. 12, 1968.

VANE-FLO

For Centrifugal Pumps (Int. Cl. 7).
First use Jan. 16, 1967.

SN 295,623. George J. De Falco, d.b.a. A & G Engineering, Irwindale, Calif. Filed Apr. 15, 1968.

PANTO-DRESS

For Attachment for Grinder Machines for Dressing the Grinding Wheel (Int. Cl. 7).
First use April 1962.

SN 308,577. Philip Morris Incorporated, d.b.a. American Safety Razor Company, New York, N.Y. Filed Oct. 1, 1968.

BABY FACE

For Razor Blades (Int. Cl. 8).
First use Sept. 18, 1968.

Class 26—Measuring and Scientific Appliances

SN 274,234. The Pavelle Corporation, New York, N.Y. Filed June 19, 1967.

PAVELLE

For Sensitized Photographic Paper (Int. Cl. 1).
First use about September 1966.

SN 276,218. Central Dynamics Ltd., Pointe Claire, Quebec, Canada. Filed July 18, 1967.



The mark comprises the stylized letters "CD." The word "Ltd." is disclaimed apart from the mark as shown. Owner of Canadian Reg. No. 149,282, dated Feb. 10, 1967.

For Electronic Products—Namely, Supervisory Remote Control Units Comprising Various Electronic Components Including Semiconductor Components, Conventional Electronic Components, Integrated Circuit Components, Electrical Relays, Electrical Switches and Push-Buttons, Light Indicators and Alarm Devices, Analogue-To-Digital Converters, Digital Encoders, Digital Decoders, Electronic Logic Circuits, Electronic Memory Devices, Comparator Circuits, Power Supplies, A.C.-To-D.C. Converters, D.C.-To-A.C. Inverters, Digital Display Devices and Electronic Counters and Registers; Data Loggers and Computers; Telecontrol Units for the Remote Control and Supervision of Industrial Machinery Including the Remote Indication of Analogue Electrical Quantities Using Digital Technology, Electrical Digital Clocks, Units for the Control of Industrial Processes Including Television Program Control, and Computers Using Digital Technology for Industrial Use (Int. Cl. 9).
First use at least April 1965; in commerce at least April 1965.

SN 278,696. Honeywell Inc., Minneapolis, Minn. Filed Aug. 21, 1967.

VERSATRONIK

For Unitary Electrically Operated Measuring, Indicating and/or Controlling Instrument Provided With Indicating Means for Automatically Controlling an Operation Responsively to the Fluctuations of a Variable Condition Which Can Be Translated to a Voltage (Int. Cl. 9).
First use at least as early as June 1962.

SN 278,986. Millipore Corporation, Bedford, Mass. Filed Aug. 24, 1967.

MEG-O-METER

For Conductivity Meters for Testing the Conductivity of Water in Water Purification Systems (Int. Cl. 9).
First use July 19, 1967.

SN 278,991. Quandar Electronics, Inc., Springfield, N.J. Filed Aug. 24, 1967.

QUINDAC

For Telemetering Systems and Components—Namely, Supervisory Control Systems and Components for Use in Connection With Informational Signals Directed to and From Remotely Located Apparatus (Int. Cl. 9).
First use on or before June 28, 1967.

SN 279,829. Honeywell Inc., Minneapolis, Minn. Filed Sept. 7, 1967.

M-STORE

For Memories Using Magnetic Core Storage Elements (Int. Cl. 9).
First use August 1966.

SN 289,078. Burroughs Corporation, Detroit, Mich. Filed Jan. 18, 1968.

Burroughs

Owner of Reg. Nos. 509,202, 518,895, and 522,893.
For Data Processing Equipment—Namely, Electronic Computers and Computer System Components, Namely, Central Processors, Card Readers, Punched Paper Tape Readers, Magnetic Tape Recorders and Readers, Card Punches, Paper Tape Punches, Line Printers, Magnetic Disk File Storage Units, Computer Input/Output Display Units, Magnetic Core and Thin-Film Memory Modules, Data Transmission and Conversion Terminal Units; Adding Machines, Calculating Machines, Accounting Machines, Cash Registering Machines, Bookkeeping Machines, Typewriter-Accounting Machines, Check Writers and Disbursing Machines, and Components and Parts for All of Said Equipment (Int. Cls. 8 and 16).
First use March 1910.

SN 289,319. Peter Micha, Richmond Hill, Ontario, Canada. Filed Jan. 22, 1968.

PEM

For Controls Activated Upon Water Reaching a Predetermined Level and Controls Activated Upon Wind Attaining a Predetermined Velocity (Int. Cl. 9).
First use Nov. 30, 1965; in commerce Nov. 30, 1965.

SN 298,155. Seymour Manufacturing Co., Seymour, Ind. Filed May 14, 1968.

HELMET-AIR

For Ventilator Attachments for Welding Helmets (Int. Cl. 9).
First use Mar. 2, 1968.

SN 298,264. Technicon Corporation, Ardsley, N.Y. Filed May 15, 1968.

TSM

For Chromatography Analysis Apparatus (Int. Cl. 9).
First use Jan. 10, 1968.

SN 298,276. Weston Instruments, Inc., Newark, N.J. Filed May 15, 1968.

PIXIE

For Exposure Meters (Int. Cl. 9).
First use at least as early as Mar. 15, 1968.

SN 298,939. International-Stanley Corporation, Omaha, Nebr. Filed May 23, 1968.



Owner of Reg. No. 841,089.
For Automatic Grain Sampling Devices (Int. Cl. 9).
First use Feb. 27, 1968.

SN 300,590. Hayakawa Electric Co., Ltd., Abeno-ku, Osaka, Japan. Filed June 17, 1968.

SHARP

Owner of U.S. Reg. Nos. 707,148, 737,474, and others.
For Electronic Calculators (Int. Cl. 9).
First use Feb. 28, 1966; in commerce Feb. 28, 1966.

SN 309,782. North Central Plastics, Inc., Ellendale, Minn. Filed Oct. 16, 1968.

RED SNAP'R

Owner of Reg. No. 598,995.
For Electric Fence Testers (Int. Cl. 9).
First use Jan. 24, 1967.

SN 309,789. Riviera Trading Corp., New York, N.Y. Filed Oct. 16, 1968.

Riviera EYE-CYCLES

Owner of Reg. Nos. 657,116, 820,715, and others.
For Sun Glasses (Int. Cl. 9).
First use June 23, 1968; July 1955 as to the word "Riviera."

SN 310,274. Beamco, Inc., Mountain View, Calif. Filed Oct. 23, 1968.

SERVICESTAT

For Pressure Differential Sensor (Int. Cl. 9).
First use June 0, 1968.

Class 27—Horological Instruments

SN 290,164. Fabrique de Montres Rotary S.A., La Chaux-de-Fonds, Switzerland. Filed Feb. 2, 1968.



Priority claimed under Sec. 44(d) on Swiss Reg. No. 228,705, dated Nov. 21, 1967. Owner of U.S. Reg. No. 235,845.
For Watches and Parts Thereof (Int. Cl. 14).

Class 29—Brooms, Brushes, and Dusters

SN 302,979. Sorenson Research Corporation, Salt Lake City, Utah. Filed July 17, 1968.

SCRUB-ALL

For Disposable Anti-Bacterial Brushes for Medical and Laboratory Procedures Requiring Pre-Scrubbing of the Hands (Int. Cl. 21).
First use Apr. 7, 1968.

SN 309,594. Los Angeles Brush Mfg. Corp., Los Angeles, Calif. Filed Oct. 14, 1968.

KLEEN KOR

For Brushes for Cleaning Fresh Fruits and Vegetables (Int. Cl. 21).
First use Mar. 19, 1968.

Class 30 — Crockery, Earthenware, and Porcelain

SN 285,362. United Import Corporation, Cleveland, Ohio. Filed Feb. 23, 1967.



For Ceramic Salt and Pepper Shakers, Mugs and Planters (Int. Cl. 21).
First use Jan. 13, 1967.

Class 31 — Filters and Refrigerators

SN 289,315. Mayekawa U.S.A., Inc., Los Angeles, Calif. Filed Jan. 22, 1968.

MYCOM

For Refrigeration Equipment—Namely, Refrigeration Compressors (Int. Cl. 7).
First use July 1, 1960.

Class 32 — Furniture and Upholstery

SN 281,873. Directional Industries, Incorporated, New York, N.Y. Filed Oct. 5, 1967.



The word "Chair" is disclaimed apart from the mark as shown.
For Chairs (Int. Cl. 20).
First use on or about Sept. 12, 1967.

SN 290,739. Los Angeles Frame Co., Inc., Los Angeles, Calif. Filed Feb. 9, 1968.



For Picture Frames (Int. Cl. 20).
First use Aug. 15, 1967.

SN 291,799. Western Manufacturing Company, Aurora, Ill. Filed Feb. 23, 1968.



Applicant disclaims the words "Aurora Ill." apart from the mark as shown.
For Steel Office Furniture and Filing Cabinets (Int. Cl. 20).
First use July 1946.

SN 268,934. Anchor Hocking Glass Corporation, Lancaster, Ohio. Filed Apr. 12, 1967.

CHUG-A-MUG

For Drinking Vessels Made of Glass (Int. Cl. 21).
First use on or about July 10, 1959.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 272,714. Edwards Engineering Corporation, Pompton Plains, N.J. Filed May 31, 1967.

QUIET-SLIDE

For Heat Transfer Finned Tubing (Int. Cl. 11).
First use January 1966.

SN 284,948. Tenney Engineering, Inc., Union, N.J. Filed Nov. 15, 1967.

VAPOR-FLO

For Vapor Generators (Int. Cl. 11).
First use May 1967.

SN 286,106. Didier-Werke A.G., Wiesbaden, Germany. Filed Dec. 4, 1967.



Owner of German Reg. No. 471,344, dated Dec. 6, 1934.
For Industrial Ovens, Furnaces, Steam Boilers and Parts Thereof (Int. Cl. 11).

SN 286,982. Alpha Metals, Inc., Jersey City, N.J. Filed Dec. 15, 1967.

STEELGRIP

For Fluxes (Int. Cl. 1).
First use June 1, 1967.

SN 303,758. American Standard Inc., New York, N.Y. Filed July 29, 1968.

ELECTRA

For Boilers (Int. Cl. 11).
First use on or about Feb. 25, 1960.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 276,320. Otto Gruber, d.b.a. Stahlgruber, Otto Gruber & Co., Munich, Germany. Filed July 19, 1967.

REMASEAL

Owner of U.S. Reg. Nos. 590,298, 811,355, and others.
For Kits Including Tire Repair Patches, Tools for Repairing Tires, and Tire Repair Patches (Int. Cl. 12).
First use Jan. 7, 1965; in commerce Jan. 7, 1965.

SN 282,399. Schwinn Bicycle Company, Chicago, Ill. Filed Oct. 12, 1967.

STING-RAY

Owner of Reg. No. 772,712.
For Bicycle Tires (Int. Cl. 12).
First use Mar. 15, 1964.

SN 295,127. Dunlop Tire and Rubber Corporation, Buffalo, N.Y. Filed Apr. 8, 1968.

WIDE MILER 125

Applicant disclaims the word "Wide" apart from the mark as a whole.
For Tires (Int. Cl. 12).
First use Mar. 22, 1968.

SN 296,429. The Kelly-Springfield Tire Company, Cumberland, Md. Filed Apr. 24, 1968.

HEAVY DUTY MOVER

The words "Heavy Duty" are disclaimed apart from the mark as shown.
For Tires (Int. Cl. 12).
First use Feb. 16, 1968.

SN 300,068. Cordovan Associates, Inc., Dayton, Ohio. Filed June 10, 1968.

CORDOVAN HARVEST KING

Owner of Reg. No. 560,428.
For Tractor Tires (Int. Cl. 12).
First use on or about Mar. 27, 1968.

SN 300,069. Cordovan Associates, Inc., Dayton, Ohio. Filed June 10, 1968.

MULTI-MILE HARVEST KING

Owner of Reg. No. 755,493.
For Tractor Tires (Int. Cl. 12).
First use on or about Mar. 27, 1968.

SN 301,525. Greene, Tweed & Co., Inc., North Wales, Pa. Filed June 27, 1968.

GTU

Owner of Reg. No. 520,867.
For Packings and Seals for Machines and Mechanical Devices (Int. Cl. 17).
First use Mar. 30, 1968.

SN 302,373. Air Reduction Company, Incorporated, New York, N.Y. Filed July 10, 1968.

DUCTALL

For Flexible Plastic Floating Hose for Swimming Pools (Int. Cl. 17).
First use at least as early as March 1958.

Class 36 — Musical Instruments and Supplies

SN 289,806. The Jasper Corporation, Jasper, Ind. Filed Jan. 29, 1968.

Bösendorfer

For Pianos (Int. Cl. 15).
First use 1950.

SN 291,785. Stax Record Company, Memphis, Tenn. Filed Feb. 23, 1968.

VOLT

The block rectangle appearing in the drawing is not a part of the mark.
For Grooved Phonograph Records (Int. Cl. 9).
First use January 1968; August 1961 in a different form.
Subj. to Intf. with SN 309,084.

SN 293,175. Arthur R. Schroyer, Potomac, Md. Filed Mar. 13, 1968.

ORGANWISCOPE

For Musical Instruments—Namely, Organs Featuring Programmed Instructional Displays (Int. Cl. 15).
First use Sept. 24, 1967.

SN 294,611. James S. Foster, d.b.a. Country Artists Records, Tampa, Fla. Filed Apr. 1, 1968.



Applicant disclaims the word "Records" and the outline of the map of the United States apart from the mark as shown.
For Phonograph Records (Int. Cl. 9).
First use Feb. 1, 1968.

SN 309,084. Paramount Pictures Corporation, New York, N.Y. Filed Oct. 7, 1968.

VOLT

For Phonograph Records (Int. Cl. 9).
First use September 1961.
Subj. to Intf. with SN 291,785.

SN 309,085. Paramount Pictures Corporation, New York, N.Y. Filed Oct. 7, 1968.

STAX

For Phonograph Records (Int. Cl. 9).
First use June 1961.
Subj. to Intf. with SN 291,784.

SN 310,775. Grundig Werke GmbH, Fuerth, Bavaria, Germany. Filed Oct. 29, 1968.

EN 7

For Magnetic Recorders-Reproducers, and Parts and Accessories Therefor (Int. Cl. 9).
First use Aug. 25, 1967; in commerce March 1968.

SN 310,936. Synthetic Plastics Company, Newark, N.J. Filed Oct. 30, 1968.

POWER

For Grooved Phonograph Records (Int. Cl. 9).
First use Oct. 29, 1962.

Class 37—Paper and Stationery

SN 265,969. Martin-Brower Corporation, Chicago, Ill. Filed Apr. 12, 1967.



The mark consists of the letters "MB" in distinctive block lettering. Owner of Reg. No. 817,202.
For Food Wrapping Papers, Toilet Tissues, Paper Napkins, Paper Place Mats and Printed Paper Dollies (Int. Cl. 16).
First use prior to Jan. 16, 1967.

SN 269,931. Simpson Lee Paper Company, Kalamazoo, Mich. Filed Apr. 24, 1967.

SIMPSON LEE IPR PAPERS

The mark "Simpson Lee" is not the name of any known individual, living or dead. No claim is made to the words "IPR Papers" apart from the mark as shown.
For Paper—Namely, Printing Paper (Int. Cl. 16).
First use Apr. 7, 1967.

SN 274,514. Hammermill Paper Company, Erie, Pa. Filed June 22, 1967.

HAMMERMILL SAVINGS BOND

Applicant disclaims the words "Savings Bond" apart from the mark. Owner of Reg. Nos. 137,793 and 825,783.
For Bond Paper (Int. Cl. 16).
First use May 19, 1967.

SN 278,234. The Northwest Paper Company, Cloquet, Minn. Filed Aug. 14, 1967.

NORTHWEST PEDIGREED PAPERS ALWAYS MAKE GOOD PRINTING BETTER

Owner of Reg. No. 360,231.
For Coated and Uncoated Printing Papers, Book Publishers' Papers, Writing Papers and Envelope Papers (Int. Cl. 16).
First use 1947.

SN 288,141. Tee-Pak, Inc., Chicago, Ill. Filed Jan. 4, 1968.

BAND-A-MATIC

For Wrappers—Namely, Plastic Film Packaging Bands (Int. Cl. 16).
First use Dec. 8, 1967.

SN 291,406. Johnson & Quib, Inc., Chicago, Ill. Filed Feb. 19, 1968.



For Telephone Station Number Cards (Int. Cl. 16).
First use Oct. 1, 1967.

SN 291,408. Kruger Tissue Mills, Inc., Bondsville, Mass. Filed Feb. 19, 1968.



The mark consists of a stylized letter "K" on a circular background.
For Toilet Tissue, Facial Tissue, and Creped Tissue (Int. Cl. 16).
First use May 1965.

SN 299,860. No-Lik Products, Incorporated, Framingham, Mass. Filed June 6, 1968.

LABEL'OPES

For Envelopes for Packing Lists, Invoices and Like Documents (Int. Cl. 16).
First use July 1967.

SN 304,546. Kleer-Vu Industries, Inc., New York, N.Y. Filed Aug. 7, 1968.

TIP-TOE

For Marking Pens (Int. Cl. 16).
First use Feb. 10, 1966.

SN 305,179. Arheo, Inc., West Chicago, Ill. Filed Aug. 15, 1968.

RCOAT

For Silicon Coated Release Paper Sold to Industrial Consumers for Use in Temporarily Covering Pressure Sensitive Adhesive Surfaces (Int. Cl. 16).
First use July 12, 1968.

SN 308,741. J-L Forms Co., Omaha, Nebr. Filed Oct. 3, 1968.



For Business Forms (Int. Cl. 16).
First use Oct. 13, 1966.

Class 38—Prints and Publications

SN 261,374. Insurance Company of North America, Philadelphia, Pa. Filed Dec. 23, 1966.

SIMPLIFIED SAFETY

For Printed Material—Namely, Pamphlets, Booklets and the Like Dealing With Accident Prevention and Control (Int. Cl. 16).
First use in 1948.

SN 277,650. Fleer Corp., Philadelphia, Pa., by change of name from Frank H. Fleer Corporation, Philadelphia, Pa. Filed Aug. 7, 1967.

SNEEKIES

For Comic Stickera (Int. Cl. 16).
First use May 9, 1967.

SN 279,006. Sinclair Refining Company, New York, N.Y. Filed Aug. 24, 1967.

DINO-GUARD

Owner of Reg. Nos. 342,874, 779,741, and others.
For Instruction Booklets for Preventive Maintenance of Automobiles Which Booklets Are Published From Time to Time (Int. Cl. 16).
First use Aug. 14, 1967.

SN 279,693. Travelography, Inc., San Angelo, Tex. Filed Sept. 5, 1967.

TRAVELOGRAPHY

For Handbooks (Int. Cl. 16).
First use Mar. 15, 1967.

SN 280,730. Sokagakkai Religious Corporation, Shinjuku-ku, Tokyo, Japan. Filed Sept. 19, 1967.

SKEIKYO TIMES

"Selkyo" translated into English means "holy teachings."
Owner of U.S. Reg. No. 805,594.
For Magazine (Int. Cl. 16).
First use at least as early as Apr. 1, 1960; in commerce at least as early as May 1, 1960.

SN 280,731. Sokagakkai Religious Corporation, Shinjuku-ku, Tokyo, Japan. Filed Sept. 19, 1967.



The Japanese characters appearing on the drawing mean "third culture" when translated into English. Owner of Japanese Reg. No. 653,279, dated Sept. 16, 1964.
For Magazine (Int. Cl. 16).
First use at least as early as Oct. 1, 1960; in commerce at least as early as Nov. 27, 1960.

SN 283,937. Sokagakkai Religious Corporation, Shinjuku-ku, Tokyo, Japan. Filed Nov. 1, 1967.

前

進

The Japanese characters appearing on the drawing mean "an advancement," when translated into English. Owner of Japanese Reg. No. 642,970, dated May 12, 1964.
For Magazine (Int. Cl. 16).
First use at least as early as Dec. 15, 1965; in commerce at least as early as Jan. 1, 1966.

SN 287,473. The William/Lawrence Corporation, Sierra Madre, Calif. Filed Dec. 22, 1967.



For Periodical Magazine (Int. Cl. 16).
First use at least as early as June 1966.

SN 288,359. Southern Airways, Inc., Atlanta, Ga. Filed Jan. 8, 1968.



For Inflight Magazine Distributed Quarterly to Passengers Who Use the Air Transportation Furnished by Applicant (Int. Cl. 16).
First use Dec. 1, 1967.

SN 292,120. Norcross, Inc., New York, N.Y. Filed Feb. 28, 1968.

SOUND EFFECT

For Greeting Cards (Int. Cl. 16).
First use Dec. 20, 1949.

SN 297,057. Gelman Instrument Company, Ann Arbor, Mich. Filed May 1, 1968.

SOLUTIONS

For Magazine Published Bi-Monthly Directed to Laboratory, Biological and Medical Techniques and Apparatus (Int. Cl. 16).
First use December 1962.

SN 297,842. Close-Up, Inc., New York, N.Y. Filed May 10, 1968.

BETTY AND ME

Owner of Reg. No. 598,225.
For Comic Magazine (Int. Cl. 16).
First use on or about Aug. 15, 1965.

SN 303,557. Harold Wittcoff, Minneapolis, Minn. Filed July 24, 1968.

WILLIAM BRUSHWELL REPORTS:

To the best of applicant's knowledge, the name "William Brushwell" is not the name of any living individual.
For Periodical Column (Int. Cl. 16).
First use May 20, 1968; December 1953 as to the mark "William Brushwell."

SN 303,593. Chicken Delight, Inc., Des Plaines, Ill. Filed July 25, 1968.

CHICKEN DELIGHT NEWS

Owner of Reg. Nos. 568,388, 831,915, and others.
For House Newspaper Distributed to Employees, Licensees and Franchises of Applicant (Int. Cl. 16).
First use Apr. 21, 1968.

Class 45—Soft Drinks and Carbonated Waters

SN 246,366. Queen's AG, Zurich, Switzerland. Filed May 23, 1966.



Queen's

Owner of Swiss Reg. No. 213,830, dated Oct. 29, 1965; and U.S. Reg. No. 315,891.
For Non-Alcoholic Beverages—Namely, Tonic Waters, Quinine Water, Bitter Orange, Bitter Lemon, and Ginger Ale (Int. Cl. 32).

SN 293,516. Hinckley & Schmitt, Chicago, Ill. Filed Mar. 18, 1968.

HINCKLEY & SCHMITT

Owner of Reg. No. 503,879.
For Distilled Water and Drinking Water (Int. Cls. 5 and 32).
First use July 24, 1967.

Class 46—Foods and Ingredients of Foods

SN 251,017. American Dairy Queen Corporation, Minneapolis, Minn., assignee of Samuel J. Temperato, d.b.a. Dairy Queen of Greater St. Louis, St. Louis, Mo. Filed July 25, 1966.

QUEEN MILK

No exclusive right is claimed in the term "Milk" apart from the mark as shown.
For Fluid Milk (Int. Cl. 29).
First use June 24, 1961.

SN 261,930. Hyakulchi Kitamura, Nishinari-ku, Osaka, Japan. Filed Jan. 4, 1967.

ROMANROSE

Priority claimed under Sec. 44(d) on Japanese application filed Sept. 2, 1966; Reg. No. 783,075, dated June 10, 1968.
For Sugar, including Crystal Sugar, Cube Sugar, Fruit Sugar and Lactose; Honey, Milled Jelly; Artificial Sweetener; and Pulverized Wheat Gluten (Int. Cls. 1, 29, and 30).

SN 266,772. Meiji Seika Kaisha, Ltd., Chuo-ku, Tokyo, Japan. Filed Mar. 15, 1967.

MEIJI

"Meiji" is a Japanese word meaning literally "enlightened peace" and also indicating the period 1867-1912 of the reign of the Emperor Mutsuhito. Owner of Japanese Reg. Nos. 258,225, 409,157, 481,592, 496,661, and 525,428, dated Oct. 16, 1934, Feb. 29, 1952, May 21, 1956, Feb. 20, 1957, Aug. 16, 1958, respectively.

For Bakery Products—Namely, Bread, Biscuits, Cookies; Cooking, Sweet, Bitter and Mild Chocolate; Candy; Chewing Gum; Ice Cream; Sherbet; Fruit Juices; Vegetable Juices; Coffee, cocoa, Tea; Edible Sea Weeds and Jelly Plant; Canned, Frozen and Preserved Meat, Fish, Eggs; Hops for Food Purposes; Spices; Canned and Dried Vegetables; Dried and Frozen Fruits (Int. Cls. 29, 30, and 32).

First use Sept. 1, 1924; in commerce September 1965.

SN 283,139. Meadow Maid, Incorporated, Santa Ana, Calif. Filed Oct. 23, 1967.

CLOVER MEADOW

For Imitation Milk and Imitation Milk Products—Namely, Imitation, Filled and Non-Dairy Milk and Chocolate Milk (Fluid and Dried); Filled and Non-Dairy Sweet and Condensed Milk (Fluid and Dried); Filled and Non-Dairy Coffee Whitener (Fluid and Dried); Filled and Non-Dairy Shakes; Filled and Non-Dairy High Protein Imitation Milk; Filled and Non-Dairy Cultured Sour Dressing; Filled and Non-Dairy Whipped Topping; Filled and Non-Dairy Low-Fat Milk; Filled and Non-Dairy Half and Half; Filled and Non-Dairy Ice Milk (Fluid and Dried); Filled and Non-Dairy Ice Cream (Fluid and Dried) (Int. Cls. 29 and 30).

First use on or before June 1, 1967.

SN 292,007. Philadelphia Chewing Gum Corporation, Haverstown, Pa. Filed Feb. 27, 1968.

CRAZY FRUIT

For Chewing Gum (Int. Cl. 30).
First use Feb. 19, 1968.

SN 292,573. Genepesca S.p.A., Rome, Italy. Filed Mar. 6, 1968.



il sapore del mare

The expression "Il Sapore del Mare" means "the flavor of the sea" in the Italian language. Owner of Italian Reg. No. 171,699, dated Nov. 20, 1964; and U.S. Reg. No. 828,285.
For Frozen Fish (Int. Cl. 29).

SN 292,689. Green Bay Canning Corporation, Green Bay, Wis. Filed Mar. 7, 1968.



For Canned Vegetables—Namely, Green Beans, Whole Kernel Corn, Mixed Vegetables, Sweet Peas, and Peas and Carrots (Int. Cl. 29).
First use Apr. 3, 1956.

Class 49—Distilled Alcoholic Liquors

SN 292,290. Przedsiębiorstwo Handlu Zagranicznego "Agros," Warsaw, Poland. Filed Mar. 1, 1968.



Applicant disclaims exclusive use of the words "Cherry Cordial" and "Wisnówka" a Polish word signifying a cherry cordial. Owner of Polish Reg. No. 46,686, dated July 24, 1967; and U.S. Reg. Nos. 757,016, 849,557, and others.
For Cherry Cordial (Int. Cl. 33).

Class 51—Cosmetics and Toilet Preparations

SN 278,521. Notanlw Inc., Detroit, Mich. Filed Aug. 17, 1967.

EBONY MIST

Applicant disclaims the term "Mist" apart from the mark as shown.
For Perfume (Int. Cl. 3).
First use Jan. 10, 1967.

SN 278,522. Notanlw Inc., Detroit, Mich. Filed Aug. 17, 1967.

SABLE MIST

Applicant disclaims the term "Mist" apart from the mark as shown.
For Perfume (Int. Cl. 3).
First use Jan. 10, 1967.

SN 278,523. Notanlw Inc., Detroit, Mich. Filed Aug. 17, 1967.

EBONY PARFUM

Applicant disclaims the term "Parfum" apart from the mark as shown.
For Perfume (Int. Cl. 3).
First use Jan. 10, 1967.

SN 278,540. Trebor, Detroit, Mich. Filed Aug. 17, 1967.

POSITIVELY

For Perfume (Int. Cl. 3).
First use Jan. 10, 1967.

SN 280,961. Marcel Jean-Marie Blertot, Formerle (Oise), France. Filed Sept. 22, 1967.

SYNTHIC-ADRAGA

The term "Adraga" is fanciful and the term "Synthic" is a fanciful abbreviation of the term "synthetic." Owner of French Reg. No. 2,609, dated May 13, 1965 (Beauvais); Natl. Inst. No. 249,365.
For Adhesive Powder for Dentures (Int. Cl. 5).

SN 281,768. Clairol Incorporated, New York, N.Y. Filed Oct. 4, 1967.

GOLDEN ROD

For Men's Hair Lightener (Int. Cl. 3).
First use July 12, 1967.

SN 282,968. Sales Affiliates, Inc., New York, N.Y. Filed Mar. 11, 1968.

PHIX

Owner of Reg. Nos. 567,067 and 579,305.
For Hair Setting and Conditioning Spray (Int. Cl. 3).
First use Feb. 7, 1968.

SN 294,111. Alberto-Culver Company, Melrose Park, Ill. Filed Mar. 26, 1968.

EXCITE-MINT!

For Complexion Lotion Preparation (Int. Cl. 3).
First use Jan. 2, 1968.

SN 294,374. Clairol Incorporated, New York, N.Y. Filed Mar. 28, 1968.

IT'S ME

For Hair Tinting, Dyeing and Coloring Preparation (Int. Cl. 3).
First use Mar. 18, 1968.

SN 294,395. Richard Hudnut, Morris Plains, N.J. Filed Mar. 28, 1968.

THE LOOKIT

For Face Powder (Int. Cl. 3).
First use Mar. 22, 1968.

SN 294,570. Bonne Bell, Inc., Lakewood, Ohio. Filed Apr. 1, 1968.

ASPENGLOW

For Liquid Facial Makeup (Int. Cl. 3).
First use at least as early as Jan. 24, 1968.

SN 295,270. The Wella Corporation, Englewood, N.J. Filed Apr. 9, 1968.

ELAN

For Hairsetting and Hair Conditioning Lotions (Int. Cl. 3).
First use Apr. 3, 1968.

SN 296,651. Helene Curtis Industries, Inc., Chicago, Ill. Filed Apr. 26, 1968.

SHEER SILK

For Moisturized Creme (Int. Cl. 3).
First use on or about Apr. 2, 1968.

SN 296,661. Helene Curtis Industries, Inc., Chicago, Ill. Filed Apr. 26, 1968.

DRI-DERM

For Bath Oil (Int. Cl. 3).
First use on or about Mar. 13, 1968.

SN 296,686. Helene Curtis Industries, Inc., Chicago, Ill. Filed Apr. 26, 1968.

SYN-DE-KIT

For Liquid Make-Up (Int. Cl. 3).
First use on or about Mar. 13, 1968.

SN 296,689. Helene Curtis Industries, Inc., Chicago, Ill. Filed Apr. 26, 1968.

LOVE SHELLS

For Eye Make-Up (Int. Cl. 3).
First use on or about Mar. 13, 1968.

SN 296,981. Revlon, Inc., New York, N.Y. Filed Apr. 30, 1968.

FACE-MATES

For Face Make-Up (Int. Cl. 3).
First use Oct. 23, 1967.

SN 297,948. Avon Products, Inc., New York, N.Y. Filed May 13, 1968.

POCKETFUL OF POSIES

For Dusting Powder, Cream Sachet, Hand Cream, Lip Pomade, Cologne, Talcum Powder, Bubble Bath (Int. Cl. 3).
First use Apr. 23, 1968.

SN 302,184. Alberto-Culver Company, Melrose Park, Ill. Filed July 8, 1968.

EXCITE-MINT

For Toothpaste (Int. Cl. 3).
First use Feb. 16, 1968.

SN 309,646. The Hydro Dent Company, Los Angeles, Calif. Filed Oct. 15, 1968.

Hydro-Tabs

For Dentifrice Tablets (Int. Cl. 3).
First use Aug. 29, 1968.

Class 100 — Miscellaneous

SN 257,917. A. H. Robins Company, Incorporated, Richmond, Va. Filed Nov. 4, 1966.



"A. H. Robins" does not designate a living individual. A. H. Robins was the founder of applicant in 1878.
For Promoting the Interests of Pharmacy, and Making Awards to Outstanding Pharmacists (Int. Cl. 42).
First use January 1954.

Class 52 — Detergents and Soaps

SN 286,902. Cardinal Laboratories, Inc., d.b.a. Arn-Ed Laboratories, Los Angeles, Calif. Filed Dec. 14, 1967.

VetsOwn



The portrait of the veterinarian is fanciful and exclusive rights to the representation of the dog and the cat are disclaimed except as they form a part of the instant mark.
For Animal Shampoos and Insecticidal Shampoo (Int. Cl. 3).
First use Mar. 4, 1960.

SN 297,947. Avon Products, Inc., New York, N.Y. Filed May 13, 1968.

POCKETFUL OF POSIES

For Toilet Soap (Int. Cl. 3).
First use Apr. 23, 1968.

SN 300,008. Samuel L. Shaw, d.b.a. New Horizons, Albuquerque, N. Mex. Filed June 6, 1968.

WHITE COLLAR

For Skin Cleanser (Int. Cl. 3).
First use Feb. 21, 1968.

SN 304,192. J. Sklar Mfg. Co., Inc., Long Island City, N.Y. Filed Aug. 2, 1968.

SKLAR KLEEN

Owner of Reg. No. 649,405.
For Detergent for Cleaning Surgical Instruments and Laboratory Apparatus (Int. Cl. 3).
First use Aug. 22, 1966.

SN 310,182. Anderson Chemical Company, Litchfield, Minn. Filed Oct. 22, 1968.

COUNT-MINUS

Owner of Reg. Nos. 600,602, 683,029, and 736,540.
For Liquid Detergent Sanitizer (Int. Cl. 3).
First use Nov. 6, 1967.

SERVICE MARKS

SN 272,097. Restaurant Management Consultants and Analysts Inc., d.b.a. Kettle Restaurants, Inc., Houston, Tex. Filed May 22, 1967.

Kettle

For Restaurant Services (Int. Cl. 42).
First use June 1, 1964.

SN 284,086. Hospital Helping Hands International, Inc., Chicago, Ill. Filed Nov. 3, 1967.

HOSPITAL HELPING HANDS

For Eleemosynary Services—Namely, Rendering Functional Services to Organizations in the Mental Health Rehabilitation Field and Contributing to the Comfort and Recovery of the Mentally Ill (Int. Cl. 42).
First use April 1965.

SN 284,436. American Hot Rod Association, Incorporated, Kansas City, Mo. Filed Nov. 9, 1967.



Applicant disclaims the words "American Hot Rod" apart from the mark as shown.
For Association Services—Namely, Promoting the Sport of Drag Racing (Int. Cl. 42).
First use Dec. 22, 1960.

SN 290,610. Horne's Enterprises, Inc., Detroit, Mich. Filed Feb. 8, 1968.

HORNETTE

Owner of Reg. Nos. 724,295, 771,276, and others.
For Restaurant Services (Int. Cl. 42).
First use Dec. 5, 1967.

SN 305,351. Harry M. Stevens, Inc., New York, N.Y. Filed Aug. 16, 1968.

HARRY M'S BAR

No claim is made to the word "Bar" apart from the mark as shown.
For Bar Services (Int. Cl. 42).
First use Jan. 20, 1968.

SN 305,381. Irsin Restaurant Corporation, New York, N.Y., assignee of Irving Snowitz, d.b.a. Skinny Stores, New York, N.Y. Filed Aug. 19, 1968.



Without waiver of common-law or other rights, applicant claims no registration rights in the word "Stores" apart from the complete mark shown in the drawing.
For Restaurant Services (Int. Cl. 42).
First use at least prior to Apr. 18, 1968.

SN 307,071. Westminster Little Banquet, Inc., Westminster, Colo. Filed Sept. 11, 1968.

MR. SMORGASBORD

The word "Smorgasbord" is disclaimed apart from the mark as shown.
For Restaurant Services (Int. Cl. 42).
First use on or about 1958.

SN 308,655. General Research Corporation, Goleta, Calif. Filed Oct. 2, 1968.



For Analytical and Theoretical Investigations Regarding Space Systems, Strategic and Tactical Warfare, and Socio-Economic Planning (Int. Cl. 42).
First use June 20, 1968.



For Restaurant Services (Int. Cl. 42).
First use July 25, 1968.

Class 101 — Advertising and Business

SN 259,249. Creditbrikt Financial Management Corporation, d.b.a. Adplan Associates, Evansville, Ind., by change of name from Interstate Management Corporation, Evansville, Ind. Filed Nov. 22, 1966.

ADPLAN ASSOCIATES

For Creating and Placing Advertising and Promotional Material in Various Communication Media (Int. Cl. 35).
First use Apr. 1, 1962.

SN 278,152. Niedermeyer-Martin Company, Portland, Oreg. Filed Aug. 14, 1967.

NIEDO

For Lumber and Plywood Brokerage Services (Int. Cl. 35).
First use Jan. 1, 1928.

SN 300,524. Fotomat Corporation, La Jolla, Calif. Filed June 17, 1968.

FOTOMAT

For Retail Drive-In Photographic Supply Store Services (Int. Cl. 35).
First use as early as Nov. 21, 1966.

Class 102 — Insurance and Financial

SN 274,964. First National Bank of Huntsville, Alabama, Huntsville, Ala. Filed June 28, 1967.



The words "1st," "Member" and "Charge Plan" are disclaimed except as used together with the balance of the mark.
For Extension of Credit to Customers Purchasing From Subscribing Retail Outlets and Making Collections From Such Customers Through a Central Billing System (Int. Cl. 36).
First use Mar. 22, 1966.

SN 281,821. Renyx, Field & Co., Inc., Englewood, N.J. Filed Oct. 4, 1967.

REAP

For Operating an Employee Fund Accumulation Plan (Int. Cl. 36).
First use Nov. 1, 1965.

SN 284,909. Hardware Mutual Casualty Company, Stevens Point, Wis. Filed Nov. 15, 1967.

DIRECT LINE

For Underwriting All Types of Insurance, Including Fire, Casualty and Life (Int. Cl. 36).
First use Sept. 18, 1967.

SN 291,129. American Republic Insurance Company, Des Moines, Iowa. Filed Feb. 15, 1968.

AMERICARE

Owner of Reg. Nos. 800,031 and 838,463.
For Underwriting of Life Insurance (Int. Cl. 36).
First use on or about Jan. 31, 1966.

Class 103 — Construction and Repair

SN 239,831. Tops Petroleum Corporation, Durham, N.C. Filed Feb. 28, 1966.

TOPS

Applicant claims use for the area comprising the States of North Carolina, Virginia and South Carolina.
For Automobile and Truck Filling Station Services (Int. Cl. 37).
First use May 9, 1951.
Subj. to Concurrent Use Proceeding with Reg. No. 773,073.

Class 105 — Transportation and Storage

SN 306,846. KMK Airlines, Inc., Washington, D.C. Filed Sept. 9, 1968.

KMK

For Air Transportation Services (Int. Cl. 39).
First use Apr. 24, 1968.

SN 306,847. KMK Airlines, Inc., Washington, D.C. Filed Sept. 9, 1968.

A CLASS ABOVE FIRST

For Air Transportation Services (Int. Cl. 39).
First use Apr. 24, 1968.

Class 107 — Education and Entertainment

SN 271,000. Duward E. Yeargin, d.b.a. Sierras, Greenville, S.C. Filed May 8, 1967.

SIERRAS

For Entertainment Service Rendered by a Gospel Singing Group (Int. Cl. 41).
First use January 1965.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials Class 6 — Chemicals and Chemical Compositions

864,069. VOLKARIL. Ughie Kuhlman Societe Anonyme. SN 276,968. Pub. 11-12-68. Filed 7-27-67.

864,070. WOTHANE. Woburn Chemical Corp. SN 280,997. Pub. 11-12-68. Filed 9-22-67.

864,071. HMX. Honeycomb Products, Inc. SN 290,855. Pub. 11-12-68. Filed 2-12-68.

864,072. PROFLEX. The Product Machine Company. SN 302,570. Pub. 11-12-68. Filed 7-12-68.

864,073. 7-11. Uluvo Products Company, Inc. SN 303,121. Pub. 11-12-68. Filed 7-19-68.

864,075. (See Class 2 for this trademark.)

864,087. DC-700. Kewanee Oil Company, d.b.a. The Harshaw Chemical Company. SN 274,217. Pub. 11-12-68. Filed 6-19-67.

864,088. DAX-KOTE. Dacar Chemical Products Company. SN 274,716. Pub. 11-12-68. Filed 6-26-67.

864,089. CREDO-CLAVE. Charles H. Elbreder, d.b.a. Credo Company. SN 275,249. Pub. 11-12-68. Filed 7-3-67.

864,090. FIXOLIDE. Glvaudan Corporation. SN 278,593. Pub. 11-12-68. Filed 8-18-67.

864,091. ALTEMP. Magnafux Corporation. SN 278,806. Pub. 11-12-68. Filed 8-22-67.

864,092. STA-CLOR 97. Michael P. Gilme, d.b.a. Sedco. SN 279,392. Pub. 11-12-68. Filed 8-30-67.

864,093. VERSALIDE. Glvaudan Corporation. SN 280,046. Pub. 11-12-68. Filed 9-11-67.

864,094. GETONAL. Glvaudan Corporation. SN 281,372. Pub. 11-12-68. Filed 9-28-67.

864,095. FOLIMAT. Farbenfabriken Bayer Aktiengesellschaft. SN 283,437. Pub. 11-12-68. Filed 10-26-67.

864,096. NITRA-COAT. The Nitragin Company, Inc. SN 286,025. Pub. 11-12-68. Filed 12-1-67.

864,097. BUROSIL. Calgon Corporation. SN 286,414. Pub. 11-12-68. Filed 12-7-67.

864,098. CARBO-GEL. Milchem Incorporated. SN 286,701. Pub. 11-12-68. Filed 12-11-67.

864,099. MAFCO AND DESIGN. MacAndrews & Forbes Company. SN 291,463. Pub. 11-12-68. Filed 2-19-68.

864,100. B.U.N.-TEL. Chas. Pfizer & Co., Inc. SN 296,617. Pub. 11-12-68. Filed 4-28-68.

Class 7 — Cordage

864,077. (See Class 2 for this trademark.)

864,101. PYTHON. Lauren Manufacturing Company. SN 295,240. Pub. 11-12-68. Filed 4-9-68.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

864,084. FLEXSIDE. J. C. Penney Company. SN 295,950. Pub. 11-12-68. Filed 4-18-68.

864,085. TUDOR. Atlantic Products Corporation. SN 296,092. Pub. 11-12-68. Filed 4-22-68.

Class 4 — Abrasives and Polishing Materials

864,075. (See Class 2 for this trademark.)

Class 5 — Adhesives

864,086. SPECTAPE. William Max Bullock, d.b.a. Spectape. SN 280,760. Pub. 11-12-68. Filed 9-20-67.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

864,077. (See Class 2 for this trademark.)

864,102. METAL MATCH. Ute Mountain Supply Company. SN 283,857. Pub. 11-12-68. Filed 2-2-67.

864,103. TRILUX. Saunders-Roe & Nuclear Enterprises Limited. SN 299,699. Pub. 11-12-68. Filed 6-4-68.

864,104. TIGER (DESIGN). Firearms Import & Export Corp. SN 302,608. Pub. 11-12-68. Filed 7-12-68.

Class 10 — Fertilizers

864,105. BEST-TABS. Occidental Petroleum Corporation. SN 270,503. Pub. 11-12-68. Filed 5-2-67.

864,106. CEDA SOIL AND DESIGN. Hudson Lumber Company. SN 272,059. Pub. 11-12-68. Filed 5-22-67.

864,107. MULTRAPLEX. AG Marketing Corporation. SN 280,198. Pub. 11-12-68. Filed 9-13-67.

Class 11 — Inks and Inking Materials

864,108. HOOKER. Hooker Glass & Paint Mfg. Co. MULTIPLE CLASS (Classes 11 and 16). SN 253,312. Pub. 11-12-68. Filed 8-29-66.

Class 12 — Construction Materials

864,109. HEATHERWOOD. U.S. Plywood-Champion Papers Inc. SN 266,602. Pub. 11-12-68. Filed 3-13-67.
864,110. MONOWALL AND DESIGN. Intercon Research, Incorporated. SN 270,921. Pub. 11-12-68. Filed 5-8-67.
864,111. KYOWALITE. Kyowa Gas Chemical Industry Co., Ltd., assignee of Marubeni-Iida (America), Inc. SN 278,807. Pub. 11-12-68. Filed 8-22-67.
864,112. CAN TEX AND DESIGN. Harsco Corporation. SN 280,316. Pub. 11-12-68. Filed 9-14-67.
864,113. FS AND DESIGN. Sauna-Seura r.y. MULTIPLE CLASS (Classes 12 and 34). SN 259,939. Pub. 11-12-68. Filed 1-31-68.
864,114. FEDERAL AND DESIGN. L. E. Johnson Products, Inc. SN 291,405. Pub. 11-12-68. Filed 2-19-68.
864,115. AMEROCK. Amerock Corporation. MULTIPLE CLASS (Classes 12, 13, 23, 25, and 32). SN 291,657. Pub. 11-12-68. Filed 2-23-68.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

864,075. (See Class 2 for this trademark.)
864,115. (See Class 12 for this trademark.)
864,116. COPPER CORNER. Bernard E. Powers. SN 272,745. Pub. 11-12-68. Filed 5-31-67.
864,117. TLV. Fujiwara Manufacturing Co., Ltd. SN 277,829. Pub. 11-12-68. Filed 8-8-67.
864,118. RING-SEAL. The Hale Company. SN 278,594. Pub. 11-12-68. Filed 8-18-67.
864,119. INSERT-A-MOLD. JU-EL Products, Inc. SN 283,530. Pub. 11-12-68. Filed 10-27-67.
864,120. CHARLIE'S JOHNNY AND DESIGN. Kalthoff, Incorporated. SN 283,901. Pub. 11-12-68. Filed 11-1-67.
864,121. MIDBAR AND DESIGN. Barton Products Corporation. SN 286,865. Pub. 11-12-68. Filed 12-13-67.
864,122. MOENIQUE. Standard Screw Company. SN 291,202. Pub. 11-12-68. Filed 2-15-68.
864,123. ACCENT. American Standard Inc. SN 292,063. Pub. 11-12-68. Filed 2-28-68.
864,124. SCEPTER. American Standard Inc. SN 292,066. Pub. 11-12-68. Filed 2-28-68.
864,125. SCREW PLUGS. Ace-Sycamore, Inc. SN 292,333. Pub. 11-12-68. Filed 3-4-68.

Class 14 — Metals and Metal Castings and Forgings

864,126. PROTASUL. Sulzer Brothers Limited. SN 274,737. Pub. 11-12-68. Filed 5-22-67.
864,127. CHROMSOL. Union Carbide Corporation. SN 293,329. Pub. 11-12-68. Filed 3-14-68.
864,128. MINI-PIGS. Foote Mineral Co. SN 303,379. Pub. 11-12-68. Filed 7-23-68.

Class 15 — Oils and Greases

864,129. ENCOLUBE. Humble Oil & Refining Company. SN 147,205. Pub. 11-12-68. Filed 6-19-62.
864,130. C. Adam Cook's Sons, Inc. SN 282,967. Pub. 11-12-68. Filed 10-20-67.
864,131. DIPLOMAT CANDLES AND DESIGN. Hallmark Cards, Incorporated, d.b.a. Ambassador Cards. SN 255,600. Pub. 11-12-68. Filed 11-27-67.

Class 16 — Protective and Decorative Coatings

864,075. (See Class 2 for this trademark.)
864,108. (See Class 11 for this trademark.)
864,132. SNAPDRI. Waterlac Finish Company, Inc. SN 272,766. Pub. 11-12-68. Filed 5-31-67.
864,133. NU-DA POLY-EPOXY AND DESIGN. Indianapolis Paint and Color Co. SN 279,396. Pub. 11-12-68. Filed 8-30-67.
864,134. WEST AND W DESIGN. West Chemical Products, Inc. SN 280,283. Pub. 11-12-68. Filed 9-13-67.
864,135. ZERON. Kelley Technical Coatings, Inc. SN 287,074. Pub. 11-12-68. Filed 12-18-67.
864,136. UTILAC. Benjamin Moore & Co. SN 287,082. Pub. 11-12-68. Filed 12-18-67.

Class 17 — Tobacco Products

864,137. SUNBORN. Douwe Egberts Koninklijke Tabaks-fabriek-Koffiebranderijen-Theehandel N.V. SN 266,016. Pub. 7-2-68. Filed 3-6-67.
864,138. VALOR. Valor Tobacco Company Inc. SN 279,882. Pub. 11-12-68. Filed 9-7-67.
864,139. DOUBLE EIGHT. The American Tobacco Company. SN 301,323. Pub. 11-12-68. Filed 6-25-68.
864,140. DAYS O WORK AND DESIGN. R. J. Reynolds Tobacco Company. SN 303,478. Pub. 11-12-68. Filed 7-24-68.
864,141. BROWN'S MULE AND DESIGN. R. J. Reynolds Tobacco Company. SN 303,479. Pub. 11-12-68. Filed 7-24-68.
864,142. CUP AND DESIGN. R. J. Reynolds Tobacco Company. SN 303,480. Pub. 11-12-68. Filed 7-24-68.
864,143. SCHNAPPS. R. J. Reynolds Tobacco Company. SN 303,481. Pub. 11-12-68. Filed 7-24-68.
864,144. SWEEP-STAKES AND DESIGN. R. J. Reynolds Tobacco Company. SN 303,484. Pub. 11-12-68. Filed 7-24-68.
864,145. OUR ADVERTISER. R. J. Reynolds Tobacco Company. SN 303,486. Pub. 11-12-68. Filed 7-24-68.

Class 18 — Medicines and Pharmaceutical Preparations

864,146. COW (DESIGN). W. R. Grace & Co. SN 290,168. Pub. 11-12-68. Filed 2-2-68.
864,147. ROFENALD. Hoffmann-La Roche Inc. SN 291,158. Pub. 11-12-68. Filed 2-15-68.
864,148. MYCINATE. Sterco Industries, Inc. SN 291,204. Pub. 11-12-68. Filed 2-15-68.

Class 19 — Vehicles

864,149. MISCELLANEOUS DESIGN. Fawn Corporation. SN 268,394. Pub. 11-12-68. Filed 4-5-67.

864,150. LITTLE DEER. Fawn Corporation. SN 268,395. Pub. 11-12-68. Filed 4-5-67.
864,151. SPRINGBROOK AND DESIGN. Fawn Corporation. SN 268,396. Pub. 11-12-68. Filed 4-5-67.
864,152. TRI-LITE. The Dayton Steel Foundry Company. SN 282,989. Pub. 11-12-68. Filed 10-20-67.
864,153. THE JAMAICAN. Velocidad, Inc., d.b.a. Fibertab. SN 283,741. Pub. 11-12-68. Filed 10-30-67.
864,154. SHELBY AND DESIGN. Shelby American Inc. MULTIPLE CLASS (Classes 19, 23, 26, and 31). SN 285,785. Pub. 11-12-68. Filed 11-29-67.
864,155. RAKE N' ROLL. LeRoy R. Anderson, d.b.a. The Kar-Du Cart Company. SN 286,488. Pub. 11-12-68. Filed 12-8-67.
864,156. BLUEJACKET. Industrial Shipping Company Limited. SN 295,031. Pub. 11-12-68. Filed 4-5-68.
864,157. "APPLE KRATE." Schwinn Bicycle Company. SN 295,960. Pub. 11-12-68. Filed 4-18-68.
864,158. "LEMON PEELER." Schwinn Bicycle Company. SN 295,961. Pub. 11-12-68. Filed 4-18-68.

Class 20 — Linoleum and Oiled Cloth

864,159. MONTEBELLO. Congoleum Industries, Inc., assignee of Congoleum-Nairn Inc. SN 291,039. Pub. 11-12-68. Filed 2-14-68.
864,160. PALISADE. Congoleum Industries, Inc., assignee of Congoleum-Nairn Inc. SN 291,040. Pub. 11-12-68. Filed 2-14-68.
864,161. PATINA. Congoleum Industries, Inc., assignee of Congoleum-Nairn Inc. SN 291,041. Pub. 11-12-68. Filed 2-14-68.
864,162. TOWN & COUNTRY. Congoleum Industries, Inc., assignee of Congoleum-Nairn Inc. SN 291,042. Pub. 11-12-68. Filed 2-14-68.
864,163. NAVARA. Congoleum Industries, Inc., assignee of Congoleum-Nairn Inc. SN 291,044. Pub. 11-12-68. Filed 2-14-68.
864,164. KID-CUSHIONED. Congoleum Industries, Inc., assignee of Congoleum-Nairn Inc. SN 291,045. Pub. 11-12-68. Filed 2-14-68.
864,165. KID-PROOF. Congoleum Industries, Inc., assignee of Congoleum-Nairn Inc. SN 291,046. Pub. 11-12-68. Filed 2-14-68.

Class 21 — Electrical Apparatus, Machines, and Supplies

864,166. THIN-BRITE. Picker Corporation, by change of name from Picker X-Ray Corporation. SN 262,885. Pub. 11-12-68. Filed 1-19-67.
864,167. WM. Weathermeasure Corporation, assignee of Aerojet-General Corporation. MULTIPLE CLASS (Classes 21 and 26). SN 265,943. Pub. 11-12-68. Filed 3-6-67.
864,168. ZENITH. Zenith Radio Corporation. SN 271,006. Pub. 11-12-68. Filed 5-8-67.
864,169. MOTRAN. Motorola, Inc. SN 274,823. Pub. 11-12-68. Filed 6-26-67.
864,170. WILCOX-CRITTENDEN ETC. AND DESIGN. North and Judd Manufacturing Company. SN 275,453. Pub. 11-12-68. Filed 7-6-67.
864,171. EXTEND-O-CABLE. Fedtro, Inc. SN 279,058. Pub. 11-12-68. Filed 8-25-67.
864,172. WATER-BLOC. Superior Continental Corporation, by change of name from Superior Cable Corporation. SN 279,581. Pub. 11-12-68. Filed 9-1-67.
864,173. KELVIN KLIPS. Electro Scientific Industries, Inc. SN 283,238. Pub. 11-12-68. Filed 10-24-67.
864,174. KELVIN KLAMPS. Electro Scientific Industries, Inc. SN 283,239. Pub. 11-12-68. Filed 10-24-67.

864,175. M AND DESIGN. Mulberry Metal Products, Inc. SN 283,265. Pub. 11-12-68. Filed 10-24-67.
864,176. PACIFIC HANDY FLARE. Pacific Handy Cutter, Inc. SN 285,055. Pub. 11-12-68. Filed 11-16-67.
864,177. MISCELLANEOUS DESIGN. Sanders Associates, Inc. SN 288,451. Pub. 11-12-68. Filed 1-9-68.
864,178. COLLEGIATE. Emerson Electric Co. SN 291,255. Pub. 11-12-68. Filed 2-16-68.
864,179. ENUNCIATOR. Vernaltron Corporation. SN 292,332. Pub. 11-12-68. Filed 3-4-68.
864,180. STOP THIEF! Pedco, Inc. SN 303,579. Pub. 11-12-68. Filed 7-25-68.
864,181. GENAVE AND DESIGN. General Aviation Electronics, Inc. SN 304,861. Pub. 11-12-68. Filed 8-12-68.

Class 22 — Games, Toys, and Sporting Goods

864,077. (See Class 2 for this trademark.)
864,182. GERONIMO. Rempel Mfg. Co., Inc. SN 274,347. Pub. 11-12-68. Filed 6-20-67.
864,183. CONTROL. Constantine W. Colburn, d.b.a. Con Surfboards. SN 280,695. Pub. 11-12-68. Filed 9-19-67.
864,184. PYTHON. Colt's Inc. SN 291,026. Pub. 11-12-68. Filed 2-14-68.
864,185. DIAMONDBACK. Colt's Inc. SN 291,027. Pub. 11-12-68. Filed 2-14-68.
864,186. COMMANDER. Colt's Inc. SN 291,028. Pub. 11-12-68. Filed 2-14-68.
864,187. THE WOODSMAN. Colt's Inc. SN 291,031. Pub. 11-12-68. Filed 2-14-68.
864,188. PRO-FASHION. David L. Pransky & Sons. SN 292,611. Pub. 11-12-68. Filed 3-6-68.
864,189. KIDDLE. Mattel, Inc. SN 292,856. Pub. 11-12-68. Filed 3-11-68.
864,190. NORMARK AND DESIGN. Normark Corporation. MULTIPLE CLASS (Classes 22 and 23). SN 293,092. Pub. 11-12-68. Filed 3-13-68.
864,191. ANIMIDDLE KIDDLES. Mattel, Inc. SN 303,644. Pub. 11-12-68. Filed 7-26-68.
864,192. DANCY. Mattel, Inc. SN 303,646. Pub. 11-12-68. Filed 7-26-68.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

864,075. (See Class 2 for this trademark.)
864,115. (See Class 12 for this trademark.)
864,154. (See Class 19 for this trademark.)
864,190. (See Class 22 for this trademark.)
864,193. GIFT 'EM WITH A GADGET. American Home Products Corporation. SN 245,280. Pub. 11-12-68. Filed 5-10-66.
864,194. ESSUMATIC. Sebran. SN 258,161. Pub. 11-12-68. Filed 11-7-66.
864,195. HSI. Hydraulic Specialties, Inc. MULTIPLE CLASS (Classes 23 and 26). SN 263,914. Pub. 11-12-68. Filed 2-3-67.
864,196. SLAPAC. Slater Steel Industries Limited, d.b.a. N. Slater Company. SN 271,969. Pub. 11-12-68. Filed 5-19-67.
864,197. SLAPAC AND DESIGN. Slater Steel Industries Limited, d.b.a. N. Slater Company. SN 271,970. Pub. 11-12-68. Filed 5-19-67.
864,198. ALIGN RITE AND DESIGN. Align-Rite, Incorporated. SN 271,999. Pub. 11-12-68. Filed 5-22-67.
864,199. UBER. Donald F. Kroener. SN 273,506. Pub. 11-12-68. Filed 6-9-67.

- 864,200. **AUTOROLL AND DESIGN.** William M. Karlyn, assignee of Autoroll Decorated Products, Inc. MULTIPLE CLASS (Classes 23, 34, and 101). SN 278,556. Pub. 11-12-68. Filed 8-18-67.
- 864,201. **TEAK ISLE.** American Home Products Corporation. SN 279,037. Pub. 11-12-68. Filed 8-25-67.
- 864,202. **MOTOR VALET.** Robert Bailey & Associates, Inc. SN 283,086. Pub. 11-12-68. Filed 10-23-67.
- 864,203. **ATLAS.** Atlas Supply Company. SN 283,758. Pub. 11-12-68. Filed 10-31-67.
- 864,204. **ROOF MOWERS THE WORKING BREED AND DESIGN.** Roof Manufacturing Company. SN 286,038. Pub. 11-12-68. Filed 12-1-67.
- 864,205. **C AND DESIGN.** Continental Manufacturing Co. SN 286,509. Pub. 11-12-68. Filed 12-8-67.
- 864,206. **NORDIC.** Harry I. Hansen, d.b.a. Nordic Saw and Tool Manufacturers. SN 287,551. Pub. 11-12-68. Filed 12-26-67.
- 864,207. **KENSINITE.** Poor & Company. SN 292,013. Pub. 11-12-68. Filed 2-27-68.
- 864,208. **SAC-UP.** Thimouner & Cie. SN 292,979. Pub. 11-12-68. Filed 3-11-68.
- 864,209. **SHOW 'N TELL.** EM Lilly and Company. SN 293,367. Pub. 11-12-68. Filed 3-15-68.
- 864,210. **CAT-A-CUTTER.** Gatto Machinery Development Corporation. SN 294,489. Pub. 11-12-68. Filed 3-29-68.
- 864,211. **HEARTH & HOME.** Imperial Knife Associated Companies, Inc. SN 294,507. Pub. 11-12-68. Filed 3-29-68.
- 864,212. **CAT-A-CUTTER AND DESIGN.** Gatto Machinery Development Corporation. SN 294,614. Pub. 11-12-68. Filed 4-1-68.
- 864,213. **ELM.** Elm Industry Company, Limited. SN 294,729. Pub. 11-12-68. Filed 4-2-68.
- 864,214. **JETSTAR.** Litton Business Systems, Inc. SN 296,435. Pub. 11-12-68. Filed 4-24-68.
- 864,215. **TIARA.** Litton Business Systems, Inc. SN 296,436. Pub. 11-12-68. Filed 4-24-68.
- 864,216. **ORLINE.** O & R Engines, Inc. SN 296,568. Pub. 11-12-68. Filed 4-25-68.
- 864,217. **VAN-O-LUXE.** Universal American Corporation. SN 298,295. Pub. 11-12-68. Filed 5-16-68.
- 864,218. **HOLE HOG.** Moline Tool Company. SN 299,281. Pub. 11-12-68. Filed 5-29-68.
- 864,219. **PERFECTO.** Auto Laundry Equipment Sales Company. SN 301,005. Pub. 11-12-68. Filed 6-21-68.
- 864,220. **THE PROTECTOR.** Eversharp, Inc. SN 303,378. Pub. 11-12-68. Filed 7-23-68.
- 864,221. **ORFIT.** Wencor, Inc. SN 303,879. Pub. 11-12-68. Filed 7-30-68.
- 864,222. **AUTOCASE.** Autocase Corporation. SN 304,181. Pub. 11-12-68. Filed 8-2-68.

Class 25 — Locks and Safes

- 864,115. (See Class 12 for this trademark.)

Class 26 — Measuring and Scientific Appliances

- 864,154. (See Class 19 for this trademark.)
- 864,167. (See Class 21 for this trademark.)
- 864,195. (See Class 23 for this trademark.)
- 864,223. **MIRROR-MATIC.** Ponder & Best. SN 250,768. Pub. 11-12-68. Filed 7-21-66.
- 864,224. **PERI SCAN AND DESIGN.** American Contractors, Inc. SN 268,565. Pub. 11-12-68. Filed 4-7-67.
- 864,225. **WEM.** Wisconsin Electrical Manufacturing Company, Inc. SN 278,337. Pub. 11-12-68. Filed 8-15-67.

- 864,226. **GEOLOK.** Geoscience Incorporated. SN 283,248. Pub. 11-12-68. Filed 10-24-67.
- 864,227. **DUO-MATIC.** Brittain Industries, Inc. SN 285,987. Pub. 11-12-68. Filed 12-1-67.
- 864,228. **SEARCH.** Textron, Inc. SN 287,771. Pub. 11-12-68. Filed 12-28-67.
- 864,229. **SNUGSIDE.** Air Reduction Company, Incorporated. SN 290,374. Pub. 11-12-68. Filed 2-6-68.
- 864,230. **COLIVER.** Hach Chemical Company (Delaware corporation), assignee of Hach Chemical Company (Iowa corporation). SN 291,069. Pub. 11-12-68. Filed 2-14-68.
- 864,231. **FANUC.** Fujitsu Limited. SN 291,377. Pub. 11-12-68. Filed 2-19-68.
- 864,232. **FACOM.** Fujitsu Limited. SN 291,378. Pub. 11-12-68. Filed 2-19-68.
- 864,233. **FALLING STREAM.** Hach Chemical Company (Delaware corporation), assignee of Hach Chemical Company (Iowa corporation). SN 291,741. Pub. 11-12-68. Filed 2-23-68.
- 864,234. **BOUTIQUE.** Renault International, Ltd. SN 291,774. Pub. 11-12-68. Filed 2-23-68.
- 864,235. **TRUE-CHECK.** Pyro-Serv Instruments, Inc. SN 292,041. Pub. 11-12-68. Filed 12-11-67.
- 864,236. **HCE.** Tiffen Optical Co. SN 292,635. Pub. 11-12-68. Filed 3-6-68.
- 864,237. **OPTI-CRAFT.** F. E. White Co., Inc. SN 293,066. Pub. 11-12-68. Filed 3-12-68.
- 864,238. **FACE JEWELS BY TRIFARI AND DESIGN.** Trifari, Krussman & Fishel, Inc. SN 294,424. Pub. 11-12-68. Filed 3-28-68.
- 864,239. **VAL-U-TEST.** American Parts Company, Inc. SN 304,644. Pub. 11-12-68. Filed 8-8-68.

Class 28 — Jewelry and Precious-Metal Ware

- 864,240. **REPRESENTATION OF A DOT.** The Traub Company. SN 290,350. Pub. 11-12-68. Filed 2-5-68.
- 864,241. **ROMANTICS.** Textron Inc. SN 296,471. Pub. 11-12-68. Filed 4-24-68.

Class 29 — Brooms, Brushes, and Dusters

- 864,075. (See Class 2 for this trademark.)
- 864,242. **CLAIRMONT.** Montclair Imports Inc. SN 303,866. Pub. 11-12-68. Filed 7-30-68.

Class 31 — Filters and Refrigerators

- 864,154. (See Class 19 for this trademark.)
- 864,243. **SPE-DEE-FLO.** Sternco Industries, Inc. SN 276,484. Pub. 11-12-68. Filed 7-20-67.
- 864,244. **HYDROCOLLATOR COLPAC AND DESIGN.** Chattanooga Pharmacal Co. SN 285,649. Pub. 11-12-68. Filed 11-27-67.
- 864,245. **BIOLON.** Amicon Corporation. SN 290,706. Pub. 11-12-68. Filed 2-9-68.

Class 32 — Furniture and Upholstery

- 864,115. (See Class 12 for this trademark.)
- 864,246. **C AND DESIGN.** Classic Furniture Inc. SN 273,606. Pub. 11-12-68. Filed 6-12-67.
- 864,247. **SWING-WAY AND DESIGN.** Peerless Pressed Metal Corp. SN 274,647. Pub. 11-12-68. Filed 6-22-67.
- 864,248. **PRESTIQUE.** Merillat Woodworking Company. SN 291,623. Pub. 11-12-68. Filed 2-21-68.

Class 34 — Heating, Lighting, and Ventilating Apparatus

- 864,113. (See Class 12 for this trademark.)
- 864,200. (See Class 23 for this trademark.)
- 864,249. **RFC.** Radio Frequency Company, Inc. SN 245,964. Pub. 11-12-68. Filed 5-18-66.
- 864,250. **SAUNA-MATIC.** Dow-Key Co. SN 260,243. Pub. 12-12-67. Filed 12-7-66.
- 864,251. **CORRECT AIR CONDITIONER AND DESIGN.** Correct Air Corporation. SN 263,354. Pub. 11-12-68. Filed 1-26-67.
- 864,252. **DYNAWIRE AND DESIGN.** Liquid Carbonic Corporation. SN 272,283. Pub. 11-12-68. Filed 5-24-67.
- 864,253. **TRAVEL-CHEF AND DESIGN.** Motor Wheel Corporation. SN 253,917. Pub. 11-12-68. Filed 11-1-67.
- 864,254. **MONTICELLO.** The Majestic Company, Inc. SN 285,437. Pub. 11-12-68. Filed 11-22-67.
- 864,255. **ECETT.** AB Hakanssons Industrier. SN 286,312. Pub. 11-12-68. Filed 12-6-67.
- 864,256. **THE CUB PIT.** Charles C. Clausen, Jr. SN 291,249. Pub. 11-12-68. Filed 2-16-68.
- 864,257. **AIRBELT.** Preway Inc. SN 292,813. Pub. 11-12-68. Filed 3-8-68.
- 864,258. **VITREO.** Vitreous Steel Products Company. SN 292,986. Pub. 11-12-68. Filed 3-11-68.
- 864,259. **UNI-DRY.** United Dryer Corporation of America. SN 293,181. Pub. 11-12-68. Filed 3-13-68.
- 864,260. **CODE-ARC.** Air Reduction Company, Incorporated. SN 293,217. Pub. 11-12-68. Filed 3-14-68.
- 864,261. **CHAR-WOOD.** Belson Manufacturing Company, Inc. SN 293,346. Pub. 11-12-68. Filed 3-15-68.
- 864,262. **MINI-KITCHEN.** King Refrigerator Corporation. SN 293,529. Pub. 11-12-68. Filed 3-18-68.
- 864,263. **COIN-A-COOK.** Loran L. Laughlin. SN 293,727. Pub. 11-12-68. Filed 3-20-68.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

- 864,264. **FLEXOGEN.** The Gates Rubber Company. SN 293,119. Pub. 11-12-68. Filed 3-13-68.
- 864,265. **MOBAT.** Mobat Tire & Rubber Co., Inc. SN 295,360. Pub. 11-12-68. Filed 4-10-68.
- 864,266. **ZENITH.** Zenith Radio Corporation. SN 296,606. Pub. 11-12-68. Filed 4-25-68.
- 864,267. **AMERACE.** Amerace Corporation. SN 301,301. Pub. 11-12-68. Filed 6-25-68.
- 864,268. **UNISAFE.** The Toyo Rubber Industry Co., Ltd. SN 304,657. Pub. 11-12-68. Filed 8-8-68.

Class 36 — Musical Instruments and Supplies

- 864,269. **RGG RECORDING INTERNATIONAL AND DESIGN.** Rene Grinan, d.b.a. R.G.G. Records. SN 267,244. Pub. 11-12-68. Filed 3-21-67.
- 864,270. **KAY Y ENTERPRISES AND DESIGN.** Rice P. Hedger, d.b.a. Kay-Y Enterprises. SN 283,891. Pub. 11-12-68. Filed 11-1-67.
- 864,271. **DAMPIT.** Dampits, Inc. SN 289,012. Pub. 11-12-68. Filed 1-17-68.
- 864,272. **BLACKHAWK.** The Fred Gretsch Company, Inc. SN 304,281. Pub. 11-12-68. Filed 8-5-68.
- 864,273. **BREMEN.** Gulbransen Company. SN 304,545. Pub. 11-12-68. Filed 8-7-68.

- 864,075. (See Class 2 for this trademark.)
- 864,077. (See Class 2 for this trademark.)
- 864,274. **CARCO.** Carco, Incorporated. SN 270,224. Pub. 11-12-68. Filed 4-28-67.
- 864,275. **TEX-RITE AND DESIGN.** Carco, Incorporated, d.b.a. Tex-Rite Products Co. SN 270,225. Pub. 11-12-68. Filed 4-28-67.
- 864,276. **INTRINSICS.** Freeman & Gossage, Inc. SN 273,885. Pub. 11-12-68. Filed 6-14-67.
- 864,277. **CHAMFOLD.** U.S. Plywood-Champlon Papers Inc. SN 286,049. Pub. 11-12-68. Filed 12-1-67.
- 864,278. **PEDIGREE.** British Pens Limited. SN 287,002. Pub. 11-12-68. Filed 12-15-67.
- 864,279. **TALVEX.** Wyomissing Corporation. SN 301,599. Pub. 11-12-68. Filed 6-28-68.
- 864,280. **VISI-ROL AND DESIGN.** Deering Milliken, Inc. SN 302,673. Pub. 11-12-68. Filed 7-15-68.

Class 38 — Prints and Publications

- 864,077. (See Class 2 for this trademark.)
- 864,281. **MISCELLANEOUS DESIGN.** Gamco Industries, Inc., d.b.a. Creative Visuals. SN 273,886. Pub. 11-12-68. Filed 6-14-67.
- 864,282. **FABRI-TEK.** Fabri-Tek Incorporated. SN 277,645. Pub. 11-12-68. Filed 8-7-67.
- 864,283. **MISCELLANEOUS DESIGN.** Clio Press. SN 277,969. Pub. 11-12-68. Filed 8-10-67.
- 864,284. **DISTRIBUTION MANAGER.** Chilton Company. SN 280,694. Pub. 11-12-68. Filed 9-19-67.
- 864,285. **AICPA.** American Institute of Certified Public Accountants. SN 282,638. Pub. 11-12-68. Filed 10-9-67.
- 864,286. **RAPID WAY AND DESIGN.** Clyde Lee Priest, d.b.a. Educational Systems Publishing Company. SN 284,501. Pub. 11-12-68. Filed 11-9-67.
- 864,287. **DAIRY INDUSTRIES PREVIEW.** The Miller Publishing Company. SN 289,203. Pub. 11-12-68. Filed 1-19-68.
- 864,288. **WOMEN'S COMPANION.** Tower Press, Inc. SN 289,732. Pub. 11-12-68. Filed 1-26-68.
- 864,289. **THE INSIDE STRAIGHT.** Conal, Inc. SN 290,260. Pub. 11-12-68. Filed 2-5-68.
- 864,290. **SOUND SCENE.** Shure Brothers Incorporated. SN 291,780. Pub. 11-12-68. Filed 2-23-68.
- 864,291. **YOUR MONEY AND YOUR FUTURE.** Kennedy Sinclair, Inc. SN 292,108. Pub. 11-12-68. Filed 2-28-68.
- 864,292. **SOUND-A-ROUND.** Western Publishing Company, Inc. SN 298,275. Pub. 10-22-68. Filed 5-15-68.
- 864,293. **MAGNUM.** Lancer Books, Inc. SN 299,185. Pub. 11-12-68. Filed 5-28-68.

Class 39 — Clothing

- 864,075. (See Class 2 for this trademark.)
- 864,294. **CLARKS AND DESIGN.** Clarke Overseas Shoes Limited. SN 262,318. Pub. 2-6-65. Filed 1-11-67.
- 864,295. **SWITCH-A-LEG.** U.S. Industries, Inc. SN 296,217. Pub. 11-12-68. Filed 4-22-68.

Class 40 — Fancy Goods, Furnishings, and Notions

- 864,077. (See Class 2 for this trademark.)

- 864,296. HOT LINE. Sackner Products, Inc. SN 273,311. Pub. 11-12-68. Filed 6-7-67.
- 864,297. BI. Bishop Industries Inc. MULTIPLE CLASS (Classes 40 and 51). SN 274,489. Pub. 11-12-68. Filed 6-22-67.
- 864,298. DE WEESE DE SEEVERS. De Weese, Inc. SN 274,720. Pub. 11-12-68. Filed 6-26-67.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

- 864,299. HANKI-PANK. Handler Textile Corp. SN 289,242. Pub. 11-12-68. Filed 1-22-68.
- 864,300. STRESTER. Stretchnit of Pennsylvania, Inc., by change of name from Stretchnit, Inc. SN 291,106. Pub. 11-12-68. Filed 2-14-68.
- 864,301. FLOOR-FAST. West Point-Pepperell, Inc. SN 296,225. Pub. 11-12-68. Filed 4-22-68.
- 864,302. 2ND CHOICE. M. Fortunoff of Westbury Corp. SN 302,504. Pub. 11-12-68. Filed 7-12-68.

Class 43—Thread and Yarn

- 864,303. MARVEL. Roselon Yarns, Inc. SN 295,957. Pub. 11-12-68. Filed 4-18-68.
- 864,304. KRINKLON. Glen Raven Mills, Inc. SN 296,318. Pub. 11-12-68. Filed 4-23-68.

Class 44—Dental, Medical, and Surgical Appliances

- 864,305. JECT-ETTE. Warren Jewett. SN 260,051. Pub. 11-12-68. Filed 12-5-66.
- 864,306. ANPROLENE. H. W. Andersen Products, Inc. SN 273,843. Pub. 11-12-68. Filed 6-14-67.
- 864,307. JACUZZI FAMILY SPA AND DESIGN. Jacuzzi Research, Inc. SN 281,293. Pub. 11-12-68. Filed 9-27-67.
- 864,308. A SKLAR PRODUCT AND DESIGN. J. Sklar Mfg. Co., Inc. SN 292,659. Pub. 11-12-68. Filed 3-7-68.
- 864,309. TETRASORB. Abbott Laboratories. SN 295,602. Pub. 11-12-68. Filed 4-15-68.
- 864,310. JET SPEED. Surgitube Products Corporation. SN 295,859. Pub. 11-12-68. Filed 4-17-68.
- 864,311. FLOCEL. Riegel Textile Corporation. SN 303,230. Pub. 11-12-68. Filed 7-22-68.

Class 45—Soft Drinks and Carbonated Waters

- 864,312. CENTENO ISLA COLA CHAMPAGNE AND DESIGN. C & M Distributors. SN 282,772. Pub. 11-12-68. Filed 10-18-67.

Class 46—Foods and Ingredients of Foods

- 864,313. BARON AND DESIGN. Allen Baron, d.b.a. Abco Laboratories. SN 255,287. Pub. 11-12-68. Filed 9-28-66.
- 864,314. BRAZIER AND DESIGN. American Dairy Queen Corporation. SN 262,106. Pub. 11-12-68. Filed 1-9-67.

- 864,315. POPE. M. De Rosa, Inc. SN 281,871. Pub. 11-12-68. Filed 10-5-67.
- 864,316. WAGNER'S. John Wagner & Sons, Inc. SN 284,118. Pub. 11-12-68. Filed 11-3-67.
- 864,317. DOLPHIN SEAFOODS AND DESIGN. Dolphin Seafoods, Inc. SN 284,632. Pub. 11-12-68. Filed 11-13-67.
- 864,318. LPM. John Lecroy & Son, Inc. SN 284,677. Pub. 11-12-68. Filed 11-13-67.
- 864,319. VALDOR AND DESIGN. Lakeland Grocery Co. SN 286,016. Pub. 11-12-68. Filed 12-1-67.
- 864,320. HAMSTER KISSES. Hartz Mountain Products Corp. SN 288,514. Pub. 11-12-68. Filed 1-10-68.
- 864,321. MR. HEHRING. Oswald Boelcke, d.b.a. Lecker-maueichen. SN 291,091. Pub. 11-12-68. Filed 2-14-68.
- 864,322. DYNA MAN. Ralston Purina Company. SN 292,015. Pub. 11-12-68. Filed 2-27-68.
- 864,323. DOFINO. Dofo, a.m.b.n. (Danske Ostemejeriers Fællessalg og Osteeksport). SN 292,769. Pub. 11-12-68. Filed 3-8-68.
- 864,324. KRISPOP. Purity Mills Inc. SN 293,299. Pub. 11-12-68. Filed 3-14-68.
- 864,325. MEADOW GOLD. Beatrice Fooda Co. SN 298,409. Pub. 11-12-68. Filed 5-17-68.
- 864,326. GHOSTY'S. Ralston Purina Company. SN 303,022. Pub. 11-12-68. Filed 7-18-68.
- 864,327. REVIEW. General Mills, Inc. SN 303,473. Pub. 11-12-68. Filed 7-24-68.
- 864,328. LOOK ALIVE AND DESIGN. C. V. Ranching & Son, d.b.a. C. V. Ranching. SN 303,580. Pub. 11-12-68. Filed 7-25-68.
- 864,329. SUMMER GARDEN. Draper Foods, Inc. SN 303,642. Pub. 11-12-68. Filed 7-26-68.

Class 47—Wines

- 864,330. LE ORAND BARON. Baron Philippe de Rothschild S.A. SN 294,454. Pub. 11-12-68. Filed 3-29-68.

Class 50—Merchandise Not Otherwise Classified

- 864,077. (See Class 2 for this trademark.)
- 864,331. VELVET TOUCH AND DESIGN. Won-Door Corporation. SN 281,507. Pub. 11-12-68. Filed 9-29-67.
- 864,332. SUNNY SIPPERS. National Cone Co. SN 284,389. Pub. 11-12-68. Filed 11-8-67.
- 864,333. AIR O MAT AND DESIGN. The Aromat Corp. SN 289,064. Pub. 11-12-68. Filed 1-18-68.
- 864,334. JIF. Jifasteners Limited. SN 293,525. Pub. 11-12-68. Filed 3-18-68.

Class 51—Cosmetics and Toilet Preparations

- 864,297. (See Class 40 for this trademark.)
- 864,335. MISS DEN PARIS AND DESIGN. Etablissements Lardenois. SN 258,795. Pub. 11-12-68. Filed 11-16-66.
- 864,336. LUXURY CREME PRESS. Johnson Publishing Company, Inc. SN 288,520. Pub. 11-12-68. Filed 1-10-68.
- 864,337. BATHBEE. Hyman Eventoff, d.b.a. Bathbee Company and Bathbee Prod. Co. SN 289,089. Pub. 11-12-68. Filed 1-18-68.
- 864,338. ANA MARIA FABULOSA TONICA. Ana Maria, Inc. SN 290,929. Pub. 11-12-68. Filed 2-13-68.

- 864,339. PLUS WHITE PLUS. Bishop Industries Inc. SN 291,959. Pub. 11-12-68. Filed 2-27-68.
- 864,340. THERMASOL. Avon Products, Inc. SN 294,452. Pub. 11-12-68. Filed 3-29-68.
- 864,341. HANG UPS. Helene Curtis Industries, Inc. SN 294,407. Pub. 11-12-68. Filed 3-29-68.
- 864,342. CARTER'S LITTLE MOUTH SPRAY. Carter-Wallace, Inc. SN 290,723. Pub. 11-12-68. Filed 6-5-68.
- 864,343. LOVE'S. Menley & James Laboratories, Ltd. SN 301,387. Pub. 11-12-68. Filed 6-26-68.
- 864,344. BALI. The Ball Company, Inc. SN 302,210. Pub. 11-12-68. Filed 7-8-68.

Class 52—Detergents and Soaps

- 864,075. (See Class 2 for this trademark.)
- 864,345. S AND DESIGN. Sandoz, Inc. SN 271,525. Pub. 11-12-68. Filed 5-15-67.
- 864,346. S SANDOZ AND DESIGN. Sandoz, Inc. SN 271,526. Pub. 11-12-68. Filed 5-15-67.
- 864,347. SANDOZ. Sandoz, Inc. SN 271,527. Pub. 11-12-68. Filed 5-15-67.
- 864,348. KON TEAKI. Armour and Company. SN 279,040. Pub. 11-12-68. Filed 8-25-67.
- 864,349. COLD POWER ETC. AND DESIGN. Colgate-Palmolive Company. SN 279,808. Pub. 11-12-68. Filed 9-7-67.
- 864,350. TOMORROW'S LESTOIL! Standard International Corporation. SN 289,841. Pub. 11-12-68. Filed 1-29-68.
- 864,351. PREP-CLEAN. Glasmere Products Corporation. SN 303,380. Pub. 11-12-68. Filed 7-23-68.
- 864,352. 21½. Colgate-Palmolive Company. SN 304,050. Pub. 11-12-68. Filed 8-8-68.

Service Marks

Class 100—Miscellaneous

- 864,353. THE VIDEO-AUDIO SYSTEM AND DESIGN. Charles G. Lavin, d.b.a. The Video-Audio Co. SN 249,689. Pub. 11-12-68. Filed 7-6-66.
- 864,354. TOP 20 AWARD ETC. AND DESIGN. Sales and Marketing Executives-International, Inc. SN 260,487. Pub. 11-12-68. Filed 12-2-66.
- 864,355. PHILATELIC RESEARCH SOCIETY. Philatelic Research Society. SN 266,578. Pub. 11-12-68. Filed 3-13-67.
- 864,356. OXYTROL AND DESIGN. Occidental Petroleum Corporation. SN 270,510. Pub. 11-12-68. Filed 5-2-67.
- 864,357. NPC ETC. AND DESIGN. National Personnel Consultants. SN 271,953. Pub. 11-12-68. Filed 5-19-67.
- 864,358. THE FAMILY TABLE. American Motor Inns of Daytona Beach, Inc. SN 276,082. Pub. 11-12-68. Filed 7-17-67.
- 864,359. HOLIDAY INN OF AMERICA. Holiday Inns of America, Inc. SN 281,890. Pub. 11-12-68. Filed 10-5-67.
- 864,360. WIC (DESIGN). William L. Wise. SN 283,592. Pub. 11-12-68. Filed 10-27-67.
- 864,361. MIX. Mix, Inc. SN 284,936. Pub. 11-12-68. Filed 11-15-67.
- 864,362. MISCELLANEOUS DESIGN. Chock Full O' Nuts Corporation. SN 287,418. Pub. 11-12-68. Filed 12-22-67.
- 864,363. 1789. Seventeen Eighty Nine, Inc. SN 289,620. Pub. 11-12-68. Filed 1-25-68.

- 864,364. SEVENTEEN EIGHTY NINE. Seventeen Eighty Nine, Inc. SN 289,621. Pub. 11-12-68. Filed 1-25-68.
- 864,365. 89 EAST. Seventeen Eighty Nine, Inc. SN 289,622. Pub. 11-12-68. Filed 1-25-68.
- 864,366. WICKETS. Seventeen Eighty Nine, Inc. SN 289,623. Pub. 11-12-68. Filed 1-25-68.
- 864,367. TOMBS. Seventeen Eighty Nine, Inc. SN 289,624. Pub. 11-12-68. Filed 1-25-68.
- 864,368. 1789 AND EAGLE DESIGN. Seventeen Eighty Nine, Inc. SN 289,625. Pub. 11-12-68. Filed 1-25-68.
- 864,369. IMMS AND DESIGN. International Material Management Society. SN 294,353. Pub. 11-12-68. Filed 3-28-68.
- 864,370. CRAZY HORSE CABARET. Milros Sans Souci, Inc. SN 296,237. Pub. 11-12-68. Filed 4-23-68.

Class 101—Advertising and Business

- 864,200. (See Class 23 for this trademark.)
- 864,371. SAFEWAY INTERNATIONAL. Safeway Stores, Incorporated. SN 303,752. Pub. 11-12-68. Filed 7-29-68.

Class 102—Insurance and Financial

- 864,372. MASTER CHARGE. Western States Bankcard Association, by change of name from California Bankcard Association. SN 261,714. Pub. 8-6-68. Filed 12-30-66.
- 864,373. REPRESENTATION OF GOLDEN GATE BRIDGE. Fund American Investment Management Company, by change of name from North American Securities Company. SN 268,423. Pub. 11-12-68. Filed 4-5-67.
- 864,374. FORD MOTOR CREDIT COMPANY AND DESIGN. Ford Motor Company. SN 271,612. Pub. 11-12-68. Filed 5-16-67.
- 864,375. INSTAMATIC CHECK-CREDIT. Easton National Bank and Trust Company. SN 282,894. Pub. 11-12-68. Filed 10-19-67.
- 864,376. LORD, ABBETT & CO. ESTABLISHED 1929 AND DESIGN. Lord, Abnett & Co. SN 287,369. Pub. 11-12-68. Filed 12-21-67.
- 864,377. A AND DESIGN. Albert & Company Security Corporation. SN 300,885. Pub. 11-12-68. Filed 6-20-68.

Class 103—Construction and Repair

- 864,378. DESIGN OF A BALL. Atlantic Richfield Company. SN 253,616. Pub. 11-12-68. Filed 9-1-66.
- 864,379. MIDAS TRANSMISSIONS. Midas, Inc. SN 275,677. Pub. 11-12-68. Filed 7-10-67.
- 864,380. MIDAS CAR CARE CENTER. Midas, Inc. SN 285,340. Pub. 11-12-68. Filed 11-21-67.
- 864,381. DUST-TEX SERVICE AND DESIGN. American Uniform Company. SN 288,269. Pub. 11-12-68. Filed 1-8-68.
- 864,382. INTERNATIONAL GAS LITE AND DESIGN. International Gas Lite, Inc. SN 292,656. Pub. 11-12-68. Filed 3-7-68.

Class 104—Communication

- 864,383. VISCASING. Visual Information Systems, Inc. SN 287,686. Pub. 11-12-68. Filed 12-27-67.

Class 105 — Transportation and Storage

864,384. WELCOME CENTERS. Europe by Car, Inc. SN 257,837. Pub. 11-12-68. Filed 11-3-66.

864,385. CANADIAN FREIGHTWAYS. Consolidated Freightways Corporation of Delaware, assignee of Canadian Freightways Limited. SN 266,503. Pub. 11-12-68. Filed 3-13-67.

864,386. CF CANADIAN FREIGHTWAYS AND DESIGN. Consolidated Freightways Corporation of Delaware, assignee of Canadian Freightways Limited. SN 266,730. Pub. 11-12-68. Filed 3-15-67.

Class 106 — Material Treatment

864,387. IPI AND DESIGN. International Plastics, Inc. SN 271,623. Pub. 11-12-68. Filed 5-16-67.

Class 107 — Education and Entertainment

864,388. BUCKAROOS. Alvis Edgar Owens, Jr., d.b.a. Buck Owens. SN 260,573. Pub. 11-12-68. Filed 12-12-66.

864,389. PHILADELPHIA JESTERS. Lewis Di Leo, d.b.a. Lew Di Leo. SN 273,266. Pub. 11-12-68. Filed 6-7-67.

864,390. DINE N FOOS AND DESIGN. Patterson International Corporation. SN 277,377. Pub. 11-12-68. Filed 8-2-67.

864,391. DANCE-O-RAMA. Arthur Murray Inc. SN 289,110. Pub. 11-12-68. Filed 1-18-68.

Collective Membership Marks**Class 200**

864,392. NRA NATIONAL RESTAURANT ASSOCIATION AND DESIGN. National Restaurant Association. SN 276,551. Pub. 11-12-68. Filed 7-26-67.

864,393. PIA AND DESIGN. Pilots International Association Inc. SN 291,421. Pub. 11-12-68. Filed 2-19-68.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 6 — Chemicals and Chemical Compositions

864,394. Impex Limited, Nassau, Bahamas. SN 285,134. Filed P.R. 11-17-67; Am. S.R. 11-14-68.

PERFEXION

For Toner for a Copying Machine (Int. Cl. 1).
First use Jan. 1, 1966; in commerce Jan. 20, 1966.

Class 16 — Protective and Decorative Coatings

864,395. Rox Products Company, Detroit, Mich. SN 271,903. Filed P.R. 5-19-67; Am. S.R. 11-12-68.

MARBLE STONE

For Masonry and Swimming Pool Coatings (Int. Cl. 2).
First use Feb. 1, 1966.

Class 21 — Electrical Apparatus, Machines, and Supplies

864,396. Avnet, Inc., New York, N.Y., assignee of Carol Wire & Cable Corp., Pawtucket, R.I. SN 280,691. Filed P.R. 9-19-67; Am. S.R. 11-12-68.

TANGLE-PROOF

For Battery Booster Cable (Int. Cl. 9).
First use on or about Aug. 4, 1967.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

864,397. Zurn Industries, Inc., Erie, Pa. SN 274,912. Filed P.R. 6-27-67; Am. S.R. 11-5-68.

Synchrodisc

For Fluid Centrifugal Clutches for Use With Machinery (Int. Cl. 7).
First use May 20, 1966.

Class 26 — Measuring and Scientific Appliances

864,398. Norcross Corporation, Newton, Mass. SN 283,814. Filed P.R. 10-31-67; Am. S.R. 11-12-68.

NORCROSS

For Viscometers for Measuring Viscosity, Recorders and Indicators Responsive to Electrical Signals From Viscometers for Recording and Indicating Measured Viscosity and Temperature and for Actuating Signal Lights or Alarms, and Electric Controls for Controlling the Operating Frequency of the Viscometers and Responsive to Electrical Signals From Recorders and Indicators to Electrically or Pneumatically Actuate Valves and Switches To Control Viscosity, and Components Thereof (Int. Cl. 9).
First use June 16, 1964.

864,399. Calvin P. Midgley and Elsie T. Midgley, Lake Villa, Ill. SN 284,698. Filed P.R. 11-13-67; Am. S.R. 11-7-68.

CHEMISTRY FOR KIDS

For Portable Chemical Laboratory Kits Which Consist of a Carrying Case, Containers of Chemicals, Laboratory Equipment and Accessories, for Use in Teaching Chemistry to Grade School and High School Students (Int. Cl. 9).
First use November 1966.

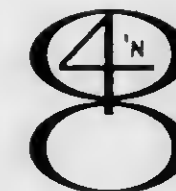
Class 36 — Musical Instruments and Supplies Class 46 — Foods and Ingredients of Foods

864,400. Martel Electronics Sales Incorporated, Los Angeles, Calif. SN 252,863. Filed P.R. 8-22-66; Am. S.R. 11-6-68.

4000L

For Tape Recorders (Int. Cl. 9).
First use Sept. 15, 1964.

864,401. Arvin Industries, Inc., Columbus, Ind. SN 263,342. Filed P.R. 1-26-67; Am. S.R. 11-6-68.



For Tape Cartridge Players (Int. Cl. 9).
First use Dec. 23, 1966.

864,402. Arvin Industries, Inc., Columbus, Ind. SN 263,343. Filed P.R. 1-26-67; Am. S.R. 11-6-68.

FOUR 'N EIGHT

For Tape Cartridge Player (Int. Cl. 9).
First use Dec. 23, 1966.

Class 37 — Paper and Stationery

864,403. Dainihon Bungu Kabushiki Kaisha, d.b.a. The Japan Stationery Co., Ltd., Chuo-ku, Tokyo-to, Japan. SN 279,281. Filed P.R. 8-29-67; Am. S.R. 11-5-68.

Rolling Marker

For Fountain Pens, Mechanical Pens and Ball Point Pens (Int. Cl. 16).
First use June 20, 1967; in commerce July 30, 1967.

Class 38 — Prints and Publications

864,404. U.S. Industrial Publications, Inc., Stamford, Conn. SN 276,265. Filed P.R. 7-18-67; Am. S.R. 11-20-68.

ENVIRONMENTAL DESIGN

For Periodical Publication—Namely, a Magazine (Int. Cl. 16).
First use May 25, 1967.

Class 45 — Soft Drinks and Carbonated Waters

864,405. Cott Corporation, New Haven, Conn., assignee, by mesne assignment, of General Beverage Corp., Springfield, Mass. SN 279,886. Filed 8-30-67.

NOCAFEEN

For Soft Drinks and Syrups Therefor (Int. Cl. 32).
First use on or about Oct. 31, 1943.

864,406. The Ostrom Company, Seattle, Wash., by change of name from Ostrom Mushroom Company, Seattle, Wash. SN 278,028. Filed P.R. 8-10-67; Am. S.R. 7-25-68.

GOLDEN BROWN

For Fresh Mushrooms (Int. Cl. 31).
First use July 13, 1967.

Class 51 — Cosmetics and Toilet Preparations

864,407. (See Class 52 for this trademark.)

864,408. Alberto-Culver Company, Melrose Park, Ill. SN 286,868. Filed P.R. 12-14-67; Am. S.R. 11-6-68.

COPPER LUSTRE

For Hair Coloring Preparation (Int. Cl. 3).
First use at least as early as 1958.

864,409. Alberto-Culver Company, Melrose Park, Ill. SN 286,870. Filed P.R. 12-14-67; Am. S.R. 11-6-68.

DESERT SAND

For Hair Coloring Preparation (Int. Cl. 3).
First use at least as early as 1958.

864,410. Alberto-Culver Company, Melrose Park, Ill. SN 286,871. Filed P.R. 12-14-67; Am. S.R. 11-6-68.

RAVEN'S WING

For Hair Coloring Preparation (Int. Cl. 3).
First use at least as early as 1958.

864,411. Alberto-Culver Company, Melrose Park, Ill. SN 286,872. Filed P.R. 12-14-67; Am. S.R. 11-6-68.

MIDNIGHT BROWN

For Hair Coloring Preparation (Int. Cl. 3).
First use at least as early as 1958.

864,412. Alberto-Culver Company, Melrose Park, Ill. SN 286,873. Filed P.R. 12-14-67; Am. S.R. 11-6-68.

DUSKY BROWN

For Hair Coloring Preparation (Int. Cl. 3).
First use at least as early as 1958.

864,413. Alberto-Culver Company, Melrose Park, Ill. SN 287,107. Filed P.R. 12-18-67; Am. S.R. 11-6-68.

SILVER MIST

For Hair Coloring Preparation (Int. Cl. 3).
First use at least as early as 1958.

864,414. Alberto-Culver Company, Melrose Park, Ill. SN 287,109. Filed P.R. 12-18-67; Am. S.R. 11-6-68.

BROWN ORCHID

For Hair Coloring Preparation (Int. Cl. 3).
First use at least as early as 1958.

864,415. Alberto-Culver Company, Melrose Park, Ill. SN 287,111. Filed P.R. 12-18-67; Am. S.R. 11-6-68.

SUN SPUN

For Hair Coloring Preparation (Int. Cl. 3).
First use at least as early as 1958.

864,416. Alberto-Culver Company, Melrose Park, Ill. SN 287,112. Filed P.R. 12-18-67; Am. S.R. 11-6-68.

RUSSET RADIANCE

For Hair Coloring Preparation (Int. Cl. 3).
First use at least as early as 1958.

Class 52 — Detergents and Soaps

864,407. Texize Chemicals, Inc., Greenville, S.C. SN 278,537. Filed P.R. 8-17-67; Am. S.R. 10-24-68.

SPRAY'N WASH

For Soil Remover Especially Formulated for Permanent Pressed and Washable Fabrics (Int. Cl. 3).
First use Aug. 4, 1967.

Service Mark

Class 107 — Education and Entertainment

864,417. American Society for Metals, Novelty, Ohio. SN 280,314. Filed P.R. 12-8-66; Am. S.R. 9-18-67.

MATERIALS ENGINEERING SHOW

For Sponsoring and Operating Industrial Trade Shows (Int. Cl. 41).
First use Aug. 15, 1966.

TRADEMARK REGISTRATIONS RENEWED

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| 76,229. O.F.C. Cl. 49 (Int. Cl. 33). 12-28-60. | 504,671. MERKROME. Cl. 16 (Int. Cl. 2). 12-7-48. |
| 247,578. CITROMA. Cl. 18 (Int. Cl. 5). 10-2-28. | 504,675. MERCROMATE. Cl. 16 (Int. Cl. 2). 12-7-48. |
| 249,040. "ARROW" ETC. AND DESIGN. Cl. 20 (Int. Cl. 9). 11-6-28. | 504,757. SHIRAYUKI. Cl. 46 (Int. Cl. 30). 12-14-48. |
| 249,170. ANSCOMATIC. Cl. 26 (Int. Cl. 9). 11-6-28. | 504,906. NORTH WESTERN. Cl. 12 (Int. Cl. 19). 12-21-48. |
| 249,739. LAVENDER BATH SOAP, ETC. AND DESIGN. Cls. 51 and 52 (Int. Cl. 3). 11-20-28. | 504,915. FOLISAN. Cl. 0 (Int. Cl. 3). 12-21-48. |
| 249,769. WESTERN QUEEN. Cl. 46 (Int. Cl. 31). 11-20-28. | 505,024. DESIGN OF MAN WITH SHOVEL. Cl. 12 (Int. Cl. 19). 12-21-48. |
| 251,078. M.A.C. Cl. 18 (Int. Cl. 5). 12-25-28. | 505,055. MOR-LES-NITRATE. Cl. 6 (Int. Cl. 1). 12-21-48. |
| 253,066. WHIRLWIND. Cl. 42 (Int. Cl. 24). 2-19-29. | 505,178. WESTERN AND DIAMOND DESIGN. Cl. 9 (Int. Cl. 13). 12-28-48. |
| 253,754. MEMRI-MINDER. Cl. 37 (Int. Cl. 16). 3-5-29. | 505,277. ADVANCE. Cl. 21 (Int. Cl. 9). 12-28-48. |
| 254,066. COP-R-LOY. Cl. 12 (Int. Cl. 6). 3-12-29. | 505,441. COLITHO. Cl. 6 (Int. Cl. 1). 1-4-49. |
| 254,071. RUB-SOL. Cl. 6 (Int. Cl. 1). 3-12-29. | 505,464. PENFIELD. Cl. 34 (Int. Cl. 11). 1-4-49. |
| 254,284. "MY WEEKLY READER" ENCLOSED IN RECTANGULAR BORDER. Cl. 38 (Int. Cl. 16). 3-19-29. | 505,490. EDNA WALLACE HOPPER. Cl. 51 (Int. Cl. 3). 1-4-49. |
| 255,086. TINY TAD. Cl. 46 (Int. Cl. 29). 4-16-29. | 505,723. SIRENO. Cl. 23 (Int. Cl. 9). 1-18-49. |
| 255,231. SWEET PATOOTIE. Cl. 46 (Int. Cl. 31). 4-16-29. | 506,054. SUB-CYCLE. Cl. 21 (Int. Cl. 9). 1-25-49. |
| 255,511. WHITE CROSS. Cl. 46 (Int. Cl. 31). 4-23-29. | 506,067. SILK GAUZE. Cl. 11 (Int. Cl. 16). 1-25-49. |
| 438,723. CARLYLE AND DESIGN. Cl. 17 (Int. Cl. 34). 5-11-48. | 506,142. STAYON. Cl. 42 (Int. Cl. 24). 2-1-49. |
| 440,309. ZYROX. Cl. 21 (Int. Cl. 17). 8-24-48. | 506,306. BUR-MIL & QUALITY AND TRIANGLE DESIGN. Cl. 43 (Int. Cl. 23). 2-1-49. |
| 440,641. BAR-WIN. Cl. 39 (Int. Cl. 25). 9-14-48. | 506,525. GUMP'S. Cl. 28 (Int. Cl. 14). 2-8-49. |
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Columbus McKinnon Chain Corp., The, to Columbus McKinnon Corp., Tonawanda, N.Y. 441,697, ren. 1-28-69, Cl. 13.
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Columbus McKinnon Chain Corp., The.
Compagnie Generale des Gaz Liquefies Cogegal, Paris, France. 742,121, cano. Cl. 2.
Compagnie Generale des Gaz Liquefies Cogegal, Paris, France. 742,120, cano. Cl. 34.
Con Surfboards: See—
Colburn, Constantine W.
Conal, Inc., Lansing, Mich. 864,289, pub. 11-12-68, Cl. 38.
Concoleum Industries, Inc., from Concoleum-Nalra Inc., Kenney, N.J. 864,159-65, pub. 11-12-68, Cl. 20.
Concoleum-Nalra Inc.: See—
Concoleum Industries, Inc.
Consolidated Freightways Corp. of Delaware, Menlo Park, Calif., from Canadian Freightways Ltd., Calgary, Alberta, Canada. 864,385-6, pub. 11-12-68, Cl. 105.
Consolidated Papers, Inc., Wisconsin Rapids, Wis. 864,082, pub. 11-12-68, Cl. 2.
Continental Mfg. Co., St. Louis, Mo. 864,205, pub. 11-12-68, Cl. 23.
Cook's, Adam, Sons, Inc., Linden, N.J. 864,130, pub. 11-12-68, Cl. 15.
Cook Body Co., Charlotte, N.C. 507,855, ren. 1-28-69, Cl. 19.
Coro, Inc., New York, N.Y. 503,945, ren. 1-28-69, Cl. 28.
Correct Air Corp., Willoughby, Ohio. 864,251, pub. 11-12-68, Cl. 34.
Cott Corp., New Haven, Conn., from General Beverage Corp., Springfield, Mass. 864,405, Cl. 45.
C-Pac Corp., Lincoln, Nebr. 742,104, cano. Cl. 102.
Creative Visuals: See—
Gamco Industries, Inc.
Credo Co.: See—
Elfbreder, Charles H.
Crowl Chemical Co., Shamokin, Pa. 741,856, cano. Cl. 18.
Crown Cork & Seal Co., Inc., Philadelphia, Pa. 507,286, ren. 1-28-69, Cl. 31.
Curtis, Helene, Industries, Inc., Chicago, Ill. 864,341, pub. 11-12-68, Cl. 51.
DOPO, a.m.b.a. (Danske Ostemøjlerters Fællesskab og Østreskeport), Haderslev, Denmark. 864,323, pub. 11-12-68, Cl. 40.
Ducar Chemical Products Co., Pittsburgh, Pa. 864,088, pub. 11-12-68, Cl. 6.
Dainihon Bungu Kabushiki Kaisha, d.b.a. The Japan Stationery Co., Ltd., Tokyo-to, Japan. 864,403, Cl. 37.

Dampfsts, Inc., New York, N.Y. 864,271, pub. 11-12-68, Cl. 36.
Darnel Music Corp., New York, N.Y. 742,002, cano. Cl. 36.
Dayton Steel Foundry Co., The, Dayton, Ohio, 864,152, pub. 11-12-68, Cl. 19.
Deering Milliken, Inc., New York, N.Y. 864,280, pub. 11-12-68, Cl. 37.
DeLaforte & Sons Co.: See—
DeLaforte Sons & Co. Limited.
DeLaforte Sons & Co. Limited, d.b.a. DeLaforte & Sons Co., Villa Nova de Gaia, Portugal, 810,615, cano. Cl. 47.
De Rosa, M. E., Inc., Mount Vernon, N.Y. 864,312, pub. 11-12-68, Cl. 40.
De Rothschild S.A., Baron Philippe, Poulillac, Gironde, France, 864,330, pub. 11-12-68, Cl. 47.
De Weese, Inc., Los Angeles, Calif. 864,208, pub. 11-12-68, Cl. 40.
Die Eau de Cologne- & Parfumerie-Fabrik "Glockengasse No. 4711": See—
Mulhens, Paul P.
Di Leo, Lew: See—
Di Leo, Lewis.
Di Leo, Lewis, d.b.a. Lew Di Leo, Philadelphia, Pa. 864,389, pub. 11-12-68, Cl. 107.
Dolphin Seafoods, Inc., Cleveland, Ohio, 864,317, pub. 11-12-68, Cl. 40.
Doric Corp.: See—
Doyle Packing Co.
Douwe Egberts Koninklijke Tabaksfabriek-Koffiebranderijen-Theeland N.V., Joure, Netherlands, 864,137, pub. 7-2-68, Cl. 17.
Dow-Key Co., Broomfield, Colo. 864,250, pub. 12-12-67, Cl. 34.
Doyle Packing Co., Kansas City, Mo., and Los Angeles, Calif., to Doric Corp., Oklahoma City, Okla. 508,072-3, ren. 1-28-69, Cl. 40.
Draper Foods, Inc., Milford, Del. 864,320, pub. 11-12-68, Cl. 40.
Easton National Bank & Trust Co., Easton, Pa. 864,375, pub. 11-12-68, Cl. 102.
Eaton, Crane & Pike Co., to Textron, Inc., Pittsfield, Mass. 253,754, ren. 1-28-69, Cl. 37.
Educational Systems Publishing Co.: See—
Priest, Clyde L.
Elbruder, Charles H., d.b.a. Credo Co., Fenton, Mo. 864,080, pub. 11-12-68, Cl. 6.
Electro Scientific Industries, Inc., Portland, Oreg. 864,173-4, pub. 11-12-68, Cl. 21.
Elm Industry Co., Ltd., Tokyo, Japan. 864,213, pub. 11-12-68, Cl. 23.
Emerson Electric Co., St. Louis, Mo. 864,178, pub. 11-12-68, Cl. 21.
Equalife Laboratories: See—
Haber, Leo.
Etablissements Lardenols, Hermes, Olse, France. 864,335, pub. 11-12-68, Cl. 51.
Europe By Car, Inc., New York, N.Y. 864,394, pub. 11-12-68, Cl. 105.
Evans Honey Co., to Evans Honey & Olive Co., Inc., Los Angeles, Calif. 508,054, ren. 1-28-69, Cl. 46.
Evans Honey & Olive Co., Inc.: See—
Evans Honey Co.
Krenton, Hyman, d.b.a. Bathbee Co., & Bathbee Prod. Co., Long Island City, N.Y. 864,337, pub. 11-12-68, Cl. 51.
Eversharp, Inc., Milford, Conn. 864,220, pub. 11-12-68, Cl. 23.
Fabri-Tek Inc., Minneapolis, Minn. 864,292, pub. 11-12-68, Cl. 38.
Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Bayerwerk, Germany. 864,095, pub. 11-12-68, Cl. 6.
Fawn Corp., Howe, Ind. 864,149-51, pub. 11-12-68, Cl. 10.
Fedtro, Inc., Rockville Centre, N.Y. 864,171, pub. 11-12-68, Cl. 21.
Fibertab: See—
Velocidad, Inc.
Firearms Import & Export Corp., Miami, Fla. 864,104, pub. 11-12-68, Cl. 9.
Fittler, Edwin H., Co., The, Philadelphia, Pa., to Columbian Rope Co., Auburn, N.Y. 504,418, ren. 1-28-69, Cl. 7.
Foote Mineral Co., Exton, Pa. 864,128, pub. 11-12-68, Cl. 14.
Ford Motor Co., Dearborn, Mich. 864,374, pub. 11-12-68, Cl. 102.
Fortunoff, M., of Westbury Corp., Westbury, N.Y. 864,302, pub. 11-12-68, Cl. 42.
Freeman & Gossage, Inc., San Francisco, Calif. 864,276, pub. 11-12-68, Cl. 37.
Fujiitsu Ltd., Kawasaki, Japan. 864,231-2, pub. 11-12-68, Cl. 26.
Fullwara Mfg. Co., Ltd., Tokyo, Japan. 864,117, pub. 11-12-68, Cl. 13.
Fund American Investment Management Co., from North North American Securities Co., San Francisco, Calif. 864,373, pub. 11-12-68, Cl. 102.
Funded Security Corp., Chicago, Ill. 742,151, cano. Cl. 102.
GAP Corp.: See—
American Felt Co.
Ansco Photoproducts, Inc.
Gamco Industries Inc., d.b.a. Creative Visuals, Big Spring, Tex. 864,281, pub. 11-12-68, Cl. 38.
Gates Rubber Co., The, Denver, Colo. 864,264, pub. 11-12-68, Cl. 35.
Gatto Machinery Development Corp., Farmingdale, N.Y. 864,210, pub. 11-12-68, Cl. 23.
Gatto Machinery Development Corp., Farmingdale, N.Y. 864,212, pub. 11-12-68, Cl. 23.

General Aviation Electronics, Inc., Indianapolis, Ind. 864,181, pub. 11-12-68. Cl. 21.
General Beverage Corp.: See—
Cott Corp.
General Mills, Inc., Minneapolis, Minn. 864,327, pub. 11-12-68. Cl. 46.
Geoscientific Inc., Cambridge, Mass. 864,226, pub. 11-12-68. Cl. 26.
Givaudan Corp., Clifton, N.J. 864,090, pub. 11-12-68. Cl. 6.
Givaudan Corp., Clifton, N.J. 864,093-4, pub. 11-12-68. Cl. 6.
Glamorene Products Corp., Clifton, N.J. 864,351, pub. 11-12-68. Cl. 52.
Glen Raven Mills, Inc., Glen Raven, N.C. 864,304, pub. 11-12-68. Cl. 43.
Glime, Michael P., d.b.a. Sedco, Royal Oak, Mich. 864,092, pub. 11-12-68. Cl. 6.
Goodrich, B. F., Co., The, Akron, Ohio. 741,770, canc. Cl. 2.
Grace, W. R., & Co., Cambridge, Mass. 741,764, canc. Cl. 1.
Grace, W. R., & Co., New York, N.Y. 864,146, pub. 11-12-68. Cl. 18.
Gramatan Co., Inc. of Bronxville, New York, The, Bronxville, N.Y. 742,108, canc. Cl. 105.
Great Atlantic & Pacific Tea Co., The, to The Great Atlantic & Pacific Tea Co., Inc., New York, N.Y. 504,247, ren. 1-28-69. Cl. 46.
Great Atlantic & Pacific Tea Co., Inc., The: See—
Great Atlantic & Pacific Tea Co., The.
Gretsch, Fred C., Inc., The, Brooklyn, N.Y. 864,272, pub. 11-12-68. Cl. 36.
Griffin Mfg. Co., Inc., Brooklyn, to American Home Products Corp., New York, N.Y. 507,281, ren. 1-28-69. Cl. 4.
Grinan, Rene, d.b.a. R.G.G. Records, Hoboken, N.J. 864,269, pub. 11-12-68. Cl. 36.
Grinnell Corp., Providence, R.I. 502,772, ren. 1-28-69. Cl. 13.
Gulbraasen Co., Melrose Park, Ill. 864,273, pub. 11-12-68. Cl. 36.
Gulf States Paper Corp., Tuscaloosa, Ala. 864,076, 11-12-68. Cl. 2.
Gump, S. & G., Co., to Gump's, Inc., San Francisco, Calif. 506,525, ren. 1-28-69. Cl. 28.
Gump, S. & G., Co., to Gump's, Inc., San Francisco, Calif. 506,994, ren. 1-28-69. Cl. 38.
Gump, S. & G., Co., to Gump's, Inc., San Francisco, Calif. 507,389, ren. 1-28-69. Cl. 3.
Gump's, Inc.: See—
Gump, S. & G., Co.
Haber, Leo, & Co., Equalite Laboratories, to Blue Cross Beauty Products, Inc., Los Angeles, Calif. 442,432, ren. 1-28-69. Cl. 51.
Hach Chemical Co., from Hach Chemical Co., Ames, Iowa. 864,230, pub. 11-12-68. Cl. 26.
Hach Chemical Co., from Hach Chemical Co., Ames, Iowa. 864,233, pub. 11-12-68. Cl. 26.
Hale Co., The, Tulsa, Okla. 864,118, pub. 11-12-68. Cl. 13.
Hales & Hunter Co., Chicago, Ill. 741,853-4, canc. Cl. 18.
Hallmark Cards, Inc., Kansas City, Mo. 864,077, pub. 11-12-68. Multiple Class (Classes 2, 7, 9, 22, 37, 38, 40, and 50).
Hallmark Cards, Inc., d.b.a. Ambassador Cards, Kansas City, Mo. 864,131, pub. 11-12-68. Cl. 15.
Handler Textile Corp., New York, N.Y. 864,299, pub. 11-12-68. Cl. 42.
Hansen, Harry L., d.b.a. Nordic Saw & Tool Manufacturers, Turlock, Calif. 864,206, pub. 11-12-68. Cl. 23.
Harsco Corp., Wormleysburg, Pa. 864,112, pub. 11-12-68. Cl. 12.
Harsbaw Chemical Co., The: See—
Kewanee Oil Co.
Hartz Mountain Products Corp., New York, N.Y. 864,320, pub. 11-12-68. Cl. 40.
Hart, and House, Inc., Brighton, Mass. 742,099, canc. Cl. 100.
Hecker, Ricc P., d.b.a. Kay-Y Enterprises, Los Angeles, Calif. 864,270, pub. 11-12-68. Cl. 36.
Herzog & Lang, G.m.b.H., Xanten/Niederrhein, Germany. 741,093, canc. Cl. 34.
Hoffmann-La Roche Inc., Nutley, N.J. 864,147, pub. 11-12-68. Cl. 18.
Holiday Inns of America, Inc., Memphis, Tenn. 864,359, pub. 11-12-68. Cl. 100.
Homemaker Rugs, Inc., New York, N.Y. 742,045, canc. Cl. 42.
Honeycomb Products, Inc., Miami, Fla. 864,071, pub. 11-12-68. Cl. 1.
Hooker Glass & Paint Mfg. Co., Chicago, Ill. 864,108, pub. 11-12-68. Multiple Class (Classes 11 and 16).
Hudson Lumber Co., San Leandro, Calif. 864,106, pub. 11-12-68. Cl. 10.
Humble Oil & Refining Co., Houston, Tex. 864,120, pub. 11-12-68. Cl. 15.
Hutch Co.: See—
Hutchinson, Robert J.
Hutchinson, Robert J., d.b.a. Hutch Co., Minneapolis, Minn. 741,810, canc. Cl. 12.
Hydraulic Specialties, Inc., Warren, Mich. 864,105, pub. 11-12-68. Multiple Class (Classes 23 and 26).
Imperial Knife Association of Companies, Inc., Providence, R.I. 864,211, pub. 11-12-68. Cl. 23.
Imrex Ltd., Nassau, Bahamas. 864,394, Cl. 0.
Indian Head, Inc.: See—
Stifel, J. L., & Sons.
Indianapolis Paint & Color Co., Indianapolis, Ind. 864,133, pub. 11-12-68. Cl. 16.
Industrial Shipping Co., Ltd., Mahoney Bay, Nova Scotia, Canada. 864,156, pub. 11-12-68. Cl. 19.
Intercon Research, Inc., Indianapolis, Ind. 864,110, pub. 11-12-68. Cl. 12.

International Gas Lite, Inc., Philadelphia, Pa. 864,382, pub.
11-12-68. Cl. 103.
International Material Management Society, Washington, D.C.
864,369, pub. 11-12-68. Cl. 100.
International Minerals & Chemical Corp., Skokie, Ill. 504-
757, ren. 1-28-69. Cl. 46.
International Plastics, Inc., Miami, Fla. 864,337, pub.
11-12-68. Cl. 106.
International Rustproof Corp., to The Lubrizol Corp., Cleve-
land, Ohio, 507,895, ren. 1-28-69. Cl. 6.
Interpace Corp.: See—
Castleton China Inc.
Interstabella A.G., Graubunden, Switzerland. 864,080, pub.
11-12-68. Cl. 2.
J-B Distributing Co.: See—
Silva, Jack M.
Jacuzzi Research, Inc., Berkeley, Calif. 864,307, pub.
11-12-68. Cl. 44.
Japan Stationery Co., Ltd., The: See—
Dainihon Hongo Kabushiki Kaisha.
Jewett, Warren, Orange, Conn. 864,305, pub. 11-12-68. Cl. 44.
Jifasteurs Ltd., Brampton, Ontario, Canada. 864,334, pub.
11-12-68. Cl. 50.
Johnson, L. E., Products, Inc., Elkhart, Ind. 864,114, pub.
11-12-68. Cl. 12.
Johnson Publishing Co., Inc., Chicago, Ill. 864,336, pub.
11-12-68. Cl. 51.
Joy, Archie, d.b.a. Tri-State Insulation Co., Midland, to
Tri-State Insulation Co., Miller, S. Dak. 508,798, ren.
1-28-69. Cl. 12.
Ju-El Products, Inc., Rockford, Ill. 864,110, pub. 11-12-68.
Cl. 13.
KVF Sutherland Paper Co., Kalamazoo, Mich. 742,000, canc.
Cl. 37.
Kalo Mfg. Corp., Brooklyn, N.Y. 741,986, canc. Cl. 32.
Kaltboff, Inc., Knoxville, Tenn. 864,120, pub. 11-12-68. Cl. 13.
Kar-Du Cart Co., The: See—
Anderson, Leroy R.
Karlyn, William M., Peabody, from Autoroll Decorated
Products, Inc., Salem, Mass. 864,200, pub. 11-12-68.
Multiple Class. Classes 34 and 101.
Kay Mfg. Corp., Brooklyn, N.Y. 741,982, canc. Cl. 32.
Kay-Y Enterprises: See—
Hedger, Elce P.
Kelley Technical Coatings, Inc., Louisville, Ky. 864,135, pub.
11-12-68. Cl. 16.
Kent-Coffey Mfg. Co., Lenoir, N.C. 741,983, canc. Cl. 32.
Kewandee Oil Co., d.b.a. The Harshaw Chemical Co., Cleveland,
Ohio. 864,087, pub. 11-12-68. Cl. 6.
Keystone Casing Supply, Inc., Carnegie, Pa. 864,074, pub.
11-12-68. Cl. 2.
King Refrigerator Corp., Glendale, N.Y. 864,262, pub.
11-12-68. Cl. 34.
Koppers Co., Inc.: See—
Union Carbide & Carbon Corp.
Kraft Foods Co., to National Dairy Products Corp., Chicago,
Ill. 441,170, ren. 1-28-69. Cl. 46.
Kroener, Donald F., Palo Alto, Calif. 864,199, pub. 11-12-68.
Cl. 23.
Kromer, Esther M., Chicago, Ill., to Stayon Products, Inc.,
Easley, S.C. 506,142, ren. 1-28-69. Cl. 42.
Kyowa Gas Chemical Industry, Tokyo, Japan, from Marubeni
Ind. (America), Inc., Los Angeles, Calif. 864,111, pub.
11-12-68. Cl. 12.
Lafayette Radio Electronics Corp., Jamaica, N.Y. 741,878,
canc. Cl. 21.
Laine, Mauno W., d.b.a. Laine Products, Glen Burnie, Md.
741,951, canc. Cl. 26.
Laine Products: See—
Laine, Mauno W.
Lakeland Grocery Co., Minneapolis, Minn. 864,319, pub.
11-12-68. Cl. 46.
Lancee Books, Inc., New York, N.Y. 864,293, pub. 11-12-68.
Cl. 38.
Langhille, Lorain L., Salt Lake City, Utah. 864,263, pub. 11-12-
68. Cl. 34.
Lauren Mfg. Co., Cuyahoga Falls, Ohio. 864,101, pub. 11-12-
68. Cl. 7.
Lavin, Charles O., d.h.a. The Video-Audio Co., Alexandria, Va.
864,353, pub. 11-12-68. Cl. 100.
Leckermuehlen: See—
Boelcke, Oswald.
Leeder, John, & Son, Inc., Camden, N.J. 864,318, pub. 11-12-
68. Cl. 46.
Libber-Owens-Ford Glass Co., Toledo, Ohio, 742,124-8, canc.
Cl. 33.
Lilly, Eli, & Co., Indianapolis, Ind. 864,209, pub. 11-12-68.
Cl. 23.
Limonera Co., Santa Paula, Calif. 255,511, ren. 1-28-69. Cl.
46.
Linmark International Corp., New York, N.Y. 741,895, canc.
Cl. 21.
Liquid Carbonic Corp., Chicago, Ill. 864,252, pub. 11-12-68.
Cl. 34.
Lithoplate, Inc., Covina, Calif. 741,789, canc. Cl. 6.
Liton Business Systems, Inc., New York, N.Y. 864,214-5, pub.
11-12-68. Cl. 23.
Lorain Products Corp., Lorain, Ohio. 506,054, ren. 1-28-69.
Cl. 21.
Lord, Abbott & Co., New York, N.Y. 864,376, pub. 11-12-68.
Cl. 102.
Lubrizol Corp., The: See—
International Rustproof Corp.
MacLevy Associates, Inc., New York, N.Y. 742,098, canc. Cl.
100.
MacAndrews & Forbes Co., Camden, N.J. 864,099, pub. 11-12-
68. Cl. 6.

Magnaflux Corp., Chicago, Ill. 864,091, pub. 11-12-68, Cl. 6.
 Majestic Co., Inc., The, Huntington, Ind. 864,254, pub. 11-12-68, Cl. 34.
 Majestic Silver Co., The, New Haven, Conn. 504,530, ren. 1-28-69, Cl. 28.
 Manitowoc Engineering Corp., Manitowoc, Wis. 741,937, can. Cl. 24.
 Maria, Ana, Inc., Beverly Hills, Calif. 864,338, pub. 11-12-68, Cl. 31.
 Marobeni-Iida (America), Inc.: See—
 Kyowa Gas Chemical Industry.
 Martel Electronics Sales Inc., Los Angeles, Calif. 864,400, Cl. 36.
 Martin, Effie L., d.b.a. Martin Ranch, to Martin Ranch, Fresno, Calif. 508,491, ren. 1-28-69, Cl. 46.
 Martin Ranch: See—
 Martin, Effie L.
 Martins Ltd., London, England, to Rembrandt Tobacco Corp., (Overseas) Ltd., Zurich, Switzerland. 438,723, ren. 1-28-69, Cl. 17.
 Mattel, Inc., Hawthorne, Calif. 864,189, pub. 11-12-68, Cl. 22.
 Mattel, Inc., Hawthorne, Calif. 864,191-2, pub. 11-12-68, Cl. 22.
 Mauboussin, Successeur De Noury, Paris, France. 741,055, can. Cl. 28.
 Mayfield Industries, Inc., Fort Worth, Tex. 742,051, can. Cl. 44.
 McGraw-Hill Publishing Co., Inc., New York, N.Y. 742,138, can. Cl. 38.
 McGregor-Douglas Inc., New York, N.Y. 742,031, can. Cl. 38.
 Menley & James Laboratories, Ltd., Philadelphia, Pa. 864,343, pub. 11-12-68, Cl. 51.
 Menlo Park Laboratories, Inc., Edison, N.J. 741,849, can. Cl. 18.
 Merlatat Woodworking Co., Adrian, Mich. 864,248, pub. 11-12-68, Cl. 32.
 Merkin, M. J., Paint Co., Inc., New York, N.Y., to Merkin Paint Co., Inc., Baltimore, Md. 504,588, ren. 1-28-69, Cl. 16.
 Merkin, M. J., Paint Co., Inc., New York, N.Y., to Merkin Paint Co., Inc., Baltimore, Md. 504,671, ren. 1-28-69, Cl. 16.
 Merkin, M. J., Paint Co., Inc., New York, N.Y., to Merkin Paint Co., Inc., Baltimore, Md. 504,675, ren. 1-28-69, Cl. 16.
 Merkin Paint Co., Inc.: See—
 Merkin, M. J., Paint Co., Inc.
 Meyer, Joseph H., Bros., Brooklyn, to The Richellen Corp., Holbrook, N.Y. 508,978, ren. 1-28-69, Cl. 28.
 Meyer, Joseph H., Bros., Brooklyn, N.Y. 741,960, can. Cl. 28.
 Midas, Inc., Chicago, Ill. 864,379-80, pub. 11-12-68, Cl. 103.
 Midgley, Calvin P., and Elsie T. Midgley, Lake Villa, Ill. 864,399, Cl. 26.
 Milchem Inc., Houston, Tex. 864,098, pub. 11-12-68, Cl. 6.
 Miller Publishing Co., The, Minneapolis, Minn. 864,287, pub. 11-12-68, Cl. 38.
 Milros Saus Soud, Inc., Miami, Fla. 864,370, pub. 11-12-68, Cl. 100.
 Mix, Inc., New York, N.Y. 864,361, pub. 11-12-68, Cl. 100.
 Mohat Tire & Rubber Co., Inc., Livermore, Calif. 864,265, pub. 11-12-68, Cl. 35.
 Moline Tool Co., Moline, Ill. 864,218, pub. 11-12-68, Cl. 23.
 Montclair Imports Inc., Westbury, N.Y. 864,242, pub. 11-12-68, Cl. 29.
 Montgomery Ward & Co., Inc., Chicago, Ill. 741,995, can. Cl. 34.
 Moore, Benjamin, & Co., New York, N.Y. 864,136, pub. 11-12-68, Cl. 16.
 Moran, John E., Tulsa, Okla. 742,119, can. Cl. 1.
 Moran Shoe Co., Carlyle, Ill. 742,020, can. Cl. 39.
 Morton, Lillian: See—
 Steven Frank Cosmetic Corp.
 Mospan, Nicholas R., Braddock, Pa. 741,907, can. Cl. 22.
 Motor Wheel Corp., Lansing, Mich. 864,253, pub. 11-12-68, Cl. 34.
 Motorola, Inc., Franklin Park, Ill. 864,169, pub. 11-12-68, Cl. 21.
 Motortone of America, Inc., Charlotte, N.C. 741,815, can. Cl. 13.
 Mount Vernon Silver Co., Attleboro, Mass. 741,767, can. Cl. 2.
 Mulrhead, Charles R., d.b.a. Cleanwell Products Co., South Gate, Calif. 741,781, can. Cl. 6.
 Mulberry Metal Products, Inc., Union, N.J. 864,175, pub. 11-12-68, Cl. 21.
 Mulhens, Ferdinand: See—
 Mulhens, Paul P.
 Mulhens, Paul P., d.b.a. Die Eau De Cologne & Parfumerie-Fabrik "Glöckengasse No. 4711" Gegenüber Der Pferdepost Von Ferd. Mulhens, Cologne-On-The-Rhine, to Ferdinand Mulhens, Cologne, Germany. 249,739, ren. 1-28-69, Multiple Class (Classes 51 and 52).
 Murray, Arthur, Inc., New York, N.Y. 864,391, pub. 11-12-68, Cl. 107.
 Mutual Ice Co.: See—
 Mutual Ice Co., Inc.
 Mutual Ice Co., Inc., d.b.a. Mutual Ice Co., Alexandria, Va. 742,120, can. Cl. 1.
 National Automated Industries, Inc., Inglewood, Calif. 741,892, can. Cl. 21.
 National Biscuit Co., New York, N.Y. 864,078, pub. 11-12-68, Cl. 2.
 National Cone Co., St. Louis, Mo. 864,332, pub. 11-12-68, Cl. 50.
 National Dairy Products Corp.: See—
 Kraft Foods Co.
 National Magnesia Co., Inc., Brooklyn, N.Y. 247,578, ren. 1-28-69, Cl. 18.
 National Personnel Consultants, Detroit, Mich. 864,357, pub. 11-12-68, Cl. 100.
 National Restaurant Assn., Chicago, Ill. 864,392, pub. 11-12-68, Cl. 200.
 Natural Mfg.: See—
 Roznos, Gus G.
 New Jersey Zinc Co., The, to The New Jersey Zinc Co., New York, N.Y. 508,619, ren. 1-28-69, Cl. 6.
 Nichols Engineering & Research Corp., New York, N.Y. 507,860, ren. 1-28-69, Cl. 34.
 Nlpa Laboratories Ltd., Glamorgan, South Wales. 441,266, ren. 1-28-69, Cl. 6.
 Nitragin Co., Inc., The, Milwaukee, Wis. 864,096, pub. 11-12-68, Cl. 6.
 Nodir Mfg. Co., Inc., Westbury, N.Y. 742,052, can. Cl. 44.
 Nomark Corp., Minneapolis, Minn. 864,190, pub. 11-12-68, Multiple Class (Classes 22 and 23).
 Norcross Corp., Newton, Mass. 864,398, Cl. 26.
 Nordle Saw & Tool Manufacturers: See—
 Hansen, Harry J.
 North American Securities Co.: See—
 Fund American Investment Management Co.
 North & Judd Mfg. Co., New Britain, Conn. 864,170, pub. 11-12-68, Cl. 21.
 Northwest Marine Iron Works, Portland, Oreg. 507,870, ren. 1-28-69, Cl. 23.
 Northwestern States Portland Cement Co., Mason City, Iowa. 504,906, ren. 1-28-69, Cl. 12.
 Norwood Studios, Inc., Washington, D.C. 742,007, can. Cl. 38.
 Nuclear Enterprises Ltd., St. James, Manitoba, Canada. 741,946, can. Cl. 26.
 O & R Engines, Inc., Los Angeles, Calif. 864,216, pub. 11-12-68, Cl. 23.
 Oak Electro-Nettes Corp.: See—
 Advance Electric & Relay Co.
 Occidental Petroleum Corp., Los Angeles, Calif. 864,105, pub. 11-12-68, Cl. 10.
 Occidental Petroleum Corp., Los Angeles, Calif. 864,356, pub. 11-12-68, Cl. 100.
 Oconowoc Canning Co., Oconowoc, Wis. 255,080, ren. 1-28-69, Cl. 46.
 Olin Industries, Inc., East Alton, Ill., to Olin Mathieson Chemical Corp., New York, N.Y. 505,178, ren. 1-28-69, Cl. 9.
 Olin Mathieson Chemical Corp.: See—
 Olin Industries, Inc.
 Purlan Co., Inc.
 Oshkosh Brewing Co., Oshkosh, Wis. 742,084, can. Cl. 48.
 Ostrom Co., The, from Ostrom Mushroom Co., Seattle, Wash. 864,406, Cl. 46.
 Ostrom Mushroom Co.: See—
 Ostrom Co., The.
 Owens, Alvis E., d.b.a. Buck Owens, Bakersfield, Calif. 864,388, pub. 11-12-68, Cl. 107.
 Owens Buck: See—
 Owens, Alvis E.
 Owens-Illinois, Inc., Toledo, Ohio. 864,079, pub. 11-12-68, Cl. 2.
 Pacific Handy Cutter, Inc., South El Monte, Calif. 864,176, pub. 11-12-68, Cl. 21.
 Park South Publishing Co., New York, N.Y. 742,135, can. Cl. 38.
 Patterson International Corp., Cincinnati, Ohio. 864,390, pub. 11-12-68, Cl. 107.
 Pedco, Inc., West Newton, Mass. 864,180, pub. 11-12-68, Cl. 21.
 Peetless Pressed Metal Corp., Watertown, Mass. 864,247, pub. 11-12-68, Cl. 32.
 Penguin Companies, Inc., The, Bayonne, N.J. 741,903, can. Cl. 22.
 Penner, J. C., Co., New York, N.Y. 864,084, pub. 11-12-68, Cl. 3.
 Perotini Ltd., Manchester, England. 742,111, can. Cl. 106.
 Pfizer, Chas., & Co., Inc., New York, N.Y. 864,100, pub. 11-12-68, Cl. 6.
 Philatelle Research Society, Oakland, Calif. 864,355, pub. 11-12-68, Cl. 100.
 Picker Corp., from Picker X-Ray Corp., White Plains, N.Y. 864,166, pub. 11-12-68, Cl. 21.
 Picker X-Ray Corp.: See—
 Picker Corp.
 Pilots International Association, Inc., Minneapolis, Minn. 864,393, pub. 11-12-68, Cl. 200.
 Ponder & Rest, Hollywood, Calif. 864,223, pub. 11-12-68, Cl. 20.
 Poor & Co., Chicago, Ill. 864,207, pub. 11-12-68, Cl. 23.
 Powell Wm., Co., The, Cincinnati, Ohio. 442,326, ren. 1-28-69, Cl. 23.
 Powers, Bernard E., Fitchburg, Mass. 864,116, pub. 11-12-68, Cl. 13.
 Pransky, David L., & Sons, Philadelphia, Pa. 864,188, pub. 11-12-68, Cl. 22.
 Premere Mfg. Corp., Los Angeles, Calif. 741,772, can. Cl. 3.
 Preway Inc., Wisconsin Rapids, Wis. 864,257, pub. 11-12-68, Cl. 34.
 Priest, Clyde L., d.b.a. Educational Systems Publishing Co., Newport Beach, Calif. 864,238, pub. 11-12-68, Cl. 38.
 Producto Machine Co., The, Bridgeport, Conn. 864,072, pub. 11-12-68, Cl. 1.
 Pryor-Serv Instruments, Inc., North Arlington, N.J. 864,235, pub. 11-12-68, Cl. 26.
 Puritan Co., Inc., Rochester, to Olin Mathieson Chemical Corp., New York, N.Y. 506,660, ren. 1-28-69, Cl. 6.
 Purity Milla Inc., Dixon, Ill. 864,324, pub. 11-12-68, Cl. 46.
 R.G.G. Records: See—
 Gripian, Rene.
 R & S Trimming & Novelty Co., New York, N.Y. 742,141, can. Cl. 40.
 Radio Frequency Co., Inc., Medfield, Mass. 864,240, pub. 11-12-68, Cl. 34.
 Ralston Purina Co., St. Louis, Mo. 864,322, pub. 11-12-68, Cl. 46.
 Ralston Purina Co., St. Louis, Mo. 864,326, pub. 11-12-68, Cl. 46.
 Ranching, C. V.: See—
 Ranching, C. V., & Son.
 Ranching, C. V., & Son, d.b.a. C. V. Ranching, Bakersfield, Calif. 864,328, pub. 11-12-68, Cl. 46.
 Reliable Stores Corp., Baltimore, Md. 741,984, can. Cl. 32.
 Reliance Varnish Co., Louisville, Ky. 741,766, can. Cl. 1.
 Rembrandt Tobacco Corp., (Overseas) Ltd.: See—
 Martias Ltd.
 Rempel Mfg. Co., Inc., West Point, Miss. 864,152, pub. 11-12-68, Cl. 22.
 Renauld International, Ltd., Fitchburg, Mass. 864,234, pub. 11-12-68, Cl. 26.
 Retreaders Supply, Inc., Asheville, N.C. 741,998, can. Cl. 35.
 Revlon, Inc., New York, N.Y. 742,147, can. Cl. 51.
 Revue Thommen A.G.: See—
 Thommens Uhrenfabriken A.O.
 Reynolds Metals Co., Richmond, Va. 741,797-800, can. Cl. 12.
 Reynolds, R. J., Tobacco Co., Winston-Salem, N.C. 864,140-5, pub. 11-12-68, Cl. 17.
 Rialto Orange Co., to Rialto Orange Co., Rialto, Calif. 249,769, ren. 1-28-69, Cl. 46.
 Richellen Corp.: See—
 Meyer, Joseph H., Bros.
 Riegel Textile Corp., New York, N.Y. 864,311, pub. 11-12-68, Cl. 44.
 Ritter Co., Inc., Rochester, N.Y. 742,050, can. Cl. 44.
 Rival Mfg. Co., Kansas City, Mo. 741,875, can. Cl. 21.
 Rival Mfg. Co., Kansas City, Mo. 741,911, can. Cl. 23.
 Rogers Walla Walla, Inc.: See—
 Walla Walla Canning Co.
 Roof Mfg. Co., Pontiac, Ill. 864,204, pub. 11-12-68, Cl. 23.
 Rose-Derry Co., Newton, Mass. 741,988, can. Cl. 32.
 Roselon Yarns, Inc., Philadelphia, Pa. 864,303, pub. 11-12-68, Cl. 43.
 Rox Products Co., Detroit, Mich. 864,305, Cl. 10.
 Snacker Products, Inc., Grand Rapids, Mich. 864,296, pub. 11-12-68, Cl. 40.
 Safeway Stores, Inc., Oakland, Calif. 864,371, pub. 11-12-68, Cl. 101.
 Sagner's A. Son, Frederick, Md. 742,033, can. Cl. 39.
 Salant & Salant, Inc., New York, N.Y. 508,038, ren. 1-28-69, Cl. 39.
 Sales & Marketing Executives-International, Inc., New York, N.Y. 864,354, pub. 11-12-68, Cl. 100.
 Sammon Rulla Osakeyhtio, Kuopio, Finland. 741,807, can. Cl. 12.
 Sanders Associates, Inc., Nashua, N.H. 864,177, pub. 11-12-68, Cl. 21.
 Sandoz, Inc., Hanover, N.J. 864,345-7, pub. 11-12-68, Cl. 52.
 San Francisco Shopping News, San Francisco, Calif. 742,133-4, can. Cl. 38.
 Sauna-Seura R. Y., Lahti, Finland. 864,113, pub. 11-12-68, Multiple Class (Classes 12 and 34).
 Saunders-Roe & Nuclear Enterprises Ltd., Somerset, England. 864,103, pub. 11-12-68, Cl. 9.
 Scheibe Engineering, Inc., Burlington, Wis. 741,947, can. Cl. 26.
 Schenley Distillers, Inc.: See—
 Stagg, Geo. T., Co., Inc.: The.
 Schwinn Bicycle Co., Chicago, Ill. 864,157-8, pub. 11-12-68, Cl. 19.
 Scully Signal Co., Melrose, Mass. 741,944, can. Cl. 26.
 Sears, Roebuck & Co., Chicago, Ill. 741,990, can. Cl. 32.
 Sebran, Paris, France. 864,194, pub. 11-12-68, Cl. 23.
 Secure-Trip Inc., New York, N.Y. 741,924-5, can. Cl. 23.
 Sedco: See—
 Gilme, Michael P.
 Semler, R. B., Inc., New Canaan, Conn., to The J. R. Williams Co., Inc., New York, N.Y. 504,915, ren. 1-28-69, Cl. 6.
 Seufert Bros. Co., to Francis A. Seufert & Co., The Dallas, Oreg. 508,165, ren. 1-28-69, Cl. 46.
 Seufert, Francis A., & Co.: See—
 Seufert Bros. Co.
 Seventeen Eighty Nine, Inc., Washington, D.C. 864,363-8, pub. 11-12-68, Cl. 100.
 Shelby American Inc., Los Angeles, Calif. 864,154, pub. 11-12-68, Multiple Class (Classes 19, 23, 26, and 31).
 Shelding, Inc., Riverton, N.J. 741,893, can. Cl. 21.
 Shure Bros. Inc., Evanston, Ill. 864,290, pub. 11-12-68, Cl. 38.
 Silva, Jack M., Turlock, to J-B Distributing Co., Los Angeles, Calif. 255,231, ren. 1-28-69, Cl. 46.
 Sinclair, Kennedy, Inc., Montclair, N.J. 864,201, pub. 11-12-68, Cl. 38.
 Sireno Co., Inc., The, New York, N.Y., to Sireno Signal Mfg. Corp., Kearny, N.J. 505,723, ren. 1-28-69, Cl. 23.
 Sireno Signal Mfg. Corp.: See—
 Sireno Co., Inc., The.
 Sklar, J., Mfg. Co., Inc., Long Island City, N.Y. 864,308, pub. 11-12-68, Cl. 44.
 Slater, N., Co.: See—
 Slater Steel Industries Ltd.
 Slater Steel Industries Ltd., d.b.a. N. Slater Co., Hamilton, Ontario, Canada. 864,196-7, pub. 11-12-68, Cl. 23.
 Smith, Addie E., d.b.a. Smith Bros., Berkeley and Oakland, to N. C. Buckhart, Jr., San Francisco, Calif. 251,078, ren. 1-28-69, Cl. 18.
 Smith Bros.: See—
 Smith, Addie E.
 So Klean Products: See—
 Chemicals, Inc.
 Spectape: See—
 Bullock, William M.
 Spedel Corp., Providence, R.I. 741,964, can. Cl. 28.
 Spedel, Firma Fr., Pforzheim, Germany. 741,956, can. Cl. 28.
 Stagg, Geo. T., Co., Inc., The, Frankfurt, Ky., to Schenley Distillers, Inc., New York, N.Y. 76,229, ren. 1-28-69, Cl. 49.
 Standard International Corp., Andover, Mass. 864,350, pub. 11-12-68, Cl. 52.
 Standard Screw Co., Hartford, Conn. 864,122, pub. 11-12-68, Cl. 13.
 State Stove & Mfg. Co., Inc.: See—
 Wood, John, Mfg. Co., Inc.
 Stayon Products, Inc.: See—
 Kromer, Esther M.
 Stella, F. P., & Sons Products, Chicago, Ill., to Frank F. and Isabella V. Stella, New Buffalo, Mich. 508,361, ren. 1-28-69, Cl. 4.
 Stella, Frank F. and Isabella V.: See—
 Stella, F. P., & Sons Products.
 Sterneo Industries, Inc., Harrison, N.J. 864,148, pub. 11-12-68, Cl. 18.
 Sterneo Industries, Inc., Harrison, N.J. 864,243, pub. 11-12-68, Cl. 31.
 Steven, Frank, Cosmetic Corp., to Sol Morton, deceased (Lillian Morton and the American National Bank and Trust Co. of Chicago, executors), Chicago, Ill. 441,717, ren. 1-28-69, Cl. 51.
 Stifel, J. L., & Sons, Wheeling, W. Va., to Indian Head Inc., New York, N.Y. 253,066, ren. 1-28-69, Cl. 42.
 Stretchnit, Inc.: See—
 Stretchnit of Pennsylvania, Inc.
 Stretchnit of Pennsylvania, Inc., from Stretchnit, Inc., Allentown, Pa. 864,300, pub. 11-12-68, Cl. 42.
 Succi, Glenn, Grass Valley, Calif. 741,801, can. Cl. 12.
 Sulzer Bros. Ltd., Winterthur, Switzerland. 864,126, pub. 11-12-68, Cl. 14.
 Sunbeam Corp., Chicago, Ill. 741,952, can. Cl. 27.
 Superior Cable Corp.: See—
 Superior Continental Corp.
 Superior Continental Corp., from Superior Cable Corp., Hickory, N.C. 864,172, pub. 11-12-68, Cl. 21.
 Surgitube Products Corp., Bronx, N.Y. 864,310, pub. 11-12-68, Cl. 44.
 Technicolor, Inc., Chicago, Ill. 741,934, can. Cl. 23.
 Texaco Experiment Inc., Richmond, Va. 742,100, can. Cl. 100.
 Texas Instruments Inc., Dallas, Tex. 741,763, can. Cl. 1.
 Texize Chemicals, Inc., Greenville, S.C. 864,407, Cl. 52.
 Tex-Rite Products Co.: See—
 Carco, Inc.
 Textron, Inc.: See—
 Eaton, Crane & Pike Co.
 Textron, Inc., Belmont, Calif. 864,228, pub. 11-12-68, Cl. 26.
 Textron Inc., Providence, R.I. 864,241, pub. 11-12-68, Cl. 28.
 Thermowave Corp., New York, N.Y. 741,891, can. Cl. 21.
 Thimonnier & Cie, Lyon, France. 864,208, pub. 11-12-68, Cl. 23.
 Thommens Uhrenfabriken A.G., to Revue Thommen A.G., Waldenburg, Switzerland. 441,333, ren. 1-28-69, Cl. 27.
 Tiffen Optical Co., Roslyn Heights, N.Y. 864,236, pub. 11-12-68, Cl. 20.
 Tower Press, Inc., Danvers, Mass. 864,288, pub. 11-12-68, Cl. 38.
 Toyo Rubber Industry Co., Ltd., The, Osaka, Japan. 864,268, pub. 11-12-68, Cl. 35.
 Traub Co., The, Detroit, Mich. 864,240, pub. 11-12-68, Cl. 28.
 Trifari, Krussman & Fishel, Inc., New York, N.Y. 864,238, pub. 11-12-68, Cl. 26.
 Tri-State Insulation Co.: See—
 Joy, Archie.
 Tulare County Lemon Association: See—
 Tulare County Lemon & Grapefruit Association.
 Tulare County Lemon & Grapefruit Association, to Tulare County Lemon Association, Porterville, Calif. 507,643, ren. 1-28-69, Cl. 46.
 Uglie Kuhlmann Societe Anonyme, Paris, France. 864,089, pub. 11-12-68, Cl. 1.
 Ullano Products Co., Inc., Brooklyn, N.Y. 864,073, pub. 11-12-68, Cl. 1.
 Union Carbide Corp., New York, N.Y. 864,127, pub. 11-12-68, Cl. 14.
 Union Carbide & Carbon Corp., New York, N.Y., to Koppers Co., Inc., Pittsburgh, Pa. 440,309, ren. 1-28-69, Cl. 21.
 Uniroval, Inc.: See—
 United States Rubber Co.
 United Drvr Corp. of America, Iberia, Ohio. 864,259, pub. 11-12-68, Cl. 34.
 United Newspapers Magazine Corp., New York, N.Y. 742,139, can. Cl. 38.
 U.S. Industrial Publications, Inc., Stamford, Conn. 864,404, Cl. 38.
 U.S. Industries, Inc., New York, N.Y. 864,295, pub. 11-12-68, Cl. 39.
 U.S. Plywood-Champlain Papers Inc., New York, N.Y. 864,109, pub. 11-12-68, Cl. 12.

Pryor-Serv Instruments, Inc., North Arlington, N.J. 864,235, pub. 11-12-68, Cl. 26.
 Puritan Co., Inc., Rochester, to Olin Mathieson Chemical Corp., New York, N.Y. 506,660, ren. 1-28-69, Cl. 6.
 Purity Milla Inc., Dixon, Ill. 864,324, pub. 11-12-68, Cl. 46.
 R.G.G. Records: See—
 Gripian, Rene.
 R & S Trimming & Novelty Co., New York, N.Y. 742,141, can. Cl. 40.
 Radio Frequency Co., Inc., Medfield, Mass. 864,240, pub. 11-12-68, Cl. 34.
 Ralston Purina Co., St. Louis, Mo. 864,322, pub. 11-12-68, Cl. 46.
 Ralston Purina Co., St. Louis, Mo. 864,326, pub. 11-12-68, Cl. 46.
 Ranching, C. V.: See—
 Ranching, C. V., & Son.
 Ranching, C. V., & Son, d.b.a. C. V. Ranching, Bakersfield, Calif. 864,328, pub. 11-12-68, Cl. 46.
 Reliable Stores Corp., Baltimore, Md. 741,984, can. Cl. 32.
 Reliance Varnish Co., Louisville, Ky. 741,766, can. Cl. 1.
 Rembrandt Tobacco Corp., (Overseas) Ltd.: See—
 Martias Ltd.
 Rempel Mfg. Co., Inc., West Point, Miss. 864,152, pub. 11-12-68, Cl. 22.
 Renauld International, Ltd., Fitchburg, Mass. 864,234, pub. 11-12-68, Cl. 26.
 Retreaders Supply, Inc., Asheville, N.C. 741,998, can. Cl. 35.
 Revlon, Inc., New York, N.Y. 742,147, can. Cl. 51.
 Revue Thommen A.G.: See—
 Thommens Uhrenfabriken A.O.
 Reynolds Metals Co., Richmond, Va. 741,797-800, can. Cl. 12.
 Reynolds, R. J., Tobacco Co., Winston-Salem, N.C. 864,140-5, pub. 11-12-68, Cl. 17.
 Rialto Orange Co., to Rialto Orange Co., Rialto, Calif. 249,769, ren. 1-28-69, Cl. 46.
 Richellen Corp.: See—
 Meyer, Joseph H., Bros.
 Riegel Textile Corp., New York, N.Y. 864,311, pub. 11-12-68, Cl. 44.
 Ritter Co., Inc., Rochester, N.Y. 742,050, can. Cl. 44.
 Rival Mfg. Co., Kansas City, Mo. 741,875, can. Cl. 21.
 Rival Mfg. Co., Kansas City, Mo. 741,911, can. Cl. 23.
 Rogers Walla Walla, Inc.: See—
 Walla Walla Canning Co.
 Roof Mfg. Co., Pontiac, Ill. 864,204, pub. 11-12-68, Cl. 23.
 Rose-Derry Co., Newton, Mass. 741,988, can. Cl. 32.
 Roselon Yarns, Inc., Philadelphia, Pa. 864,303, pub. 11-12-68, Cl. 43.
 Rox Products Co., Detroit, Mich. 864,305, Cl. 10.
 Snacker Products, Inc., Grand Rapids, Mich. 864,296, pub. 11-12-68, Cl. 40.
 Safeway Stores, Inc., Oakland, Calif. 864,371, pub. 11-12-68, Cl. 101.
 Sagner's A. Son, Frederick, Md. 742,033, can. Cl. 39.
 Salant & Salant, Inc., New York, N.Y. 508,038, ren. 1-28-69, Cl. 39.
 Sales & Marketing Executives-International, Inc., New York, N.Y. 864,354, pub. 11-12-68, Cl. 100.
 Sammon Rulla Osakeyhtio, Kuopio, Finland. 741,807, can. Cl. 12.
 Sanders Associates, Inc., Nashua, N.H. 864,177, pub. 11-12-68, Cl. 21.
 Sandoz, Inc., Hanover, N.J. 864,345-7, pub. 11-12-68, Cl. 52.
 San Francisco Shopping News, San Francisco, Calif. 742,133-4, can. Cl. 38.
 Sauna-Seura R. Y., Lahti, Finland. 864,113, pub. 11-12-68, Multiple Class (Classes 12 and 34).
 Saunders-Roe & Nuclear Enterprises Ltd., Somerset, England. 864,103, pub. 11-12-68, Cl. 9.
 Scheibe Engineering, Inc., Burlington, Wis. 741,947, can. Cl. 26.
 Schenley Distillers, Inc.: See—
 Stagg, Geo. T., Co., Inc.: The.
 Schwinn Bicycle Co., Chicago, Ill. 864,157-8, pub. 11-12-68, Cl. 19.
 Scully Signal Co., Melrose, Mass. 741,944, can. Cl. 26.
 Sears, Roebuck & Co., Chicago, Ill. 741,990, can. Cl. 32.
 Sebran, Paris, France. 864,194, pub. 11-12-68, Cl. 23.
 Secure-Trip Inc., New York, N.Y. 741,924-5, can. Cl. 23.
 Sedco: See—
 Gilme, Michael P.
 Semler, R. B., Inc., New Canaan, Conn., to The J. R. Williams Co., Inc., New York, N.Y. 504,915, ren. 1-28-69, Cl. 6.
 Seufert Bros. Co., to Francis A. Seufert & Co., The Dallas, Oreg. 508,165, ren. 1-28-69, Cl. 46.
 Seufert, Francis A., & Co.: See—
 Seufert Bros. Co.
 Seventeen Eighty Nine, Inc., Washington, D.C. 864,363-8, pub. 11-12-68, Cl. 100.
 Shelby American Inc., Los Angeles, Calif. 864,154, pub. 11-12-68, Multiple Class (Classes 19, 23, 26, and 31).
 Shelding, Inc., Riverton, N.J. 741,893, can. Cl. 21.
 Shure Bros. Inc., Evanston, Ill. 864,290, pub. 11-12-68, Cl. 38.
 Silva, Jack M., Turlock, to J-B Distributing Co., Los Angeles, Calif. 255,231, ren. 1-28-69, Cl. 46.
 Sinclair, Kennedy, Inc., Montclair, N.J. 864,201, pub. 11-12-68, Cl. 38.
 Sireno Co., Inc., The, New York, N.Y., to Sireno Signal Mfg. Corp., Kearny, N.J. 505,723, ren. 1-28-69, Cl. 23.
 Sireno Signal Mfg. Corp.: See—
 Sireno Co., Inc., The.
 Sklar, J., Mfg. Co., Inc., Long Island City, N.Y. 864,308, pub. 11-12-68, Cl. 44.
 Slater, N., Co.: See—
 Slater Steel Industries Ltd.
 Slater Steel Industries Ltd., d.b.a. N. Slater Co., Hamilton, Ontario, Canada. 864,196-7, pub. 11-12-68, Cl. 23.
 Smith, Addie E., d.b.a. Smith Bros., Berkeley and Oakland, to N. C. Buckhart, Jr., San Francisco, Calif. 251,078, ren. 1-28-69, Cl. 18.
 Smith Bros.: See—
 Smith, Addie E.
 So Klean Products: See—
 Chemicals, Inc.
 Spectape: See—
 Bullock, William M.
 Spedel Corp., Providence, R.I. 741,964, can. Cl. 28.
 Spedel, Firma Fr., Pforzheim, Germany. 741,956, can. Cl. 28.
 Stagg, Geo. T., Co., Inc., The, Frankfurt, Ky., to Schenley Distillers, Inc., New York, N.Y. 76,229, ren. 1-28-69, Cl. 49.
 Standard International Corp., Andover, Mass. 864,350, pub. 11-12-68, Cl. 52.
 Standard Screw Co., Hartford, Conn. 864,122, pub. 11-12-68, Cl. 13.
 State Stove & Mfg. Co., Inc.: See—
 Wood, John, Mfg. Co., Inc.
 Stayon Products, Inc.: See—
 Kromer, Esther M.
 Stella, F. P., & Sons Products, Chicago, Ill., to Frank F. and Isabella V. Stella, New Buffalo, Mich. 508,361, ren. 1-28-69, Cl. 4.
 Stella, Frank F. and Isabella V.: See—
 Stella, F. P., & Sons Products.
 Sterneo Industries, Inc., Harrison, N.J. 864,148, pub. 11-12-68, Cl. 18.
 Sterneo Industries, Inc., Harrison, N.J. 864,243, pub. 11-12-68, Cl. 31.
 Steven, Frank, Cosmetic Corp., to Sol Morton, deceased (Lillian Morton and the American National Bank and Trust Co. of Chicago, executors), Chicago, Ill. 441,717, ren. 1-28-69, Cl. 51.
 Stifel, J. L., & Sons, Wheeling, W. Va., to Indian Head Inc., New York, N.Y. 253,066, ren. 1-28-69, Cl. 42.
 Stretchnit, Inc.: See—
 Stretchnit of Pennsylvania, Inc.
 Stretchnit of Pennsylvania, Inc., from Stretchnit, Inc., Allentown, Pa. 864,300, pub. 11-12-68, Cl. 42.
 Succi, Glenn, Grass Valley, Calif. 741,801, can. Cl. 12.
 Sulzer Bros. Ltd., Winterthur, Switzerland. 864,126, pub. 11-12-68, Cl. 14.
 Sunbeam Corp., Chicago, Ill. 741

- U.S. Plywood-Champion Papers Inc., Knightsbridge, Hamilton, Ohio. 864,277, pub. 11-12-68. Cl. 37.
 United States Rubber Co., to Uniroyl, Inc., New York, N.Y. 508,377, ren. 1-28-69. Cl. 35.
 Universal American Corp., Springfield, Mass. 864,217, pub. 11-12-68. Cl. 23.
 Universal Electric Co.: See—
 Universal Electric Corp.
 Universal Electric Corp., to Universal Electric Co., Owosso, Mich. 503,961, ren. 1-28-69. Cl. 21.
 Urbana Laboratories, Inc., The: See—
 Urbana Laboratories, The.
 Urbana Laboratories, The, to The Urbana Laboratories, Inc., Urbana, Ill. 505,055, ren. 1-28-69. Cl. 6.
 Ute Mountain Farms, Harlingen, Tex. 742,061, conc. Cl. 46.
 Ute Mountain Supply Co., Grand Junction, Colo. 864,102, pub. 11-12-68. Cl. 9.
 Valor Tobacco Co. Inc., Zurich, Switzerland. 864,138, pub. 11-12-68. Cl. 17.
 Velocidad, Inc., d.b.a. Fiberfab, Santa Clara, Calif. 864,153, pub. 11-12-68. Cl. 19.
 Veroltron Corp., New York, N.Y. 864,179, pub. 11-12-68. Cl. 21.
 Video-Audio Co., The: See—
 Lavin, Charles G.
 Visual Information Systems, Inc., New York, N.Y. 864,383, pub. 11-12-68. Cl. 104.
 Vitamix Pharmaceuticals, Inc., Philadelphia, Pa. 741,855, conc. Cl. 18.
 Vitreous Steel Products Co., Cleveland, Ohio. 864,258, pub. 11-12-68. Cl. 34.
 Wagner, John, & Sons, Inc., Ivyland, Pa. 864,316, pub. 11-12-68. Cl. 46.
 Wales Mfg. Co., Boston, Mass. 742,038, conc. Cl. 39.
 Wales Mfg. Co., Boston, Mass. 742,040, conc. Cl. 39.
 Walla Walla Canning Co., to Rogers Walla Walla, Inc., Walla Walla, Wash. 504,116, ren. 1-28-69. Cl. 46.
 Warner-Lambert Pharmaceutical Co., Morris Plains, N.J. 741,838, conc. Cl. 18.
 Waterlac Finish Co., Inc., Danvers, Mass. 864,132, pub. 11-12-68. Cl. 16.
 Wayland Chemical Co., Saylesville, R.I. 741,788, conc. Cl. 6.
 Weathermeasure Corp., Sacramento, from Aerojet-General Corp., El Monte, Calif. 864,167, pub. 11-12-68. Multiple Class (Classes 21 and 26).
 Welsh Panel Co., Longview, Wash. 741,809, conc. Cl. 12.
 Wencor, Inc., Miami, Fla. 864,221, pub. 11-12-68. Cl. 23.
 West Chemical Products, Inc., Long Island City, N.Y. 864,134, pub. 11-12-68. Cl. 16.
 West Point-Pepperell, Inc., West Point, Ga. 864,301, pub. 11-12-68. Cl. 42.
 Western Publishing Co., Inc., Racine, Wis. 864,292, pub. 10-22-68. Cl. 38.
 Western States Bankcard Association, from California Bankcard Association, San Francisco, Calif. 864,372, pub. 8-6-68. Cl. 102.
 Wheeling Steel Corp., Wheeling, W. Va. 254,066, ren. 1-28-69. Cl. 12.
 White, F. E., Co., Inc., New York, N.Y. 864,237, pub. 11-12-68. Cl. 26.
 Whitehall Pharmaceutical Co., to American Home Products Corp., New York, N.Y. 505,499, ren. 1-28-69. Cl. 51.
 Williams, J. R., Co., Inc., The: See—
 Semler, R. B., Inc.
 Wisconsin Electrical Mfg. Co., Inc., New Berlin, Wis. 864,225, pub. 11-12-68. Cl. 26.
 Wise, William L., Mountain View, Calif. 864,360, pub. 11-12-68. Cl. 100.
 Woburn Chemical Corp., Harrison, N.J. 864,070, pub. 11-12-68. Cl. 1.
 Won-Door Corp., Salt Lake City, Utah. 864,331, pub. 11-12-68. Cl. 50.
 Wood, G. H., & Co. Ltd., Toronto, Ontario, Canada. 864,075, pub. 11-12-68. Multiple Class (Classes 2, 4, 6, 13, 16, 23, 29, 37, 39, and 52).
 Wood, John, Mfg. Co., Inc., Conshohocken, Pa., and Chicago, Ill., to State Stove & Mfg. Co., Inc., Ashland, Tenn. 503,464, ren. 1-28-69. Cl. 34.
 Wyomissing Corp., Reading, Pa. 864,279, pub. 11-12-68. Cl. 37.
 Xerox Corp.: See—
 American Education Press, Inc.
 Zenith Radio Corp., Chicago, Ill. 864,168, pub. 11-12-68. Cl. 21.
 Zenith Radio Corp., Chicago, Ill. 864,266, pub. 11-12-68. Cl. 35.
 Zurn Industries, Inc., Erie, Pa. 864,397. Cl. 23.

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